

Maryland DNR Forest Service

Tawes Building, 580 Taylor Avenue
Annapolis State Maryland 21401

FRS 0Y301

SFI[®] 2015-2019 Forest Management Standard

Audit Type: Surveillance

NSF International Forestry Program Audit Report

A. Program Participant's Name: Maryland DNR Forest Service

NSF Customer Number (FRS): 0Y301

B. Scope of Certification

The forest management program of the Maryland Department of Natural Resources on the following Maryland State Forests: Chesapeake Forest Lands, Pocomoke State Forest, Green Ridge State Forest, Garrett State Forest, Potomac State Forest, and the Savage River State Forest. The SFI Certificate Number is NSF-SFIS-0Y301.

C. NSF Audit Team: Mike Ferrucci, NSF Lead Auditor; Kyle Meister, FSC Lead Auditor

D. Audit Dates: April 25-28, 2016

E. Reference Documentation (Standards, Guidance, etc.)

Sustainable Forestry Initiative® 2015-2019 Forest Management Standard

Company Documentation (Program Manual, Procedures, etc.)

Maryland State Forest Management Plans <http://dnr2.maryland.gov/forests/Pages/mdforests.aspx>

Maryland State Forest Annual Work Plans

MFS Policy Procedure Manual (Operation Order 2015-601 Effective: April 1, 2015, Timber Operation Order)

F. Audit Results: Based on the results of this assessment, the auditor concluded:

Acceptable with no nonconformities

The following nonconformities were identified and will require corrective action.

Major: 0 Minor: 0

In addition, 3 opportunities for improvement (OFIs) were identified)

Corrective actions and supporting documentation should be submitted to NSF through the NSF Online Customer Portal. For assistance, please contact your NSF Certification Project Manager.

G. Changes to Operations or to the Standard

Note: Were there any significant changes in operations, procedures, specifications, facility records, etc., from the previous visit?

Yes

No

H. Other Issues Reviewed

Yes No N/A Public report from previous audit(s) is posted on the [SFI/SBP/etc.] website

Yes No N/A Relevant industry specific logos or labels (SFI, PEFC, etc.) are utilized correctly.

Yes No N/A Relevant accreditation logos (ANSI or ANAB) are utilized correctly and meet rules specified in AESOP 4876 sections 12-15 and AESOP 14680 section GP-59.

Yes No N/A Nonconformities from previous audit were reviewed.

2015 Minor CAR under SFI Indicator 2.3.6 was closed- "Administrative challenges continue to delay the implementation of necessary road repairs and upgrades. Location: Road system, western forests." Auditors reviewed many road segments which have been upgraded, and reviewed the roads database. The program has demonstrated the ability to identify and prioritize the most critical road segments for temporary repair and for major reconstruction. Reconstruction projects reviewed were completed to high standards and should be expected to sustain use at expected levels. Extensive field review of roads, interviews, and review of maps and records show an increased emphasis on the management and maintenance of roads.

2015 Minor CAR under SFI Indicator 2.3.6 was closed- "Management on the Savage River State Forest (SRSF) does not fully meet the requirement to promote healthy and productive forest conditions to minimize susceptibility to damaging agents." Field observations allowed the audit team to conclude that the increased pace of forest management practices are developing and maintaining healthy forests in most areas. Most stands observed were properly stocked to slightly over-stocked; overstocked stands are prioritized when developing stand prescriptions and harvesting plans.

2015 Transitional Minor Non-conformance under SFI Indicator 8.1.1 was closed before December 31, 2015; the program continues to be in conformance. Each management plan now contains a written policy acknowledging a commitment to recognize and respect the rights of Indigenous Peoples.

I. Future Audit Schedule

Following the initial registration audit, continued certification requires annual assessments commonly referred to as "Surveillance Audits". Additionally, at the end of the certification period, maintaining certification requires the completion of a recertification or "Reassessment Audit". The next audit is expected to be a recertification (unless the audit cycle is changed back to 5 years), scheduled to be conducted on during the week of April 24, 2017.

J. Appendices

- Appendix 1: Surveillance Notification Letter and Audit Schedule
- Appendix 2: Public Surveillance Audit Report
- Appendix 3: Audit Matrix
- Appendix 4: Site Notes
- Appendix 5: Attendees (Opening and Closing Meeting attendance indicated)
- Appendix 6: SFI Reporting Form

Appendix 1:

Surveillance Notification Letter and Audit Schedule

March 10, 2016; Revised April 19, 2016

Re: Confirmation of SFI Surveillance Audit, Maryland Forest Service

Jack Perdue, Maryland DNR Forest Service
580 Taylor Avenue
Annapolis, MD 21401

Dear Mr. Purdue

We are scheduled to conduct the FSC and SFI 2016 Surveillance Audits of Maryland's state forest system the week of April 25. This letter provides the SFI audit plan; the FSC audit plan has been provided by Kyle Meister, SCS Lead Auditor.

The 2016 SFI Audit is a partial review of your SFI® Program to confirm that it continues to be in conformance with the SFI Standard and that continual improvement is being made. It also includes an assessment of your program against the new SFI 2015-2019 Forest Management Standard.

The scope statement (appearing on your certificate) is as follows:

The forest management program of the Maryland Department of Natural Resources on the following Maryland State Forests: Chesapeake Forest Lands, Pocomoke State Forest, Green Ridge State Forest, Garrett State Forest, Potomac State Forest, and the Savage River State Forest. The SFI Certificate Number is NSF-SFIS-0Y301.

The audits will commence with an opening meeting on April 26 at 8 am at the New Germany State Park. The closing meeting will occur on Thursday April 28, 2015 from 3 to 4 pm am at a Green Ridge S.F. office. The proposed schedule is outlined below:

April 26- Tuesday: Savage River State Forest

- 7 am: (optional) breakfast at the auditor's hotel in location;
- 8-10 am: opening meeting, New Germany State Park
- 10 am to 5 pm: field visits; 5 pm daily briefing;
- Dinner at 6:30 pm to review status of cars (with Lead Auditors and Jack Perdue)

April 27 - Wednesday: Potomac-Garret State Forest

- 8 am to 4 pm Potomac-Garret State Forest office and field audits;
- 4:30 pm daily briefing
- Optional dinner at 6:30 pm.

April 28 - Thursday: Green Ridge State Forest

- 7 am: (auditors and Maryland Annapolis staff who are staying at hotel) breakfast meeting at the auditor's hotel in location to consider issues and adjust schedule if needed
- 8 am to 2 pm Green Ridge State Forest office and field audits
- 2-3 pm Auditors prepare for closing meeting (location Green Ridge S.F. office)
- 3 pm Closing Meetings (Green Ridge office)
- 2 hour travel time from closing meeting location to BWI Airport
- Mike Ferrucci -7:40 pm flight; Kyle Meister -7:00 pm flight

The above tentative schedule outlines the broad flow of the audit process during this visit. The schedule can be adapted either in advance or on-site to accommodate any special circumstances. Your managers should prepare more-detailed daily itineraries that allow for one hour of background information and discussion in the appropriate office regarding each forest assessed. As during the previous audits please arrange field lunches to expedite the process.

The field visits will be conducted by a joint field team: Kyle Meister will audit with an FSC-focus (but he will assess some elements of the SFI Standard); I will audit with an SFI-focus (but some elements of FSC will be included in my work). Bios for each of the audit team members are provided as attachments.

During the SFI part of the audit I will:

1. Review progress on achieving SFI objectives and performance measures and the results of the management review of your SFI Program;
2. Review selected components of your SFI program, with a focus on the following requirements not audited in 2015 (as well as any requirement pertaining to field sites that are selected for review):
 - Performance Measure 2.1 (reforestation);
 - Objective 9 (legal compliance);
 - Performance Measures 10.1 (research support) and 10.3 (climate change);
 - Performance Measure 11.1 (commitment to certification and training); and
 - Performance Measures 12.1 and 12.2 (outreach).

Please assemble office evidence needed to confirm conformance to these requirements.

3. Verify continued effective implementation of corrective action plans from recent previous NSF audits;
4. Review logo and/or label use;
5. Confirm public availability of summary reports;
6. Evaluate the effectiveness of planned activities aimed at continual improvement of your SFI Program; and
7. Evaluate the multi-site requirements.

Multi-Site Sampling Plan:

Your responsibilities for Public Lands Stewardship include the role of “central administration” for this multi-site program. I plan on reviewing the SFI multi-site requirements following the opening meeting on the first day of the audit.

The following sites are included in the overall scope: Chesapeake Forest Lands, Pocomoke State Forest, Green Ridge State Forest, Garrett State Forest, Potomac State Forest, and the Savage River State Forest. The 2016 audit will include 3 of these 6, all in western Maryland, as follows: Green Ridge State Forest, Garrett State Forest, and the Savage River State Forest. These forests were selected to include a broad cross-section of activities and of the sites and to facilitate travel. Random sampling was not employed in the selection of these 3 forests but will be used in the selection of sites to be visited

Field Site Selections

Please provide a list of management activities for the forests being audited this year ASAP. The lists should be as comprehensive as possible, covering recently completed, ongoing, and planned harvests at a minimum. Please also include lists of other management activities (road building, site-preparation, planting, TSI or release for example) in cases where compiling such lists will not be unduly time-consuming. The two lead auditors will make preliminary random selections from these lists. We will then ask your forest managers to prepare suggested daily itineraries which include our primary selections supplemented by sites which are proximate or which combine into efficient travel routes.

We will need to complete the preliminary selections at least one week before the start of the audits to allow your managers time to prepare their daily itineraries.

I look forward to visiting you and evaluating continual improvement in your SFI Program. If you have any questions regarding this planned audit, please contact me.

Best Regards,



Mike Ferrucci, Lead Auditor, NSF
203-887-9248 mferrucci@iforest.com

Attachments:

- Mike Ferrucci’s short bio
- Kyle Meister’s short bio

Mike Ferrucci, SFI and FSC Forestry and Chain of Custody Lead Auditor

Mike Ferrucci 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.

For 12 years Mike was the SFI Program Manager for NSF – International Strategic Registrations responsible for all aspects of the firm’s SFI Certification programs. In that role Mike developed and managed one of the largest forest and chain of custody certification programs in the U.S.

Mike has conducted Chain of Custody audits for all segments of the forest products industry, including printers, corrugated and box producers, integrated paper companies, paper distributors, solid wood mills, engineered wood products facilities, brokers, and distributors. In audits with pulp mills, corrugated producers, and box plants Mike has addressed the issues involving recycled content. Mike has also conducted or participated in assessments of forest management operations throughout the United States, with field experience in 4 countries and 33 states.

Mike Ferrucci has 35 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 34 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.

Kyle Meister, FSC Forestry and Chain of Custody Lead Auditor

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, and California. 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.

Appendix 2:

Maryland DNR Forest Service

SFI® Summary Surveillance Audit Report for 2016

The SFI Program of the Maryland DNR Forest Service of Annapolis, Maryland has achieved continuing conformance with the SFI® 2015-2019 Forest Management Standard, according to the NSF SFIS Certification Audit Process.

The Maryland DNR Forest Service initially obtained SFI Certification from NSF on July 24, 2003 and the program was re-certified in July, 2006. Initially only the Chesapeake Forest Lands were certified, with the Pocomoke State Forest added in 2009 as part of an expansion of scope that included other recently acquired lands. In 2011 the organization sought and was granted recertification within the expanded scope based on an audit of the six largest state forests against the SFI 2010-2014 Standard. The state forests included in the current scope were re-certified to the SFIS in April of 2014. The most recent audit was a surveillance audit in April 2015.

This report describes the results of the 2016 Surveillance Audit which considered changes in operations, the management review system, and efforts at continuous improvement. A subset of the SFI requirements were selected for detailed review.

Maryland's State Forests

Maryland DNR Forest Service is responsible for the management of the 215,607 acres of Maryland State Forests through a variety of designations. The Forest Service is supported by other agencies within the Department of Natural Resources including Wildlife, Fisheries, Heritage, and the Natural Resources Police. Various management plans provide a useful summary of the importance of these forestlands and the broad policy goals:

Excerpted from the Savage River State Forest Draft Management Plan:

‘The resources and values provided from state forests reach people throughout the State and beyond. These resources and values range from economic to aesthetic and from scientific to inspirational. The Department of Natural Resources is mandated by law to consider a wide variety of issues and uses when pursuing a management strategy for these forests. The importance of considering these factors is acknowledged in the Annotated Code, which establishes the following policy pertaining to state forests and parks:

"Forests, streams, valleys, wetlands, parks, scenic, historic and recreation areas of the state are basic assets. Their proper use, development, and preservation are necessary to protect and promote the health, safety, economy and general welfare of the people of the state. It is the policy of the state to encourage the economic development and the use of its natural resources for the improvement of the local economy, preservation of natural beauty, and promotion of the recreational and leisure interest throughout the state."
(Annotated Code of Maryland, Natural Resources Article §5-102)

The Department recognizes the many benefits provided by state forests and has established a corresponding management policy in regulation.

"The state forests are managed to promote the coordinated uses of their varied resources and values for the benefit of all people, for all time. Water, wildlife, wood, natural beauty and opportunities for natural environmental recreation, wildlands experience, research demonstration areas, and outdoor education are major forest benefits." (Code of Maryland Regulations 08.07.01.01)'

SFI 2015-2019 Standard Scope

Scope Statement: The forest management program of the Maryland Department of Natural Resources on the following Maryland State Forests: Chesapeake Forest Lands, Pocomoke State Forest, Green Ridge State Forest, Garrett State Forest, Potomac State Forest, and the Savage River State Forest. The SFI Certificate Number is NSF-SFIS-0Y301.

The objective of the audit was to assess conformance of the firm's SFI Program to the requirements of the SFI 2015-2019 Standard and Rules, Section 2 – Forest Management.

The scope of the audit included forest management operations. Forest practices that were the focus of field inspections included those that have been under active management over the past 2 years. In addition practices conducted earlier were reviewed as appropriate (regeneration and BMP issues, for example). SFI obligations to promote sustainable forestry practices, to seek legal compliance, and to incorporate continual improvement systems were also within the scope of the audit.

The SFI Standard was used without modifying any requirements. SFI requirements that are outside of the scope of Maryland's SFI program were excluded from the scope of the SFI Certification Audit as follows:

- Indicator 10.1.2. Research on genetically engineered trees via forest tree biotechnology shall adhere to all applicable federal, state, and provincial regulations and international protocols ratified by the United States and/or Canada depending on jurisdiction of management.

SFIS Audit Process

The audit was performed by NSF on April 25-28, 2016 by an audit team headed by Michael Ferrucci, Lead Auditor supported by Kyle Meister, Team Auditor. Audit team members fulfill the qualification criteria for conducting SFIS Certification Audits of "Section 9. SFI 2010-2014 Audit Procedures and Auditor Qualifications and Accreditation" contained in Requirements for the SFI 2010-2014 Program: Standards, Rules for Label Use, Procedures, and Guidance.

NSF initiated the SFIS audit process with a series of planning phone calls and emails to reconfirm the scope of the audit, review the SFI Indicators and evidence to be used to assess conformance, verify that Maryland DNR Forest Service was prepared to proceed to the SFI Audit, and to prepare a detailed audit plan. NSF then conducted the SFIS Surveillance Audit of conformance to the SFI Standard. A report was prepared and final approval was done by an independent Certification Board Member assigned by NSF. Follow-up or Surveillance Audits are

required by the Sustainable Forestry Initiative Standard ®. The next Surveillance Audit is scheduled for April 2017.

The 2016 audit was governed by a detailed audit plan designed to enable the audit team to efficiently determine conformance with the applicable SFI requirements. The plan provided for the assembly and review of audit evidence consisting of documents, interviews, and on-site inspections of ongoing or completed forest management practices.

During the audit NSF reviewed a sample of the written documentation assembled to provide objective evidence of SFIS Conformance. NSF also selected field sites for inspection based upon the risk of environmental impact, likelihood of occurrence, special features, and other criteria outlined in the NSF SFI-SOP. NSF also selected and interviewed stakeholders such as contract loggers, landowners and other interested parties, and interviewed employees within the organization to confirm that the SFI Standard was understood and actively implemented.

The possible findings of the audit included Full Conformance, Major Non-conformance, Minor Non-conformance, Opportunities for Improvement, and Practices that exceeded the Basic Requirements of the SFIS.

Overview of Audit Findings

Maryland's SFI Program demonstrated conformance against the SFI 2015-2019 Standard. There were no non-conformances, and three "Opportunities for Improvement". The program has continued to exceed the standard in several areas. As such, the program has earned continuing certification.

2015 Non-Conformances Resolved

Two non-conformances which were identified in the 2015 audit have been resolved.

Indicator 2.3.6 requires "Road construction and skidding layout to *minimize* impacts to soil *productivity*. The program has demonstrated the ability to identify and prioritize the most critical road segments for temporary repair and for major reconstruction.

Reconstruction projects reviewed were completed to high standards and should be expected to sustain use at expected levels. (2015 Minor Non-conformance: Administrative challenges continue to delay the implementation of necessary road repairs and upgrades.)

Indicator 2.4.2 requires "Management to promote healthy and productive forest conditions to *minimize* susceptibility to damaging agents." Field observations allowed the audit team to conclude that the increased pace of forest management practices are developing and maintaining healthy forests in most areas. (2015 Minor Non-conformance: Management on the Savage River State Forest does not fully meet the requirement to promote healthy and productive forest conditions to minimize susceptibility to damaging agents.) At SRSF many stands are stressed and/or overstocked; regeneration problems are apparent, with silvicultural analyses and

silvicultural prescriptions developed through SILVAH-Oak indicating the need for treatments.

Indicator 8.1.1 requires that “Program Participants will provide a written policy acknowledging a commitment to recognize and respect the rights of Indigenous Peoples.” The 2015 Transitional Minor Non-conformance against SFI Indicator 8.1.1 was closed before December 31, 2015; the program continues to be in conformance. Each management plan now contains a written policy acknowledging a commitment to recognize and respect the rights of Indigenous Peoples.

No new non-conformances were identified in the 2016 audit.

2016 Opportunities for Improvement

Three opportunities for improvement (OFIs) were identified in the 2016 audit:

1. There is an Opportunity for Improvement by completing site level plans for ESAs in the western forests.

SFI Indicator 1.1.1 requires “Forest management planning at a level appropriate to the size and scale of the operation, including: ... (i) a review of non-timber issues.”

2. There is an Opportunity for Improvement by including in forest management plans more information (known by forest managers) about the role of conifers in the natural history, historic composition, and ecology of higher-elevation portions of the western forests.

SFI Indicator 1.1.1 requires “Forest management planning at a level appropriate to the size and scale of the operation, including: ... (i) a review of non-timber issues.”

3. There is an Opportunity for Improvement in the trail program, where funding for trails maintenance may not be adequate for the need.

SFI Indicator 5.4.1 requires participants to “Provide recreational opportunities for the public, where consistent with forest management objectives.”

Exceptional Practices

There were seven areas where the finding was “Exceeds the Requirements”:

1. The MD DNR program exceeds the requirements for promoting conservation of native biological diversity.

SFI Indicator 4.1.1 requires a “Program to incorporate the conservation of native biological diversity, including species, wildlife habitats and ecological community types at stand and landscape levels.”

2. The MD DNR program exceeds the requirements for retaining stand-level wildlife habitat elements.

SFI Indicator 4.1.2 requires the “Development of criteria and implementation of practices, as guided by regionally based best scientific information, to retain stand-level wildlife habitat elements such as snags, stumps, mast trees, down woody debris, den trees and nest trees.”

3. The MD DNR program exceeds the requirements for the protection of threatened and endangered species.

SFI Indicator 4.2.1 requires a “Program to protect threatened and endangered species.”

4. The MD DNR program exceeds the requirements for providing an exceptional range of high-quality recreational opportunities State Forests.

SFI Indicator 5.4.1 requires participants to “Provide recreational opportunities for the public, where consistent with forest management objectives.”

5. The MD DNR’s use of information and expert advice or stakeholder consultation in the identification special sites for protection exceeds the requirements for this indicator.

SFI Indicator 6.1.1 requires the “Use of information such as existing natural heritage data, expert advice or stakeholder consultation in identifying or selecting special sites for protection.”

6. The Maryland Forest Service has an exceptional program for outreach, education and involvement related to sustainable forest management.

SFI Indicator 12.2.1 requires “Periodic educational opportunities promoting sustainable forestry, such as

- a. field tours, seminars, websites, webinars or workshops;
- b. educational trips;
- c. self-guided forest management trails;
- d. publication of articles, educational pamphlets or newsletters; or
- e. support for state, provincial, and local forestry organizations and soil and water conservation districts.

7. The Maryland Forest Service has implemented an exceptional program for contact with local stakeholders over forest management issues.

SFI Indicator 13.1.2 requires “Appropriate contact with local stakeholders over forest management issues through state, provincial, federal or independent collaboration.”

General Description of Evidence of Conformity

NSF’s audit team used a variety of evidence to determine conformance. A general description of this evidence is provided below, organized by SFI Objective.

Objective 1 Forest Management Planning

To ensure forest management plans include long-term sustainable harvest levels and measures to avoid forest conversion.

Summary of Evidence: The forest management plans for each state forest and supporting documentation and the associated inventory data and growth analyses were the key evidence of conformance. The plans for all six of the forests involved (four plans cover the six forests) were key to this finding.

Objective 2 Forest Health and Productivity

To ensure long-term forest productivity, carbon storage and conservation of forest resources through prompt reforestation, afforestation, minimized chemical use, soil conservation, and protecting forests from damaging agents.

Summary of Evidence: Field observations and associated records were used to confirm practices. Maryland DNR Forest Service has programs for reforestation, for protection against insects, diseases, and wildfire, and for careful management of activities which could potentially impact soil and long-term productivity. Special recreation-oriented grants allow for some road maintenance work, further supporting conformance.

Objective 3 Protection and Maintenance of Water Resources

To protect the water quality of rivers, streams, lakes, wetlands and other water bodies through meeting or exceeding best management practices.

Summary of Evidence: Field observations of a range of sites were the key evidence. Auditors visited the portions of field sites that were closest to water resources. Auditors also confirmed strong programs for planning and for project oversight that ensure protection of water resources.

Objective 4 Conservation of Biological Diversity

To manage the quality and distribution of wildlife habitats and contribute to the conservation of biological diversity by developing and implementing stand- and landscape-level measures that promote a diversity of types of habitat and successional stages, and the conservation of forest plants and animals, including aquatic species, as well as threatened and endangered species, Forests with Exceptional Conservation Value, old-growth forests and ecologically important sites.

Summary of Evidence: Field observations, written plans and policies for the protection of old growth, High Conservation Value Forests, and representative sample areas were the key evidence used to assess the requirements involved biodiversity conservation. This was supported by the availability of college-trained field biologists to conduct project reviews.

Objective 5 Management of Visual Quality and Recreational Benefits

To manage the visual impact of forest operations and provide recreational opportunities for the public.

Summary of Evidence: Field observations of completed operations and policies/procedures for visual quality were assessed during the evaluation. Interviews with stakeholders and partners, maps and descriptions of recreation sites, combined with selected field visits helped confirm a strong recreation program. Stakeholder contacts supported the DNR's statements regarding efforts to balance recreational use and environmental protections.

Objective 6 Protection of Special Sites

To manage lands that are geologically or culturally important in a manner that takes into account their unique qualities.

Summary of Evidence: Field observations of completed operations, GIS maps and other records of special sites, training records, and written protection plans were all assessed during the evaluation. Partners within the DNR and outside stakeholders participate in identification of special sites.

Objective 7 Efficient Use of Fiber Resources

To minimize waste and ensure the efficient use of fiber resources.

Summary of Evidence: Field observations of completed operations, contract clauses, and discussions with supervising field foresters and with loggers provided the key evidence. The Maryland Forest Service is working to improve markets for forest products, particularly markets related to bioenergy.

Objective 8 Recognize and Respect Indigenous Peoples' Rights

To recognize and respect Indigenous Peoples' rights and traditional knowledge.

Summary of Evidence: All of the management plans include the policy statement developed to recognize and respect Indigenous Peoples' rights. Mechanisms are in place to receive and act on any comments received.

Objective 9 Legal and Regulatory Compliance

To comply with applicable federal, provincial, state and local laws and regulations.

Summary of Evidence: The program employs specialists to ensure that conservation laws are followed. All project receive extensive review by interdisciplinary teams. Protocols are in place which have been checked to ensure compliance.

Objective 10 Forestry Research, Science and Technology

To invest in forestry research, science and technology, upon which sustainable forest management decisions are based and broaden the awareness of climate change impacts on forests, wildlife and biological diversity.

Summary of Evidence: Discussions with stakeholders and support for research on state forest lands were the key evidence used. Forests are used for several ongoing research projects such as research projects involving Chestnut blight hypo-virulence, Wood rat biology, and biology of Spotted skunks, as well as a major trial of a pesticide to control the Hemlock Woolly Adelgid.

Objective 11 Training and Education

To improve the implementation of sustainable forestry practices through appropriate training and education programs.

Summary of Evidence: Interviews, review of training records, and the records of support for the Maryland Master Logger Program were key evidence for this objective. All harvests are conducted by logging crews with one or more Maryland Master Loggers.

Objective 12 Community Involvement and Landowner Outreach

To broaden the practice of sustainable forestry through public outreach, education, and involvement, and to support the efforts of SFI Implementation Committees.

Summary of Evidence: Forest managers interviewed described various outreach/educational efforts including periodic tree planting events, annual 1-day course for Garret County students in preparation

for the Maryland Envirothon; two courses at Garrett College (Dendrology, Forest Management); periodic hikes and tours; speaking to local citizens groups; and forestry talks at the GRSF overlook to tour bus groups among others. Interviews with members of two of the citizen's advisory groups, and the DNR website were also used to confirm conformance with these requirements.

Objective 13 Public Land Management Responsibilities

To participate and implement sustainable forest management on public lands.

Summary of Evidence: The audit team reviewed written and on-line documentation of the extensive public involvement processes. The organization has a thorough process for involvement in public land planning. Annual work plan (AWP) drafts are provided to citizen advisory councils and field visits are scheduled to solicit input. After these revisions are made the drafts are made available for review by the general public. The web site and the AWP's contain information on the review process, and the results of the input are summarized in the AWP's.

Objective 14 Communications and Public Reporting

To increase transparency and to annually report progress on conformance with the SFI Forest Management Standard.

Summary of Evidence: Reports filed with SFI Inc. and the SFI Inc. website provided the key evidence. The state forests web site includes the complete certification reports from the past 10 years.

Objective 15. Management Review and Continual Improvement

To promote continual improvement in the practice of sustainable forestry by conducting a management review and monitoring performance.

Summary of Evidence: The state forests web site includes the organization's Sustainable Forestry Initiative Management Reviews for the past 10 years. The most recent of these program reviews, agendas and notes from field reviews, and interviews with personnel from all involved levels in the organization were assessed to determine conformance.

For Additional Information Contact:

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Appendix 3:

NSF International Forestry Program

SFI 2015-2019, Section 2: Forest Management Standard Audit Checklist

FRS# OY301 – Maryland Forest Service

Date of audit – April 25-28, 2018

1.2 Additional Requirements

SFI Program Participants with fiber sourcing programs (acquisition of roundwood and field-manufactured or primary-mill residual chips, pulp and veneer to support a forest products facility), must also conform to the *SFI 2015-2019 Fiber Sourcing Standard*.

Use of the *SFI* on-product labels and claims shall follow Section 5 - Rules for Use of *SFI* On-Product Labels and Off-Product Marks as well as ISO 14020:2000.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: There is no fiber sourcing program (acquisition of roundwood and field-manufactured or primary-mill residual chips, pulp and veneer to support a forest products facility).

Objective 1 Forest Management Planning

To ensure forest management plans include *long-term* sustainable harvest levels and measures to avoid forest conversion.

Performance Measure 1.1

Program Participants shall ensure that forest management plans include *long-term* harvest levels that are sustainable and consistent with appropriate *growth-and-yield models*.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Each of the western forests has recalculated their allowable harvest levels to incorporate up-to-date inventory data and analysis of factors which reduce the extent of the forests which are available for harvest. Reports summarizing these calculations including detailed explanation of methods and rationale were reviewed; refer to notes under Indicator 1.1.2 below.

1.1.1. Forest management planning at a level appropriate to the size and scale of the operation, including:

- a. a *long-term* resources analysis;
- b. a periodic or ongoing *forest inventory*;
- c. a land classification system;
- d. biodiversity at *landscape* scales;
- e. soils inventory and maps, where available;
- f. access to *growth-and-yield modeling* capabilities;
- g. up-to-date maps or a geographic information system (GIS);
- h. recommended sustainable harvest levels for areas available for harvest; and
- i. a review of non-timber issues (e.g., recreation, tourism, pilot projects and economic incentive *programs* to promote water *protection*, carbon storage, *bioenergy feedstock* production, or *biological diversity conservation*, or to address climate-induced ecosystem change).

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: **There is an Opportunity for Improvement by completing site level plans for ESAs in the western forests.**
There is an Opportunity for Improvement by including in forest management plans more information (known by

forest managers) about the role of conifers in the natural history, historic composition, and ecology of higher-elevation portions of the western forests.

Reviewed management plans and Annual Work Plans for the 3 forests included in the 2016 audits.

There are 5 management plans that cover all of the Maryland State Forests

<http://dnr2.maryland.gov/forests/Pages/mdforests.aspx>

Sustainable Forest Management Plan for Savage River State Forest

Garrett State Forest http://dnr2.maryland.gov/forests/Pages/publiclands/western_garrettforest.aspx

Sustainable Forest Management Plan for Green Ridge State Forest

These plans cover requirements a-f, h, and i. GIS was confirmed for requirement g.

1.1.2. Documented current harvest trends fall within long-term sustainable levels identified in the forest management plan.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Harvest levels are documented in Annual Work Plans and have been at or below levels identified in plans. Plans have recently been revised to more-accurately depict the extent of operable forestland and reserves in the allowable harvest calculations, and harvest levels have increased. Thus current harvest levels appear to be consistent with plans and with forest health maintenance.

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.

Savage River State Forest has recalculated harvest level based on a more-careful analysis of lands available for harvest and which are practical to be able to harvest in. Only 19,000 of the 54,000 acres are in the harvest base for the current goal of 1.2 million board feet per year (1.1% growth, or 83 board feet per acre per year). Appendix 3 in SRSF FY-2016 Annual Work Plan

Green Ridge State Forest uses the area-control method, with 20,000 acres in the general management area suitable for management with a 100 year rotation goal. This leaves 200 acres for management (variable-retention regeneration treatment) each year. The previous long-term plan had called for 242 acres per year of regeneration harvests, while Annual Work Plans had consistently shown lower numbers, with a the ten-year average that had been 120 acres of final harvest per year. See Appendix 3 on web site.

Potomac Garrett State Forest: Harvestable acreage analysis conservatively shows only 6,000 of total 18,000 acres in the AAC calculation.

1.1.3. A forest inventory system and a method to calculate growth and yield.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: SRSF AWP 2017: "2. Forest Stand Delineation, Inventory and Monitoring – Completion of the 5-year project to re-inventory and redefine stands on the entire forest. This critical project will continue in FY-17. To date, 81% of the data collection is completed. With funding reduced in FY-17 for this monitoring work, the project and will allow a thorough analysis of this complete data set from which further management plans will be derived. Inventory work will continue in the form of follow-up monitoring protocols associated with the initial inventory and certification requirements." As of July 1 2015 81% of general zone Silvah Inventory was completed; remaining 19% expected to be completed by the end of the summer 2016 field season

"Determination of Annual Incremental Forest Growth and Sustainable Harvest Volume on Harvestable Acreage in Savage River State Forest":

The inventory of the harvestable area of the state forest has been completed using SILVAH protocols. Standing board foot volume was determined using the intense stand inventory data collected over the last five years and found to be 111,268,722 Board Feet. The average board foot volume on the 19,473 acres is 5,714 Board Feet/acre. An annual average growth figure of 1.1%* was applied to the 5,714 Board Feet resulting in an average annual

growth figure of 63 Board Feet/Acre/Year across the harvestable acreage (Frieswyk, 2001). Applying this resulting growth figure to the harvestable acreage yields a total average annual incremental growth of 1,226,799 Board Feet /Year for Savage River State Forest.

Green Ridge State Forest has completed its five-year inventory.

Information provided by MFS in 2015 audit: "The five year forest inventory effort for the Western Maryland state forests has been nearly completed. For the Eastern Shore state forests the project will be entering its second and final year this season. As a result of a more complete dataset, we have been able to use this to better determine allowable harvests on these forests. Also, we wanted to improve our confidence at modeling the complex Western Maryland hardwood forests. We decided it was worth the expense to send Alex Clark (Eastern Region GIS Forester) to a refresh Woodstock modeling training offered through Remsoft with the specific focus on the Western Maryland forests. Alex then ran the models for the Western Maryland state forests."

1.1.4. Periodic updates of *forest inventory* and recalculation of planned harvests to account for changes in growth due to *productivity* increases or decreases, including but not limited to: improved data, *long-term* drought, fertilization, *climate change*, changes in forest land ownership and tenure, or *forest health*.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: The five-year inventory project on the western state forests has been largely completed. Stand-level inventory work using the SILVAH protocols continues, with summer field staff in place or soon to arrive. Regeneration and other inventory records were confirmed in GIS databases.

1.1.5. Documentation of forest practices (e.g., *planting*, fertilization and thinning) consistent with assumptions in harvest plans.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Annual works plans are the primary tool for tracking, reporting, and making information available regarding implementation of forest practices. For the western forests a new database system of quarterly reports has been instituted. Western Maryland state forest managers now maintain an annual work plan silvicultural log where status of all approved and yet outstanding silvicultural projects are be recorded and status is reported to MFS leadership quarterly.

Performance Measure 1.2

Program Participants shall not convert one *forest cover type* to another *forest cover type*, unless in justified circumstances.

1.2.1. Program Participants shall not convert one *forest cover type* to another *forest cover type*, unless the conversion:

- a. Is in compliance with relevant national and regional *policy* and legislation related to land use and forest management; and
- b. Would not convert *native* forest types that are rare and ecologically significant at the *landscape* level or put any *native* forest types at risk of becoming rare; and
- c. Does not create significant long-term adverse impacts on Forests with Exceptional Conservation Value, old-growth forests, forests critical to threatened and endangered species, and special sites.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Planning methods ensure that this indicator is met. This includes pre-project inventory and analysis involving specialists from several disciplines, with particular attention paid to RTE species, etc.

Hemlock woolly adelgid threatens to eliminate hemlock from state lands. White pine, red spruce, and Fraser fir were formerly more prevalent in the landscape. Challenges exist in the expansion of these species, including deer browse damage and potential climate change. There may be a need to consider the expanded use of exotic tree species such as Norway spruce and Red Pine, which are present from past plantings but have not recently been planted. Analysis that these exotic species are appropriate to use in reforestation has not been seen by the audit team.

Discussed the implementation of planned planting of white pine on completed variable-retention harvest on

Savage River State Forest (Compartment 11, Stand 43, Sale SR-7-15). Prescription is for post-harvest planting of 50 white pine seedlings per acre. Forest manager expects deer to destroy any planted white pine, but there are no plans in place yet to protect these seedlings after planting them.

Siberian crab apple has been used on past wildlife plantings; this is not a native, and is no longer grown in the state nursery.

- 1.2.2. Where a *Program Participant* intends to convert another *forest cover type*, an assessment considers:
- a. *Productivity* and *stand* quality conditions and impacts which may include social and economic values;
 - b. Specific ecosystem issues related to the site such as invasive species, insect or disease issues, riparian *protection* needs and others as appropriate to site including regeneration challenges; and
 - c. Ecological impacts of the conversion including a review at the site and *landscape* scale as well as consideration for any appropriate mitigation measures.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: The AWP and the ID Team ensure that the requirements are met. Conversions are driven by ecological considerations including restoring rare or under-represented cover types.

Performance Measure 1.3

Program Participants shall not have within the scope of their certification to this *SFI Standard*, forest lands that have been converted to non-forest land use. Indicator:

- 1.3.1. Forest lands converted to other land uses shall not be certified to this *SFI Standard*. This does not apply to forest lands used for forest and *wildlife* management such as *wildlife* food plots or infrastructure such as forest roads, log processing areas, trails etc.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: No conversions are done except for wildlife management or allowed infrastructure.

Objective 2 Forest Health and Productivity

To ensure *long-term* forest *productivity*, carbon storage and *conservation* of forest resources through prompt *reforestation*, *afforestation*, *minimized* chemical use, *soil conservation*, and protecting forests from damaging agents.

Performance Measure 2.1

Program Participants shall promptly reforest after final harvest. Indicators:

2.1.1. Documented *reforestation* plans, including designation of all harvest areas for either natural, planted or direct seeded regeneration and prompt *reforestation*, unless delayed for site-specific environmental or *forest health* considerations or legal requirements, through *planting* within two years or two *planting* seasons, or by planned *natural regeneration* methods within five years.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Foresters in western Maryland state forests rely exclusively on the SILVAH protocols for regeneration and for assessing results.
Savage River State Forest and Potomac Garrett State Forest plan to conduct regeneration checks five years after completion of first-cut shelterwoods and overstory removals.
Green Ridge State Forest: regeneration checks at 2 years and 5 years
Regeneration method is described in the AWP; recently most regeneration is natural (planting is rarely done).

2.1.2. Clear criteria to judge adequate regeneration and appropriate actions to correct understocked areas and achieve acceptable species composition and stocking rates for *planting*, *direct seeding* and *natural regeneration*.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Regeneration criteria are forest-type specific. Western-most two forests (SRSF and PGSF) use Oak-SILVAH for criteria and for protocols for regeneration surveys. No regeneration delays were observed.

2.1.3. Plantings of exotic tree species should minimize risk to native ecosystems.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Western forests rarely plant. Potomac Garrett State Forest has planted about 400 Red Spruce annually as an under planting, and some Oak (red and white). No exotic tree species are planted beyond a small number of Siberian crabapple trees that were planted at the Kirk's Orchard Wildlife Management Area.

2.1.4. *Protection* of desirable or planned advanced *natural regeneration* during harvest.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Field observations confirm that advanced natural regeneration is protected during harvest.

2.1.5. *Afforestation programs* that consider potential ecological impacts of the selection and *planting* of tree species in non-forested *landscapes*.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: AWP and ID Team processes ensure that any treatment designed to change species composition is designed and reviewed by a team with expertise in forestry, ecology, botany, and other skills as needed.

Performance Measure 2.2

Program Participants shall *minimize* chemical use required to achieve management *objectives* while protecting employees, neighbors, the public and the environment, including *wildlife* and *aquatic habitats*. Indicators:

2.2.1. *Minimized* chemical use required to achieve management *objectives*.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Forest chemicals are applied only as needed, and generally to control or set-back understory vegetation hindering natural regeneration or to control invasive, exotic plants. These treatments are carefully planned to ensure that they do not adversely affect "non-target" organisms. Spot treatments are the preferred method.

Sustainable Forest Management Plan for Savage River State Forest describes the protocols:

“5.10 Chemical Use

No products on the FSC list of Highly Hazardous Pesticides will be used (see FSC-POL-30-001 EN FSC Pesticides policy 2005 or most recent equivalent) unless a derogation has been successfully awarded. The Pesticide Use Tracking Form will be used to document the identification of an area to be treated, the procedures that will be followed and who will be doing the application, including their qualifications... and the Core Decision Key (Figure 1, page 16), the Pesticide Decision Key (Figure 2, page 17) and Decision Recording Sheet (Figure 3, page 18) attached to each pesticide use report with the Decision Recording Sheet having been completed by the state forest staff or contractor.

All pesticides used to control pests and competing vegetation are used only when and where nonchemical management practices are: a) not available; b) prohibitively expensive, taking into account overall environmental and social costs, risks and benefits; c) the only effective means for controlling invasive and exotic species; or d) result in less environmental damage than nonchemical alternatives. If chemicals are used, the forest manager will use the least environmentally damaging formulation and application method practical.

As opportunities are available, the state forest will employ and encourage the creation and maintenance of habitat that discourages pest outbreak; that encourages natural predators; will work with cooperating agencies to evaluation pest populations and control options; the diversification of species composition and structure; use of low impact mechanical methods; use of prescribed fire; and the use of longer rotations. Chemicals and application methods are selected to minimize risk to non-target species and sites under the guidance of cooperating agencies such as Maryland Department of Agriculture and DNR Natural Heritage Program.

Whenever chemicals are used, the Pesticide Use Tracking Form will be used to prepare a written prescription to describe the site-specific hazards and environmental risks, and the precautions that workers will employ to avoid or minimize those hazards and risks, and includes a map of the treatment area.

Chemicals are applied only by appropriately trained and licensed workers according to state requirements.

When chemicals are used, the effects are monitored and the results are used to determine the measure of success and if treatment modifications can be employed, such as reduced application rates. Records are kept according to State requirements.”

2.22. Use of least-toxic and narrowest-spectrum pesticides necessary to achieve management objectives.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: 8 of 21 treatments used Glyphosate, which is accepted as one of the "least-Toxic" herbicides on the market. Glyphosate has no soil activity; it only will work on vegetation it is directly applied to.

The remaining treatments used Triclopyr, Imazapyr, or sulfometuron methyl, generally for grasses or difficult to kill hardwoods

2.2.3. Use of pesticides registered for the intended use and applied in accordance with label requirements.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Trained foresters prescribe chemicals which are applied by trained applicators, and both parties check to ensure the uses align with label requirements. Interviewed licensed foresters on the PGSF (John) and the GRSF (Mark and Jesse). Chemicals used (glyphosate, Triclopyr, Imazapyr, or sulfometuron methyl) are registered for forestry uses.

2.2.4. The World Health Organization (WHO) type 1A and 1B pesticides shall be prohibited, except where no other viable alternative is available.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Chemicals used (glyphosate, Triclopyr, Imazapyr, or sulfometuron methyl) are not on prohibited list.

2.2.5. Use of pesticides banned under the Stockholm Convention on Persistent Organic Pollutants (2001) shall be prohibited.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Chemicals used (glyphosate, Triclopyr, Imazapyr, or sulfometuron methyl) are not on prohibited list.

2.2.6. Use of *integrated pest management* where feasible.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Interviews, and documentation show that chemicals are only applied after careful site analysis, development of a prescription, ID review, and by trained applicators. The treatment area is provided to the applicator on printed maps supplemented by GIS data (.shp file). The contractor provides GIS data showing "spray on" flight lines the treatment area.

2.2.7. Supervision of forest chemical applications by state- or provincial-trained or certified applicators.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Each state forest has at least one licensed supervisor, generally the state forest manager.

2.2.8. Use of management practices appropriate to the situation, for example:

- a. notification of adjoining landowners or nearby residents concerning applications and chemicals used;
- b. appropriate multilingual signs or oral warnings;
- c. control of public road access during and immediately after applications;
- d. designation of streamside and other needed buffer strips;
- e. use of positive shutoff and minimal-drift spray valves;
- f. aerial application of forest chemicals parallel to buffer zones to *minimize* drift;
- g. monitoring of water quality or safeguards to ensure proper equipment use and *protection* of streams, lakes and other water bodies;
- h. appropriate transportation and storage of chemicals;
- i. filing of required state or provincial reports; and/or
- j. use of methods to ensure *protection of threatened and endangered species*.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: SRSF: a-NA, no external; c, d, ; e, f - no aerial; g; h; i; ID Team

Interviews confirm that forestry takes an IPM approach; applicators and supervisors rely on the label.

In response to the 2015 OFI (below) the eastern forests have implemented a more robust protocol for communicating spray plans to commercial applicators. 2015- "There is an Opportunity for Improvement in the implementation of the herbicide application program on the eastern forests to ensure that contractors implement the spray plan correctly."

Performance Measure 2.3

Program Participants shall implement forest management practices to protect and maintain forest and soil *productivity*. Indicators:

2.3.1. Process to identify soils vulnerable to compaction, and use of appropriate methods, including the use of soil maps where available, to avoid excessive soil disturbance.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: 2016: Some rutting and soil compaction was observed in some harvest areas, but always within limits specified by the MFS rutting policy. Foresters regularly inspect harvests and complete inspection checklists. MD DNR Forest Service Cutting Exam Checklist used on Potomac Garrett includes evaluation of skid trails and landings.

2015: Conformance was clear; managers go to great lengths to identify sensitive areas and avoid disturbing them.

Foresters have been vigorously enforcing the rutting policy and using avoidance and mitigation to ensure very little rutting.

2.3.2. Use of erosion control measures to *minimize* the loss of soil and site *productivity*.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Field observations confirm the widespread use of erosion control measures. Water bars, placement of logging slash to stabilize disturbed soils or as a protective mat for heavily used skid trails, and careful planning to avoid impacts were the chief measures employed, and these have generally been very effective in controlling erosion. No erosion issues were observed during the 2016 field audits.

2.3.3. Post-harvest conditions conducive to maintaining site *productivity* (e.g., limited rutting, retained down woody debris, *minimized skid trails*).

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Limited rutting, retained down woody debris, and minimized skid trails were observed; harvests are carefully planned and work is inspected to ensure that site productivity is maintained.

2.3.4. Retention of vigorous trees during partial harvesting, consistent with scientific silvicultural standards for the area.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: The current goals and methods show a strong orientation towards implementation of sound silviculture. SILVAH protocols are being implemented for all hardwood harvests in the western mountains. Harvests reviewed in the western forests included several thinnings and some first-stage regeneration treatments; in all cases residual trees appeared to be from the dominant/co-dominant crown classes and were vigorous. Trees in thinnings are marked for long-term retention to achieve several objectives, not always related to growth, so some of these were less-vigorous, but long-term residuals are less than 5% of the total and the majority of those were vigorous. Most residual trees were observed to be vigorous and consistent with scientific principles.

2.3.5. Criteria that address harvesting and site preparation to protect soil *productivity*.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: The management plans and MFS Policy Procedure Manual (Operation Order 2015-601 Effective: April 1, 2015, Timber Operation Order) contain clear criteria, including rutting guidelines.

2.3.6. Road construction and skidding layout to *minimize* impacts to soil *productivity*.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: The 2015 Minor CAR has been resolved: 2015 Minor CAR- "Administrative challenges continue to delay the implementation of necessary road repairs and upgrades. Location: Road system, western forests."

Auditors reviewed many road segments which have been upgraded, and reviewed the roads database. While more work remains to be done the program has demonstrated the ability to identify and prioritize the most critical road segments for temporary repair and for major reconstruction. Reconstruction projects reviewed were completed to high standards and should be expected to sustain use at expected levels. Extensive field review of roads, interviews, and review of maps and records show an increased emphasis on the management and maintenance of roads. The roads inventory of the SRSF roads show that 32% have Status 1 (best); 62% have Status 2; 6% have Status 3. Road ratings are: 1=Good 2=Stable 3= Critical

Road maps for SRSF provided for audit planning and used during the audits (SRSF FC General Location Audit Roads Callout 2016; SRSF FC All Roads 2016) are consistent with increased emphasis on management of permanent forest roads. Each section of road has been classified as to "class" (reflective of intended design and use levels) and "status" (conditions in comparison to standards). This allows local (forest-level) and senior managers to develop and manage budgets and to prioritize projects for road maintenance and major reconstruction projects. The following road sections were reviewed in the field during the audit at SRSF.

Also reviewed “PGSF ROAD RATING BY CLASS/SEGMENTS” and other information about road status, completed and ongoing road improvement projects, and plans for other upgrades.

Performance Measure 2.4

Program Participants shall manage so as to protect forests from damaging agents, such as environmentally or economically undesirable wildfire, pests, diseases and *invasive exotic plants and animals*, to maintain and improve *long-term forest health, productivity* and *economic viability*. Indicators:

2.4.1. *Program* to protect forests from damaging agents.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Professional foresters oversee all aspects of forest vegetation management, applying silvicultural methods designed to develop and maintain healthy forest stands. Confirmed continuing close attention by field foresters to forest health issues. The program has several facets including forest inventory, management planning, and regular silviculture treatment, as well as insect and disease reconnaissance through MDA and USFS programs.

Visited the Wolf Swamp Hemlock Woolly Adelgid treatment area: “In an ongoing, cooperative effort with Maryland Department of Agriculture, and the Maryland State Park Services/Maryland Conservation Corps and the State Forest, 284 acres are to be the target of mixed soil drench/soil injection and individual tree injection treatments of Imidacloprid based HWA insecticide. The project began in October 2015, and will continue as resources are available, or the area is fully treated.”

The Potomac Garrett State Forest road crew washes the road maintenance equipment in the field before moving it to a new site, minimizing the likelihood of introducing seeds from invasive plants into new areas.

2.4.2. Management to promote healthy and productive forest conditions to *minimize* susceptibility to damaging agents.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Field observations allowed the audit team to conclude that the increased pace of forest management practices are developing and maintaining healthy forests in most areas. Most stands observed were properly stocked to slightly over-stocked; overstocked stands are prioritized when developing stand prescriptions and harvesting plans.

The 2015 Minor CAR has been resolved. 2015 Minor CAR- “Management on the Savage River State Forest (SRSF) does not fully meet the requirement to promote healthy and productive forest conditions to minimize susceptibility to damaging agents.”

2.4.3. Participation in, and support of, fire and pest prevention and control *programs*.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Maryland Forest Service is the lead forest agency; many state forest workers are trained as wild fire fighters, including about 90% of the foresters and technicians for the western state forests.

Performance Measure 2.5

Program Participants that deploy improved planting stock, including varietal seedlings, shall use best scientific methods. Indicator:

2.5.1. *Program* for appropriate research, testing, evaluation and deployment of *improved planting stock*, including *varietal seedlings*.

Audit Notes: Not reviewed during the 2016 SFI Audit.

Objective 3 Protection and Maintenance of Water Resources

To protect the water quality of rivers, streams, lakes, *wetlands* and other water bodies through meeting or exceeding *best management practices*.

Performance Measure 3.1

Program Participants shall meet or exceed all applicable federal, provincial, state and local water quality laws, and meet or exceed *best management practices* developed under Canadian or U.S. Environmental Protection Agency–approved water quality *programs*.
Indicators:

3.1.1. *Program* to implement federal, state or provincial water quality *best management practices* during all phases of management activities.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Trained foresters plan and oversee all management activities, with review and approval by senior managers, biologists, and/or biologists and/or specialists who have an impressive depth of knowledge and experience.

3.1.2. Contract provisions that specify conformance to *best management practices*.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: All harvest sites visited are based on a standard contract. Reviewed the contract for sale PG-01-15 (standard contract) and confirmed that it includes requirement for BMPs and for trained loggers.

The standard provision in contracts is:

7. Sediment and Erosion Control. The Buyer shall be responsible for complying with all sediment and erosion control measures required by Title 4, Subtitle 1 of the Environment Article of The Annotated Code of Maryland. To that end the Buyer must have filled out and returned to (DNR Representative) Attachment C "Standard Erosion and Sediment Control Plan for Forest Harvest Operations" (hereinafter referred to as "Sediment Plan") prior to commencing any harvest activities. Failure to do so will render this Agreement voidable. The Sediment Plan is hereby expressly incorporated into this Agreement and compliance with it is required.

3.1.3. Monitoring of overall *best management practices* implementation.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Foresters regularly inspect all ongoing harvests. The MD DNR Forest Service Cutting Exam Checklist used on Potomac Garrett includes BMPs, as do inspection forms for other forests.

Green Ridge State Forest: Confirmed three-ring binder full of "Forest Harvest Operations – Harvest Site Review" checklists.

Performance Measure 3.2

Program Participants shall implement water, *wetland* and *riparian protection* measures based on soil type, terrain, vegetation, ecological function, harvesting system, state *best management practices (BMPs)*, provincial guidelines and other applicable factors.
Indicators:

3.2.1. *Program* addressing management and *protection* of rivers, streams, lakes, *wetlands*, other water bodies and *riparian areas* during all phases of management, including the layout and construction of roads and *skid trails* to maintain water reach, flow and quality.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Maryland Forest Service has a comprehensive program for the protection of wetlands and watercourses. Foresters plan all harvests and treatments; other specialists review these. Such protections are the first priority during planning and implementation. All foresters are trained to follow Erosion and Sediment Control Guidelines, with training updates underway. Specialists are available for consultation as needed; all activities are subject to interdisciplinary review.

Each forest uses a Pre-Harvest Checklist to document the pre-harvest meeting between the supervising forester and the logging crew.

3.2.2. Mapping of rivers, streams, lakes, *wetlands* and other water bodies as specified in state or provincial *best management practices* and, where appropriate, identification on the ground.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Confirmed mapping of rivers, streams, lakes, and other water bodies in GIS databases and for timber sale maps.

3.2.3. Document and implement plans to manage and protect rivers, streams, lakes, *wetlands*, other water bodies and *riparian areas*.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Field observations confirm that plans to manage or protect rivers, streams, lakes, and other water bodies are implemented. Most such features are protected by generous no-cut buffers, or by being placed within large ecological reserves.

3.2.4. Plans that address wet-weather events in order to maintain water quality (e.g., *forest inventory* systems, wet-weather tracts, definitions of acceptable operating conditions).

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Foresters work with loggers to ensure an understanding of the allowable amount of soil disturbance and rutting and to ensure that harvests are suspended when soils are too water-saturated to support logging equipment. Wet-weather tracts are set up and sold, or more commonly harvest operations are encouraged to harvest the drier portions of tracts when weather is wet and to harvest the lower, wetter portions of tracts during dry weather periods. Contracts for sale of timber are sufficiently long to allow such operational adjustments, and provisions exist for contract extensions.

Foresters report that most loggers know to avoid operating during wet weather events, and that they check on all loggers when conditions are questionable, with extra inspections for contractors who have less experience on state forest harvests. Contracts include a provision empowering Maryland Forest Service to shut down jobs.

Objective 4 Conservation of Biological Diversity

To manage the quality and distribution of *wildlife habitats* and contribute to the *conservation of biological diversity* by developing and implementing *stand-* and *landscape-*level measures that promote a diversity of types of *habitat* and successional stages, and the *conservation* of forest plants and animals, including *aquatic species, as well as threatened and endangered species, Forests with Exceptional Conservation Value, old-growth forests* and ecologically important sites.

Performance Measure 4.1

Program Participants shall conserve biological diversity. Indicators:

4.1.1. Program to incorporate the *conservation of native biological diversity*, including species, *wildlife habitats* and ecological community types at *stand* and *landscape* levels.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: The MD DNR program exceeds the requirements for promoting conservation of native biological diversity.

Each of the 5 State Forests is managed under a program that is designed to protect and enhance biodiversity as described in each Sustainable Forest Management Plan. The conservation of biological diversity is explicitly stated as the goal management operations.

This unique program incorporates the use of an Interdisciplinary Team (ID team) for the review and approval process of management activities. The ID team includes land managers and a variety of specialists. Based on the results of interviews with participants, it is clear that the working relationships between ID team members remain effective and continue to improve on each of the 4 State Forests. Each forest’s Sustainable Forest Management Plan includes an extensive section describing biodiversity present and prescribing general treatments to sustain that diversity, and enhance it where feasible. The plans include stand-level and landscape-level recommendations. See details within notes for several of the following indicators.

Each of the five State Forests is managed under a program that is designed to protect and enhance biodiversity as described in each Sustainable Forest Management Plan. The conservation of biological diversity is explicitly stated as the goal management operations. This program incorporates the use of an Interdisciplinary Team (ID team) for the review and approval process of management activities. The ID team includes land managers and a variety of specialists. Based on the results of interviews with participants, it is clear that the working relationships between ID team members remain effective and continue to improve on each of the four State Forests. Projects that are designed and implemented to conserve and enhance native biological diversity were observed at each of the state forests during the 2015 audit program.

Asked about this on Savage River State Forest, and determined that this additional planning effort has not started yet, although foresters are hoping to advance this process over the next year:

“In order to address more specific habitat needs of various wildlife species on Savage River State Forest further planning will be done. Habitat Management Units (HMU) will be delineated to facilitate more specific habitat goals and objectives. Habitat unit plans will address management needs to improve or maintain desired conditions for individual species or groups of species that are targeted within each HMU. A detailed inventory of current habitat conditions and potential management opportunities will need to be completed to prepare more specific habitat recommendations.”

(Source: Sustainable Forest Management Plan for Savage River State Forest, page 98)

4.1.2. Development of criteria and implementation of practices, as guided by regionally based *best scientific information*, to retain *stand-level wildlife habitat* elements such as snags, stumps, mast trees, down woody debris, den trees and nest trees.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: The MD DNR program exceeds the requirements for retaining stand-level wildlife habitat elements.

As confirmed during observation of thinning operations and variable retention harvests in western Maryland, stand-level retention practices meet the policies of the Maryland Forest Service consistent with scientific information. Foresters take the time to assess the stands and identify the most important trees and other elements for retention. Mapping and other forms of record-keeping are superb. Field staff layout patterns of retention including both individual trees and islands/groups of retained trees; results include dispersed and

clumped green tree retention, a variety of species and size classes and the protection of snags and den trees. The efforts to identify retention trees early, during marking for thinnings, is particularly noteworthy.

Foresters are aware of, and some have copies of, many scientific guidance documents including:

Golden-Winged Warbler Habitat: BMPs for Forestlands in Maryland and PA;

American Woodcock Habitat: BMPs for the Central Appalachian Mountains Region;

Firewood cutting near streams SRSF not allowed within 10 feet of streams; no such provision for GRSF or PGSF.

4.1.3. Document diversity of *forest cover types* and age or size classes at the individual ownership or forest tenure level, and where credible data are available, at the *landscape* scale. Working individually or collaboratively to support diversity of *native forest cover types* and age or size classes that enhance *biological diversity* at the *landscape* scale.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Maryland DNR designed and implemented a process for each prescription to include review and approval by the ID teams, Advisory Committees and other Maryland Forest Service personnel who primarily work on private forest lands. The coordination with staff who work primarily on private lands effectively promotes an understanding of state forest land resources within a matrix of private land resources. Working relationships with TNC scientists and forest managers (one attended the audit at Green Ridge State Forest) supports landscape scale consideration and the opportunity for cooperative management practices that cross property ownership lines.

Interviews of forest managers confirmed that they have extensive knowledge of their forests, including past conditions to some degree, and of the surrounding landscape. The written plans do not provide as much information about landscape scale biodiversity issues as foresters appear to know and to use in decision-making. For example, native conifers were likely formerly more prevalent in the landscape, having been extensively harvested long ago, with subsequent land-use changes shifting the patterns and relative abundance of some conifers (Virginia pine).

A related Opportunity for Improvement was issued under SFI Indicator 1.1.1, (i): There is an Opportunity for Improvement by including in forest management plans more information (known by forest managers) about the role of conifers in the natural history, historic composition, and ecology of higher-elevation portions of the western forests.

Savage River State Forest: Sustainable Forest Management Plan for Savage River State Forest, Chapter 8 Wildlife Habitat - Protection and Management includes descriptions of the insects, birds, reptiles, amphibians, fish, and mammals present on the forest, some aspects of habitat needs, and includes management recommendations designed to provide required habitats. For example, Objective 1: Create and maintain 20% of manageable area in early successional forest habitat; Objective 2: Maintain diverse age classes and species across the forest that provides habitat for a variety of wildlife species.

4.1.4. *Program Participants* shall participate in or incorporate the results of state, provincial, or regional *conservation* planning and priority-setting efforts to conserve biological diversity and consider these efforts in forest management planning. Examples of credible priority-setting efforts include state *wildlife* action plans, state forest action plans, relevant *habitat conservation* plans or provincial *wildlife* recovery plans.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: ID Team and an extensive involvement of specialists ensure such knowledge. Further, the Maryland Forest Service works closely with TNC on a variety of forest conservation efforts, including DFS, FIDS, and conservation of special sites. Field audit sites and Annual Work Plans reviewed provided good examples from the ID Team process from the past 12 months.

Example of conservation priority setting that has been incorporated into plans, from the Sustainable Forest Management Plan for Savage River State Forest, pages 99-100:

“The upper Savage River watershed supports a native reproducing brook trout population as evidenced by the presence of multiple year classes of trout. Brook trout abundance generally increases as distance

upstream of the Savage River Reservoir increases... Because of the unique nature and value of this resource, and the increasing (and accumulating) pressures on the watershed surrounding this resource (particularly the headwater streams), a specific management plan to conserve and restore this resource is needed and is being worked on as outlined in the 2006 Brook Trout Management Plan....”

4.1.5. Program to address *conservation* of known sites with viable occurrences of significant species of concern.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: The overall goals of the state forest system include protection and enhancement of biodiversity including G1-G2 species, RTE species, and species of concern. Management plans, AWP’s, interviews, and other programs (see quote below) confirm conformance.

4.1.6. Identification and *protection of non-forested wetlands*, including bogs, fens and marshes, and *vernal pools* of ecological significance.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Site visits confirmed that heads of drains (which are forested), vernal pools and other water bodies are not included in the timber sale area, demonstrating an approach going beyond the requirement.

4.1.7. Participation in *programs* and demonstration of activities as appropriate to limit the introduction, spread and impact of *invasive exotic plants and animals* that directly threaten or are likely to threaten *native* plant and animal communities.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: The Potomac Garrett State Forest road crew washes the road maintenance equipment in the field before moving it to a new site, minimizing the likelihood of introducing seeds from invasive plants into new areas. Maryland State forests records (Annual Summary of pesticide and other chemical use over approx. last 12 months) document efforts to control these populations of invasive plants. 9 of 21 pesticide application projects that were implemented during this audit cycle were exclusively done to control non-native invasive plants. The seed mix used for stabilizing exposed soil contains some non-native species.

4.1.8. Consider the role of natural disturbances, including the use of prescribed or natural fire where appropriate, and *forest health* threats in relation to *biological diversity* when developing forest management plans.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Management plans and projects clearly reflect a deep understanding of natural disturbances and their roles in development of ecosystems, communities, and biological diversity and use this understanding in developing strategies and plans. The Maryland Heritage Program plays a key role, as do foresters and other specialists involved, all of whom understand the topic.

Implementation of prescribed fire treatments continues to be a challenge. Evidence was provided of increased attention to this issue, but weather and available resources are the limiting factors:

“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.” Source: CF-Rx-Burn-Priorities-2016.04.19.xls

Performance Measure 4.2

Program Participants shall protect threatened and endangered species, Forests with Exceptional Conservation Values (FECV) and old-growth forests. Indicators:

4.2.1. Program to protect threatened and endangered species.

N/A
 Conformance
 Exceeds
 O.F.I.
 Major NC
 Minor NC

Audit Notes: **The MD DNR program exceeds the requirements for the protection of threatened and endangered species.**
 Rare, threatened and endangered species are recorded in the heritage database. Heritage biologists are involved in planning, review and approval for each management prescription. Monitoring efforts follow each management activity that could affect RTE species or their habitats including monitoring of the effects of restoration treatments.

4.2.2. *Program to locate and protect known sites flora and fauna associated with viable occurrences of critically imperiled and imperiled species and communities also known as Forests with Exceptional Conservation Value. Plans for protection may be developed independently or collaboratively, and may include Program Participant management, cooperation with other stakeholders, or use of easements, conservation land sales, exchanges, or other conservation strategies.*

N/A
 Conformance
 Exceeds
 O.F.I.
 Major NC
 Minor NC

Audit Notes: FECVs are generally covered within the broader HCVF approach. For example Delmarva Fox Squirrels are favored in the eastern forest by protection measures that have been built into HCVF zones based on the habitat requirements of this species. The western forests do not contain G1 or G2 species.

4.2.3. Support of and participation in plans or programs for the conservation of old-growth forests in the region of ownership or forest tenure.

Audit Notes: Not reviewed during the 2016 SFI Audit.

Performance Measure 4.3

Program Participants shall manage ecologically important sites in a manner that takes into account their unique qualities. Indicators:

4.3.1. Use of information such as existing natural heritage data or expert advice in identifying or selecting ecologically important sites for protection.

N/A
 Conformance
 Exceeds
 O.F.I.
 Major NC
 Minor NC

Audit Notes: The Maryland Forest Service implements a robust interdisciplinary approach to identifying and protecting ecologically important sites.

4.3.2. Appropriate mapping, cataloging and management of identified ecologically important sites.

N/A
 Conformance
 Exceeds
 O.F.I.
 Major NC
 Minor NC

Audit Notes: MD DNR’s Natural Heritage Program maintains a database of RT&E species. Foresters and specialists try to locate special sites and provide information to the Maryland Natural Heritage Program.

Performance Measure 4.4

Program Participants shall apply knowledge gained through research, science, technology and field experience to manage wildlife habitat and contribute to the conservation of biological diversity. Indicators:

4.4.1. Collection of information on Forests with Exceptional Conservation Value and other biodiversity-related data through forest inventory processes, mapping or participation in external programs, such as NatureServe, state or provincial heritage programs, or other credible systems. Such participation may include providing non-proprietary scientific information, time and assistance by staff, or in-kind or direct financial support.

N/A
 Conformance
 Exceeds
 O.F.I.
 Major NC
 Minor NC

Audit Notes: MD DNR’s Natural Heritage Program maintains a database of RT&E species. Foresters and specialists try to locate special sites and provide information to the Maryland Natural Heritage Program. Managers and Natural Heritage staff cooperate through attendance on the ID team and as a result sites have been identified and mapped and are managed for a variety of exceptional values. Most sites are included in the HCVF or ESA data layers. For example, the Green Ridge State Forest management plan includes prescriptions for management activities within these mapped critical habitats for state listed or uncommon species, shale barrens communities, old growth and potential old growth, vernal pools and unique open habitats. Similarly, the Potomac Garrett State Forest

management plan describes more than 30 ecologically significant areas and other state protected lands, measures to protect the areas as well as restrictions to management including for example restricted use of pesticides in some areas. Land management staff provides time and expertise when prescribed fire or non-native invasive plant control is required to maintain or enhance an uncommon community type.

4.4.2. A methodology to incorporate research results and field applications of *biodiversity* and ecosystem research into forest management decisions.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Maryland DNR's Policy & Procedure Manual and each of the five management plans refer to the process of extensive review by the ID team for each proposed project. These ID teams represent the primary method for ensuring that current scientific knowledge is incorporated into treatments.

Timber Operation Order Operation Order 2011-601 describes the composition of the ID team:

- (i) Unit Director or designee responsible for the lands involved
- (ii) Land Unit Manager
- (iii) Fisheries
- (iv) Heritage
- (v) Wildlife
- (vi) Parks
- (vii) Land Acquisition and Planning
- (viii) Environmental Specialist
- (ix) Maryland Department of the Environment (invited)
- (x) Natural Resources Police (invited)
- (xi) Maryland Historical Trust (invited)

Objective 5 Management of Visual Quality and Recreational Benefits

To manage the visual impact of forest operations and provide recreational opportunities for the public.

Performance Measure 5.1

Program Participants shall manage the impact of harvesting on *visual quality*. Indicators:

5.1.1. Program to address visual quality management.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Planning for all harvests includes consideration of aesthetics; foresters are responsible, supported by ID Teams. Variable retention technique considers aesthetics when deciding on location of clumped retention. Confirmed: MFS Policy & Procedure Manual section on "Visual Quality. Site visits did not identify any visual quality concerns.

5.1.2. Incorporation of aesthetic considerations in harvesting, road, landing design and management, and other management activities where visual impacts are a concern.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Confirmed by field observations.

Performance Measure 5.2

Program Participants shall manage the size, shape and placement of clearcut harvests. Indicators:

5.2.1. Average size of clearcut harvest areas does not exceed 120 acres (50 hectares), except when necessary to meet regulatory requirements, achieve ecological *objectives* or to respond to *forest health* emergencies or other natural catastrophes.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Very few "clean" (without retention) clearcuts are done, and these are quite small. Most of the larger, intensive harvests are regeneration harvests with significant levels of green-tree retention that appear more like heavy partial harvests; 20 acres is the average size.

5.2.2. Documentation through internal records of clearcut size and the process for calculating average size.

Audit Notes: Not reviewed during the 2016 SFI Audit.

Performance Measure 5.3

Program Participants shall adopt a *green-up requirement* or alternative methods that provide for *visual quality*. Indicators:

5.3.1. Program implementing the *green-up requirement* or alternative methods.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Field observations confirmed that adjacency and green-up requirements are met. GIS and planning system ensures that adjacent stands are not harvested. Regeneration program includes pre- and post-harvest regeneration checks.

5.3.2. Harvest area tracking system to demonstrate conformance with the *green-up requirement* or alternative methods.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: GIS tracks planned and completed harvests. Maps provided for each harvest (planned, on-going, or completed) demonstrate effective use of GIS and related tools to accurately map treatments at a fine scale with remarkable accuracy.

5.3.3. Trees in clearcut harvest areas are at least 3 years old or 5 feet (1.5 meters) high at the desired level of stocking before adjacent areas are clearcut, or as appropriate to address operational and economic considerations, alternative methods to reach the *performance measure* are utilized by the *Program Participant*.

Audit Notes: Not reviewed during the 2016 SFI Audit.

Performance Measure 5.4

Program Participants shall support and promote recreational opportunities for the public. Indicator:

5.4.1. Provide recreational opportunities for the public, where consistent with forest management *objectives*.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: **The MD DNR program exceeds the requirements for providing an exceptional range of high-quality recreational opportunities State Forests.**

There is an Opportunity for Improvement in the trail program, where funding for trails maintenance may not be adequate for the need.

There is an extensive, varied, and generally well-used trail system in the state forests. Maintaining these trails is a challenge, with current funding priorities focused on creation of new trails. Fallen trees are cleared, markers are repainted, and trails registers are checked. There is a goal to move the trail system into “sustainable” condition, meaning trails with adequate drainage and surfaces and which provide the full-range of desired recreational opportunities. To do so there is a backlog of rerouting and reconstruction needs without an adequate funding source.

PGSF offers developed and primitive camping, horseback riding, Trails for off-road vehicles, and accessible hunting areas. The web site provides links to download these PGSF Trail Maps:

- Piney Mountain ORV Trail (1.7 Miles)
- Piney Mountain Snowmobile Trail (2.5 Miles)
- Snaggy Mountain ORV Trail (3.2 Miles)
- Snaggy Mountain Snowmobile Trail (8.5 Miles)
- Snaggy Mountain Trail Guide

Green Ridge State Forest offers several high-quality recreational programs, including:

- Green Ridge State Forest Shooting Range
- Hunting, fishing, and primitive camping
- 50 plus miles of hiking trails for day hikes or multi-day backpacking
- Mountain biking, off-road vehicles, and horseback riding areas
- Green Ridge Driving Tour: 44.3 miles – 3 hours
- Geocaching

“Green Ridge State Forest offers a mobility impaired hunting program, accessible shooting range, headquarters office, and overlook.” http://dnr2.maryland.gov/forests/Pages/publiclands/western_greenridgeforest.aspx

Sustainable Forest Management Plan for Savage River State Forest:

- 9.2.1 Hunting, Trapping and Fishing
- 9.2.2 Hiking, Biking, Horseback Riding, Nature Observation and Off Road Vehicles
- 9.2.3 Savage River State Forest Trail System
- 9.2.4 Savage River State Forest Off Road Vehicle (ORV) Trail
- 9.2.5 Water Access for Canoeing, Kayaking

Objective 6 Protection of Special Sites

To manage lands that are geologically or *culturally important* in a manner that takes into account their unique qualities.

Performance Measure 6.1

Program Participants shall identify *special sites* and manage them in a manner appropriate for their unique features. Indicators:

6.1.1. Use of information such as existing natural heritage data, expert advice or stakeholder consultation in identifying or selecting *special sites* for *protection*.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: **The MD DNR’s use of information and expert advice or stakeholder consultation in the identification special sites for protection exceeds the requirements for this indicator.**

Maryland State Forests exceed the requirements based in thorough assessment of resources by specialists and foresters before and after projects are planned and implemented. Review of AWP’s, state forest plans, and other documents and interviews with internal and external stakeholders contribute to the finding.

As confirmed through interviews, MD DNR Heritage data is collected by Heritage biologists as well as by non-agency specialists. Based on data and advice, field staff identify and select special areas including for example representative sample areas for protection and for management and/or restoration. Management and restoration projects are planned, presented, reviewed and approved through annual work plans by the ID team which includes stakeholders and experts. Management plans and annual work plans are presented for review and comment to both experts and stakeholders. For example, Green Ridge State Forest management plan prescriptions include state listed or uncommon species, shale barrens communities, old growth and potential old growth, vernal pools and unique open habitats based on cooperation and advice from Natural Heritage.

Sustainable Forest Management Plan for Savage River State Forest maps:

- Figure I.1 - Old Growth and Old Growth Ecosystem Management Areas
- Figure I.3 – High Conservation Value Forests
- Figure I.4 – Riparian Buffers and Wetlands of Special State Concern
- Figure I.5 – Environmentally Sensitive Areas

6.1.2. Appropriate mapping, cataloging and management of identified *special sites*.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Maps and observations confirmed; see examples throughout this report. A robust GIS is in place and is extensively used for the purposes referenced in this indicator.

Objective 7 Efficient Use of Fiber Resources

To *minimize* waste and ensure the efficient use of fiber resources.

Performance Measure 7.1

Program Participants shall employ appropriate forest harvesting technology and in-woods manufacturing processes and practices to *minimize* waste and ensure efficient utilization of harvested trees, where consistent with other *SFI Standard objectives*. Indicator:

- 7.1.1. *Program* or monitoring system to ensure efficient utilization, which may include provisions to ensure:
- management of harvest residue (e.g., slash, limbs, tops) considers economic, social and environmental factors (e.g., organic and nutrient value to future forests and the potential of increased fuels build-up) and other utilization needs;
 - training or incentives to encourage loggers to enhance utilization;
 - exploration of markets for underutilized species and low-grade wood and alternative markets (e.g., bioenergy markets); or
 - periodic inspections and reports noting utilization and product separation.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Conformance was confirmed by review at harvesting sites audited.

MD DNR Forest Service Cutting Exam Checklist used on Potomac Garrett State Forest (and similar forms used at SRSF and GRSF) includes the criterion "Utilization".

Foresters in all units regularly visit harvest sites and perform formal inspections that include utilization checks.

Objective 8 Recognize and Respect *Indigenous Peoples’* Rights

To recognize and respect *Indigenous Peoples’* rights and traditional knowledge.

Performance Measure 8.1

Program Participants shall recognize and respect Indigenous Peoples’ rights. Indicator:

8.1.1. *Program Participants* will provide a written *policy* acknowledging a commitment to recognize and respect the rights of *Indigenous Peoples*.

- N/A
 Conformance
 Exceeds
 O.F.I.
 Major NC
 Minor NC

Audit Notes: The 2015 Minor Non-conformance has been addressed: “There is not a written policy acknowledging a commitment to recognize and respect the rights of Indigenous Peoples.”

The policy is now specified in each of the five Sustainable Forest Management Plans:

- Chesapeake Forest :: sec 5.6 / pg 59
- Pocomoke State Forest :: sec 5.9 / pg 56
- Green Ridge State Forest :: sec 5.4 / pg 74
- Savage River State Forest :: sec 5.7 / pg 56
- Potomac Garrett State Forest :: sec 5.4 / pg 74

This wording is included:

“The Department has a commitment to recognize and respect the rights of Indigenous Peoples. It is the mission of The Maryland Commission on Indian Affairs to “promote the awareness and understanding of historical and contemporary American Indian contributions in Maryland.” The role of the State Forest management in promoting this state mission is through the following practices:

- a. understand and respect traditional forest-related knowledge;*
- b. identify and protect spiritually, historically, or culturally important sites;*
- c. address the use of non-timber forest products of value to American Indians on state forests; and*
- d. respond to American Indians’ inquiries and concerns received.”*

Performance Measure 8.2

Program Participants with forest management responsibilities on public lands shall confer with affected *Indigenous Peoples* with respect to sustainable forest management practices. Indicator:

8.2.1. *Program* that includes communicating with affected *Indigenous Peoples* to enable *Program Participants* to:

- a. understand and respect traditional forest-related knowledge;
- b. identify and protect spiritually, historically, or culturally important sites;
- c. address the use of non-timber forest products of value to Indigenous Peoples in areas where Program Participants have management responsibilities on public lands; and
- d. respond to Indigenous Peoples’ inquiries and concerns received.

Audit Notes: Not reviewed during the 2016 SFI Audit.

Performance Measure 8.3

Program Participants are encouraged to communicate with and shall respond to local *Indigenous Peoples* with respect to sustainable forest management practices on their private lands. Indicators:

8.3.1. *Program Participants* are aware of *traditional forest-related knowledge*, such as known cultural heritage sites, the use of wood in traditional buildings and crafts, and flora that may be used in cultural practices for food, ceremonies or medicine.

Audit Notes: Not reviewed during the 2016 SFI Audit.

8.3.2. Respond to *Indigenous Peoples’* inquiries and concerns received.

Audit Notes: Not reviewed during the 2016 SFI Audit.

Objective 9 Legal and Regulatory Compliance

To comply with applicable federal, provincial, state and local laws and regulations.

Performance Measure 9.1

Program Participants shall comply with applicable federal, provincial, state and local *forestry* and related social and environmental laws and regulations. Indicators:

9.1.1. Access to relevant laws and regulations in appropriate locations.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: The Division of State Documents (<http://www.dsd.state.md.us/>) and The Code of Maryland Regulations or COMAR (<http://www.dsd.state.md.us/COMAR/ComarHome.html>) provide on-line access to all of Maryland's laws, regulations, and the Maryland Register. Forest Service-specific policies such as Timber Operation Order 2015-601 help link practices to the underlying state laws and regulations.

9.1.2. System to achieve compliance with applicable federal, provincial, state, or local laws and regulations.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: A process exists for setting up all timber harvests and significant projects, reviewing them internally, and documenting their approval. This process includes the involvement of the most experienced personnel in projects, helping to ensure compliance.

A variety of policies and procedures are used to ensure compliance, chief among them Timber Operation Order 2015-601: "The purpose of the operation order is to establish guidelines for the sale of forest products, and to insure that legal and uniform procedures are followed state-wide in administering such sales... Prior to approval and award of a contract, all forest products sale contracts over \$5,000 will be reviewed by the legal department assigned to DNR for legal form and sufficiency."

The Maryland DNR includes a Natural Resource Police force. In Garret County there are 11 employees, and significant time is spent on the Savage River State Forest and Potomac Garrett State Forest. Officers enforce fish and game laws, firewood permit provisions, patrol campgrounds, and deal with unauthorized activities on state lands of all types. These "conservation officers" also have duties on private lands, so they are only on state lands a portion of their time, but their presence supports compliance. Interviewed Mike Friend, NRP

9.1.3. Demonstration of commitment to legal compliance through *available regulatory action information*.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Based on a Google search and interviews, there have been no regulatory or other enforcement actions against the DNR alleging non-compliance by the agency with applicable, federal, state, or local forestry or social and environmental laws.

Performance Measure 9.2

Program Participants shall take appropriate steps to comply with all applicable social laws at the federal, provincial, state and local levels in the country in which the *Program Participant* operates. Indicators:

9.2.1. Written *policy* demonstrating commitment to comply with social laws, such as those covering civil rights, equal employment opportunities, anti-discrimination and anti-harassment measures, workers' compensation, *Indigenous Peoples'* rights, workers' and communities' right to know, prevailing wages, workers' right to organize, and occupational health and safety.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Maryland Forest Service Policy & Procedure Manual, page 3 describes the overall commitment to comply with laws and regulations. The State of Maryland has laws and policies on all of the issues listed in the indicator. The Division of State Documents (<http://www.dsd.state.md.us/>) and The Code of Maryland Regulations or COMAR (<http://www.dsd.state.md.us/COMAR/ComarHome.html>) provide on-line access to all of Maryland's laws, regulations, and the Maryland Register. Postings for worker's rights, applicable laws, and safety were observed.

9.2.2. *Forestry enterprises* will respect the rights of workers and labor representatives in a manner that encompasses the intent of the International Labor Organization (ILO) core conventions.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: DNR has not received information from outside stakeholders with regards to concerns or conformance pertaining to their employee relations with regards to ILO Core conventions 87, 98 and 111.

Objective 10 Forestry Research, Science and Technology

To invest in *forestry* research, science and technology, upon which sustainable forest management decisions are based and broaden the awareness of *climate change* impacts on forests, *wildlife* and *biological diversity*.

Performance Measure 10.1

Program Participants shall individually and/or through cooperative efforts involving *SFI Implementation Committees*, associations or other partners provide in-kind support or funding for forest research to improve *forest health*, *productivity* and sustainable management of forest resources, and the environmental benefits and performance of forest products. Indicators:

10.1.1. Financial or in-kind support of research to address questions of relevance in the region of operations. Examples could include, but are not limited to, areas of forest *productivity*, water quality, biodiversity, community issues, or similar areas which build broader understanding of the benefits and impacts of forest management.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: MD DNR state forests, parks and wildlife management areas serve as sites for a variety of university, federal, and state research projects. For example, on Savage River State Forest there are research projects involving Chestnut blight hypo-virulence, Wood rat biology, and biology of Spotted skunks, as well as a major trial of a pesticide to control the Hemlock Woolly Adelgid in a stand at the Wolf Swamp ESA.

The Forest Service is responsible for BMP research/monitoring: "Water quality and/or effectiveness of best management practices including effectiveness of water quality and best management practices for protecting the quality, diversity and distributions of fish and wildlife habitats= \$57000" Source: 2015 SFI Survey Report

10.1.2. Research on genetically engineered trees via *forest tree biotechnology* shall adhere to all applicable federal, state, and provincial regulations and international protocols ratified by the United States and/or Canada depending on jurisdiction of management.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: There is no such research on the state forests.

Performance Measure 10.2

Program Participants shall individually and/or through cooperative efforts involving *SFI Implementation Committees*, associations or other partners develop or use state, provincial or regional analyses in support of their *sustainable forestry programs*. Indicator:

10.2.1. Participation, individually and/or through cooperative efforts involving *SFI Implementation Committees* and/or associations at the national, state, provincial or regional level, in the development or use of some of the following:

- a. regeneration assessments;
- b. growth and drain assessments;
- c. *best management practices* implementation and conformance;
- d. *biodiversity conservation* information for family forest owners; and
- e. social, cultural or economic benefit assessments.

Audit Notes: Not reviewed during the 2016 SFI Audit.

Performance Measure 10.3

Program Participants shall individually and/or through cooperative efforts involving *SFI Implementation Committees*, associations or other partners broaden the awareness of *climate change* impacts on forests, *wildlife* and *biological diversity*. Indicators:

10.3.1. Where available, monitor information generated from regional climate models on *long-term forest health*, *productivity* and *economic viability*.

Audit Notes: Not reviewed during the 2016 SFI Audit.

10.3.2. *Program Participants* are knowledgeable about *climate change* impacts on *wildlife*, *wildlife habitats* and *conservation of biological diversity* through international, national, regional or local *programs*.

Audit Notes: Not reviewed during the 2016 SFI Audit.

Objective 11 Training and Education

To improve the implementation of *sustainable forestry* practices through appropriate training and education *programs*.

Performance Measure 11.1

Program Participants shall require appropriate training of personnel and contractors so that they are competent to fulfill their responsibilities under the *SFI 2015-2019 Forest Management Standard*. Indicators:

11.1.1. Written statement of commitment to the *SFI 2015-2019 Forest Management Standard* communicated throughout the organization, particularly to facility and woodland managers, and field foresters.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: <http://dnr2.maryland.gov/forests/Pages/forestcert.aspx> Certification Web page

Governor's Executive Order 01.01.2004.21: Enhanced Forestry Management on the Department of Natural Resources-Owned Forest Lands (<http://www.dsd.state.md.us/comar/comarhtml/01/01.01.2004.21.htm>)

11.1.2. Assignment and understanding of roles and responsibilities for achieving *SFI 2015-2019 Forest Management Standard objectives*.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: All staff involved in the audit demonstrated a clear understanding of their roles in the management of state lands, and additional responsibilities regarding the SFI 2015-2019 Standards. Jack Perdue, Forest Resource Planning, also has the role of State Lands Manager and forest certification coordinator.

11.1.3. Staff education and training sufficient to their roles and responsibilities.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Interviews confirmed strong understanding of range of topics associated with job duties and the ready availability of training opportunities including these topics/sources: wildland fire-fighting, forest pests, twice-annual forest managers meetings, and new hire/seasonal training. Two example programs: annual forest pest update at the Lake House, New Germany State Park (all foresters); "Managing Forest Pests for Watershed Restoration" MD Course #159595, May 6, 2015 (Mark Beals).

DNR requires all Licensed Forester employees to be state Licensed Foresters which requires 8 hours of continuing education each two-year renewal period. Confirmed for selected employees.

Confirmed by review of training certificates for training occurring since the 2013 audit for Mark D. Beals, Forest Manager and Jesse Morgan, Asst. Forest Manager. Mark has the forester's license, is certified as a pesticide applicator and by the International Society of Arboriculture. Jesse is certified as a pesticide applicator and forester.

11.1.4. Contractor education and training sufficient to their roles and responsibilities.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Maryland Master Logger 227 Eric Glotfelty or Butch Glotfelty.

Town Creek Logging: FPO License #42, Paul Smith Master Logger

11.1.5. *Program Participants* shall have written agreements for the use of *qualified logging professionals* and/or *certified logging professionals* (where available) and/or *wood producers* that have completed training *programs* and are recognized as *qualified logging professionals*.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: All harvests are conducted by logging crews with one or more Maryland Master Loggers. Foresters check these credentials by maintaining a list of trained loggers, reviewing the list against web sites listing trained loggers, and then using the list to confirm that trained loggers are involved in each sale other than minor firewood sales. Bid package requires Master Logger to operate the sale. Confirmed through interviews and review of harvest files.

Performance Measure 11.2

Program Participants shall work individually and/or with *SFI Implementation Committees*, logging or forestry associations, or appropriate agencies or others in the *forestry* community to foster improvement in the professionalism of *wood producers*.

Indicators:

- 11.2.1. Participation in or support of *SFI Implementation Committees* to establish criteria and identify delivery mechanisms for *wood producer* training courses and periodic continuing education that address:
- a. awareness of sustainable forestry principles and the SFI program;
 - b. best management practices, including streamside management and road construction, maintenance and retirement;
 - c. reforestation, invasive exotic plants and animals, forest resource conservation, aesthetics and special sites;
 - d. awareness of responsibilities under the U.S. Endangered Species Act, the Canadian Species at Risk Act, and other measures to protect wildlife habitat (e.g., Forests with Exceptional Conservation Value);
 - e. awareness of rare forested natural communities as identified by provincial or state agencies, or by credible organizations such as NatureServe, The Nature Conservancy, etc.
 - f. logging safety;
 - g. U.S. Occupational Safety and Health Administration (OSHA) and Canadian Centre for Occupational Health and Safety (CCOHS) regulations, wage and hour rules, and other provincial, state and local employment laws;
 - h. transportation issues;
 - i. business management;
 - j. public policy and outreach; and
 - k. awareness of emerging technologies.

Audit Notes: Not reviewed during the 2016 SFI Audit.

- 11.2.2. The *SIC*-approved *wood producer* training *programs* shall have a continuing education component with coursework that supports the current training *programs*, safety and the *principles* of *sustainable forestry*.

Audit Notes: Not reviewed during the 2016 SFI Audit.

- 11.2.3. Participation in or support of *SFI Implementation Committees* to establish criteria for recognition of logger certification *programs*, where they exist, that include:
- a. completion of *SFI Implementation Committee* recognized logger training *programs* and meeting continuing education requirements of the training *program*;
 - b. independent in-the-forest verification of conformance with the logger certification *program* standards;
 - c. compliance with all applicable laws and regulations including responsibilities under the U.S. Endangered Species Act, the Canadian Species at Risk Act and other measures to protect *wildlife habitat*;
 - d. use of *best management practices* to protect water quality;
 - e. logging safety;
 - f. compliance with acceptable *silviculture* and utilization standards;
 - g. aesthetic management techniques employed where applicable; and
 - h. adherence to a management or harvest plan that is site specific and agreed to by the forest landowner.

Audit Notes: Not reviewed during the 2016 SFI Audit.

Objective 12 Community Involvement and Landowner Outreach

To broaden the practice of *sustainable forestry* through public outreach, education, and involvement, and to support the efforts of *SFI Implementation Committees*.

Performance Measure 12.1

Program Participants shall support and promote efforts by consulting foresters, state, provincial and federal agencies, state or local groups, professional societies, *conservation* organizations, *Indigenous Peoples* and governments, community groups, sporting organizations, labor, universities, extension agencies, the *American Tree Farm System*® and/or other landowner cooperative *programs* to apply *principles* of sustainable forest management. Indicators:

12.1.1. Support, including financial, for efforts of *SFI Implementation Committees*.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Maryland Department of Natural Resources' financial support for 2015 was \$7,000

12.1.2. Support, individually or collaboratively, education and outreach to forest landowners describing the importance and providing implementation guidance on:

- a. best management practices;
- b. reforestation and afforestation;
- c. visual quality management;
- d. conservation objectives, such as critical wildlife habitat elements, biodiversity, threatened and endangered species, and Forests with Exceptional Conservation Value;
- e. management of harvest residue (e.g., slash, limbs, tops) considers economic, social, environmental factors (e.g., organic and nutrient value to future forests) and other utilization needs;
- f. control of invasive exotic plants and animals;
- g. characteristics of *special sites*; and
- h. reduction of wildfire risk.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Stoney Demonstration Forest in Harford County has A Self-Guided Tour of Forest Harvest Treatments and Best Management Practices (<http://dnr2.maryland.gov/forests/Documents/stoneybrochure.pdf>) "This forest serves as an educational resource where a variety of silvicultural practices, forest best management practices, and wildlife habitat management practices are implemented and studied."

Also refer to notes under Indicator 12.2.1 below.

12.1.3. Participation in efforts to support or promote *conservation* of managed forests through voluntary market-based incentive *programs* such as current-use taxation *programs*, *Forest Legacy Program* or *conservation* easements.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Interviews with employees of the Land Acquisition and Planning group and review of web site confirm that Maryland has a robust program called "Program Open Space" that aligns closely with this requirement.

<http://dnr2.maryland.gov/land/Pages/ProgramOpenSpace/home.aspx> .

Performance Measure 12.2

Program Participants shall support and promote, at the state, provincial or other appropriate levels, mechanisms for public outreach, education and involvement related to sustainable forest management. Indicator:

12.2.1. Periodic educational opportunities promoting *sustainable forestry*, such as

- a. field tours, seminars, websites, webinars or workshops;
- b. educational trips;

- c. self-guided forest management trails;
 - d. publication of articles, educational pamphlets or newsletters; or
 - e. support for state, provincial, and local *forestry* organizations and soil and water *conservation* districts.
- N/A
 Conformance
 Exceeds
 O.F.I.
 Major NC
 Minor NC

Audit Notes: The Maryland Forest Service has an exceptional program for outreach, education and involvement related to sustainable forest management.

The Maryland Forest Service has responsibility for providing forestry-related outreach and education. Most of this work is done by employees not directly involved in state lands management. Several web-pages on the MFS web site were reviewed, confirming several programs and many resources made available to the public:

<http://dnr2.maryland.gov/forests/Pages/programapps/stewcon.aspx>

<http://dnr2.maryland.gov/forests/Pages/kidzone.aspx>

Sustainable Forest Management Plan for Savage River State Forest, 9.3 Education and Public Outreach (pg.108).

Forest managers interviewed described various outreach/educational efforts including periodic tree planting events, annual 1-day crash course for Garret County students in preparation for the Maryland Envirothon event; Green Ridge State Forest’s Manager teaches two courses at Garrett College (Dendrology, Forest Management); periodic hikes and tours; speaking to local citizens groups such as Homeground, Woodland Stewards, and (planned) the Allegheny Board of County Commissioners; forestry talks at the GRSF overlook to tour bus groups.

Green Ridge State Forest has a forest tour route with a supporting brochure; this brochure is undergoing an extensive revision and upgrade. There is also an audio tour, developed by TNC, and partially narrated by the forest manager.

Performance Measure 12.3

Program Participants shall establish, at the state, provincial, or other appropriate levels, procedures to address concerns raised by loggers, consulting foresters, employees, unions, the public or other *Program Participants* regarding practices that appear inconsistent with the *SFI Standard principles* and *objectives*. Indicators:

12.3.1. Support for *SFI Implementation Committees* (e.g., toll-free numbers and other efforts) to address concerns about apparent nonconforming practices.

- N/A
 Conformance
 Exceeds
 O.F.I.
 Major NC
 Minor NC

Audit Notes: Confirmed active participation by Maryland Forest Service. Kenneth Jolly, MD DNR Forest Associate Director, is a participant and is the DNR representative on the SIC.

12.3.2. Process to receive and respond to public inquiries. *SFI Implementation Committees* shall submit data annually to *SFI Inc.* regarding concerns received and responses.

- N/A
 Conformance
 Exceeds
 O.F.I.
 Major NC
 Minor NC

Audit Notes: Forests maintain logs of complaints. AWP and Advisory Committee processes.

Objective 13 Public Land Management Responsibilities

To participate and implement sustainable forest management on *public lands*.

Performance Measure 13.1

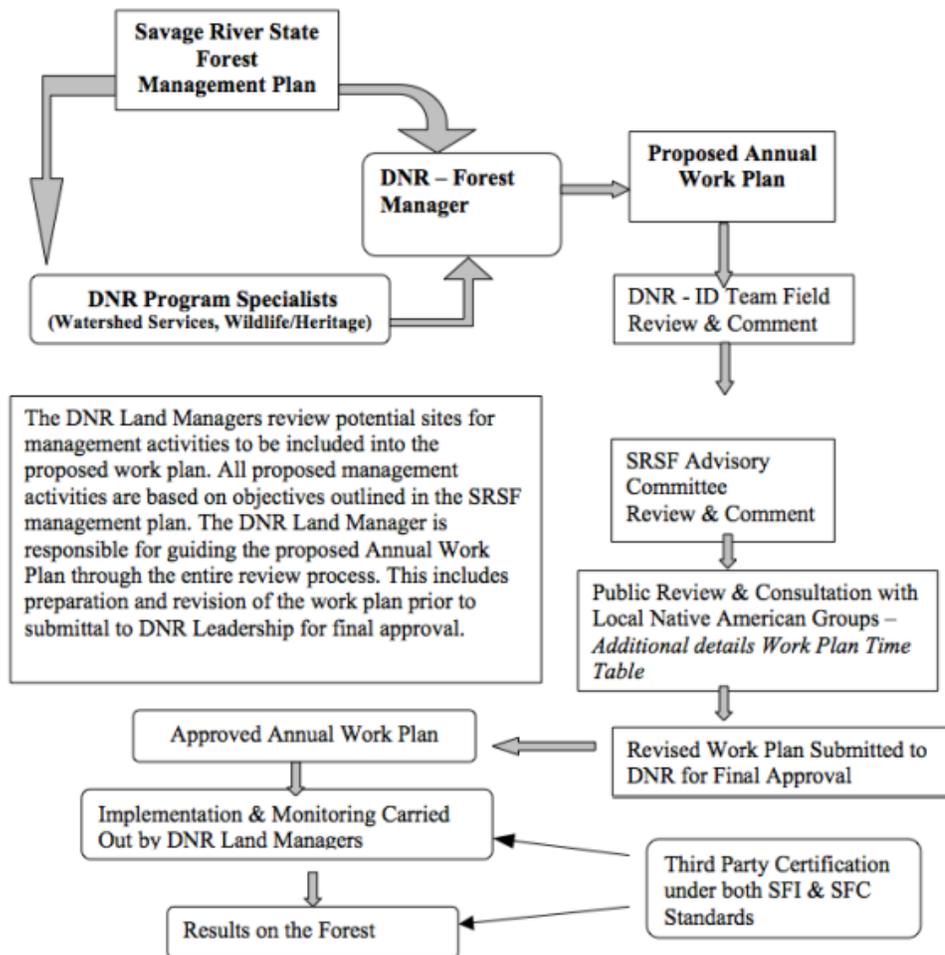
Program Participants with forest management responsibilities on public lands shall participate in the development of public land planning and management processes. Indicators:

13.1.1. Involvement in public land planning and management activities with appropriate governmental entities and the public.

- N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: MFS has a very thorough process for involvement in public land planning. Annual work plan drafts are provided to citizen advisory councils and field visits scheduled to solicit input. After these revisions are made the drafts are made available for review by the general public. The web site and the AWP's contain information on the review process, and the results of the input are summarized in the AWP.

**Sustainable Forest Management Plan for Savage River State Forest, Figure 11.1:
Annual Work Plan Development Process, page 120**



13.1.2. Appropriate contact with local stakeholders over forest management issues through state, provincial, federal or independent collaboration.

- N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: **The Maryland Forest Service has implemented an exceptional program for contact with local stakeholders over**

forest management issues.

Stakeholders including community (social), ecological, and economic interests observed the audits and were interviewed. Citizen Advisory Committees are set up for the forests or groups of forests; meeting minutes and agendas were reviewed. Forests maintain “complaints” logs; review indicated that complaints are not regular and are recorded including follow-up actions.

AWPs for Maryland’s State Forests comprise remarkable compilation of information the management of these forests. AWP’s incorporate comments from the advisory boards, the ID Team, and other citizens. The summary of planned vs. actual treatments is an important part of these valuable documents.

Confirmed that the Savage River State Forest - Citizens Advisory Committee meets bi- annually. Records of the meetings and actions taken are found in the AWP’s.

Objective 14 Communications and Public Reporting

To increase transparency and to annually report progress on conformance with the *SFI Forest Management Standard*.

Performance Measure 14.1

A *Program Participant* shall provide a summary audit report, prepared by the *certification body*, to *SFI Inc.* after the successful completion of a certification, recertification or surveillance audit to the *SFI 2015-2019 Forest Management Standard*. Indicator:

- 14.1.1. The summary audit report submitted by the *Program Participant* (one copy must be in English), shall include, at a minimum,
- a description of the audit process, *objectives* and scope;
 - a description of substitute *indicators*, if any, used in the audit and a rationale for each;
 - the name of *Program Participant* that was audited, including its *SFI* representative;
 - a general description of the *Program Participant's* forestland included in the audit;
 - the name of the *certification body* and *lead auditor* (names of the *audit team* members, including *technical experts* may be included at the discretion of the *audit team* and *Program Participant*);
 - the dates the audit was conducted and completed;
 - a summary of the findings, including general descriptions of evidence of conformity and any nonconformities and corrective action plans to address them, opportunities for improvement, and exceptional practices; and
 - the certification decision.

The summary audit report will be posted on the *SFI Inc.* website (www.sfiprogram.org) for public review.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: NSF has prepared the summary report to include all of the above items.

Confirmed the 2015 report is on the SFI Inc. website.

Performance Measure 14.2

Program Participants shall report annually to SFI Inc. on their conformance with the SFI 2015-2019 Forest Management Standard. Indicators:

- 14.2.1. Prompt response to the *SFI* annual progress report survey.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Confirmed the 2015 report.

- 14.2.2. Record keeping for all the categories of information needed for *SFI* annual progress report surveys.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Maryland Forest Service demonstrated robust and detailed record-keeping procedures during the audit.

- 14.2.3. Maintenance of copies of past survey reports to document progress and improvements to demonstrate conformance to the *SFI 2015-2019 Forest Management Standard*.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: Reports are kept in files, and those back through 2009 are kept on-line.

Objective 15 Management Review and Continual Improvement

To promote continual improvement in the practice of *sustainable forestry* by conducting a management review and monitoring performance.

Performance Measure 15.1

Program Participants shall establish a management review system to examine findings and progress in implementing the *SFI 2015-2019 Forest Management Standard*, to make appropriate improvements in *programs*, and to inform their employees of changes.

Indicators:

15.1.1 System to review commitments, *programs* and procedures to evaluate effectiveness.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: All forests conduct and document regular logging inspections & seedling survival/regeneration counts. Monitoring of ESA restoration projects by Heritage.

Interdisciplinary Teams conduct Annual Work Plan reviews for all projects

The web page for the state forests <http://dnr2.maryland.gov/forests/Pages/mdforests.aspx> provides links to monitoring information for each forest.

Chapter – 10 Savage River State Forest Monitoring Plan (page 110)

Internal Silvicultural Audit (ISA) process is part of the system.

Self-audit 3/26/15 included MFS (4) and Parker Forestry (3) and involved review of several projects and filling out AWP Forest Harvest Proposal forms as the method for recording the results of site-specific reviews.

15.1.2 System for collecting, reviewing, and reporting information to management regarding progress in achieving *SFI 2015-2019 Forest Management Standard objectives and performance measures*.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: State Forest Managers meet regularly (certification is one agenda item), with one other meeting each year focused on certification.

Minutes from State Forest Managers Meeting, Pasadena Office, October 20, 2015; State Forest Managers Meeting Pasadena Office, March 15, 2016

15.1.3 Annual review of progress by management and determination of changes and improvements necessary to continually improve conformance to the *SFI 2015-2019 Forest Management Standard*.

N/A Conformance Exceeds O.F.I. Major NC Minor NC

Audit Notes: The state forests web site includes the organization’s Sustainable Forestry Initiative Management Reviews for the past 10 years.

Forest Certification Pre-Audits

- Eastern Shore - Wednesday April 6
- Savage River - Tuesday April 12
- Potomac Garrett - Wednesday April 13
- Green Ridge - Thursday April 14

Maryland Department of Natural Resources, Forest Service, December 12, 2015, 2015 Audit & Certification Standard Review: Attendance

1. Kenneth Jolly (DNR-MFS); 2. Kip Powers (DNR-MFS); 3. George Eberling (DNR-MFS); 4. John Denning (DNR-MFS)
5. Mark Beals (DNR-MFS); 6. Mike Schofield (DNR-MFS); 7. Alex Clark (DNR-MFS); 8. Rob Feldt (DNR-MFS); 9. Jack Perdue (DNR-MFS)

Appendix 4:

Site Notes

April 26, 2016 - Savage River State Forest

Lake House, New Germany State Park- Opening Meeting

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 Woolly 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 Woolly Adelgid scale insect would be expected to eventually kill all of the hemlock trees. A cooperative partnership with the Md. Department of Agriculture, Md. Park Service, Md. Conservation Corps, and the Md. Forest Service was formed to treat and protect the stand 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.

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 a 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 a 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.

Closing Meeting Green Ridge State Forest Headquarters

Appendix 5:

Attendees (Opening and Closing Meeting attendance indicated)

All Sessions, including Opening and Closing Meeting

Mike Ferrucci, SFI Lead Auditor

Kyle Meister, FSC Lead Auditor

Jack Perdue, State Forests Manager; Certification Coordinator

Present for Opening Meeting (indicated for April 26 and April 28 participants lists only)

& Present for Closing Meeting (indicated for April 26 and April 28 participants lists only)

April 26, 2016 - Savage River State Forest

Opening Meeting 8 am

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) #

Scott Cambell (DNR-MFS) #

Noah Rawe (DNR-MFS) #

Locho L Bayler (DNR) #

Jaramie Foy (DNR) #

Mel Rowe (DNR) #

Michael Johnson (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)
Scott Cambell (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

Closing Meeting 3 pm
Don VanHassent (DNR-MFS) #
Kenneth Jolly (DNR-MFS) #
George Eberling (DNR-MFS) #
Rob Feldt (DNR-MFS) \$
John Wilson (DNR-LAP) #
Steve Carr (DNR-LAP)
Scott Cambell (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 6:

SFI Reporting Form

No changes