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

State of Maryland DNR – Forest Service

Maryland, USA

SCS-FM/COC-00069P

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CERTIFIED	EXPIRATION
29/April/2014	28/April/2019

DATE OF FIELD AUDIT
26-28/April/2015
DATE OF LAST UPDATE
23/June/2016

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Foreword

Cycle in annual surveillance audits			
☐ 1st annual audit	☒ 2nd annual audit	☐ 3rd annual audit	☐ 4th annual audit
Name of Forest Management Enterprise (FME) and abbreviation used in this report:			
State of Maryland DNR – Forest Service (FME or MD DNR)			

All certificates issued by SCS under the aegis of the Forest Stewardship Council (FSC) require annual audits to ascertain ongoing conformance with the requirements and standards of certification. A public summary of the initial evaluation is available on the FSC Certificate Database http://info.fsc.org/.

Pursuant to FSC and SCS guidelines, annual / surveillance audits are not intended to comprehensively examine the full scope of the certified forest operations, as the cost of a full-scope audit would be prohibitive and it is not mandated by FSC audit protocols. Rather, annual audits are comprised of three main components:

- A focused assessment of the status of any outstanding conditions or Corrective Action Requests (CARs; see discussion in section 4.0 for those CARs and their disposition as a result of this annual audit);
- Follow-up inquiry into any issues that may have arisen since the award of certification or prior to this audit; and
- As necessary given the breadth of coverage associated with the first two components, an additional focus on selected topics or issues, the selection of which is not known to the certificate holder prior to the audit.

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 90 days after completion of the on-site audit. Section B contains more detailed results and information for the use by the FME.

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SECTION A – PUBLIC SUMMARY

1. General Information

1.1 Annual Audit Team

Auditor Name:	Kyle Meister	**Auditor role**:	FSC Lead Auditor
Qualifications:	Kyle Meister is a Certification Forester with Scientific Certification Systems. He has been with SCS since 2008 and has conducted FSC FM pre-assessments, evaluations, and surveillance audits in Brazil, Panama, Mexico, Costa Rica, Bolivia, Indonesia, India, Japan, New Zealand, Spain, and all major forest producing regions of the United States. He has conducted COC assessments in Oregon, Pennsylvania, Tennessee, South Carolina, North Carolina, Georgia, West Virginia, Virginia, California, Panama, Costa Rica, and Bolivia. Mr. Meister has successfully completed CAR Lead Verifier, ISO 9001:2008 Lead Auditor, and SA8000 Social Systems Introduction and Basic Auditor Training Courses. He holds a B.S. in Natural Resource Ecology and Management and a B.A. in Spanish from the University of Michigan; and a Master of Forestry from the Yale School of Forestry and Environmental Studies.		
Auditor Name:	Mike Ferrucci	**Auditor role**:	SFI Lead Auditor
Qualifications:	Mike Ferrucci is the SFI Program Manager for NSF – International Strategic Registrations and is responsible for all aspects of the firm's SFI Certification programs. He is qualified as a RAB-QSA Lead Auditor (ISO 14001 Environmental Management Systems), as an SFI Lead Auditor for Forest Management, Procurement, and Chain of Custody, as an FSC Lead Auditor Forest Management and Chain of Custody, as a Tree Farm Group Certification Lead Auditor, and as a GHG Lead Auditor. Mike has led Sustainable Forest Initiative (SFI) certification and precertification reviews throughout the United States. He has also led or participated in joint SFI and Forest Stewardship Council (FSC) certification projects in nearly one dozen states and a joint scoping or precertification gap-analysis project on tribal lands throughout the United States. He also co-led the pioneering pilot dual evaluation of the Lakeview Stewardship Unit on the Fremont-Winema National Forest. Mike Ferrucci has 33 years of forest management experience. His expertise is in sustainable forest management planning; in certification of forests as sustainably managed; in the application of easements for large-scale working forests, and in the ecology, silviculture, and management of mixed species forests, with an emphasis on regeneration and management of native hardwood species. Mike has conducted or participated in assessments of forest management operations throughout the United States, with field experience in 4 countries and 33 states. Mike has been a member of the Society of American Foresters for over thirty-five years. He is Past Chair of the SFI Auditor's Forum. Mike is also a Lecturer at the Yale School of Forestry and Environmental Studies, where he has taught graduate courses and workshops in forest management, harvesting operations, professional forest ethics, private forestry, and financial analysis.		

1.2 Total Time Spent on Evaluation

A. Number of days spent on-site assessing the applicant:	3.0
B. Number of auditors participating in on-site evaluation:	2
C. Additional days spent on preparation, stakeholder consultation, and post-site follow-up:	2
D. Total number of person days used in evaluation:	**8**

1.3 Standards Employed

1.3.1. Applicable FSC-Accredited Standards

Title	Version	Date of Finalization
FSC-US Forest Management Standard	V1-0	July 8, 2010
All standards employed are available on the websites of FSC International (www.fsc.org), the FSC-US (www.fscus.org) or the SCS Standards page (www.scsglobalservices.com/certification-standards-and-program-documents). Standards are also available, upon request, from SCS Global Services (www.SCSglobalServices.com).		

1.3.2. SCS Interim FSC Standards

Title	Version	Date of Finalization
SCS FSC Chain of Custody Indicators for Forest Management Enterprises	V5-1	December 3, 2012
This SCS Interim Standard was developed by modifying SCS' Generic Interim Standard to reflect forest management in the region and by incorporating relevant components of the Draft Regional / National Standard and comments from stakeholders. More than one month prior to the start of the field evaluation, the SCS Draft Interim Standard for the country / region was sent out for comment to stakeholders identified by FSC International, SCS, the forest managers under evaluation, and the National Initiative. A copy of the standard is available at www.scsglobalservices.com/certification-standards-and-program-documents or upon request from SCS Global Services (www.SCSglobalServices.com).		

2 Annual Audit Dates and Activities

2.1 Annual Audit Itinerary and Activities

2016 FSC/SFI Surveillance Audit
April 26, 2016 - Savage River State Forest
Lake House, New Germany State Park

East Shale Road: Class 2 road condition.

East Shale Road Hardwood Thinning (Compartment 15, SR-02-15): Completed thinning in an overstocked oak-hardwood stand; basal area was reduced from 181 to 120 square feet per acre over 44 acres of the harvest area. Landing area and main skid trail entrance rocked and partially geotextiled to control erosion and access. Buyer purchased 90 mbf Int. and 112 cords pulpwood estimated in sale documents. Discussion of residual damage, retention, and other harvest impacts with stakeholders.

East Shale Road Hardwood Regeneration Harvest (Compartment 15, SR-06-15): Ongoing overstory removal harvest from an 84-year old red oak, maple, cherry stand. The 17.5 acre management area has 2.5 acres in no-cut reserve/buffers and 15 acres of harvesting nearly completed. Some oak trees in the

management area have died due to storm damage and gypsy moth outbreaks, with firewood cutting evident. However, snags were observed near the property boundary, which was sufficiently flagged and buffered to avoid any incidental take of trees from the neighboring property. Retention consisted of clumps and dispersed individuals throughout the diameter class. Two areas were excluded from the sale due to water courses and later successional recruitment. A Maryland Master Logger purchased the sale. Discussion of firewood permitting and guidelines with stakeholders.

Amish Road North Hardwood Thinning (Compartment 6, SR-03-15): Completed hardwood thinning on 32 (of 40) acres removing 48 mbf Int. sawtimber and 123 cords of pulpwood to reduce the stocking from 145 to 97 square feet of basal area per acre. Several acres were excluded from the harvest including areas that were excessively rocky, had small poletimber, provided additional watercourse buffers, or were wetlands. Principal objective was to diversify the species mix to reduce impacts of gypsy moth outbreaks. The same logger as Comp 15, SR-06-15 purchased the sale. Law enforcement and fisheries staff were interviewed about general enforcement and recreational issues on state forest land.

Negro Mountain Trail Thinning (Compartment 8, SR-01-15): Completed hardwood improvement thinning on 32 (of 40) acres removing 42 mbf Int. sawtimber and 76 cords of pulpwood to reduce the stocking by about one-third. Discussion about early successional habitat, use of non-native species, and NTFPs with stakeholders.

Negro Mountain Snowmobile Trail: Class 3, Status 2 (needs improvement) with Recreational Trail Grant funds applied for and expected.

Stand 48 Conifer Thinning (SR-07-15): 3.5 acres harvested of the 5.2 acre stand, removing 21 mbf and 6 cords of a mix of Norway spruce (*Picea abies*), White pine (*Pinus strobis*), and Scotch pine (*Pinus sylvestris*). Hardwoods retained.

Stand 43 Conifer Regeneration Harvest (SR-07-15): 9 (of 10) acres harvested using clear-cut with reserves. Prior to harvest understory invasive control spraying was completed. Approved plan calls for planting 50 white pine seedlings per acre, but forest manager is concerned that deer will immediately destroy the seedlings, so protection measures are being discussed.

Hard Struggle Access Road: Gated, seasonally open (hunting season) road with moderate ruts and potholes. Condition 3 (critical) northernmost section not eligible for Recreational Trail Grant funds, so there is no current plan for repair.

SR-2014-S-7, Compartment 17 - Conifer Thinnings sold as SR-07-14: This planted (circa 1960) conifer stand (mixed conifer species, native and non-native), previously thinned twice, has recently been thinned again, removing about 1/3 of the basal area. 42 acres were thinned of 46 initially planned.
Road Review: Asa Durst Access Road Class 3 (status 1-2)
Road Review: Asa Durst Access Road Class 4 (status 1-2 with some 3)

Wolf Swamp Hemlock Wooly Adelgid pesticide treatments: An ESA based on an area described as the most significant concentrations of quality hemlock on the Savage River State Forest, the non-native Hemlock Wooly Adelgid scale insect would be expected to eventually kill all of the hemlock trees. A cooperative partnership with the Maryland Department of Agriculture, Maryland Park Service, Maryland Conservation Corps, and the Maryland Forest Service was formed to treat the stand and attempt to protect it using insecticides applied periodically. Here and elsewhere biological control methods have

been tried, including the release of predatory insects. Imidacloprid-based insecticide was to treat nearly 4,000 trees, beginning in October 2015. The initial treatment area includes 284 acres of high priority hemlock stands which had been thinned and which have been treated with soil or stem injection or soil drench, depending on position relative to wetlands. Depending on survival rate of the trees, population trends of hemlock in the landscape and the build-up of populations of biological control agents, different treatment options will be evaluated in the future.

April 27, 2016 - Potomac Garrett-State Forest

Potomac/Garrett State Forest Office: Introductions, program discussions, travel arrangements and logistics. Discussion of firewood permitting and guidelines.

Road Review: Wallman and Laurel Run Roads – Class 1 roads; Laurel Run Rd. status (3), and Wallman Rd. status (1).

PG-2015-S-04 & 05, Compartment 39-1/6; 2 sites Thinning (1) and Shelterwood (6) sold as PG-04-15. Site was spot-treated with glyphosate to control hay-scented fern prior to harvest in order to secure regeneration within shelterwood unit. Thinning largely driven by storm damage, which was affecting the aesthetics of a neighboring recreational trail. In both stands, retention of oak, cherry, maple and hemlock was evident. Objective of shelterwood was to secure cherry and maple regeneration to diversify the species mix against future gypsy moth outbreaks. Retention dispersed within main harvest area, with retention clumps located at sale boundaries in order to protect them. Discussion on density of recreational trails and ESA planning. Draft FY2017 annual work plan states the ESA plans were to be completed over the winter of 2016, which did not occur.

Road Review: Jct. of Snaggy Mtn. Road and Fire Tower Road- Class 1 and Class 3 Roads. Due to cooperation with recreational staff and how available earmarked funds could be used, DNR staff were able to upgrade a stream-crossing at a third of price quoted by a contractor through the state procurement system.

Snaggy Mountain Group Campsite / with comfort station. Observation of campsite amenities.

PG-2015-S-01, Comp. 32-11; thinning-from-below sold as PG-02-15. Removal of mature, mid-story red maple to favor cherry and oak mid- and over-story. Adjacent to protected, un-entered water course, Murley Run, with similar species composition transitioning into wetter site oaks. Discussion of ESA plans.

PG-2014-S-03, Comp 32-29/30 Noncommercial TSI / CTR with special needs cooperators. Crop tree release project after clearcutting of red pine plantation in the 1980s. Objective of red pine plantation was to establish a native hardwood understory and seedbank. Objective of crop tree release was to free mid-story cherries and oaks from competition from suppressed neighboring trees. Contractor was a company that employs citizens with special needs that conducts what are normally considered noncommercial projects on state forests in an attempt to make sales of low-grade commercial products to support the training and employment of these individuals.

Road Review: Forest Access Road / Snowmobile Trail - Class 4 Road.

PG-2006-S-11, Wildlife habitat improvement project – Food plot / edge cut / RGS woodcock survey.

PG-2015-S-02&03, Comp 32-16/17 Thinning sold as PG-03-15. Discussion of post-harvest inventory methods to evaluate stand objectives with staff. Discussion with stakeholders about early successional habitat representation and local cooperative fire projects.

PG-2015-S-06 & 07, Comp 45-3/19 Piney Mtn. Thinning. Removal of over-mature oaks and selection of higher quality mid- to co-dominant individuals to recruit for the next harvest entry. Discussion of pre- and post-harvest herbicide treatments to control herbaceous competition to secure oak regeneration.

Road Review: Piney Mtn. Road – Class 1; Handicapped Hunter Access – Class 3; Yough Mtn. Club Emergency Access – Class 4. Access to site is seasonal and open to handicapped hunters. Roads are specially cared for to allow more flexible vehicle access to the forest for hunters.

Review of training, chemical, complaints, inventory and sales records. Inspection of state forest office to ensure that OSHA postings are visible. Also checked timber harvest contracts. All contracts include FSC/ SFI information, including claims (see item 22).

April 28, 2016 - Green Ridge State Forest

Green Ridge State Forest Headquarters: Opening Meeting

Old Williams Road active silviculture site (GR 04-16): Active, nearly completed variable retention harvest in a 109 year-old mixed oak stand. The harvest area includes 24 acres while the area considered for management was 39 acres. Discussion about retention strategy and calibration between foresters and forestry technicians. Discussion on allocation of timber harvest proceeds to counties and DNR.
Jacobs Road thinning (GR 05-16): Completed improvement thinning in a 43-year old overstocked mixed oak sand on a good-quality site. Observation of intentional retention of grapevines to improve soft-mast quality for wildlife. Adjacent wildlife grass opening previously maintained by wildlife division that is succeeding to black locust. Harvested by Maryland Master Logger.
Stafford Trail completed silviculture site (GR 05-15): Completed variable retention harvest in a 103 year-old mixed oak stand. The harvest area includes 22 acres while the area considered for management was 41 acres. Observation of mostly dispersed retention; however, hickories and snags tended to have more grouped retention to protect these trees from wind and harvest operations. Harvest purchased by master logger.

Campsite #72, Stafford Trail. Observation of campsite and signage.

Dug Hill Road silviculture site (GR 07-16): Marked and sold variable retention harvest in a 136 year-old mixed oak stand. The harvest area includes 22 acres while the area considered for management was 32 acres. Auditors reviewed sale layout and marking, with particular attention to marked reserve trees within the stand. Retention is dispersed and includes several oaks and, where available, native pines of various species. Observation of intentional retention of grapevines for softmast.

Dug Hill Road silviculture site (GR 03-15): Completed mid-rotation thinning to the B-level in a 43-year old mixed hardwood stand. The harvest area is 16 acres. Control of Ailanthus was done prior to harvest and may need to occur again.

Double Pine silviculture site (GR 06-16): Completed variable retention harvest in a 113-year old mixed oak stand adjoining a hiking trail. Understory white pines were maintained and most were not impacted during harvesting due to marking techniques used to avoid higher density pine areas. Mostly hardwood was removed in order to favor conifer diversity in the landscape; however, oak regeneration is highly likely to be achieved on the site as well. A wildlife opening doubled as the log landing and was disked and hayed by the operator prior to closing the sale.

Review of training, chemical, complaints, inventory and sales records. Inspection of state forest office to ensure that OSHA postings are visible. Also checked timber harvest contracts. All contracts include FSC/ SFI information, including claims (see item 22).

Closing Meeting Green Ridge State Forest Headquarters

2.2 Evaluation of Management Systems

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 document and record review, implementing sampling strategies to visit a broad number of forest cover and harvest prescription types, observation of implementation of management plans and policies in the field, and stakeholder analysis. When there is more than one team member, team members may review parts of the standards based on their 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, stakeholder comments, and reviewed documents and records. Where consensus between 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. Changes in Management Practices

There were no significant changes in the FME's management system that affected conformance to FSC requirements. Staff completed training in in forest inventory, wild fire, fire equipment, and trail maintenance among other types. Records of training are maintained in personnel files as confirmed onsite. Several recreational and ecological restoration projects have been started or completed since the last audit. All timber sales are sold as certified. Harvest and chemical application records were also reviewed.

4. Results of the Evaluation

4.1 Existing Corrective Action Requests and Observations

	Finding Number: 2015.1
Select one: ☐ **Major CAR** ☒ **Minor CAR** ☐ **Observation**	
FMU CAR/OBS issued to (when more than one FMU):	
Deadline	☐ Pre-condition to certification ☐ 3 months from Issuance of Final Report ☒ Next audit (surveillance or re-evaluation) ☐ Other deadline (specify):
FSC Indicator:	FSC-US indicator 5.6.c.
Non-Conformity *(or Background/ Justification in the case of Observations)*: Rates and methods of timber harvest are not leading to achieving desired conditions, or improving or maintaining 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 not being returned to desired stocking levels and composition at the earliest practicable time as justified in management objectives. On Savage River, harvest levels have been at below planned acres to be treated in annual work plans for over 5 years. SILVAH information shows that sufficient regeneration is not being achieved. These oak forest types are older, overstocked, and at risk of becoming distressed, which could make establishing regeneration difficult. This is a significant deviation from planned activities described in Annual Work Plans that are to be implemented to achieve desired stocking and species compositions.	
Corrective Action Request *(or Observation)*: Rates and methods of timber harvest shall 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, shall be returned to desired stocking levels and composition at the earliest practicable time as justified in management objectives.	
FME response *(including any evidence submitted)*	See doc: SRSF Silviculture2015-2016.xls: Since the 2015 audit, MD DNR Forest Service has instituted a quarterly silviculture reporting system for the Western State forests. The Eastern Shore forests have reporting provided by Parker Forestry Service. This system tracks all silvicultural proposals that have been approved through the 3-step review process. Each proposal can be identified by a unique code based on forest, annual work plan, type and number. According to the third quarterly report which ended on March 31, 2016, Savage River State Forest has harvested (or has active) eight timber sales on 213 acres, with an estimated volume of 770 thousand board feet with another seven sales under contract with an estimated volume of 965 thousand board feet. A spreadsheet doc SRSF Silviculture 2015-2016.xls displays all currently approved silvicultural work for Savage River State Forest. Three tabs display parts of this work: the Silviculture tab display the project according the fiscal year approved, the Silviculture By Status tab display work according to progress to completion, and the AWP-FY17 tab displays work approved and available for harvest after July 1, 2016.
SCS review	In addition to the report shown for Savage River SF, FME demonstrated quarterly silvicultural reports for other state forests of the western region (e.g., Green Ridge SF). During discussions with FME staff, the issue of keeping up with harvests involves several variables, including mechanisms for tracking progress, issues related to operability and accessibility to stands scheduled for entry, recent

	salvage harvests, and, in some cases, timber markets. FME determined that tracking timber harvest scheduling progress would be a possible solution to monitoring these and other variables. FME also determined that a root cause was a lack of removing inoperable areas from the current productive acreage, which was continually resulting in the failure to meet area control objectives (i.e., annual allowable harvest). Reclassification has helped to reduce the amount of overstocked, inoperable stands within the harvestable area. Including reserves and protected areas, this now puts approximately two thirds of the state forest area in the western region out of production. However, FME may be able to put some of these inoperable areas back into productive if different harvesting methods or equipment become available in the region over time.
Status of CAR:	☒ Closed ☐ Upgraded to Major ☐ *Other decision (refer to description above)*

	Finding Number: 2015.2
Select one: ☐ **Major CAR** ☐ **Minor CAR** ☒ **Observation**	
FMU CAR/OBS issued to (when more than one FMU):	
Deadline	☐ Pre-condition to certification ☐ 3 months from Issuance of Final Report ☐ Next audit (surveillance or re-evaluation) ☒ Other deadline (specify): No deadline
FSC Indicator:	FSC-US Indicator 6.2.b.
Non-Conformity *(or Background/ Justification in the case of Observations)*: 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 relevant science, guidelines and/or consultation with relevant, independent experts as necessary to achieve the conservation goal of the Indicator. On the Eastern Shore, there are several Delmarva Bay restoration projects that will require consistent prescribed fire applications for the first three years after initial restoration activities followed by periodic natural or prescribed fire at certain intervals. FME currently has been hindered by weather and lack of human resources to keep up with these activities. Specialists involved in this project have determined that restoration objectives for this community of RTE plants cannot be met without fire. There is a similar situation with prescribed fire at Shale Barrens in the Western Region.	
Corrective Action Request *(or Observation)*: FME should ensure that it implements prescribed fire activities in a timely manner to better ensure the success of its ecological restoration projects.	
FME response *(including any evidence submitted)*	See doc: CF-Rx-Burn-Priorities-2016.04.19.xls: The Forest Service and Wildlife & Heritage are following the tiered ESA prescribed burn priority list (attached) that was created about 3 years ago. This periodically updated list contains the site location, name, and status of each site. The status includes the progress of fire lines, when the site was last burned, ground conditions, and seasonal restrictions. The status also notes if there are any issues with burning the site due to upcoming commercial thinnings where a mill won't accept burned material. Burn plans for the sites are created and approved well in advance of the burning season in order to eliminate any potential delays that paperwork could cause. The biggest factor in getting sites burned has been weather. Typically there is only a 1-2 week window in the spring when it is both dry enough and greenup begins. Two years ago (2014) the spring burning season was abnormally wet, so only the driest sites were able to be burned. Last year and this year (so far) have had much more favorable conditions for burning, so the acreage burned in ESAs has been much greater. The second largest hurdle for completing burns is manpower. When the weather is forecast to be favorable for burning, the Forest Service contacts cooperating agencies and organizations (Maryland Park Service, US Fish & Wildlife Service, The Nature Conservancy, Maryland Conservation Corp, etc.) to assist on our burns. Finally, all of these sites required the establishment and maintenance of fire lines and breaks for both the safety of fire personnel and neighboring landowners, as well as to the resource(s)

	that Heritage wants to enhance and protect. Locations and size of the fire lines in many cases needed careful oversight by Heritage in order to fulfill their goals.
SCS review	FME has conducted nine burns since the last audit on the Maryland Shore and has developed a system to prioritize areas for each burn season. For the 2016 season so far, approximately 40% of the areas scheduled for prescribed burns have been completed. In the western region, the shale barrens have not receive any prescribed burns, but have received other treatments such as chemical control of invading trees. Forestry staff are still in discussion with Heritage staff about using timber harvests located near priority areas to prepare sites for prescribed burns. However, see OBS 2016.4.
Status of CAR:	☒ Closed ☐ Upgraded to Major ☐ *Other decision (refer to description above)*

	Finding Number: 2015.3
Select one: ☐ **Major CAR** ☐ **Minor CAR** ☒ **Observation**	
FMU CAR/OBS issued to (when more than one FMU):	
Deadline	☐ Pre-condition to certification ☐ 3 months from Issuance of Final Report ☐ Next audit (surveillance or re-evaluation) ☒ Other deadline (specify): No deadline
FSC Indicator:	FSC-US Indicator 6.5.d.
Non-Conformity *(or Background/ Justification in the case of Observations)*: The transportation system, including design and placement of permanent and temporary haul roads, skid trails, recreational trails, water crossings and 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; and • unneeded roads are closed and rehabilitated. FME has fallen behind in its road construction and maintenance upgrades or closures due to several factors outside of its control in the Western Region. There are several crossings and other drainage features in need of upgrades (or closures) in order to prevent negative impacts to soil and water.	
Corrective Action Request *(or Observation)*: FME should consider accelerating the rate of implementation of its road construction and maintenance program to ensure continued conformance to the requirements of 6.5.d.	
FME response *(including any evidence submitted)*	See WMD State Forest Roads Summary.doc: To summarize efforts to regarding the Western Maryland state forest roads: • The Forest Roads Management for Forest Operations on Maryland State Forests was established in 2012. This policy provides the procedures for establishing and maintaining forest roads on State Forests. The guidance document was recently (2016) refined to better accommodate the road status data. • A state forest roads inventory has been completed including all road segments, culverts and bridges. Each culvert size, condition and maintenance priority has been documented and geo-referenced. The inventories have been updated to include road status data. This field indicates the status for each road segment (1=good, 2=stable, 3=needs work) providing the forest manager the overall condition of the road system and where to focus resources. • Initially, a $900,000 budget was secured through the DNR Critical

	Maintenance program. This funding, traditionally has only been available for DNR building maintenance, was the first time state forest road maintenance projects had been included. This progress is the direct result of FMEs continued efforts addressing the importance of state forest road maintenance and maintaining our forest certification. Since then, another $600,000 has been assigned to state forests road projects in Western Maryland. • High-level meetings between Department of Natural Resources and Maryland Department of the Environment (permitting and enforcement) will begin in May 2016 to discuss the potential of streamlining DNR permits submitted to MDE for review and approval. This process has been onerous in getting state forest roads work started. While the permitting process will be wider than just our state forest roads work, MFS interests and concerns have been voiced and have help prompt the initiation of this collaborative effort.
SCS review	A summary of completed and future projects was provided in the document provided by the FME. Through interviews with FME staff and field observation, SCS confirmed that significant progress has been made in prioritizing maintenance and in streamlining the review process to better control costs on road projects.
Status of CAR:	☒ Closed ☐ Upgraded to Major ☐ *Other decision (refer to description above)*

	Finding Number: 2015.4
Select one: ☐ **Major CAR** ☐ **Minor CAR** ☒ **Observation**	
FMU CAR/OBS issued to (when more than one FMU):	
Deadline	☐ Pre-condition to certification ☐ 3 months from Issuance of Final Report ☐ Next audit (surveillance or re-evaluation) ☒ Other deadline (specify): No deadline
FSC Indicator:	FSC-US Indicator 6.6.c.
Non-Conformity *(or Background/ Justification in the case of Observations)*: 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. Aerial spraying is done with a helicopter equipped with sensitive GPS equipment, which coupled with the machine's high maneuverability, helps to reduce the risk to non-target species and sites and virtually eliminates the risk of the pilot's exposure to chemicals. On Wango Pines, during an aerial herbicide treatment the helicopter operator sprayed non-target species of concern (horse sugar and sheep laurel) that were clearly designated on maps and in GIS with buffers. The buffer was discussed with the forester in charge prior to the application, but apparently the pilot forgot about this sensitive site (note that others sensitive areas were avoided). FME's contractor, Parker Forestry, has suggested some corrective actions to implement during the next application to eliminate this risk in the future (i.e., an onsite briefing just prior to spraying). Initial communication with the applicator on these corrective actions took place well prior to the FSC audit.	
Corrective Action Request *(or Observation)*: FME should ensure that corrective actions are implemented to avoid risk to non-target species during aerial applications.	
FME response *(including any evidence submitted)*	See Post Spray maps in 2016 Audit folder: The procedures followed by Parker Forestry Services (PFS) to better insure a correct and tight spray pattern were to have a pre-spray meeting with the helicopter contractor prior to the spray being performed. This occurred the day of the spray, at each site. PFS highlighted each potential sensitive area the operator should be particularly careful around. PFS was on the site during each of the three days the spraying occurred. Areas of oak that were to be avoided were made part of the GPS files (spray areas) given to the operator. Spray maps as recorded by the operator are included in the 2016 audit folder for review.
SCS review	Post-herbicide treatment maps were shown for recent aerial sprays. In all cases, protected individual trees and protected areas were not sprayed according to GPS data provided by the operator. FME also provided copies of hazard maps that its forestry contractor on the Maryland Shore reviews with aerial herbicide applicators prior to treatment, as well as records of these pre-application meetings.

Status of CAR:	☒ Closed ☐ Upgraded to Major ☐ *Other decision (refer to description above)*

	Finding Number: 2015.5
Select one: ☐ **Major CAR** ☐ **Minor CAR** ☒ **Observation**	
FMU CAR/OBS issued to (when more than one FMU):	
Deadline	☐ Pre-condition to certification ☐ 3 months from Issuance of Final Report ☐ Next audit (surveillance or re-evaluation) ☒ Other deadline (specify): No deadline
FSC Indicator:	FSC-US Indicator 7.2.a.
Non-Conformity *(or Background/ Justification in the case of Observations)*: 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. FME has made some changes to its management plans in response to OBS 2014.10 that have been incorporated into some SFMPs, but not all.	
Corrective Action Request *(or Observation)*: FME should ensure that its response to OBS 2014.10 is fully incorporated into management planning documents by the next audit.	
FME response *(including any evidence submitted)*	All Sustainable Forest Management Plans have been updated and are available online for reviewing and download on the particular state forest webpage. A Chemical Use section is found in all SFMPs: SRSF pg 60, PGSF pg 56, GRSF pg 86.
SCS review	SCS verified that the content as cited by FME is included in all State Forests' FMPs.
Status of CAR:	☒ Closed ☐ Upgraded to Major ☐ *Other decision (refer to description above)*

4.2 New Corrective Action Requests and Observations

	Finding Number: 2016.1
Select one: ☐ **Major CAR** ☐ **Minor CAR** ☒ **Observation**	
FMU CAR/OBS issued to (when more than one FMU):	
Deadline	☐ Pre-condition to certification ☐ 3 months from Issuance of Final Report ☐ Next audit (surveillance or re-evaluation) ☒ Other deadline (specify): no deadline
FSC Indicator:	FSC-US, 6.3.a.1, 6.3.d and 6.3.e
Non-Conformity *(or Background/ Justification in the case of Observations)*: According to the FMP and interviews with FME staff, native conifer species were likely more prevalent on the landscape than they are currently. FME is considering expanding the use of native and non-native conifers on certain sites as a wildlife management component, to restore native species (both conifer and broadleaf), and possibly to adapt to climate change and invasive pests/ pathogens. There was one site where native conifer restoration with white pine was written into the site plan as an option, but FME staff were debating on whether or not to continue with that management trajectory given deer browse pressure. Certain activities observed, specifically retention of hemlock, white pine, pitch pine and Virginia pine, within thinning and regeneration harvest units likely contribute to maintaining and/or increasing native conifer cover. However, at the landscape level, FME has not assessed the desired future condition of the native and non-native conifer component, including selection of species that will meet social, economic, and ecological objectives depending on site conditions.	
Corrective Action Request *(or Observation)*: FME should consider conducting a landscape-level analysis of native and non-native conifer distribution and develop desired future conditions for their distribution based on variables such as wildlife, restoration, hydrology, adaptation to climate change and pests/ pathogens, socioeconomic conditions, etc. Justification for any use of non-native or non-local growing stock should be justified in the analysis. Various indicators of Criterion 6.3 may be useful in this assessment; however, of most concern are 6.3.a.1, 6.3.d and 6.3.e.	
FME response *(including any evidence submitted)*	
SCS review	
Status of CAR:	☐ Closed ☐ Upgraded to Major ☐ *Other decision (refer to description above)*

	Finding Number: 2016.2
Select one: ☐ **Major CAR** ☐ **Minor CAR** ☒ **Observation**	
FMU CAR/OBS issued to (when more than one FMU):	
Deadline	☐ Pre-condition to certification ☐ 3 months from Issuance of Final Report ☐ Next audit (surveillance or re-evaluation) ☒ Other deadline (specify): no deadline
FSC Indicator:	FSC-US, 6.5.d and 6.5.g.
Non-Conformity *(or Background/ Justification in the case of Observations)*: Trail funding and/or restrictions on its use may not allow for the timely maintenance and closure needs of existing authorized and unauthorized trails. The audit team observed instances where trail maintenance for existing trails did not occur due to lack of funds or difficulty in obtaining them. There is also some concern from stakeholders on the density of trails, particularly its effect on hunting success. Furthermore, the density of unauthorized trails may result in a loss of productive and protected forest area. Fewer restrictions on use of trail funds may result on greater opportunities for forestry, heritage and recreational staff to collaborate on the protection of sensitive resources at reduced cost while offering user groups a positive recreational experience.	
Corrective Action Request *(or Observation)*: Recreational trails and water crossings should be 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; • trail density is minimized; • erosion is minimized; • sediment discharge to streams is minimized; • there is free upstream and downstream passage for aquatic organisms; • impacts of trail systems on wildlife habitat and migration corridors are minimized; • area converted to trails is minimized; • habitat fragmentation is minimized; • unneeded trails are closed and rehabilitated. Recreation use on the FMU should be managed to avoid negative impacts to soils, water, plants, wildlife and wildlife habitats.	
FME response *(including any evidence submitted)*	
SCS review	
Status of CAR:	☐ Closed ☐ Upgraded to Major ☐ *Other decision (refer to description above)*

	Finding Number: 2016.3
Select one: ☐ **Major CAR** ☐ **Minor CAR** ☒ **Observation**	
FMU CAR/OBS issued to (when more than one FMU):	
Deadline	☐ Pre-condition to certification ☐ 3 months from Issuance of Final Report ☐ Next audit (surveillance or re-evaluation) ☒ Other deadline (specify): no deadline
FSC Indicator:	FSC-US, 6.9.a
Non-Conformity *(or Background/ Justification in the case of Observations)*: During interviews with FME staff, there was discussion on possibly expanding the use of Norway spruce and Red pine to mitigate the loss of native conifers, and to continue to serve as habitat for RTE species. Any expanded use beyond the currently planted area would have to be justified and based on scientific data. Siberian crapabble is no longer produced in the state nursery, but has been used in the past on early successional habitat projects. State seed mixes for use on log landings and other sensitive areas include non-native clovers and grasses. Current recommendations from heritage staff are to avoid use of Siberian crabapple and the seed mix.	
Corrective Action Request *(or Observation)*: The use of exotic species should be contingent on the availability of credible scientific data indicating that any such species are non-invasive and that their application does not pose a risk to native biodiversity, including any significant displacement of native species.	
FME response *(including any evidence submitted)*	
SCS review	
Status of CAR:	☐ Closed ☐ Upgraded to Major ☐ *Other decision (refer to description above)*

	Finding Number: 2016.4
Select one: ☐ **Major CAR** ☐ **Minor CAR** ☒ **Observation**	
FMU CAR/OBS issued to (when more than one FMU):	
Deadline	☐ Pre-condition to certification ☐ 3 months from Issuance of Final Report ☐ Next audit (surveillance or re-evaluation) ☒ Other deadline (specify): no deadline
FSC Indicator:	FSC-US, 7.1.b, 7.1.c and 7.1.e.
Non-Conformity *(or Background/ Justification in the case of Observations)*: 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). However, the historical presence of conifers in the management plan could be expanded to include the knowledge presented by local forestry staff during the audit, which could help set the stage for conifer objectives on the landscape. ESA plans may not be being completed on time according to draft annual work plans reviewed. According to these drafts, ESA plans for FY2017 were to be completed over the winter of 2016. A failure to complete these plans may result in limited opportunities to avoid negative impacts to these areas, especially where active management may benefit the species or communities found in them. ESA management plans set the stage for the implementation of maintenance and recovery objectives for RTE species and/or sensitive ecosystems, as well as detail monitoring strategies that are compatible with these objectives.	
Corrective Action Request *(or Observation)*: The FMP should describe historical ecological conditions, 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). The FMP, specifically for ESAs, should include a description of the following resources and outline activities to conserve and/or protect: • rare, threatened, or endangered species and natural communities (see Criterion 6.2); • plant species and community diversity and wildlife habitats (see Criterion 6.3); • Representative Sample Areas (see Criterion 6.4); • High Conservation Value Forests (see Principle 9); • Other special management areas.	
FME response *(including any evidence submitted)*	
SCS review	
Status of CAR:	☐ Closed ☐ Upgraded to Major ☐ *Other decision (refer to description above)*

5. Stakeholder Comments

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).

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 (e.g., chair of the regional FSC working group). The following types of groups and individuals were determined to be principal stakeholders in this evaluation:

5.1 Stakeholder Groups Consulted

Citizen Advisory Committee members	

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. The table below summarizes the major comments received from stakeholders and the assessment 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.

5.2 Summary of Stakeholder Comments and Responses from the Team, Where Applicable

☐ *FME has not received any stakeholder comments from interested parties as a result of stakeholder outreach activities during this annual audit.*

Stakeholder comments	**SCS Response**
Economic concerns	
None received.	
Social concerns	
I think that the amount of trails is too high. The animals need areas where there are fewer roads and trails. As a hunter, I find that you have better chances the further away you get from the trail. Plus, the overall experience of being outside is greatly improved.	While the state forests have funding for new trails, funding for existing trails is somewhat limited and encumbered. In interviews with recreation staff, it was found that certain funds can be used to permanently close trails, but only if new ones are created. See **OBS 2016.2.** No non-conformance is warranted.

Environmental concerns	
The firewood harvest permits and guidelines should restrict collection in riparian zones.	On the Savage River 2016 Annual Work Plan, page 44, it states that a restriction on collecting firewood within 10 ft. from the edge of a stream will be incorporated into permits. Through an examination of the firewood cutting regulations for Savage River, it was found that this was incorporated. FME managers from the other Western Regional State Forests are discussing incorporating this restriction into all firewood permits. No non-conformance is warranted.
In the Kirk Orchard early successional focus area, they are using Siberian crabapple and maintaining invasive species such as autumn olive. There is too much emphasis on early successional habitat. With all of the development and agriculture, there is plenty of early successional habitat.	For use of Siberian crabapple, refer to **OBS 2016.3**, which has not been used for some time. Through a review of the *Kirk Orchard Unit Plan: Early Successional Wildlife Habitat Focus Area*, it was found that the plan addresses invasive species such as Autumn-olive, multiflora rose, and Ailanthus among others. Specifically, the plan states that efforts will be made to suppress and eradicate invasive species where practical over time. According to the FME's Representative Sample Area (RSA) analysis, early successional habitat is lacking on the landscape. Since much of the state lands are in protected parks and as much as two-thirds of the state forests are not actively managed currently, the lack of early successional habitat is supported by many stakeholders, including hunting and conservation organizations. In regards to the increase in pasture and cropland, according to other stakeholders interviewed the quality of early successional habitat matters to the animals that make use of these areas. The target species depend on herbaceous plants, shrubs, and trees associated with early successional habitat. One will not find the same diversity of flora or fauna on an agricultural or pasture land. Given the overall support from wildlife scientists and stakeholders on this subject, no non-conformance is warranted.
I am concerned about the movement of machinery and the spread of invasive species.	Due to inclement weather, it was not possible to interview any logging contractors about this subject. However, during interviews with FME's maintenance staff at multiple state forests, all staff stated that they must power-wash equipment onsite before leaving a location to avoid spreading invasive species. No non-conformance is warranted.
Conifers were likely present at much higher densities that they are presently across the state forests of the Western Region.	During interviews, FME staff confirmed their knowledge of historical forest composition and at much greater detail than is presented in state forest management plans. See **OBS 2016.4.** No non-conformance is warranted.

6. Certification Decision

The certificate holder has demonstrated continued overall conformance to the applicable Forest Stewardship Council standards. The SCS annual audit team recommends that the certificate be sustained, subject to subsequent annual audits and the FME's response to any open CARs.	**Yes** ☒ **No** ☐
Comments:	

7. Changes in Certification Scope

Any changes in the scope of the certification since the previous audit are highlighted in yellow in the tables below.

Name and Contact Information

Organization name	State of Maryland DNR – Forest Service		
Contact person	Jack Perdue		
Address	580 Taylor Ave, E1 Annapolis, MD 21401	**Telephone**	410-260-8505
		Fax	410-260-8595
		e-mail	jack.perdue@maryland.gov
		Website	dnr.maryland.gov/forests

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*)				
Number of FMU's in scope of certificate	1			
Geographic location of non-SLIMF FMU(s)	*Latitude & Longitude:*			
Forest zone	☐ Boreal	☒ Temperate		
	☐ Subtropical	☐ Tropical		
Total forest area in scope of certificate which is:			**Units:** ☐ **ha or** ☒ **ac**	
privately managed				
state managed	206,491 (2015)			
community managed				
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		
Total forest area in scope of certificate which is included in FMUs that:			**Units:** ☐ **ha or** ☐ **ac**	
are less than 100 ha in area				
are between 100 ha and 1000 ha in area				

meet the eligibility criteria as *low intensity* SLIMF FMUs	
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 FMU is divided into manageable units is available publicly via the FME's website: http://dnr.maryland.gov/forests/	

Production Forests

Timber Forest Products	**Units: ☐ ha or ☒ ac**
Total area of production forest (i.e. forest from which timber may be harvested)	135,101
Area of production forest classified as 'plantation'	
Area of production forest regenerated primarily by replanting or by a combination of replanting and coppicing of the planted stems	
Area of production forest regenerated primarily by natural regeneration, or by a combination of natural regeneration and coppicing of the naturally regenerated stems	
Silvicultural system(s)	**Area under type of management**
Even-aged management	
Clearcut (clearcut size range 5.5 – 52 ac)	
Shelterwood	
Other:	
Uneven-aged management	
Individual tree selection	
Group selection	
Other:	
☐ Other (e.g. nursery, recreation area, windbreak, bamboo, silvo-pastoral system, agro-forestry system, etc.)	
The sustainable rate of harvest (usually Annual Allowable Harvest or AAH where available) of commercial timber (m3 of round wood)	2.4 mmbf under vol regulation, plus 780 ac under area regulation
Non-timber Forest Products (NTFPs)	
Area of forest protected from commercial harvesting of timber and managed primarily for the production of NTFPs or services	
Other areas managed for NTFPs or services	
Approximate annual commercial production of non-timber forest products included in the scope of the certificate, by product type	
Explanation of the assumptions and reference to the data source upon which AAH and NTFP harvest rates estimates are based:	
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.
Species in scope of joint FM/COC certificate: *Scientific/ Latin Name* (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
	W1.2 Fuel Wood	
	W1.3 Twigs	
W2 Wood charcoal		
W3 Wood in chips or particles	W3.1 Wood chips	All

Conservation Areas

Total area of forest and non-forest land protected from commercial harvesting of timber and managed primarily for conservation objectives	115,659 ac

High Conservation Value Forest/ Areas

High Conservation Values present and respective 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/Wildlands - Eastern region; Ecologically Significant/Wildlands - Western region	15,226 16,656
☐	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.		
☒	HCV3	Forests or areas that are in or contain rare, threatened or endangered ecosystems.	Core FIDs habitat; core DFS habitat – Eastern region; old growth and old growth management – Western region	18,484 24,874
☒	HCV4	Forests or areas that provide basic services of nature in critical situations (e.g. watershed protection, erosion control).	Riparian Buffer Areas – Eastern region; Riparian Buffer Areas – Western region	38,274 2,145
☐	HCV5	Forests or areas fundamental to meeting basic needs of local communities (e.g. subsistence, health).		
☐	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).		
Total Area of forest classified as 'High Conservation Value Forest/ Area'				**71,984**

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. We have no interest in pursuing certification at this time on 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 for the purpose of 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
Salem State Forest	Leonardtown, MD, St Mary's	837

8. Annual Data Update

8.1 Social Information

Number of forest workers (including contractors) working in forest within scope of certificate (differentiated by gender):		
21 of male workers	9 of female workers	
Number of accidents in forest work since last audit: 1	**Serious:** 0	**Fatal:** 0

8.2 Annual Summary of Pesticide and Other Chemical Use

Maryland DNR Forest Service :: 2015-16 *(over approx last 12 months)*					
Forest	**Commercial name of pesticide / herbicide**	**Active ingredient**	**Quantity applied annually (kg or lbs.)**	**Size of area treated during previous year (ha or ac)**	**Reason for use**
e.g. Savage River State Forest	Gly 4	Glyphosate	2 gal (2 % solution)	1 acre	Weed Control
Green Ridge State Forest	Roundup Pro	Glyphosate	168 oz.	40 acres	ailanthus control cut treatment
	Polaris	imazapyr 27.7%	273 oz.	43 acres	hickory control cut treatment
	Milestone	triisopropanolammonium salt of aminopyralid	197 oz	43 acres	VA pine control cut treatment
Savage River State Forest	Gly 4	Glyphosate	5.3 oz active ingredient	.2 Acres	Invasive Species Control (Mile-a-minute weed)
	Gly 4	Glyphosate	5.3 oz of active ingredient	.01 Acre	Invasive Species Control (Mile-a-minute weed)
	Gly 4	Glyphosate	24 oz of active ingredient	1 Acre	Invasive Species Control (Japanese Knotweed)
	Garlon 4	Triclopyr	12 oz of active ingredient	.2 Acres	Invasive Species Control (Mile-a-minute weed)
	Arsenal AC	Imazapyr	45.1 oz active ingredient	60 Acres	Hardwood cut surface treatment (hack and squirt)
Potomac Garrett State Forest	Arsenal AC	Imazypyr	4 oz. of 3%solution	2 Acres	Invasive Species Control (oriental bittersweet)
	Gly 4	glyphosate	2 oz. of 50% solution	.01 Acre	Invasive Species Control (autumn olive)
	Razor Pro	glyphosate	136 lb. active	68 Acres	competitive grass,

			ingredient		sedge, dewberry
	Oust XP	sulfometuron methyl	102 oz. active ingredient	68 Acres	competitive grass, sedge, dewberry
	Arsenal AC	Imazypyr	33.75 oz active ingredient	45 Acres	competitive hardwood
	Arsenal AC	Imazypyr	52.5 oz active ingredient	70 Acres	competitive hardwood
	Arsenal AC	Imazypyr	19.5 oz active ingredient	26 Acres	competitive hardwood
	Razor Pro	glyphosate	40 lb. active ingredient	35 Acres	spot treat competitive grass, sedge and fern
	Oust XP	sulfometuron methyl	30 oz. active ingredient	35 Acres	spot treat competitive grass, sedge and fern
	Arsenal	imazapyr	112.65 gallons	212.3 acre	Aerial application of gum, maple & brush control
Chesapeake & Pocomoke	Oust Extra	sulfometuron methyl	53.08 gallons	212.3 acre	Aerial application for grass control
Pocomoke	Makaze	Glyphosate	2.73 gallons	9.31 ac	Invasive control, grass control
Chesapeake & Pocomoke	Makaze	Glyphosate	4.2 gallons	4.75 acres	Invasive control, grass control

SECTION B – APPENDICES (CONFIDENTIAL)

Appendix 1 – List of FMUs Selected For Evaluation

[X] FME consists of a single FMU

[ ] FME consists of multiple FMUs or is a Group

Appendix 2 – List of Stakeholders Consulted

List of FME Staff and Stakeholders Consulted

2016 FSC/SFI Surveillance Audit
April 26, 2016 - Savage River State Forest

Don VanHassent (DNR-MFS)
Kenneth Jolly (DNR-MFS)
Kip Powers (DNR-MFS)
George Eberling (DNR-MFS)
John Denning (DNR-MFS)
Mark Beals (DNR-MFS)
Mike Schofield (DNR-MFS)
Alex Clark (DNR-MFS)
Jack Perdue (DNR-MFS)
Scott Campbell (DNR-MFS)
Noah Rawe (DNR-MFS)
Locho L Bayler (DNR)
Jeramie Foy (DNR)
Mel Rowe (DNR)
Michael Johnson (DNR)
Scott J Campbell (DNR)
D. Haydn (DNR)
C. Null (MPS)
M.D Ford (NRO)
Russell Leonard (CAC)
Daryl Anthony (DNR-ODS)
John F. Wilson (DNR-LAP)
Steve Carr (DNR-LAP)
Dan Rider (DNR-FS)
Sunshine Brosi (CAC-FSU)
Steven Green (CAC)

April 27, 2016 - Potomac Garrett State Forest

Don VanHassent (DNR-MFS)
Kenneth Jolly (DNR-MFS)
Kip Powers (DNR-MFS)
George Eberling (DNR-MFS)
John Denning (DNR-MFS)
Mark Beals (DNR-MFS)
Mike Schofield (DNR-MFS)
Alex Clark (DNR-MFS)
Jack Perdue (DNR-MFS)

Scott Campbell (DNR-MFS)
Noah Rawe (DNR-MFS)
Jason Savage (DNR-MFS)
Bo Sliger (DNR-MFS)
John Wilson (DNR-LAP)
Steve Carr (DNR-LAP)
Eric Null (DNR-Parks)
Mike Koser (CAC)
Carl Lee (CAC)
Bruce Taliaferro (CAC)

April 28, 2016 - Green Ridge State Forest

Don VanHassent (DNR-MFS)
Kenneth Jolly (DNR-MFS)
George Eberling (DNR-MFS)
Jack Perdue (DNR-MFS)
Rob Feldt (DNR-MFS)
John Wilson (DNR-LAP)
Steve Carr (DNR-LAP)
Scott Campbell (DNR-MFS)
John Denning (DNR-MFS)
Noah Rawe (DNR-MFS)
Mark Beals (DNR-MFS)
Jesse Morgan (DNR-MFS)
Pete Kelly (DNR-MFS)
Devin Baker (DNR-MFS)

Appendix 3 – Additional Audit Techniques Employed

No additional audit techniques were employed.

Appendix 4 – Pesticide Derogations

[X] There are no active pesticide derogations for this FME.

Appendix 5 – Detailed Observations

Evaluation Year	FSC P&C Reviewed
2014	All – (Re)certification Evaluation
2015	1.3, 1.5, 1.6, 2.3, 3.1, 3.2, 3.4, 4.2, 4.4, 5.6, 6.2, 6.3, 6.5, 6.6, 6.9, 7.1, 7.2, 7.4, 8.2, 8.3 (COC indicators for FMEs) and 9.4
2016	1.1, 1.2, 1.4, 1.5, 2.3, 3.2, 4.1, 4.2, 4.3, 4.4, 4.5, 5.5, 5.6, 6.2, 6.3, 6.7, 6.8, 6.9, 6.10, 7.3, 8.2 and 9.4
2017	
2018	

C= Conformance with Criterion or Indicator
NC= Nonconformance with Criterion or Indicator
NA = Not Applicable
NE = Not Evaluated

REQUIREMENT	C/NC	COMMENT/CAR
Principle #1: Compliance with Laws and FSC Principles **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.**		
1.1 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	FME 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 FME for compliance to environmental, legal, and labor requirements. Forest managers also demonstrate knowledge of applicable laws and regulations, which they must take into account when preparing management plans. FME reported no new violations or complaints for 2016. Interviews with a variety of foresters, Natural Heritage biologists and Natural Resource Police 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. 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 yielded no allegations either. Firewood permits and guidelines were reviewed on all state forests visited in 2016. 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 likely to be added to all 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	C	FME 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

applicable laws and regulations.		Forest Products Operators/ Master Loggers. Contracts also make reference to applicable laws and regulations. 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 PGSF and SRSF 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.
1.2. 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	According to interviews with the state forestry director, FME pays 25% of all timber sale revenue to the counties in which the state forests are located. Approximately 7% of timber sale revenue funds the DNR's secretary offices. Payments are listed w/in Annual Work Plan budgets.
1.3. In signatory countries, the provisions of all binding international agreements such as CITES, ILO Conventions, ITTA, and Convention on Biological Diversity, shall be respected.	NE	
1.4. 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 Principles, Criteria or Indicators are documented and referred to the CB.	C	Certain chemical use which is allowed within US law but denied use by FSC has been an issue once, but was reported in the pesticide use report. Use has since been eliminated as an option. No other potential conflicts were reported in interviews with FME staff.
1.5. Forest management areas should be	C	

protected from illegal harvesting, settlement and other unauthorized activities.		
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	According to 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. FME staff reported no major incidents of illegal or unauthorized activities.
1.6. Forest managers shall demonstrate a long-term commitment to adhere to the FSC Principles and Criteria.	NE	
Principle #2: Long-term tenure and use rights to the land and forest resources shall be clearly defined, documented and legally established.		
2.1. Clear evidence of long-term forest use rights to the land (e.g., land title, customary rights, or lease agreements) shall be demonstrated.	NE	
2.2. 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.	NE	
2.3. Appropriate mechanisms shall be employed to 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.	C	
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	C	FME staff reported no new disputes over tenure claims or use rights. There are several cases that are open related to encroachment onto state forests from adjacent landowners. Each state forest maintains its own records, but the land planning

federal, state, and/or local laws are employed to resolve such disputes.		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.
2.3.b The forest owner or manager documents any significant disputes over tenure and use rights.	C	
Principle #3: The legal and customary rights of indigenous peoples to own, use and manage their lands, territories, and resources shall be recognized and respected.		
3.1. Indigenous peoples shall control forest management on their lands and territories unless they delegate control with free and informed consent to other agencies.	NE	
3.2. Forest management shall not threaten or diminish, either directly or indirectly, the resources or tenure rights of indigenous peoples.		
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. Routine communication with Chief's re: management activities and public posting of AWP's on the forest web site. FME staff reported that activities in 2015-16 did not affect any tribal issues.
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 management plan.	NA	
3.3. 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.	NE	
3.4. 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.	NE	
Principle #4: Forest management operations shall maintain or enhance the long-term social and economic well-being of forest workers and local communities.		
4.1. The communities within, or adjacent to, the forest management area should be given	C	

opportunities for employment, training, and other services.		
4.1.a Employee compensation and hiring practices meet or exceed the prevailing ***local*** norms within the forestry industry.	C	Short-term and long-term FME contractors are not considered FME employees. FME employees typically are salaried with benefits such as healthcare and retirement (pension or similar programs). See also 4.1.c.
4.1.b Forest work is offered in ways that create high quality job opportunities for employees.	C	FME employees have ample opportunities for continuing education or training. Training records were reviewed (maintained in personnel files on each state forest; First AID/CPR, fire, trail maintenance, SILVAH, pesticide applicator, first responder, regional conferences, CDL, chain saw, arborist, machine operation, etc.).
4.1.c Forest workers are provided with fair wages.	C	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).
4.1.d Hiring practices and conditions of employment are non-discriminatory and follow applicable federal, state and local regulations.	C	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 staff.
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	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 treatment to businesses located in Maryland. 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.
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	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 according to interviews with staff. There are two juvenile detention centers that abut state forests in Western Maryland that are occasionally provided work on state forests. During the 2016 audit, a site was visited on which the employees of the contractor are citizens with special needs that conduct low-grade timber harvests and sell the resulting firewood on state campgrounds.
4.2. 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	FME reported no 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. According to interviews with FME staff, all are aware of health and safety laws and receive regular training on the subject.
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	Items 15 (accident prevention), 16 (insurance) and 19 (law applicable) of contracts address safety requirements. See also staff training records reviewed in 4.2.a.
4.2.c The forest owner or manager hires well-qualified service providers to safely implement the management plan.	C	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. PG-01-15, p. 1).

4.3 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	Several positions are unionized per federal and state laws, and management has made no attempts to thwart this according to interviews with FME staff. In Maryland, there are approximately 30,000 unionized state workers (Source: MD Department of Budget and Management).
4.3.b The forest owner or manager has effective and culturally sensitive mechanisms to resolve disputes between workers and management.	C	FME staff maintain an open-door policy. Otherwise, complaints may be filed with Human Resources that follow a standard procedure for resolution.
4.4. 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	FME has reported that no significant activities related to social impacts assessment have occurred since the last audit. The Annual Work Plan and ID Team processes are robust 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 response a Minor CAR in 2014.
4.4.b The forest owner or manager seeks and	C	FME reported that few comments have been

considers input in management planning from people who would likely be affected by management activities.		received from stakeholders since the last audit. Most comments are received during the Annual Work Plan (AWP) review process from the Citizens Advisory Committees.
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	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.
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 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.	C	See response to Minor CAR 2014.6 in the 2015 annual audit report. There has been no change since the last audit.
4.5. 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	C	

be taken to avoid such loss or damage.		
4.5.a The forest owner or manager does not engage in negligent activities that cause damage to other people.	C	FME staff and stakeholders interviewed did not report any issues with negligent activities.
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	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 has a policy available for receiving and attending to grievances or complaints (http://www.dnr.state.md.us/forests/SFMGrievancePolicy.pdf). The contact information is on the main page for the Forest Service (http://www.dnr.state.md.us/forests/mdforests.asp) .
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 FME or stakeholders. Any compensation or mitigation would be managed by the legal department.
Principle #5: 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.		
5.1. 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.	NE	
5.2. Forest management and marketing operations should encourage the optimal use and local processing of the forest's diversity of products.	NE	
5.3. Forest management should minimize waste associated with harvesting and on-site processing operations and avoid damage to other forest resources.	NE	
5.4. Forest management should strive to strengthen and diversify the local economy, avoiding dependence on a single forest	NE	

product.		
5.5. 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.
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.
5.6. The rate of harvest of forest products shall not exceed levels which can be permanently sustained.	C	
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;	C	FME reported the following changes to its annual allowable harvest calculation: • *SRSF: We have been conducting an extensive forest inventory project for past 5 years. Initial inventory work has been completed on the harvestable areas of SRSF and the analysis of this data will be the basis for any changes that may be necessary in adjusting the annual allowable harvest rate. An updated analysis indicates harvest levels at about 1,200 mbf/yr* • *CF-PSF: The annual allowable harvest rate was adjusted slightly up due to property acquisitions.* • *PGSF: We have been conducting an extensive forest inventory project for past 5 years, initial*

• 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.		*inventory work is completed on PGSF and preliminary data analysis indicates that we should be cutting about 536,000 bf/yr* • *GRSF: none* See SFMP Chapter 5, Appendix H and CFI Summary for each State Forest. FME 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. 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 FME's response to Minor CAR 2015.1 (5.6.c), it completed an analysis of its effective productive area and determined that it was much less than originally estimated, which was causing the FME to appear to be behind in treating overstocked stands. Much of the area in the Western Region is not suitable to harvest due to access or lack of available harvesting equipment/ systems. In addition to reclassification of the productive area, FME also implemented a quarterly review process of timber sales in the Western Region. Both actions have greatly improved FME's ability to meet harvest scheduling and completion objectives.
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.		FME provided the following information on meeting its annual allowable harvest objectives: • *Savage River State Forest: See Appendix 3 in SRSF FY-2016 Annual Work Plan.* • *Potomac Garrett State Forest: See Appendix 3 in PGSF FY-2016 Annual Work Plan.* • *Green Ridge State Forest: The allowable harvest within the GRSF General Forest Area is to*

		manage 200 acres for end of rotation regeneration harvests. We managed 197 acres since the last audit. • *Chesapeake / Pocomoke Forests: Clearcutting: 145 ac.: Seed Tree/Shelterwood: 66.3 ac.: Thinning: 1,342.6 ac.* *Our maximum annual allowable cut is approximately 700 acres/year of clearcutting, seed tree, or shelterwood harvests. We are well below that level since the majority of the forest acreage is in younger age classes that are not suitable for final harvest operations.* Each State Forest maintains an annual work plan summary to compare actual acres harvested versus projected (e.g., http://www.dnr.state.md.us/forests/download/awp_summary.pdf). Harvest levels on an area control basis remain well below what is allowed per the Woodstock model.
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	In the Western Region, shelterwood, thinning, clearcut, and variable retention harvests are used for treating overstocked stands and controlling species composition to deal with gypsy moth outbreaks. AWP scouting done by the Forest Manager and Forester. 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	NA	No NTFPs are harvested in significant commercial operations. Hunt leases are used only on the Chesapeake State Forest. The meat acquired is not commercially sold and is not commercially significant.

to the forest ecosystem.		
Principle #6: 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.		
6.1. 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.	NE	
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 shall be controlled.	C	
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	FME reported that no new conservation zones were established since the last audit on any of the state forests within the scope of certification. On sites of mixed native and non-native conifer species, the state-endangered Northern goshawk has begun nesting and using these areas as hunting cover according to surveys by wildlife staff.
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.	C	Refer to 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.

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 relevant science, guidelines and/or consultation with relevant, independent experts as necessary to achieve the conservation goal of the Indicator.		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, which includes reviews of all plans by heritage, wildlife, fisheries, and forestry staff. 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.
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	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.
6.3. 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	C	FME has reported the following for each state forest within the scope for 2015-16: • *SRSF: The seedling/sapling succession stage of our hardwood forests could be considered under-represented. 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.* • *PGSF: We believe the seedling/sapling succession*

managed to enhance and/or restore old growth characteristics.		*stage of our hardwood forests, could be considered under-represented. As such, mngt. work, planned within the AWPs is generally focused on regeneration of hardwood forests and enhancing this stage of forest growth. Distribution is approx.;(Forest wide/general mngt) Seed/sap=6/10% ; poles=15/9%; sawtimber=80/75%* • *GRSF: Heritage service completed vegetation management on approximately 20 acres of shale barrens to remove non-native woody vegetation and fire intolerant woody species to restore natural habitat.* • *CF-PSF: In conjunction with Wildlife & Heritage, we are harvesting and maintaining areas as early successional primarily with the use of fire. When appropriate, we plant species that are historically significant but currently underrepresented, such as shortleaf pine and Atlantic white cedar.* See also discussion in 5.6.a on FME's response to Minor CAR 2015.1. These activities were confirmed via a review of AWPs, site-level plans, and field observation in the Western Region in 2016. See **OBS 2016.1**.
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 exceptional efforts to identify rare ecological communities for protection, management and/or restoration. During harvests visited in 2016, 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. According to 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 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).	C	FME has reported that no activity has taken place in or near old-growth stands since the last audit. All old-growth stands near timber harvests reviewed in 2016 were well outside of the effective harvest area.

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 FME reported the following habitat and ecosystem restoration activities since the last audit: • *SRSF: All planned and completed timber harvests include wildlife habitat improvement elements by creating an increase in early succession habitat critical to a variety of species in need of conservation including Golden-wing Warblers, American Woodcock, etc. Golden-wing Warbler Initiative Funded: A riparian buffer planting on 4.6 acres of the newly acquired "Rounds Farm" in the Fairview Wildlife Habitat Unit to restore forestland in a pasture/hay field and provide a wooded corridor between the Bear Pen Wildlands and the headwaters of Bear Pen Run.* • *PGSF: A)-RGS Grant funded: Habitat improvements, to permanent grassy openings via planting a grass legume mix , lime and fertilizer to make these small openings as productive as possible for a variety of birds and animals that utilize these openings.* • *B) – "Feathered Edge Cut" around perimeter of wildlife food plot/ grassy opening on Snaggy Mountain Area.* • *C) – all planned and completed timber harvests*

		include wildlife habitat improvement elements, often leaning toward providing additional early succession habitat critical to a variety of species in need of conservation: including Gold winged Warblers, American Woodcock, etc. • *GRSF: Management activities were completed in the Anthony's Ridge SWHA and Kirk Orchard SWHA including seasonal mowing, field border cutbacks, regeneration harvests and partial harvests to enhance early succession wildlife habitat structure including timber harvests with retention based on Golden-winged warbler BMP.* • *CF-PSF: Prescribed burning on various ESA restoration sites.* These activities were confirmed via a review of AWPs, site-level plans, and field observation in the Western Region in 2016.
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; 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.		The FME reported the following activities related to riparian management zones since the last audit: • *SRSF: See AWP maps regarding HCVF blue line streams/wetlands protection. Also, see SR-05-15 - temporary bridged stream crossing permitted by MDE.* • *PGSF: See AWP maps re. HCVF blue line streams/wetlands protection.* • *GRSF: none* • *CF-PSF: Burbage-Whiton Watershed Improvement Project; 227 Acres of restored floodplain.* These activities were confirmed via a review of AWPs, site-level plans, and field observation in the Western Region in 2016.
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	The audit team observed several examples of thinnings and regeneration harvests consistent with this indicator in 2016. For example, richer sites that have been affected by gypsy moth received treatments to reduce oak density and favor a more diverse species mix when this was possible. On variable retention harvests, dispersed and clumped

		retention of native pines, oak, maple, hickory, grape, and tulip-poplar was observed when site conditions were indicative of these species' likelihood for survival. For example, on Green Ridge State Forests the audit team observed retention of mid- and under-story sugar maple within a variable retention harvest intended to regenerate oak species. This area was determined to be a richer microsite within the harvest area due to the higher density of sugar maple present and was retained for species diversity. See **OBS 2016.1**.
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	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). The FME reported the following planting activities since the last audit: • *SRSF/ PGSF / GRSF: N/A – no planting has occurred.* • *CF-PSF John S. Ayton State Tree Nursery* (NOTE: local source, as confirmed via FME's website: http://nursery.dnr.maryland.gov/). These activities were confirmed via a review of AWPs, site-level plans, timber sale contracts, and field observation in the Western Region in 2016. See **OBS 2016.1**.
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	The audit team observed retention of species throughout the diameter class and species groups. Larger, deformed or dying trees were selected for snag recruitment. Snags and downed logs were also observable within retention clumps or as individuals. Of note, FME pays special attention to the retention of grape vines on retained trees for both vertical and horizontal complexity. Grapes are also a source of soft-mast, especially within oak-dominated stands. Especially within hardwood dominated sites, FME

not harvested; and b) vertical and horizontal complexity. Trees selected for ***retention*** are generally representative of the dominant species found on the site.		also retains conifers that are likely to survive until the next entry or serve as a seed source in the regenerating stands.
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 reported the following even-aged management activities (NOTE: state forests are the Maryland shore are subject to SE restrictions, while those in Western Maryland are subject to the Appalachian restrictions): • *SRSF: One 10.3 acre pine clear-cut variable retention harvest and 17-acre mature hardwood regeneration harvest that is partially harvested. Retention objectives for the projects were met; with approximately 5% of the stand retained. In the case of the hardwood stand, approximately 2.5 acres of wetland/drains and associated buffers were excluded from harvest. All other even – age work fell under shelterwood category; these being 1st stage of 2 or 3 stage shelterwood systems.* • *PGSF: Only one small 3 ac. clear cut was contracted as part of the wildlife habitat / grassy opening edge cuts. Retention objectives did not apply due to small size of project. All other even – age work fell under shelterwood category; these being 1st stage of 2 or 3 stage Shelterwood systems.* • *GRSF: All even-aged regeneration harvests carried out this year were completed under principles of variable retention.* • *CF-PSF:* o *WR25 Tankard Stand 11: 33.5 ac.* o *WR40 Dunn Swamp Stand 3 & 20: 51.3 ac.* o *P04 Dividing Creek T13 S7: 22 ac.* o *P02 Nazareth Church T5 S14 & T6 S18: 22.7 ac.* o *P02 Nazareth Church T4 S19: 16.6 ac.* o *P05 Milburn Landing T16 S7: 32.8 ac.* o *P04 Dividing Creek T13 S16: 15.7 ac.*

		○ *WR10 Cordery Stand 14: 16.7 ac.* • *No issues with meeting downed dead woody debris retention objectives on any state forest.* These activities were confirmed via a review of AWPs, site-level plans, timber sale contracts, and field observation in the Western Region in 2016.
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. 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.	NA	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.
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		The FME reported on the following invasive species control activities since the last audit: • *SRSF: See attached maps and write ups for invasive control in AWP 17. These include both plant and forest insect pest IPM activities.* • *PGSF: Monitored 16 NNIS recorded occurrences / treated areas, addressed via our policy of Early Detection–Rapid Response. Treated 2 of these*

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.		*sites with appropriate herbicides: 0.2 ac. of spot treatment of Oriental Bittersweet and 0.01 ac. spot treatment of Autumn Olive.* • *GRSF: Ailanthus was treated in stands prior to harvest treatments in stands that it was known to exist.* • *CF-PSF: Approximately 14 acres were sprayed for invasive grasses using 2% or 6% concentrations of Glyphosate.* These activities were confirmed via a review of AWPs, site-level plans, and field observation in the Western Region in 2016.
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.		The FME reported on the following fuels-reduction/ control and prescribed fire activities: • *SRSF: Yes, a 10 acre wildfire in Compartment 51 and three prescribed burns for warm season grasses.* • *PGSF: None* • *GRSF: Approximately 10 acres prescribed fire for maintenance of warm season grass. No natural fires occurred.* • *CF-PSF: Approximately 427 acres were burned for ESA management. There were no naturally occurring fires this year.* These activities were confirmed via a review of AWPs, site-level plans, timber sale contracts, and field observation in the Western Region in 2016. FME provided a summary of prescribed burn activities since the last audit, which was confirmed during interviews with various staff members.
6.4. 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.	NE	
6.5 Written guidelines shall be prepared and implemented to control erosion; minimize forest damage during harvesting, road	NE	

construction, and all other mechanical disturbances; and to protect water resources.		
6.5.a The forest owner or manager has written guidelines outlining conformance with the Indicators of this Criterion.	NE	
6.5.b Forest operations meet or exceed Best Management Practices (BMPs) that address components of the Criterion where the operation takes place.	NE	
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.	NE	
6.5.d The transportation system, including design and placement of permanent and temporary haul roads, skid trails, recreational	C	See **OBS 2016.2**.

trails, water crossings and 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.		
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,	NE	

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.		
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 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.	NE	
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.	NE	
6.5.g Recreation use on the FMU is managed to avoid negative impacts to soils, water, plants, wildlife and wildlife habitats.	C	See **OBS 2016.2**.
6.5.h Grazing by domesticated animals is controlled to protect in-stream habitats and water quality, the species composition and	NE	

viability of the riparian vegetation, and the banks of the stream channel from erosion.		
6.6. 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 prohibited. If chemicals are used, proper equipment and training shall be provided to minimize health and environmental risks.	NE	
6.7. 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	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	FME staff reported no recordable spills during the past two years. Due to inclement weather, no logging contractors were present for interview in the field; however, logging equipment that was on job sites was inspected and no persistent leaks were detected.
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.	C	According to interviews with staff, training on fuels storage is included in prescribed fire and pesticide applicator training. During field inspections, no fuel or chemical containers were observed.

6.8. 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. A 2012 European regulatory peer review was conducted on 5 approved strains of BT. 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 two 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. Recent releases also occurred in late 2015. 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 and http://www.msa.md.gov/megafile/msa/speccol/sc5300/sc5339/000113/017000/017918/unrestricted/20131937e.pdf.
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 or 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). See also MDA's specialty webpages, which document the results of release and monitoring (e.g., http://mda.maryland.gov/plants-pests/Pages/forest_pest_management.aspx).
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.
6.9. 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	No exotic species are used for commercial or management purposes in the Eastern region. In the Western Region, Norway Spruce, Red Pine and Scotch Pine exist in legacy plantations that are being managed on a trajectory for restoration of mixed native conifer and hardwood stands. See **OBS 2016.3**.
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.c The forest owner or manager shall take timely action to curtail or significantly reduce any adverse impacts resulting from their use of exotic species.	C	No adverse impacts have been detected from the exotic species mentioned in 6.9.a-b.
6.10. 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.**	NA	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 areas converted to non-forest use. Currently, no state forestland has been converted to exercise mineral rights.
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).	NA	There has been no conversion; see evidence in C6.10.
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).	NA	There has been no conversion; see evidence in C6.10.
6.10.c Forest *conversion* to non-forest land uses does not occur, except in circumstances where conversion 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).	NA	There has been no conversion; see evidence in C6.10.
6.10.d Natural or semi-natural stands are not converted to plantations. Degraded, semi-natural stands may be converted to restoration plantations.	NA	There has been no conversion; see evidence in C6.10.
6.10.e Justification for land-use and stand-type	NA	There has been no conversion; see evidence in

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)		C6.10.
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.	NA	There has been no conversion; see evidence in C6.10.
Principle #7: 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.		
7.1. 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.** **b. 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**	NE	

identification and protection of rare, threatened and endangered species. **b) 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.**		
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.	NE	
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	See **OBS 2016.4**.
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	See **OBS 2016.4**.
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.	NE	
7.1.e The management plan includes a description of the following resources and outlines activities to conserve and/or protect: • 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);	C	See **OBS 2016.4**.

• Representative Sample Areas (see Criterion 6.4); • High Conservation Value Forests (see Principle 9); • Other special management areas.		
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).	NE	
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).	NE	
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.	NE	
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.	NE	
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 and economic opportunities, including creation and/or maintenance of quality jobs (see Indicators 4.1.b and	NE	

4.4.a), local purchasing opportunities (see Indicator 4.1.e), and participation in local development opportunities (see Indicator 4.1.g).		
7.1.k The management plan describes the general purpose, condition and maintenance needs of the transportation network (see Indicator 6.5.e).	NE	
7.1.l The management plan describes the silvicultural and other management systems used and how they will sustain, over the long term, forest ecosystems present on the FMU.	NE	
7.1.m The management plan describes how species selection and harvest rate calculations were developed to meet the requirements of Criterion 5.6.	NE	
7.1.n The management plan includes a description of monitoring procedures necessary to address the requirements of Criterion 8.2.	NE	
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.	NE	
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.	NE	
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.	NE	

7.1.r The management plan describes the stakeholder consultation process.	NE	
7.2 The management plan shall be periodically revised to incorporate the results of monitoring or new scientific and technical information, as well as to respond to changing environmental, social and economic circumstances.	NE	
7.3 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	FME employees have ample opportunities for continuing education or training. Training records were reviewed (maintained in personnel files on each state forest; First AID/CPR, fire, trail maintenance, SILVAH, pesticide applicator, first responder, regional conferences, CDL, chain saw, arborist, machine operation, etc.). During interviews with staff such a forestry technicians, they stated that a qualified forester supervises all timber marking and provides them with guidance based on stand conditions.
7.4 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.	NE	
Principle #8: 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.		
8.1 The frequency and intensity of monitoring should be determined by the scale and intensity of forest management operations, as well as, the relative 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.	NE	
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	C	

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.		
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	FME reported the following inventory activities: • *SRSF: Completed 20% of the 5-year forest –wide forest inventory as planned in the "Harvestable Forest Area" completing this initial 5-year project.* • *PGSF: Completed 20% of the 5-year forest –wide forest inventory as planned in the "Harvestable Forest Area" completing this initial 5-year project.* • *GRSF: Completed 20% of the 5-year forest –wide forest inventory as planned in the "Harvestable Forest Area" completing this initial 5-year project.* • *CF-PSF: Continuous Forest Inventory (CFI), inventories performed pre- and post-harvest* Through a review of inventory records on state forests, these activities were confirmed for the Western Region.
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 2016.
8.2.b The forest owner or manager maintains records of harvested timber and NTFPs (volume and product and/or grade). Records must adequately ensure that the requirements under Criterion 5.6 are met.	C	FME reported the following recent harvest yield: • *SRSF: FY-15 AWP contracts have sold 1,106,333 Board Feet and 1,203.5 cords.* • *PGSF: FY-16 AWP contracts have sold 403,896 Bd. Ft. of timber to date, with an additional 138,638 Bd. Ft. marked and scheduled to be contracted by end of the FY for a contracted harvest of 542,534 Bd.Ft. (FY-16 AWP called for*

		634,000 Bd. Ft., volume difference lost to field delineated buffer and protective areas.) • *GRSF: 617,155BF sawtimber, 1777 cords pulpwood* • *CF-PSF: 77,519 tons* FME also provided quarterly timber sale reports for state forests in the western region, 2015-16.
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).		FME reported the following monitoring activities for this indicator: • *SRSF: Wildlife and Heritage Division of DNR have ongoing monitoring for black bears, golden eagles, striped skunks, Allegheny wood rats, and Appalachian cottontails.* • *PGSF: part of 5-year forest inventory effort* • *GRSF: Woodcock singing ground survey, wood turtle & herp surveys, wild turkey poult production, bear den reproduction surveys, bear bait surveys, nightjar survey, and golden-winged warbler survey.* • *CF-PSF: none* During harvesting activities, FME staff periodically visit the site to ensure that any protected areas such as ESAs remain un-entered.
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	Timber Sale Inspection forms are maintained for harvest monitoring visits and finalized at the end of harvest. FME staff reported that inspections take place on a weekly basis.
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. Since the last audit, FME has also implemented several monitoring activities in relation to OBS

		2015.3, which used an evaluation to classify the status of state forest roads under the FME's control and prioritize their maintenance.
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	FME reported the following socioeconomic monitoring activities since the last audit: • *SRSF: Worked in conjunction with Garrett Trails to examine the impact of bike trails on the forest. Five (5) trail counters have been installed throughout the forest to monitor visitor numbers. St. Johns Rock ORV Trail baseline environmental assessment to determine impacts on plant/animal communities.* • *PGSF: Visitor use / car counts conducted monthly to monitor trends in general visitor use over time.* • *GRSF: none* • *CF-PSF: trail counters have been installed throughout the forest to monitor visitor numbers and trail usage.* Through interviews with CAC members and recreation staff, it was confirmed that FME conducts regular monitoring of social impacts during CAC meetings and coordination with recreation staff.
8.2.d.4 Stakeholder responses to management activities are monitored and recorded as necessary.	C	At each state forest a complaints log is maintained. This was examined and resolution to each comment is documented when the issue has been investigated and closed.
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).	NA	There are no such sites on the FMU. However, FME offered this opportunity to Tribes participating in the CAC. In addition, FME is cooperating with the MD Commission of Indian Affairs. No changes were reported since the last audit.
8.2.e The forest owner or manager monitors the costs and revenues of management in order to assess productivity and efficiency.	C	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.
8.3 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."	NE	
8.4 The results of monitoring shall be	NE	

incorporated into the implementation and revision of the management plan.		
8.5 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.	NE	
Principle #9: 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).**		
9.1 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.	NE	
9.2 The consultative portion of the certification process must place emphasis on the identified conservation attributes, and options for the maintenance thereof.	NE	
9.3 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.	NE	
9.4 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,	C	FME has only reported on activities related to the

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.		management of significant concentrations of RTE species, such as the Delmarva Fox Squirrel. While many HCVs rely on passive management approaches, heritage staff conducts annual reviews of these areas based on a sampling protocol.
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	FME has not reported any increasing risks to specific HCV attributes under their control.

APPENDICES		
APPENDIX C: REGIONAL LIMITS AND OTHER GUIDELINES ON OPENING SIZES: Indicator 6.3.g.1 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		
APPALACHIA REGION		
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 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*	C	See FME's summary under 6.3.g.1. All even-aged harvest openings larger than 11 acres have retention, even those classified as clearcuts. Most even-aged management occurs under the variable retention and shelterwood systems.

consistent with overall management principals. Where stands have been degraded, less retention can be used to improve both merchantable and non-merchantable attributes.		
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	Where uneven-aged management is in use, canopy openings are less than 2.5 acres in size. A very small amount of the Western Region is under this type of management.
SOUTHEAST REGION		
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 volume to secure an economically operable timber sale, meaning	NE	

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.		

Appendix 6 – Chain of Custody Indicators for FMEs

[X] Chain of Custody indicators were not evaluated during this annual audit.