



**Bureau Veritas Certification  
North America, Inc.  
SFI Forest Management Audit Report**

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Company Name	Clemson Experimental Forest
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Phone / Fax	(864) 656-4833
PQC Code	E01E – Forestry, logging related
Contract Number	US.2196460

Certification Audit:		Re-Certification Audit:	<b>X</b>	Surveillance Audit:		Scope extension audit:	
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**Audit Summary**

**Introduction**

This report summarizes the results of the re-certification audit conducted on the Clemson Experimental Forest’s SFI program for forest management. Steve Tomlin, Bureau Veritas Certification Lead Auditor, conducted the audit on April 26 through 27, 2016.

**Audit Scope, Objectives and Process**

The audit scope was “forest management”, and the audit objectives were to determine conformance of the organization’s SFI program against the SFI 2015-2019 Forest Management Standard, and to determine whether the organization’s SFI management system and on-the-ground activities conform to the SFIS. All applicable Objectives, Performance Measures and Indicators were audited, and no additional or modified Indicators were used. The re-certification audit was conducted under environmental auditing methodologies identified in the audit procedures section of the SFI 2015-2019 Standards and Rules document. Standard protocols and forms as found in the Bureau Veritas Certification SFI Auditor Handbook and auditor website were applied throughout the verification.

**Audit Plan**

**April 26, 2016**

Time	Activity	BVC Repr.	Company Repr.
08:00 AM	Opening Meeting	Tomlin	Hardee
08:30 AM	Field audit planning & site selection		
09:00 AM	SFI Program and records review		
12:00 PM	Lunch		
01:00 PM	Field audit of forest management activities		
04:30 PM	Daily debrief		
05:00 PM	Depart site		

**April 27, 2016**

Time	Activity	BVC Repr.	Company Repr.
08:00 AM	Complete field audit (if needed), followed by continued interviews and program review.	Tomlin	Hardee
11:00 AM	Closing Meeting preparation		
11:30 AM	Closing meeting		
12:00 PM	Depart site		

## **Company Information**

Clemson Experimental Forest (CEF) contains approximately 17,500 acres of land obtained in 1934 which consisted mostly of highly eroded farmland, and has had forests re-established through planting and natural regeneration. The land is located in close proximity to the University in Clemson, South Carolina, and is managed for education, recreation, demonstration and research. Forest products are managed and harvested to address forest health issues, provide research opportunities, and produce income. The property is situated in the piedmont, with rolling to relatively steep topography. The forest contains natural pine and hardwood stands along with plantations of primarily loblolly pine, although shortleaf, longleaf, and slash pine have been planted in some areas to provide research and educational opportunities. Forest management activities are not highly intensive. Clearcuts are small (limited to a maximum of 50 acres). Regeneration is generally achieved by planting improved pine. The majority of the property is open to the public for a multitude of recreation activities with no permit requirements, with the exception of hunting. Most of the property is in wildlife management area cooperative agreements with the SC Department of Natural Resources, with hunting permitted only in designated parts.

## **Audit Results**

The re-certification audit was conducted to determine if Clemson's forest management system meets the requirements of the SFI 2015-2019 Forest Management Standard. The field audit consisted of a review of two harvest, one chemical site preparation, one mechanical site preparation, two reforestation, one prescribed burning and one potential endangered species site. Document review, interviews and field reviews indicate that CEF is doing an excellent job of managing its forest, and continues to improve on an effective SFI program.

**Objective 1-Forest Management Planning:** CEF operates a continuous forest inventory (CFI) system providing volumes by species on a five year cycle. It uses the CFI to determine total volume, growth and allowable cut. Existing G&Y models are not appropriate as the forest has been established primarily on highly eroded, mostly non-timbered, farmland and is being managed for older age-class pine and hardwood. Recommended harvest levels have been developed as an annual allowable cut, and are currently set at approximately 50% of growth based on CFI measurements. Historic harvest levels records have been developed, and were reviewed. Actual harvests have been consistently well below annual allowable cut except for a single year when it was slightly exceeded. The CEF annual allowable cut is documented in the Forest Management Plan. A GIS land classification system is in place, identifying cover type (predominate species), acreage, stand ID, working group (stand type – plantation, bottomland, upland hardwood, natural, etc.), establishment year, soil type, etc. A number of studies and reviews have been conducted on non-timber issues. The CEF facilitates biodiversity at the landscape level by providing an array of forest types next to a mosaic of neighboring urban settings, agricultural & forest types. Harvest areas are inventoried prior to harvest sales. No lands have been converted to another cover type or non-forest since initial certification. One Opportunity For Improvement was written recommending updating of non-critical tables and information in the management plan.

**Objective 2-Forest Health and Productivity:** Two planting sites (loblolly and shortleaf pine) were field audited, along with associated records, and conformed to the requirements for reforestation within two planting seasons following harvest. Corrective actions are considered if survival falls below prescribed limits. Survival is determined by the field forester through visual inspection and general walkthrough, followed up by more intensive sampling if poor survival is an issue. To date, natural regeneration sites have been negligible in size. There is no planting of exotic trees. No afforestation is taking place. All of the old farmland that this forest was based on had already been afforested prior to certification. Minimization of pesticide use necessary to meet management objectives is prescribed in the Management Plan, and was evidenced through field audits and

interviews. Commonly used forestry herbicides are used which are broadly accepted to provide targeted control of unwanted vegetation to meet management objectives. Field results showed proper application in accordance with label requirements. No WHO type 1A or 1B pesticides or pesticides banned under the Stockholm Convention on Persistent Organic Pollutants are used, or plan to be used. Field inspections indicated that all BMPs for pesticide application were observed, and only the targeted areas were sprayed. Pesticides were applied by hand using backpack sprayers, which is a very low-risk method. No problems were observed or encountered, and no complaints were received. Various examples of integrated pest management techniques employed are planting resistant seedlings, overflights during times when pine beetles are active, selective harvesting ahead of beetle infestations, and planning for 1st thinnings of pine stands to increase vigor and health. NRCS soils data is used identify soils in every stand in the CEF GIS system. Harvesting, chemical site prep and prescribed burning sites reviewed during the audit demonstrated appropriate use of erosion control measures. Harvesting tracts field audited revealed post-harvest conditions conducive to maintaining site productivity. One tract had some minor rutting that was identified during inspections and corrective actions were taken. Interviews and observations confirmed program to protect the forest from damaging agents. Aerial surveys are done when insect or disease issues are encountered. CEF works with the SCFC on southern pine beetle detection. CEF has a fire control tractor and operators experienced in firefighting.

**Objective 3-Protection and Maintenance of Water Resources:** The Management Plan describes the measures used to implement BMPs and protect water quality. In general, SMZ width exceeds state BMPs, and harvesting within them is usually forbidden. All loggers operating on Clemson University property are required to be SIC trained (TOP loggers in SC). The CEF timber harvest contract requires the use of South Carolina BMPs. Field inspections of harvest tracts and monitoring records conformed BMP usage, and included corrective actions on rutting issues discovered on one tract. Streams are mapped and classed in the GIS. Operations are very low risk. No unaddressed issues were discovered during field inspections.

**Objective 4-Conservation of Biological Diversity:**

A Natural Resource Area Inventory and Guidelines evaluation and program was developed in 2008, and CEF is highly sensitive to the conservation of biological diversity. It has established a very diverse forest, maintained and enhanced on the old, eroded farmland which made up the majority of the property when it was obtained in 1934. Field observations indicated that harvests were very modest in size, and stand level wildlife habitat elements were maintained or developed in all stands audited. The CEF GIS program documents each stand by cover type and age class. There is a single federally listed plant, Smooth Coneflower (Endangered), previously known to occur on the property. A management plan was developed. CEF performed a field inspection and could not locate the plant. The site was field audited, and no occurrences were found. CEF has gathered and mapped ecologically significant wetlands on its ownership in their GIS. CEF is well aware of non-native invasive species. Kudzu has been eradicated from the property. CEF is a contributor and member of the South Carolina Exotic Pest Council. CEF is aware of the role of natural disturbances to forest health. They use prescribed burning on a limited basis. One very successful burn for the purpose of enhancing forest health was field audited. Clemson has gathered and mapped potential occurrences of FECVs suspected to occur on or near its ownership. Opportunity For Improvement: Interviews with the previous Forest Manager indicated that reported FECV occurrences had been examined during the 2008 natural resources inventory, but this is not well documented. It would be beneficial to re-examine the data and perform another field audit to confirm the previous conclusions.

**Objective 5-Management of Visual Quality and Recreational Benefits:** The Management Plan describes the activities the CEF uses to address visual quality management. Small harvest sizes, green-up policy, trash cleanup, operations removed from public sight when feasible, and dispersion of harvest slash contribute to aesthetics. The two timber sales reviewed during the audit demonstrated

appropriate use of aesthetic measures. Harvests are very small in size. The Management Plan limits maximum clearcut size to 50 acres, and the average for 2015 was 14.1. The Management Plan specifies the green-up requirement to be 3 years or 5 feet. Review of planting sites during the audit indicated the green up requirement is being adhered to. The CEF forest is open to the public for recreation as a condition of its purchase in the 1930s. No permits are required except for hunting. Most of the CEF is included with DNR cooperative agreements, is patrolled by the DNR, and only part is open to hunting. Other opportunities include hiking, horseback riding, boating, fishing, biking and bird watching.

**Objective 6-Protection of Special Sites:** A natural resources inventory was performed in 2008 to identify ecologically important sites and provide management recommendations. These are mapped in the GIS. Clemson works with the SC DNR to provide proper management of special sites

**Objective 7-Efficient Use of Fiber Resources:** Harvest sites visited during the audit demonstrated acceptable utilization and management of harvest residue. CEF manages its forest to maximize sawtimber production, but also sells pulpwood during its harvest. It has an effective monitoring program, and all professional loggers are required to be trained.

**Objective 8-Recognize and Respect Indigenous People's Rights:** CFE has a written policy recognizing and respecting Indigenous Peoples' rights, however there are no recognized Indigenous Peoples groups on or near the forest that currently retain any rights, and there are no culturally significant sites on the property.

**Objective 9-Legal and Regulatory Compliance:** The CEF demonstrated access to applicable laws and regulations. Their system to achieve compliance consists of training and contractual requirements. The field monitoring program ensures compliance by contractors. There is no evidence of adverse regulatory actions taken. Clemson has a statement of commitment to the SFI standard, which includes a commitment to comply with social laws.

**Objective 10-Forestry Research, Science and Technology:** The Clemson forest exists to further research and education, in addition to recreation. There is evidence of multiple research efforts that have occurred and are occurring on the forest. It has received two research grants from SFI, Inc., the most recent being for the study of fish passage through culverts. Clemson does not use or conduct research on genetically engineered trees. CEF is an active SC SIC participant. Clemson has developed a file of various websites and information addressing the impacts of climate change on forest health and productivity, and wildlife habitats. Employees interviewed were knowledgeable about potential climate change impact on biodiversity.

**Objective 11-Training and Education:** Roles and responsibilities are defined within the Management Plan. Foresters are highly experienced, and are SC TOP logger trained. The CEF requires loggers to be TOP logger qualified. Training was confirmed. Herbicide contractors are required to be licensed. Field observations confirmed contractor professionalism. The CEF Forest Products Sales Agreement requires the use of trained logging professionals. A review of SC SIC meeting minutes indicate active participation. The SC SIC TOP Logger program requires annual continuing education supporting the training program, safety and the principles of sustainable forestry.

**Objective 12-Community Involvement and Landowner Outreach:** CEF is a contributor and member of the South Carolina Exotic Pest Council. The Forest Manager is an active member of the SCFA which supports legislation on taxation and incentive programs designed to promote the conservation of managed forests. The Clemson forest is dedicated for recreation, education, research, and demonstration. The organization is involved in many educational efforts, such as the 2016 Forest Fest, and hosting University of Florida and University of Tennessee forestry students in 2015 for

educational and field trips. A review of SC SIC meeting minutes indicate active participation. Reviewed the SC SIC inconsistent practices procedure and annual report. No nonconforming practices were reported in 2015. The CEF Trail Map and posting at each main entrance to the forest provides specific guidance to the public for making inquiries and providing input. CEF also maintains a Facebook page and responds to all comments and inquiries.

**Objective 13: Public Land Management Responsibilities:** Clemson University owns the forest, but it is managed as public land. As such, it conducts stakeholder meetings with a variety of interested public and private individuals and organizations. The University involves these stakeholders in many of its activities, with the exception of timber harvesting. The CEF Trail Map and posting at each main entrance to the forest provides specific guidance to the public for making inquiries and providing input. CEF also maintains a Facebook page and responds to all comments and inquiries.

**Objective 14-Communications and Public Reporting:**

Reviewed a copy of the 2015 SFI Progress Report submitted prior to the March 15, 2015 deadline. Reviewed records for the annual progress report. 2013, 2014 and 2015 SFI Progress Reports were maintained. The 2015 CEF audit report contained all required information for public reporting, but the audit report was not found on the SFI website.

**Nonconformance:** The 2015 audit report was not submitted to SFI, Inc. and was not posted on the website.

**Objective 15-Management Review:** The Forest Manager compiles all records and information necessary for an annual management review. CEF holds an annual meeting attended by all senior management to review commitments, programs, and procedures to evaluate the effectiveness of the system. Interviews and record review indicated that the management review covered progress, and addressed continuous improvement needs.

## **Findings**

### **Previous non-conformances:**

Three Minor Nonconformances:

Objective 4, PM 2, Ind. 1 – No management plan was available for a federally listed plant that was previously reported on the forest: A management plan was written and audited, but no specimens were found during a field investigation of the site. CEF will continue monitoring the site.

Objective 8, PM 1, Ind. 1 – No written policy acknowledging a commitment to recognize and respect the rights of Indigenous Peoples: A policy was developed and audited. There are no known tribes with legal rights on the CEF.

Objective 15, PM 1, Ind. 3 – No management review record was available for review: A documented management review was held 8/10/2015, and the minutes were reviewed and audited.

**Non-conformances:** One Minor Nonconformance was issued:

Objective 14, PM 1, Ind. 1 – The 2015 summary audit report was not submitted to SFI, Inc. or posted on its website

An SF02 nonconformity report is included below as part of this audit report.

**Opportunities for Improvement:** Two opportunities for improvement were issued.

Objective 1, PM 1 - The CEF Forest Management Plans contains numerous non-critical tables and information which would be more useful if updated.

Objective 4, PM 2, Ind. 2 - Interviews with the previous Forest Manager indicated that reported FECV occurrences had been examined during the 2008 natural resources inventory, but this is not well documented. It would be beneficial to re-examine the data and perform another field audit to confirm the previous conclusion.

**Notable Practices:** No notable practices were issued.

**Logo/label use:** CFE does not currently use the SFI or BVC logo. They may use the SFI logo and promotional tag lines in the future, however, and requirements for this were discussed.

**SFI reporting:**

The previous audit report was not submitted to SFI, Inc. See SF02 nonconformity report at the end of this document.

### **Conclusions**

Results of the re-certification audit indicate Clemson Experimental Forest's SFI program continues to meet the requirements of the SFI 2015-2019 Forest Management Standard. Continued certification was recommended at the closing meeting held April 27, 2016. The nonconformance must be cleared by the lead auditor within 30 days of the closing meeting, and closed by the next surveillance audit in 2017.

May 3, 2016 follow-up. The nonconformance was closed on this date. See the SF02 for further details.

**SEE SF61 FOR AUDIT NOTES**

<b>Summary of Audit Findings:</b>									
Audit Date(s):		From: April 26, 2016				To: April 27, 2016			
Number of SF02's Raised:			Major:		0		Minor:		1
Is a follow up visit required:		Yes		No	X	Date(s) of follow up visit:			
Follow-up visit remarks:									
<b>Team Leader Recommendation:</b>									
Corrective Action Plan(s) Accepted		Yes	X	No		N/A		Date:	5/3/2016
Proceed to/Continue Certification		Yes	X	No		N/A		Date:	5/3/2016
All NCR's Closed		Yes	X	No		N/A		Date:	5/3/2016
Cert Decision:	Approved		Name:		Melanie Smith		Date:		07/26/16
Standard audit conducted against:									
1)	SFI 2015-2019 Forest Management		3)						
2)			4)						
Team Leader (1):		Team Members (2,3,4...)							
Steve Tomlin CF, RF, LA (ISO 14001)		2)							
		3)							
		4)							
		5)							
Scope of Supply: (scope statement must be verified and appear in the space below)									
Forest Management									
Accreditation's		ANAB							
Number of Certificates		1							
Proposed Date for Next Audit Event									
Date	May 17, 2017								
Audit Report Distribution									
Bureau Veritas Certification: Dawn M. Komnick-Ehmann- <a href="mailto:dawn.komnick@us.bureauveritas.com">dawn.komnick@us.bureauveritas.com</a>									
Clemson: Russell Hardee - <a href="mailto:rhardee@clemsun.edu">rhardee@clemsun.edu</a>									

Clause	Audit Report
Opening Meeting	Participants: Russell Hardee Discussions: <ul style="list-style-type: none"> <li>➤ Introductions</li> <li>➤ Scope of the audit</li> <li>➤ Audit schedule/plan</li> <li>➤ Nonconformance types – Major / Minor</li> <li>➤ Review of previous nonconformances - 3.</li> <li>➤ Process approach to auditing and audit sampling</li> <li>➤ Confidentiality agreement</li> <li>➤ Termination of the audit</li> <li>➤ Appeals process</li> <li>➤ Closing meeting timing</li> </ul>
Closing Meeting	Participants: Russell Hardee Discussions: <ul style="list-style-type: none"> <li>➤ Introductions and appreciation for selecting Bureau Veritas Certification.</li> <li>➤ Review of audit process - process approach and sampling.</li> <li>➤ Review of OFIs and System Strengths</li> <li>➤ Nonconformances - 1</li> <li>➤ Date for next audit.</li> <li>➤ Reporting protocol and timing</li> </ul>



### SF02/NA NONCONFORMITY REPORT

Company Name and Site:		SF02#:	
Clemson Experimental Forest		1	
Contract #:	Type of audit (e.g., initial, surveillance):	Team Leader:	
US.2196460	Renewal	Steve Tomlin	
Date:	Standard and Clause #:	Team Member:	
4/27/2016	SFI Forest Management 14.1		
Major	Minor	Other Documents (if applicable):	Company Representative:
	X		Russell Hardee
<b>REQUIREMENT OF AUDITED STANDARD:</b>			
The Program Participant must submit a summary audit report to SFI, Inc. after the successful completion of an audit.			
<b>OBSERVED NONCONFORMITY:</b>			
The 2015 BVC audit report for Clemson Experimental Forest was not submitted to SFI, Inc.			
<b>ROOT CAUSE ANALYSIS AND CORRECTIVE ACTION PLAN</b> (To be completed by the Company. Plan to be submitted in 30 days)			
Corrective Action Plan Date:	5/2/2016	Company Representative:	Russell Hardee
<b>Root Cause Analysis and Corrective Action</b>			
Root Cause: Communication breakdown with previous BV auditor resulted in not receiving Corrective Action Plan approval, and CEF thought this was required before sending the audit report to SFI, Inc. Corrective Action Plan: Review process and requirements with BVC and BVC auditor to better understand their distribution and responsibilities. Submit plan to SFI, Inc. and request written confirmation of submittal.			
<b>ROOT CAUSE AND CORRECTIVE ACTION PLAN ACCEPTANCE REPORT</b> (To be completed by Bureau Veritas Certification – Verify effective identification of Root Cause and acceptance of Corrective Action Plan)			
Root Cause: Root cause effectively identified. Corrective Action Plan: CAP acceptable.			
Plan Accepted:	Yes	X	No
Comments:			
Auditor:	Steve Tomlin	Date:	5/3/2015
<b>CORRECTIVE ACTION IMPLEMENTATION</b>			
To be completed by Company – Provide objective evidence. Not to exceed: 90 Days <input type="checkbox"/> 1 Year <input checked="" type="checkbox"/>			
Corrective Action Completion Date:	5/2/2016	Company Representative:	Russell Hardee
Corrective Action Implementation: 2015 Audit report was forwarded to Rachel Dierholf, SFI on 5/2/2016. Method used to verify effectiveness of action taken: Copy of Email was forwarded to Auditor Steve Tomlin.			
<b>CORRECTIVE ACTION IMPLEMENTATION ACCEPTANCE REPORT</b> (To be completed by Bureau Veritas Certification – Acceptance of Corrective Action taken)			
Accepted:	Yes	X	No
Nonconformance Closed:		Yes	X
Follow Up Comments:	Discussion held with CEF on responsibilities and requirements of the CB and the client. Viewed email confirmation of receipt of report from SFI, Inc.		
Auditor:	Steve Tomlin	Date:	5/3/2016