



# Surveillance Audit Report

Sustainable Forestry Initiative® Standard

11-27-07

**A. Program Participant's Name:** Indiana Division of Forestry      **FRS #: 6L841**

**B. Scope:** The Sustainable Forestry Initiative program of the Indiana Division of Forestry including land management operations on 150,000 acres of Indiana State Forests and related sustainable forestry activities.

No Change

Changed (see Section H, revised scope statement noted on FRS)

**C. NSF Audit Team:**

Lead Auditor: Mike Ferrucci

Auditor: Dave Wager

**D. Audit Date(s):** November 6-8, 2007

**E. Reference Documentation:**

2005-2009 SFI Standard®; Draft 2008-2012 Strategic Plan, Draft Wildlife Strategy

**F. Audit Results: Based on the results at this visit, the auditor concluded**

Acceptable with no nonconformances; or

Acceptable with minor nonconformances that should be corrected before the next regularly scheduled surveillance visit;

Not acceptable with one or two major nonconformances - corrective action required;

Several major nonconformances - the certification may be canceled unless immediate action is taken

**G. Changes to Operations or to the SFI Standard:**

Are there any significant changes in operations, procedures, specifications, FRS, etc. from the previous visit?       Yes       No

Brief description of the changes: Working on next 5-year plan, want to emphasize recreational opportunities, infrastructure, and outreach; Some staffing changes, notably filling biologist slot, realignment of duties to develop a recreation-oriented staff group, and 4 more resource specialist positions; making progress on the research forest agenda (\$225,000 per year funding); nearly completed the design and software for CFI program, incorporating many certification-related issues (monitoring, habitat, landscape issues).

**H. Other Issues Reviewed:**

Yes No Public report from previous audit(s) is posted on SFB web site.

Yes No N.A. SFI and other relevant logos or labels are utilized correctly.  
If no, document on CAR forms.

**I. Corrective Action Requests: (see also Appendix IV)**

**Correct Action Requests issued this visit:**

1. SFI-2007-01 Indicator 4.1.4 Implementation of Stand Level Retention
2. SFI-2007-02 Indicator 3.1.1 Implementation of BMPs for ephemeral stream
3. SFI-2007-03 Indicator 2.26 Implementation of Chemical BMPs for storage

Corrective Action Plan is not required.

Corrective Action Plan is required within sixty days of this visit (for Minor Nonconformances).

CARs will be verified during the next Surveillance Audit.

Corrective Action Plan is required within thirty days of this visit (for Major Nonconformances).

The auditor will make arrangements to verify the corrective action has been effectively implemented. All major nonconformance(s) must be closed by the auditor prior to the next scheduled surveillance audit by a special verification visit or by desk review, if possible.

Corrective Action Plans should be provided to: [mferrucci@iforest.com](mailto:mferrucci@iforest.com)  
Mike Ferrucci, SFI Program Manager, NSF-ISR, 26 Commerce Drive, North Branford, CT 06471

At the conclusion of this Surveillance Audit visit, the following CARs remain open:

MAJOR(S): 0                      MINOR(S): 3

In addition, 2 Opportunities for Improvement (OFIs) were identified.

**Appendices:**

Appendix I: Surveillance Notification Letter and Audit Schedule

Appendix II: Corrective Action Requests

Appendix III: Public Surveillance Audit Report

Appendix IV: Audit Matrix

## Appendix I



# Surveillance Notification Letter and Audit Schedule



October 1, 2007

Jack Seifert, State Forester  
Indiana DNR  
402 W. Washington St. Room W296  
Indianapolis, IN 46204

Re: Confirmation of SFI and FSC Surveillance Audits, Indiana DNR

Dear Mr. Seifert:

We are scheduled to conduct the Annual Surveillance Audits of the Indiana DNR on Tuesday November 6 to Thursday November 8. The audit will commence with a formal opening meeting at the Headquarters Building, Owen Putnam State Forest on November 6 at 8 am. It will conclude with a closing meeting tentatively scheduled for November 8 from 1 to 3 pm at the Headquarters Building, Pike State Forest. Additional information regarding the itinerary is provided in the attached "Tentative Audit Schedule".

This is a partial review of your SFI and FSC Programs to confirm that they continue to be in conformance with the requirements and that progress is being made in closing your CARs. The audit team will consist of Mike Ferrucci, NSF-ISR Lead Auditor and Dave Wager, SCS Lead auditor. During the audit we will focus on the following:

**SFI Program:**

- Review of any changes within DNR (e.g., staffing, land acquisitions, planning documents) that are pertinent to the certification.
- Review progress on achieving SFI objectives and performance measures and the results of the management review of your SFI Program;
- Review selected components of your SFI program, including components of Objectives 1 through 7 as encountered at the field sites; Objective 10; Objective 13; and other issues as determined by the Lead Auditor.
- Verify effective implementation of the corrective action plans from the previous NSF audit; and
- Evaluate the effectiveness of planned activities aimed at continual improvement of your SFI Program.

Note: ANAB (SFI's Accreditation Unit) will be auditing NSF during this year's surveillance audit. John Stratton (Team Lead) and Stuart Macpherson (Technical Expert) will conduct the audit for ANAB. The participation of ANSB does not change the audit approach. However, as John and Stuart have very little familiarity with Indiana DNR additional background information may be helpful at times.

### **FSC Program:**

- A focused assessment of the status of outstanding corrective action requests. Assess selected forests against a portion of the FSC Lake States Standard. Operations will be assessed against Criteria and Indicators of the standard where non-conformances were observed in the original assessment, as well as other Criteria and Indicators, as determined by the SCS auditor (expected to focus on Principles 6 & 7).

### **Logistics**

- As during the certification audit we should plan to have lunch on site to expedite the visit.
- We will travel in your vehicle(s) each day during the audit, but have our own transportation to each field location at the start and end each audit day.
- We ask that you provide hardhats and other required safety gear for the teams (4 people).

### **Field Site Selections**

Your staff will provide maps showing activities in these locations over the past two years by October 12. We will select an initial subset of about 10 sites per state forest (by October 19) and will ask for additional information on these sites, including their accessibility and the likelihood of being actively harvested during the visit. Once we receive this information (by October 26) we will select a smaller number of sites that we hope to visit. On the day of the audit we would ask you to tell us about any sales that are being worked at that time, and we would add one or two of these if possible

### **Documentation Requested**

When we arrive each day please provide documentation for the selected sites similar to that provided for the certification audit (maps, project descriptions, and contracts). We would also need copies of the applicable management plans and any other information that would help us determine conformance to the certification requirements.

Please also provide contact information (name, title, organization, home, office, and/or cell phone numbers, and email if available) for the following:

- One or more active loggers for each state forest visited
- Regulatory personnel for each state forest visited
- Any new key stakeholders (we have the names from 2006)

If possible please provide by email one week prior to the audit evidence for corrective actions for each of the open non-conformances. This evidence may be supplemented, of course, by additional information provided during the audit. (Some documents may not be easily emailed, so a combination of advance information that is emailed and printed material handed to us during the opening meeting would be acceptable.

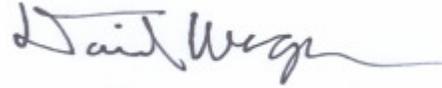
Finally, please remind all involved staff that the auditors do not intend for them to spend large amounts of time making copies. A more efficient approach is to copy a few key documents (4 copies please, for the 2 auditors and the 2 ANAB auditors) while having the files available for review as needed.

The enclosed tentative schedule should be reviewed by all participants. This schedule can be adapted either in advance or on-site to accommodate any special circumstances. If you have any questions regarding this planned audit, please contact either of us.

Sincerely yours,



Mike Ferrucci  
SFI Program Manager, NSF-ISR  
26 Commerce Drive  
North Branford, CT 06471  
[mferrucci@iforest.com](mailto:mferrucci@iforest.com)  
Office and Mobile: 203-887-9248



Dave Wager  
Director -Forest Management Certification SCS  
6107 Skyview Drive  
Missoula, Montana 59803  
[dwager@scscertified.com](mailto:dwager@scscertified.com)  
Phone: 406-251-7049 Cell: 510-708-0397

Enclosure: Tentative Audit Schedule for Indiana DNR 2007 Surveillance Audit

## Tentative Audit Schedule

**For the state forest audits the auditors will fly into Indianapolis on Monday the 5th and will leave from Louisville on Thursday the 8<sup>th</sup> of November (arriving by 5 pm for 6:30 and 7 pm flights).**

### **Field Audit Summary:**

We will conduct field visits in these forests:

- Owen-Putnam (half day Tuesday)
- Greene-Sullivan and Pike (half day each Wednesday)
- Ferdinand (Thursday morning)

### **Monday November 5: travel day**

- Hotel: Holiday Inn Express, Indianapolis Airport (shuttle available):  
5151 South East Street, Indianapolis, IN 46227 317-783-5151  
(Ferrucci 65000259; Wager 65000487; Stratton 65000567; Macpherson 65000677)
- Audit team meeting 9 pm if possible (dependent on travel schedules of accreditation auditors)

### **Tuesday November 6:**

- 8 am - 1 pm: Headquarters Building, Owen Putnam State Forest - review status of CARs
- 1 pm - 5 pm: Field Audit Owen Putnam State Forest
- Lodging: to be arranged by Indiana DNR near GSSF

### **Wednesday November 7:**

- 8 am to 9 am: Headquarters, Greene-Sullivan State Forest
- 9 am to Noon Field Audit, Greene-Sullivan State Forest
- Noon to 1:30 Travel to Pike SF, lunch on the road
- 1:30 to 5:30 Pike State Forest audit
- Lodging: to be arranged by Indiana DNR near Ferdinand SF

### **Thursday November 8:**

- 7-11:30 am: Field Audit Ferdinand State Forest
- 11:30 am to 1:00 pm: audit team deliberations
- 1:00 pm to 3:00 pm: exit briefing; Headquarters Building, Ferdinand State Forest
- 3:00 pm on: auditors travel home
- Louisville Airport - 6pm flight JS; 6:30 pm flight Dave Wager; 7 pm flight Mike Ferrucci;

### **Key Participants**

- Indiana DNR Team:  
Jack Seifert, State Forester ([jseifert@dnr.in.gov](mailto:jseifert@dnr.in.gov)) cell: 812-592-1221  
Carl Hauser, Property Program Specialist ([chauser@dnr.IN.gov](mailto:chauser@dnr.IN.gov)) cell: 812-639-2289
- NSF Team: Mike Ferrucci ([mferrucci@iforest.com](mailto:mferrucci@iforest.com)) cell 203-887-9248  
Dave Wager ([dwager@scscertified.com](mailto:dwager@scscertified.com)) cell 510-708-0397
- ANAB's Team: John Stratton, Team Lead ([stratton@pennswoods.net](mailto:stratton@pennswoods.net)) 814-558-0292  
Stuart Macpherson, Technical Expert ([macfor@telus.net](mailto:macfor@telus.net)) (250) 415-1739

## Appendix II



## Corrective Action Requests



**NEW Corrective and Preventive Action Request (CAR)**

Company/Location: <u>Indiana State Forests</u>	Date: <u>November 8, 2007</u> FRS # <u>6L841</u>
Auditor: <u>Mike Ferrucci</u>	CAR Number: <u>SFI-2007-02</u>
Location of Finding: <u>Ferdinand State Forest</u>	Previous CAR Number/Date: <u>N.A.</u>
Discussed with: <u>Forest and central office staff, John Seifert</u>	Nonconformance Type (underline): Major <u>Minor</u>

**AUDITOR FINDING:** Standard Number and Clause: SFIS Indicator 3.1.1: *Program* to implement state or provincial *BMPs* during all phases of management activities.

Description: At Ferdinand State Forest Compartment 4 Tract 7 an ephemeral stream was crossed in three places, was disturbed by harvest activities, and was blocked in one place by a berm intended to reestablish the stream channel at the primary crossing. Page 35 of Indiana Logging and Forestry Best Management Practices includes under general guidelines for ephemeral streams “minimize soil disturbance, crossings and channel blockages”.

**IF NECESSARY, PLEASE ATTACH A SEPARATE REPORT ADDRESSING THE FOLLOWING THREE ITEMS:**

**1) ROOT CAUSE ANALYSIS BY COMPANY**—Include potential causes & assurance problem does not exist in other areas.

The ephemeral stream in question was not recognized as an ephemeral stream by the property forester or logger, so special care was not taken to literally apply the BMP guidelines. All sales are inspected (monitored) by our BMP compliance forester soon after closeout. The timber sale in question had not been monitored at the time of the audit; any BMP non-compliance would have been detected at that time and necessary mitigation measures prescribed. Because all sales are BMP monitored, similar problems in other areas will be detected and corrected.

**2) CORRECTIVE ACTION BY COMPANY** – Based on the Root Cause Analysis, the following action has been planned/taken to correct the problem. Please include expected completion date.

The property forester will revisit the site within 2 weeks. The berm will be removed using small equipment (bobcat) or using hand tools. The ephemeral stream will be returned to the condition prior to harvesting. All ephemeral crossings will be seeded and mulched to mitigate damage to the extent possible. Property foresters will document corrective action taken by photographing the site after initial corrective actions are applied and/or the following growing season.

**3) PREVENTIVE ACTION BY COMPANY** – Based on the Root Cause Analysis, the following action has been planned/taken to correct the problem. Please include expected completion date.

A BMP refresher course will be conducted for property personnel. All new foresters will be required to attend; experienced foresters will be encouraged to attend as needed. Attendance will be documented on each employee’s record of training. The course will be completed by May 1, 2008.

**AUDITOR REVIEW OF COMPANY’S PLAN:**

The plan comprehensively addresses the non-conformance, with immediate correction of the relatively minor impacts and a strong approach to ensuring that staff focus more attention on BMPs. Implementation to be reviewed during the 2008 audit.

STATUS: Open

AUDITOR/DATE: Michael Ferrucci 11-27-07

**AUDITOR REVIEW OF COMPANY’S COMPLETED ACTION:**

STATUS: \_\_\_\_\_

AUDITOR/DATE: \_\_\_\_\_

**STATUS LEGEND:** OPEN =CA Plan Accepted **CLOSED** =CA implemented, verified & accepted **REJECTED** =CA Plan or Implementation rejected

**NEW Corrective and Preventive Action Request (CAR)**

Company/Location: <u>Indiana State Forests</u>	Date: <u>November 8, 2007</u> FRS # <u>6L841</u>
Auditor: <u>Mike Ferrucci</u>	CAR Number: <u>SFI-2007-03</u>
Location of Finding: <u>Owen Putnam State Forest</u>	Previous CAR Number/Date: <u>N.A.</u>
Discussed with: <u>Forest and central office staff, John Seifert</u>	Nonconformance Type (underline): Major <b><u>Minor</u></b>
<b>AUDITOR FINDING:</b> Standard Number and Clause: <u>SFIS Indicator 2.2.6 Use of Best Management Practices appropriate to the situation... (i) appropriate storage of chemicals.</u>	
Description: <u>At the Owen Putnam State Forest Headquarters chemicals were stored inside and outside (on top of) a lockable, dedicated metal but unvented "flammable liquid storage cabinet" within a garage/workshop adjacent to the work area of an employee.</u>	
<b>IF NECESSARY, PLEASE ATTACH A SEPARATE REPORT ADDRESSING THE FOLLOWING THREE ITEMS:</b>	
<b>1) ROOT CAUSE ANALYSIS BY COMPANY</b> —Include potential causes & assurance problem does not exist in other areas. Purchasing requirements often force property personnel to purchase large quantities, usually a 1-year supply of a material at any given time, sometimes exceeding storage capacity. Excess material is routinely stored in the most convenient place. Recent emphasis on timber management and control of exotics has resulted in properties purchasing larger than historic levels of hazardous chemicals including tree marking paint and herbicides, exceeding the capacity of the flammable liquid storage cabinets. Although most property personnel are trained and licensed pesticide applicators, some are not aware of the storage requirement. _____ _____	
<b>2) CORRECTIVE ACTION BY COMPANY</b> – Based on the Root Cause Analysis, the following action has been planned/taken to correct the problem. Please include expected completion date. The Owen-Putnam Property Manager will within one week (or has already) move the materials in question to a suitable storage location. Additional suitable storage facilities will be installed at the site if necessary. _____ _____	
<b>3) PREVENTIVE ACTION BY COMPANY</b> – Based on the Root Cause Analysis, the following action has been planned/taken to correct the problem. Please include expected completion date. Within one month, we will inspect all facilities to determine which properties have insufficient storage space. Those properties without sufficient storage space will be instructed to purchase or construct suitable storage facilities. All licensed pesticide applicators will be required to attend continuing education courses and to refresh their knowledge of pesticide storage requirements. A refresher course is scheduled for December 14, 2007. Employee attendance will be documented in each employee's record of training. _____ _____	
<u>The plan comprehensively addresses the non-conformance. Implementation of some aspects was immediate, which is appropriate; other actions will take longer. Overall implementation will be reviewed during the 2008 audit.</u>	
STATUS: <u>Open</u>	AUDITOR/DATE: <u>Michael Ferrucci 11-27-07</u>
<b>AUDITOR REVIEW OF COMPANY'S COMPLETED ACTION:</b>	
_____	
STATUS: _____ AUDITOR/DATE: _____	

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**Corrective and Preventive Action Request (CAR)**

Company/Location: <u>Indiana State Forests</u>	Date: <u>November 2, 2006</u> FRS # <u>6L841</u>
Auditor: <u>Mike Ferrucci</u>	CAR Number: <u>SFI-2006-01</u>
Location of Finding: <u>Overall</u>	Previous CAR Number/Date: _____
Discussed with: <u>John Seifert, others</u>	Nonconformance Type (underline): Major <u>Minor</u>
<b>AUDITOR FINDING:</b> Standard Number and Clause: SFIS Indicators <u>2.3.4, 2.3.6, 3.1.3</u> require ...	
Description: <u>Although overall implementation of Best Management Practices (BMPs) throughout the Indiana State Forest System is superb, at one site visited during the audit an active harvest was causing significant, undesirable site disturbance that included soil compaction, rutting, and soil displacement. Post harvest conditions in this case will not be conducive to maintaining site productivity (2.3.4) and definitions of acceptable operating conditions (3.1.3) were not implemented effectively. Further, throughout the system the definition of acceptable rutting (2.3.6) is not clear nor consistently applied.</u>	
<b>IF NECESSARY, PLEASE ATTACH A SEPARATE REPORT ADDRESSING THE FOLLOWING THREE ITEMS:</b>	
<p><b>1) ROOT CAUSE ANALYSIS BY COMPANY</b>—Include potential causes &amp; assurance problem does not exist in other areas.  <u>Logger started work on harvest after a period of wet weather before state forest staff had inspected the site for ability to sustain operations. Upon reaching the site a state forest staff member closed operations down, but not before excessive damage was caused by skidding in the wet ground conditions. The Division monitors the daily logging activities on all active harvesting sites. The logging contractors are required to give notice of beginning, temporary shut down and completion to the Division. So, that standard 2.3 is not violated. The Division's logging contract requires that all logging operations abide by the Indiana BMP standards. To our knowledge, this was a rare event. Also, the site presented a unique situation because of the salvage operation of both hardwood and conifers.</u></p>	
<p><b>2) CORRECTIVE ACTION BY COMPANY</b> – Based on the Root Cause Analysis, the following action has been planned/taken to correct the problem. Please include expected completion date.  <u>The site has been water barred, leveled and seeded as per BMP protocol ( Completed December 5 2006). In the future we will require that at least one member of a logging crew (preferably supervisor/foreman) has taken logger training. Provide additional training for state forest contractors. Completion expected September 1, 2007. In the event that this happens again, we will require remedial corrective action, a stop work order on the logging operation and the expectation that the logger's bond could be forfeited. Furthermore, as stated under Exceptional Practices, the Division has a thorough BMP monitoring program. Although we strive for 100% compliance with BMPs, occasionally a logger or unusual weather or soil conditions will result in damage outside the acceptable range. The BMP monitoring program already in place will identify these occasional deficiencies and corrective actions will be taken.</u></p>	
<p><b>3) PREVENTIVE ACTION BY COMPANY</b> – Based on the Root Cause Analysis, the following action has been planned/taken to correct the problem. Please include expected completion date.  <u>Require members of the logging crew to have some minimum level of BMP training. Training will place emphasis on decision making on operable logging conditions. We will create and maintain a database of training participants, and provide proof of training participation. The Division is currently working with the Indiana Hardwood Lumbermen's Association, Indiana Forest Industry Council and the Indiana Woodland Owners Association to restart the SFI Implementation Committee, set up training programs and partnering on statewide minimum best management practices as well as certification for loggers under revised BMP protocols'. Completion expected: Begin immediately with on going implementation- continuous improvement process. The next revision of the State Forest Procedures Manual to be completed by August 1, 2007 will include a definition of acceptable rutting.</u></p>	
<b>AUDITOR REVIEW OF COMPANY'S PLAN:</b>	
<u>The plan outlined above, including corrective and preventive actions, is responsive. The most time-sensitive corrective actions have been implemented (BMPs installed as of 12.5.06). The plan will be verified during the 2007 Surveillance Audit.</u>	
STATUS: <u>Open</u>	AUDITOR/DATE: <u>Mike Ferrucci 12.21.2006</u>
<b>AUDITOR REVIEW OF COMPANY'S COMPLETED ACTION:</b>	
<u>Review of photos and discussions with staff confirmed that the site was stabilized. CAR SFI-2006-04 covers the logger training requirement. The non-conformance is closed.</u>	
STATUS: <u>Closed</u>	AUDITOR/DATE: <u>Mike Ferrucci 11-08-07</u>

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**Corrective and Preventive Action Request (CAR)**

Company/Location: <u>Indiana State Forests</u>	Date: <u>November 2, 2006</u> FRS # <u>6L841</u>
Auditor: <u>Mike Ferrucci</u>	CAR Number: <u>SFI-2006-02</u>
Location of Finding: <u>Field and central office</u>	Previous CAR Number/Date: _____
Discussed with: <u>Field staff, John Seifert</u>	Nonconformance Type (underline): Major <b><u>Minor</u></b>
<p><b>AUDITOR FINDING:</b> Standard Number and Clause: <u>SFIS Indicator 4.1.4 Development and implementation of criteria, as guided by regionally appropriate science, for retention of stand-level wildlife habitat elements (e.g., snags, mast trees, down woody debris, den trees, nest trees).</u></p> <p>Description: <u>Although attention to snags and mast trees is superb, there are no criteria for other aspects of stand-level retention such as clumped or dispersed green tree retention or cavity trees, particularly in openings.</u></p>	
<p><b>IF NECESSARY, PLEASE ATTACH A SEPARATE REPORT ADDRESSING THE FOLLOWING THREE ITEMS:</b></p> <p><b>1) ROOT CAUSE ANALYSIS BY COMPANY</b>—Include potential causes &amp; assurance problem does not exist in other areas.</p> <p><i>Historical opening size has averaged one acre. At these small sizes, nearness of edge around opening negated the need for green tree retention. Given the small nature of the opening, there were no policy standards for green tree retention. Also, the Division has received minimal input from our sister agency, the Division of Fish and Wildlife. A, minimal amount of research has been done in this region as it relates to noted SFI indicator.</i></p>	
<p><b>2) CORRECTIVE ACTION BY COMPANY</b> – Based on the Root Cause Analysis, the following action has been planned/taken to correct the problem. Please include expected completion date.</p> <p><i>Review literature/contact wildlife biologists (university, state, NGO) to determine recommendations for wildlife habitat elements, particularly green tree retention in large openings and cavity trees. Provide recommendations to field staff, possibly through training. Incorporate recommendations in State Forest Procedures Manual. Completion expected August 1, 2007.</i></p>	
<p><b>3) PREVENTIVE ACTION BY COMPANY</b> – Based on the Root Cause Analysis, the following action has been planned/taken to correct the problem. Please include expected completion date.</p> <p><i>The Division of Forestry plans to hire a full time non-game wildlife biologist that can provide system wide wildlife planning as well as provide wildlife planning at each state forest level. Special emphasis will be placed on non-game species diversity and sustainability. Completion date September 30, 2007.</i></p>	
<p><b>AUDITOR REVIEW OF COMPANY’S PLAN:</b>  <u>The plan outlined above, including corrective and preventive actions, is responsive. The plan will be verified during the 2007 Surveillance Audit.</u></p>	
STATUS: <u>Open</u>	AUDITOR/DATE: <u>Mike Ferrucci 12.21.2006</u>
<p><b>AUDITOR REVIEW OF COMPANY’S COMPLETED ACTION:</b>  <u>The preventive plan is well underway with the hiring of a wildlife biologist on September 24, 2007, with significant work done on the state wildlife strategy and a draft set of retention guidelines. The guidelines are based on existing research and information on species of concern, with more extensive long-term research being funded. Meanwhile the guidelines were not, as of the surveillance audit, finalized or implemented. Expected completion first quarter 2008.</u></p>	
STATUS: <u>Closed</u>	AUDITOR/DATE: <u>Mike Ferrucci, Nov. 6, 2007</u>

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**Corrective and Preventive Action Request (CAR)**

Company/Location: <u>Indiana State Forests</u>	Date: <u>November 2, 2006</u> FRS # <u>6L841</u>
Auditor: <u>Mike Ferrucci</u>	CAR Number: <u>SFI-2006-03</u>
Location of Finding: <u>Field and central office</u>	Previous CAR Number/Date: _____
Discussed with: <u>Field staff, John Seifert</u>	Nonconformance Type (underline): Major <u>Minor</u>
<b>AUDITOR FINDING:</b> Standard Number and Clause: <u>SFIS Indicator 4.2.2 A methodology to incorporate research results and field applications of biodiversity and ecosystem research into forest management decisions.</u>	
Description: <u>In many cases knowledge of biodiversity and landscape scale issues is not as well-developed as would be expected given the emerging broader goals and objectives for Indiana's State Forests. There was no evidence of a methodology to meet the requirement.</u>	
<b>IF NECESSARY, PLEASE ATTACH A SEPARATE REPORT ADDRESSING THE FOLLOWING THREE ITEMS:</b>	
<b>1) ROOT CAUSE ANALYSIS BY COMPANY</b> —Include potential causes & assurance problem does not exist in other areas. <u>There is limited knowledge/understanding of regional biodiversity and landscape issues. Ecosystem management training of about a dozen years ago started this direction, but there was little follow-up. Also there is a lack of input from other disciplines (biologist, ecologist) that would provide possible guidance in this area.</u>	
<b>2) CORRECTIVE ACTION BY COMPANY</b> – Based on the Root Cause Analysis, the following action has been planned/taken to correct the problem. Please include expected completion date. <u>Review literature/contact wildlife biologists/ecologists (State, university, NGO) to determine recommendations for landscape/biodiversity issues. Provide recommendations to field staff, possibly through field training. Completion expected August 1, 2007.</u>	
<b>3) PREVENTIVE ACTION BY COMPANY</b> – Based on the Root Cause Analysis, the following action has been planned/taken to correct the problem. Please include expected completion date. <u>Wildlife biologist action the same as CAR 2006-02. Contact ecologist(s)/biologist(s) from university/NGO – regular consultation to determine issues and recommendations. Professionals will be required to complete 1-2 training programs per year to develop a better understanding of biodiversity and landscape level issues. The Division has entered into an informal arrangement with the Department of Forestry and Natural Resources Extension Section at Purdue University to provide four professional training programs per year. Begun and ongoing annually.</u>	
<b>AUDITOR REVIEW OF COMPANY'S PLAN:</b>	
<u>The plan outlined above, including corrective and preventive actions, is responsive. Many elements of the corrective plan are the same as for CAR SFI 2006-02. The plan will be verified during the 2007 Surveillance Audit.</u>	
STATUS: <u>Open</u> AUDITOR/DATE: <u>Mike Ferrucci 12.21.2006</u>	
<b>AUDITOR REVIEW OF COMPANY'S COMPLETED ACTION:</b>	
<u>The corrective action plan was confirmed during the 2007 Surveillance audit by review of documentation of research meetings, by interviews with central office staff who organized and presented, and by field staff who attended training that connected research to their assigned responsibilities.</u>	
STATUS: <u>Closed</u> AUDITOR/DATE: <u>Mike Ferrucci 11-07-07</u>	

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**Corrective and Preventive Action Request (CAR)**

Company/Location: <u>Indiana State Forests</u>	Date: <u>November 2, 2006</u> FRS # <u>6L841</u>
Auditor: <u>Mike Ferrucci</u>	CAR Number: <u>SFI-2006-04</u>
Location of Finding: <u>Field and central office</u>	Previous CAR Number/Date: _____
Discussed with: <u>Field staff, John Seifert</u>	Nonconformance Type (underline): Major <u>Minor</u>
<b>AUDITOR FINDING:</b> Standard Number and Clause: <u>SFI Indicator 10.1.4: Contractor education and training sufficient to their roles and responsibilities.</u>	
Description: <u>There is no training requirement for logging contractors.</u>	
<b>IF NECESSARY, PLEASE ATTACH A SEPARATE REPORT ADDRESSING THE FOLLOWING 3 ITEMS:</b>	
<b>1) ROOT CAUSE ANALYSIS BY COMPANY</b> —Include potential causes & assurance problem does not exist in other areas. <u>Historically logger training in Indiana has been voluntary. State forests have viewed, as part of their mission, dissemination of information on good harvesting practices. Consequently untrained contractors were viewed as a training opportunity. Recent increases in work loads results in field staff having insufficient time to work with operators as in the past.</u>	
<b>2) CORRECTIVE ACTION BY COMPANY</b> – Based on the Root Cause Analysis, the following action has been planned/taken to correct the problem. Please include expected completion date. <u>Require that at least one member of a logging crew (preferably supervisor/foreman) has taken logger training. Provide additional training for state forest contractors. Completion expected September 30, 2007.</u>	
<b>3) PREVENTIVE ACTION BY COMPANY</b> – Based on the Root Cause Analysis, the following action has been planned/taken to correct the problem. Please include expected completion date. <u>Require that the supervisor of the logging crew is BMP compliant and understands the SFI standards. Create and maintain database of training participants, and provide proof of training participation. Completion expected December 30, 2007. DoF will propose legislation this winter to require mandatory BMP on both public and private forest lands. The Division plans to reactivate the SFI Implementation Committee.</u>	
<b>AUDITOR REVIEW OF COMPANY’S PLAN:</b>	
<u>The plan outlined above, including corrective and preventive actions, is responsive. Absent an active Indiana SIC there will be challenges developing training programs. The auditors will focus on “appropriate training” in reviewing implementation. The plan will be verified during the 2007 Surveillance Audit.</u>	
STATUS: <u>Open</u> AUDITOR/DATE: <u>Mike Ferrucci 12.21.2006</u>	
<b>AUDITOR REVIEW OF COMPANY’S COMPLETED ACTION:</b>	
<u>At the opening meeting Indiana Division of Forestry indicated that they had not incorporated logging training requirements into the contract template as intended in the above CAP. During the course of the audit staff determined that sufficient loggers were already formally trained to incorporate a training requirement into the contract. State Forester Jack Siefert made this provision official on the last day of the audit, and the CAP is sufficiently implemented to close the CAR.</u>	
STATUS: <u>Closed</u> AUDITOR/DATE: <u>Mike Ferrucci 11-07-07</u>	

**STATUS LEGEND:** OPEN =CA Plan Accepted CLOSED =CA implemented, verified & accepted REJECTED =CA Plan or Implementation rejected

## Appendix III



# Public SFI Surveillance Audit Report

The SFI Program of the Indiana Division of Forestry has achieved continuing conformance with the SFI Standard®, 2005-2009 Edition, according to the NSF-ISR SFIS Certification Audit Process. NSF-ISR initially certified Indiana Division of Forestry to the SFIS on January 3, 2007. This report describes the first annual follow-up Surveillance Audit designed to focus on changes in the standard, changes in operations, the management review system, and efforts at continuous improvement. In addition, a subset of SFI requirements were selected for detailed review. The program is being audited under the standard audit approach. The next Surveillance Audit is scheduled for November, 2008.

The Indiana Division of Forestry is responsible for management of the state forest system.

*“The Indiana state forest system consists of about 150,000 acres in 10 administrative units, located in 29 different counties within the state. The administrative units range in size from 300 acres to 50,000 acres and are primarily located in the southern one half of Indiana. Indiana’s Division of Forestry Properties contain about 3% of the total forestland in Indiana; most of the remainder is in private ownership. Each Indiana Division of Forestry Property is managed as a multiple-use facility, providing numerous benefits including timber production, forest management demonstration areas, outdoor recreation, wildlife habitat and watershed protection through an integrated management program. The Indiana State Forest system was established in 1903 and has been actively managed to provide the above benefits continuously since that time.”*

Source: The Indiana Division of Forestry and the Indiana Bat 2005 Status (White Paper draft 11-21-05)

### **SFIS Audit Process**

The audit was performed by NSF-ISR on November 6-8, 2007 by an audit team headed by Mike Ferrucci, Lead Auditor and including Dave Wager. Audit team members fulfill the qualification criteria for conducting SFIS Certification Audits contained in the Sustainable Forestry Initiative® Audit Procedures and Qualifications (SFI APQ) 2005–2009 Edition. The objective of the audit was to assess continuing conformance of the firm’s SFI Program to the requirements of the Sustainable Forestry Initiative® Standard, 2005-2009 Edition. The scope of the SFIS Audit included the entire state forest system, but this review included field sites at four state forests: Owen-Putnam State Forest, Green-Sullivan State Forest, Pike State Forest, and Ferdinand State Forest. Forest practices that were the focus of field inspections included those that have been under active management over the past three years, in order to include planned, ongoing, and completed operations. Practices conducted earlier were also reviewed as appropriate (regeneration and BMP issues, for example).

Several of the SFI Performance Measures were outside of the scope of the Indiana Division of Forestry's SFI program and were excluded from the scope of the SFI Certification Audit as follows:

- Indicator 2.1.5: Planting is not done to change forest composition but to maintain it.
- Objective 8: Indiana Division of Forestry is not involved in forest procurement

No indicators were modified; the default indicators in the SFI Standard were utilized.

The review was governed by a detailed audit protocol designed to enable the audit team to determine conformance with the applicable SFI requirements. The process included the assembly and review of audit evidence consisting of documents, interviews, and on-site inspections of ongoing or completed forest practices. Documents describing these activities were provided to the auditor in advance, and a sample of the available audit evidence was designated by the auditor for review.

The possible findings of the audit include 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**

Indiana Division of Forestry's SFI Program was found to be in full conformance with the SFIS Standard. The NSF-ISR SFI Certification Audit Process determined that there were 3 minor non-conformances that are described herein:

1. SFIS Indicator 4.1.4 requires "Development and implementation of criteria, as guided by regionally appropriate science, for retention of stand-level wildlife habitat elements (e.g., snags, mast trees, down woody debris, den trees, nest trees)." Criteria for stand level wildlife habitat elements (based on available science) have been drafted but not approved or fully implemented. Training has begun, but field foresters are not yet fully applying the draft standards.
2. SFIS Indicator 3.1.1 requires a "Program to implement state or provincial BMPs during all phases of management activities." At Ferdinand State Forest Compartment 4 Tract 7 an ephemeral stream was crossed in three places, was disturbed by harvest activities, and was blocked in one place by a berm intended to reestablish the stream channel at the primary crossing. Page 35 of Indiana Logging and Forestry Best Management Practices includes under general guidelines for ephemeral streams "minimize soil disturbance, crossings and channel blockages".
3. SFIS Indicator 2.2.6: At the Owen Putnam State Forest Headquarters chemicals were stored inside and outside (on top of) a lockable, dedicated metal but unvented "flammable liquid storage cabinet" within a garage/workshop adjacent to the work area of an employee.

Indiana Division of Forestry has developed plans to address these issues. Progress in implementing these corrective action plans will be reviewed in subsequent surveillance audits.

All of the previous non-conformances were resolved by Indiana Division of Forestry and closed:

1. SFI-2006-1: SFIS Indicators 2.3.4, 2.3.6, 3.1.3 require protections for soils during logging. These protections are generally superb. However, one BMP-nonconformance site was observed that illustrated the lack of clear criteria for protection of site productivity and lack of implementation of protocol for weather events. Indiana Division of Forestry resolved this issue by grading the site, installing water-bars, and seeding.
2. SFI-2006-2: SFIS Indicator 4.1.4 requires criteria for stand-level diversity retention. Although snags and mast trees are protected there were no criteria for retention of green-trees or cavity trees, which should be considered in all harvests including openings. An interim approach has been drafted, with full implementation scheduled for 2008.
3. SFI-2006-3: SFIS Indicator 4.2.2 requires a methodology to incorporate research results and field applications of biodiversity and ecosystem research into forest management decisions. Although Indiana Division of Forestry resource managers and staff have excellent educational backgrounds and impressive experience levels there had been no formal process to ensure they are kept current, and knowledge gaps do exist in this area. During the 2007 Surveillance Audit evidence was provided for an impressive list of training and research-related activities.
4. SFI-2006-4: SFI Indicator 10.1.4 requires contractor education and training sufficient to their roles and responsibilities. Indiana Division of Forestry recently changed its timber sale contract to require some training for logging contractors.

Two opportunities for improvement were also identified:

- 10.1.3: There is an opportunity to improve the system for record-keeping on training.
- 13.1.3: There is an opportunity to improve ongoing methods for SFI-specific management review.

Opportunities for improvement do not indicate a current deficiency, but served to alert Indiana Division of Forestry to areas that could be strengthened or which could merit future attention.

### **Exceptional Practices:**

NSF-ISR identified the following areas where forestry practices and operations on Indiana Division of Forestry's lands were found to exceed the basic requirements of the SFI Standard:

- Indicator 2.3.1: Soils maps and use of information from them exceed requirements.
- Indicator 2.3.5: Silvicultural practices throughout the forests are superb.
- Indicator 2.3.7: Roads are exceptionally well designed, constructed, and maintained.
- Indicator 3.1.4: The program for monitoring of BMP use and effectiveness is the strongest the team has seen.

## **Relevance of Forestry Certification**

Third-party certification provides assurance that forests are being managed under the principles of sustainable forestry, which are described in the Sustainable Forestry Initiative Standard as:

### **1. Sustainable Forestry**

To practice sustainable forestry to meet the needs of the present without compromising the ability of future generations to meet their own needs by practicing a land stewardship ethic that integrates reforestation and the managing, growing, nurturing, and harvesting of trees for useful products with the conservation of soil, air and water quality, biological diversity, wildlife and aquatic habitat, recreation, and aesthetics.

### **2. Responsible Practices**

To use and to promote among other forest landowners sustainable forestry practices that are both scientifically credible and economically, environmentally, and socially responsible.

### **3. Reforestation and Productive Capacity**

To provide for regeneration after harvest and maintain the productive capacity of the forestland base.

### **4. Forest Health and Productivity**

To protect forests from uncharacteristic and economically or environmentally undesirable wildfire, pests, diseases, and other damaging agents and thus maintain and improve long-term forest health and productivity.

### **5. Long-Term Forest and Soil Productivity**

To protect and maintain long-term forest and soil productivity.

### **6. Protection of Water Resources**

To protect water bodies and riparian zones.

### **7. Protection of Special Sites and Biological Diversity**

To manage forests and lands of special significance (biologically, geologically, historically or culturally important) in a manner that takes into account their unique qualities and to promote a diversity of wildlife habitats, forest types, and ecological or natural community types.

### **8. Legal Compliance**

To comply with applicable federal, provincial, state, and local forestry and related environmental laws, statutes, and regulations.

### **9. Continual Improvement**

To continually improve the practice of forest management and also to monitor, measure and report performance in achieving the commitment to sustainable forestry.

*Source: Sustainable Forestry Initiative® (SFI) Standard, 2005–2009 Edition*

### **For Additional Information Contact:**

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**Appendix IV**



**Audit Matrix**

NSF-ISR auditors use this document to record their findings for each SFIS Performance Measure and Indicator. If a non-conformance is found the auditor shall fully document the reasons on the Corrective Action Request (CAR) form. N/A in the Auditor column indicates that the associated Performance Measure or Indicator does not apply. Findings are indicated by a date or date code: Audit Date 2006 Date Code **6 November 2007 Code 7**  
 IDOF = Indiana Division of Forestry MF= Mike Ferrucci DW = Dave Wager

**Objective 1: To broaden the implementation of sustainable forestry by ensuring long-term harvest levels based on the use of the best scientific information available.**

Performance Measure/ Indicator		Audit- or	- - - Indicate Only One - - -				OFI
			FC	EXR	Maj	Min	
<b>1.1</b>	<b><i>Program Participants shall ensure that long-term harvest levels are sustainable and consistent with appropriate growth and-yield models and written plans.</i></b>	MF	6, 7				
1.1.1	A long-term resource analysis to guide forest management planning at a level appropriate to the size and scale of the operation, including: a. a periodic or ongoing forest inventory; b. a land classification system; c. soils inventory and maps, where available; d. access to growth-and-yield modeling capabilities; e. up-to-date maps or a geographic information system (GIS); f. recommended sustainable harvest levels; and g. a review of nontimber issues (e.g., pilot projects and economic incentive programs to promote water protection, carbon storage, or biological diversity conservation).	MF	6, 7				
1.1.2	Documentation of annual harvest trends in relation to the sustainable forest management plan.	MF	6, 7				
1.1.3	A forest inventory system and a method to calculate growth.	MF	6, 7				
1.1.4	Periodic updates of inventory and recalculation of planned harvests.	MF	6, 7				
1.1.5	Documentation of forest practices (e.g., planting, fertilization, and thinning) consistent with assumptions in harvest plans.	MF	6, 7				

**Objective 2: To ensure long-term forest productivity and conservation of forest resources through prompt reforestation, soil conservation, afforestation and other measures.**

Performance Measure/ Indicator		Audit -or	- - - Indicate Only One - - -				OFI
			FC	EXR	Maj	Min	
<b>2.1</b>	<b><i>Program Participants shall reforest after final harvest, unless delayed for site-specific environmental or forest health considerations, through artificial regeneration within two years or two planting seasons, or by planned natural regeneration methods within five years.</i></b>	MF	6, 7				
2.1.1	Designation of all management units for either natural or artificial regeneration.	MF	6, 7				
2.1.2	Clear Requirements to judge adequate regeneration and appropriate actions to correct under-stocked areas and achieve desired species composition and stocking rates for both artificial and natural regeneration	MF	6, 7				
2.1.3	Minimized plantings of exotic tree species and research documentation that exotic tree species, planted operationally, pose minimal risk.	MF	6, 7				
2.1.4	Protection of desirable or planned advanced natural regeneration during harvest.	MF	6, 7				
2.1.5	Artificial reforestation programs that consider potential ecological impacts of a different species or species mix from that which was harvested.	N.A.					
<b>2.2</b>	<b><i>Program Participants shall minimize chemical use required to achieve management objectives while protecting employees, neighbors, the public and the forest environment.</i></b>	MF	6				
2.2.1	Minimized chemical use required to achieve management objectives.	MF	6				
2.2.2	Use of least toxic and narrowest spectrum pesticide narrowest spectrum and least toxic pesticides necessary to achieve management objective.	MF	6, 7				
2.2.3	Use of pesticides registered for the intended use and applied in accordance with the label requirements.	MF	6				
2.2.4	Use of Integrated Pest Management where feasible.	MF	6				
2.2.5	Supervision of forest chemical applications by state-trained or certified applicators.	MF	6, 7				

Performance Measure/ Indicator		Audit -or	--- Indicate Only One ---				OFI
			FC	EXR	Maj	Min	
2.2.6	Use of best management practices appropriate to the situation; for example: adjoining landowners or nearby residents notified of applications and chemicals used; appropriate multi-lingual signs or oral warnings used; public road access controlled during and after applications; streamside and other needed buffer strips appropriately designated; positive shut-off and minimal drift spray valves used; drift minimized by aerially applying forest chemicals parallel to buffer zones; water quality monitored or other methods used to assure proper ...	MF	6			7	
2.2.6	...equipment use and stream protection of streams, lakes and other waterbodies; chemicals stored at appropriate locations; state reports filed as required; or methods used to ensure protection of federally listed threatened & endangered species						
<b>2.3</b>	<b><i>Program Participants shall implement management practices to protect and maintain forest and soil productivity.</i></b>	MF	6, 7				
2.3.1	Use of soils maps where available.	MF		6, 7			
2.3.2	Process to identify soils vulnerable to compaction and use of appropriate methods to avoid excessive soil disturbance.	MF	6, 7				
2.3.3	Use of erosion control measures to minimize the loss of soil and site productivity.	MF	6, 7				
2.3.4	Post-harvest conditions conducive to maintaining site productivity (e.g., limited rutting, retained down woody debris, minimized skid trails).	MF	7			6	
2.3.5	Retention of vigorous trees during partial harvesting, consistent with silvicultural norms for the area.	MF		6, 7			
2.3.6	Criteria that address harvesting and site preparation to protect soil productivity.	MF	7			6	
2.3.7	Minimized road construction to meet management objectives efficiently.			6, 7			
<b>2.4</b>	<b><i>Program Participants shall manage so as to protect forests from damaging agents such as environmentally or economically undesirable wildfire, pests and diseases to maintain and improve long-term forest health, productivity and economic viability.</i></b>	MF	6				
2.4.1	Program to protect forests from damaging agents.	MF	6				
2.4.2	Management to promote healthy and productive forest conditions to minimize susceptibility to damaging agents.	MF	6, 7				

Performance Measure/ Indicator		Audit -or	--- Indicate Only One ---				OFI
			FC	EXR	Maj	Min	
2.4.3	Participation in, and support of, fire and pest prevention and control programs.	MF	6				
2.5	<b><i>Program Participants that utilize genetically improved planting stock including those derived through biotechnology shall use sound scientific methods and follow all applicable laws and other internationally applicable protocols.</i></b>	MF	6				
2.5.1	Program for appropriate research, testing, evaluation and deployment of genetically improved planting stock including trees derived through biotechnology.	MF	6				

**Objective 3: To protect water quality in streams, lakes and other water bodies.**

Performance Measure/ Indicator		Audit -or	--- Indicate Only One ---				OFI
			FC	EXR	Maj	Min	
3.1	<b><i>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 Environmental Protection Agency (EPA)-approved state water quality programs other applicable federal, provincial, state or local programs.</i></b>		6				
3.1.1	Program to implement state or provincial equivalent BMPs during all phases of management activities.	MF, DW	6			7	
3.1.2	Contract provisions that specify BMP compliance.	MF	6, 7				
3.1.3	Plans that address wet weather events (e.g., inventory systems, wet weather tracts, defining acceptable operational conditions, etc.).					6	
3.1.4	Monitoring of overall BMP implementation.	MF		6, 7			
3.2	<b><i>Program Participant shall have or develop, implement, and document, riparian protection measures based on soil type, terrain, vegetation and other applicable factors.</i></b>	MF, DW					
3.2.1	Program addressing management and protection of streams, lakes and other water bodies and riparian zones.		6				
3.2.2	Mapping of streams, lakes and other water bodies and riparian zones, and where appropriate, identification on the ground.	MF	6, 7				
3.2.3	Implementation of plans to manage or protect streams, lakes and other water bodies.	MF, DW	6, 7				

Performance Measure/ Indicator		Audit -or	--- Indicate Only One ---				OFI
			FC	EXR	Maj	Min	
3.2.4	Identification and protection of nonforested wetlands, including bogs, fens, vernal pools and marshes of significant size.		6				
3.2.5	Where regulations or BMPs do not currently exist to protect riparian areas, use of experts to identify appropriate protection measures.	Not applicable					

**Objective 4: 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 habitat diversity and the conservation of forest plants and animals including aquatic fauna.**

Performance Measure/ Indicator		Audit -or	--- Indicate Only One ---				OFI
			FC	EXR	Maj	Min	
<b>4.1</b>	<b><i>Program participants shall have programs to promote biological diversity at stand- and landscape- scales.</i></b>	MF, DW	6, 7				
4.1.1	Program to promote the conservation of native biological diversity, including species, wildlife habitats, and ecological or natural community types, at stand and landscape levels.	MF, DW	6, 7				
4.1.2	Program to protect threatened and endangered species.	MF, DW	6, 7				6
4.1.3	Plans to locate and protect known sites associated with viable occurrences of critically imperiled and imperiled species and communities. 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	MF, DW	6, 7				
4.1.4	Development and implementation of criteria, as guided by regionally appropriate science, for retention of stand-level wildlife habitat elements (e.g., snags, mast trees, down woody debris, den trees, nest trees).	MF, DW				6, 7	
4.1.5	Assessment, conducted individually or collaboratively, of forest cover types and habitats at the individual ownership level and, where credible data are available, across the landscape, and incorporation of findings into planning and management activities, where practical and when consistent with management objectives.	DW, MF	6, 7				
4.1.6	Support of and participation in plans or programs for the conservation of old-growth forests in the region of ownership.	DW, MF	6, 7				

Performance Measure/ Indicator		Audit -or	--- Indicate Only One ---				OFI
			FC	EXR	Maj	Min	
4.1.7	Participation in programs and demonstration of activities as appropriate to limit the introduction, impact, and spread of invasive exotic plants and animals that directly threaten or are likely to threaten native plant and animal communities.	DW, MF	6, 7				
4.1.8	Program to incorporate the role of prescribed or natural fire where appropriate.	DW, MF	6, 7				6
<b>4.2</b>	<b><i>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.</i></b>		6				
4.2.1	Collection of information on critically imperiled and imperiled species and communities 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 nonproprietary scientific information, time, and assistance by staff, or in-kind or direct financial support.		6				
4.2.2	A methodology to incorporate research results and field applications of biodiversity and ecosystem research into forest management decisions.	DW, MF	7			6	

**Objective 5: To manage the visual impact of harvesting and other forest operations.**

Performance Measure/ Indicator		Audit -or	--- Indicate Only One ---				OFI
			FC	EXR	Maj	Min	
<b>5.1</b>	<b><i>Program Participants shall manage the impact of harvesting on visual quality.</i></b>	MF	6, 7				
5.1.1	Program to address visual quality management.	MF	6, 7				
5.1.2	Incorporation of aesthetic considerations in harvesting, road, landing design and management, and other management activities where visual impacts are a concern.	MF	6, 7				
<b>5.2</b>	<b><i>Program Participants shall manage the size, shape, and placement of clearcut harvests.</i></b>		6				
5.2.1	Average size of clearcut harvest areas does not exceed 120 acres, except when necessary to respond to forest health emergencies or other natural catastrophes.	MF	6, 7				
5.2.2	Documentation through internal records of clearcut size and the process for calculating average size.	MF	6				

Performance Measure/ Indicator		Audit -or-	--- Indicate Only One ---				OFI
			FC	EXR	Maj	Min	
5.3	<i>Program Participants shall adopt a green-up requirement or alternative methods that provide for visual quality.</i>		6				
5.3.1	Program implementing the green-up requirement or alternative methods.		6				
5.3.2	Harvest area tracking system to demonstrate compliance with the green-up requirement or alternative methods.		6				
5.3.3	Trees in clearcut harvest areas are at least 3 years old or 5 feet 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.		6				

**Objective 6: To manage Program Participant lands that are ecologically, geologically, historically, or culturally important in a manner that recognizes their special qualities.**

Performance Measure/ Indicator		Audit -or	--- Indicate Only One ---				OFI
			FC	EXR	Maj	Min	
<b>6.1.</b>	<b><i>Program Participants shall identify special sites and manage them in a manner appropriate for their unique features.</i></b>	DW, MF	6, 7				
6.1.1	Use of existing natural heritage data and expert advice in identifying or selecting sites for protection because of their ecologically, geologically, historically, or culturally important qualities.	MF	6, 7				
6.1.2	Appropriate mapping, cataloging, and management of identified special sites.	DW, MF	6, 7				

**Objective 7: To promote the efficient use of forest resources.**

Performance Measure/ Indicator		Audit -or	--- Indicate Only One ---				OFI
			FC	EXR	Maj	Min	
<b>7.1</b>	<b><i>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.</i></b>	MF	6, 7				
7.1.1	Program or monitoring system to ensure efficient utilization, which may include provisions to ensure a. landings left clean with little waste; b. residues distributed to add organic and nutrient value to future forests; c. training or incentives to encourage loggers to enhance utilization; d. cooperation with mill managers for better utilization of species and low-grade material; e. merchandizing of harvested material to ensure use for its most beneficial purpose; f. development of markets for underutilized species and low-grade wood; g. periodic inspections and reports noting utilization and product separation; or h. exploration of alternative markets (e.g., energy markets).	MF	6, 7				

**Not applicable Objective 8: To broaden the practice of sustainable forestry through procurement programs. Procurement from sources within the United States and Canada (8.1–8.4 apply)**

**Objective 9: To improve forestry research, science, and technology, upon which sound forest management decisions are based.**

Performance Measure/ Indicator		Audit -or	- - - Indicate Only One - - -				OFI
			FC	EXR	Maj	Min	
<b>9.1</b>	<i>Program Participants shall individually, through cooperative efforts, or through associations provide in-kind support or funding, in addition to that generated through taxes, for forest research to improve the health, productivity, and management of forest resources.</i>		6				
9.1.1	Current financial or in-kind support of research to address questions of relevance in the region of operations. The research will include some or all of the following issues: a. forest health, productivity, and ecosystem functions; b. chemical efficiency, use rate, and integrated pest management; c. water quality; d. wildlife management at stand or landscape levels; e. conservation of biological diversity; and f. effectiveness of BMPs.		6				
<b>9.2</b>	<i>Program Participants shall individually, through cooperative efforts, or through associations develop or use state, provincial, or regional analyses in support of their sustainable forestry programs.</i>		6				
9.2.1	Participation, individually or through cooperative efforts or associations at the state, provincial, or regional level, in the development or use of a. regeneration assessments; b. growth-and-drain assessments; c. BMP implementation and compliance; and d. biodiversity conservation information for family forest owners.		6				

**Objective 10: To improve the practice of sustainable forest management by resource professionals, logging professionals, and contractors through appropriate training and education programs.**

Performance Measure/ Indicator		Audit -or	- - - Indicate Only One - - -				OFI
			FC	EXR	Maj	Min	
<b>10.1</b>	<b><i>Program Participants shall require appropriate training of personnel and contractors so that they are competent to fulfill their responsibilities under the SFI Standard.</i></b>		6				
10.1.1	Written statement of commitment to the SFI Standard communicated throughout the organization, particularly to mill and woodland managers, wood procurement staff, and field foresters.		6				
10.1.2	Assignment and understanding of roles and responsibilities for achieving SFI Standard objectives.	MF	6, 7				
10.1.3	Staff education and training sufficient to their roles and responsibilities.	MF	7				6
10.1.4	Contractor education and training sufficient to their roles and responsibilities.	MF	7			6	
<b>10.2</b>	<b><i>Program Participants shall work closely with state logging or forestry associations, or appropriate agencies or others in the forestry community, to foster improvement in the professionalism of wood producers.</i></b>	MF	6, 7				
10.2.1	Participation in or support of SFI Implementation Committees to establish criteria and identify delivery mechanisms for wood producers' training courses that address a. awareness of sustainable forestry principles and the SFI Program; b. BMPs, including streamside management and road construction, maintenance, & retirement; c. regeneration, forest resource conservation, and aesthetics; 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. logging safety; f. U.S. Occupational Safety and Health Administration regulations, wage and hour rules, and other employment laws; g. transportation issues; h. business management; and i. public policy and outreach.	MF	6, 7				

**Objective 11: Commitment to comply with applicable federal, provincial, state, or local laws and regulations.**

Performance Measure/ Indicator		Audit -or	- - - Indicate Only One - - -				OFI
			FC	EXR	Maj	Min	
<b>11.1</b>	<b><i>Program Participants shall take appropriate steps to comply with applicable federal, provincial, state, and local forestry and related environmental laws and regulations.</i></b>		6				
11.1.1	Access to relevant laws and regulations in appropriate locations.		6				
11.1.2	System to achieve compliance with applicable federal, provincial, state, or local laws and regulations.	MF	6				
11.1.3	Demonstration of commitment to legal compliance through available regulatory action information.	MF	6				
11.1.4	Adherence to all applicable federal, state, & provincial regulations and international protocols for research & deployment of trees derived from improved planting stock & biotechnology.	NA					
<b>11.2</b>	<b><i>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.</i></b>	MF, DW	6, 7				
11.2.1	Written policy demonstrating commitment to comply with social laws, such as those covering civil rights, equal employment opportunities, antidiscrimination 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.	MF, DW	6, 7				

**Objective 12: To broaden the practice of sustainable forestry by encouraging the public and forestry community to participate in the commitment to sustainable forestry and publicly report progress.**

Performance Measure/ Indicator		Audit -or	--- Indicate Only One ---				OFI
			FC	EXR	Maj	Min	
<b>12.1</b>	<b><i>Program Participants shall support and promote efforts by consulting foresters, state and federal agencies, state or local groups, professional societies, and the American Tree Farm System® and other landowner cooperative programs to apply principles of sustainable forest management.</i></b>			6			
12.1.1	Support for efforts of SFI Implementation Committees.						6
12.1.2	Support for the development and distribution of educational materials, including information packets for use with forest landowners.		6				
12.1.3	Support for the development and distribution of regional or statewide information materials that provide landowners with practical approaches for addressing biological diversity issues, such as specific wildlife habitat, critically imperiled or imperiled species, and threatened and endangered species.		6				
12.1.4	Participation in efforts to support or promote conservation of working forests through voluntary market-based incentive programs (e.g., current-use taxation programs, Forest Legacy, or conservation easements).		6				
12.1.5	Program Participants are knowledgeable about credible regional conservation planning and priority-setting efforts that include a broad range of stakeholders. Consider the results of these efforts in planning where practical and consistent with management objectives.						6
<b>12.2</b>	<b><i>Program Participants shall support and promote, at the state, provincial or other appropriate levels, mechanisms for public outreach, education, and involvement related to forest management.</i></b>		6				
12.2.1	Support for the SFI Implementation Committee program to address outreach, education, and technical assistance (e.g., toll-free numbers, public sector technical assistance programs).	MF	7				6
12.2.2	Periodic educational opportunities promoting sustainable forestry, such as a. field tours, seminars, or workshops; b. educational trips; c. self-guided forest management trails; or d. publication of articles, educational pamphlets, or newsletters; or e. support for state, provincial, and local forestry organizations and soil and water conservation districts.			6			
12.2.3	Recreation opportunities for the public, where consistent with forest management objectives.			6			

Performance Measure/ Indicator		Audit -or	--- Indicate Only One ---				OFI
			FC	EXR	Maj	Min	
<b>12.3</b>	<b><i>Program Participants with forest management responsibilities on public lands shall participate in the development of public land planning and management processes.</i></b>	MF, DW	6, 7				
12.3.1	Involvement in public land planning and management activities with appropriate governmental entities and the public.	MF, DW	6, 7				
12.3.2	Appropriate contact with local stakeholders over forest management issues through state, provincial, federal, or independent collaboration.	MF, DW	6, 7				
<b>12.4</b>	<b><i>Program Participants with forest management responsibilities on public lands shall confer with affected indigenous peoples.</i></b>	NA	6, 7				
12.4.1	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; and c. address the sustainable use of nontimber forest products of value to indigenous peoples in areas where Program Participants have management responsibilities on public lands.	NA	6, 7				6
<b>12.5</b>	<b><i>Program Participants shall establish, at the state, provincial, or other appropriate levels, procedures to address concerns raised by loggers, consulting foresters, employees, the public, or Program Participants regarding practices that appear inconsistent with the SFI Standard principles and objectives.</i></b>	MF	6				
12.5.1	Support for SFI Implementation Committee efforts (toll-free numbers and other efforts) to address concerns about apparent nonconforming practices.	MF	7				6
12.5.2	Process to receive and respond to public inquiries.	MF, DW	6, 7				
<b>12.6</b>	<b><i>Program Participants shall report annually to the SFI Program on their compliance with the SFI Standard.</i></b>	MF	6				
12.6.1*	Prompt response to the SFI annual progress report. (*Note: This indicator will be reviewed in all audits.)	MF	7				
12.6.2	Recordkeeping for all the categories of information needed for SFI annual progress reports.	MF	6, 7				
12.6.3	Maintenance of copies of past reports to document progress and improvements to demonstrate conformance to the SFI Standard						

**Objective 13: To promote continual improvement in the practice of sustainable forestry and monitor, measure, and report performance in achieving the commitment to sustainable forestry.**

Performance Measure/ Indicator		Audit -or	--- Indicate Only One ---				OFI
			FC	EXR	Maj	Min	
<i>13.1*</i>	<i>Program Participants shall establish a management review system to examine findings and progress in implementing the SFI Standard, to make appropriate improvements in programs, and to inform their employees of changes. (*This Performance Measure will be reviewed in all audits.)</i>	MF	6, 7				
13.1.1	System to review commitments, programs, and procedures to evaluate effectiveness.	MF	6, 7				6
13.1.2	System for collecting, reviewing, and reporting information to management regarding progress in achieving SFI Standard objectives and performance measures.	MF	6, 7				
13.1.3	Annual review of progress by management and determination of changes and improvements necessary to continually improve SFI conformance.	MF	6, 7				6, 7

**2007 Surveillance Audit Notes**

Requirement	Finding	Notes
1.1	C	<p><i>“Program Participants shall ensure that long-term harvest levels are sustainable and consistent with appropriate growth and-yield models and written plans.”</i></p>
1.1.1	C	<p>“A long-term resource analysis to guide forest management planning at a level appropriate to the size and scale of the operation, including: a periodic or ongoing forest inventory; b. a land classification system; c. soils inventory and maps, where available; d. access to growth-and-yield modeling capabilities; e. up-to-date maps or a geographic information system (GIS); f. recommended sustainable harvest levels; and g. a review of nontimber issues (e.g., pilot projects and economic incentive programs to promote water protection, carbon storage, or biological diversity conservation).”</p> <ul style="list-style-type: none"> <li>• Reviewed and discussed with staff “Draft Strategic Plan, 2008 – 2013, State Forest Properties Section”</li> <li>• The draft HCP for Indiana bats has not yet been circulated publicly, but will be as soon as the US FWS completes their review.</li> <li>• Strategy for Indiana Bat Habitat has been in the procedures manual since 2001; these “interim guidelines” are somewhat more restrictive than the draft HCP</li> <li>• The Indiana Division of Forestry procedures manual remains in force, and is largely unchanged since 2006 Certification Audit.</li> <li>• Harvest levels are determined for each forest, and field staff continue to struggle to reach their goals. Concerns were expressed about maintaining the quality of work in the face of increasing time demands for production.</li> </ul>
1.1.2	C	<p>“Documentation of annual harvest trends in relation to the sustainable forest management plan.”</p> <ul style="list-style-type: none"> <li>• Sold volumes are documented as follows:  FY 04-05 3.6 million board feet (1433 bf/acre)  FY 05-06 7.7 million board feet (1938 bf/acre)  FY 06-07 10.3 million board feet  FY 07-08 12 million board feet target</li> <li>• The above harvests are consistent with the existing and proposed strategic plans; growth is estimated at 24 million board feet; plan is to cut 50% of growth.</li> </ul>
1.1.3	C	<p>“A forest inventory system and a method to calculate growth.”  “Periodic updates of inventory and recalculation of planned harvests.”</p> <ul style="list-style-type: none"> <li>• FIA (federal) provides some information valid at the level of the entire 150,000 acre state forest system.</li> <li>• Indiana Division of Forestry nearly completed the design and software for CFI program, incorporating many certification-related issues (monitoring, habitat, landscape issues) one full-time CFI and one part-time staffer for CFI to measure 20% of the ownership each year.</li> <li>• Tract “Management Guides” that allocate land for production or protection and describe past and planned treatments; each year each forest conducts tract-level inventory; for example: <ul style="list-style-type: none"> <li>○ Greene-Sullivan SF in Fiscal Year 2007-2008 plan to cruise 225 acres and actually cruised 563 already in the first quarter.</li> <li>○ Pike SF in Fiscal Year 2006-2007 planed to cruise 1,1,36 acres and actually cruised 1,480 acres.</li> <li>○ Statewide SF in Fiscal Year 2006-2007 planned to cruise 8,701 acres and actually cruised 9,605</li> </ul> </li> </ul>

1.1.5	C	<p>“Documentation of forest practices (e.g., planting, fertilization, and thinning) consistent with assumptions in harvest plans.”</p> <ul style="list-style-type: none"> <li>• Review of “Performance Goals Summary for FY 2006-2007 showed that data is collected and reported on most key activities and all forest practices including timber sales, inventory, planning, invasive control, planting (125% of goal) and TSI (3008 acres, 104% of goal).</li> </ul>
2.1	C	<p><b><i>“Program Participants shall reforest after final harvest, unless delayed for site-specific environmental or forest health considerations, through artificial regeneration within two years or two planting seasons, or by planned natural regeneration methods within five years.”</i></b></p>
2.1.1	C	<p>“Designation of all management units for either natural or artificial regeneration.”</p> <ul style="list-style-type: none"> <li>• Tract management plans provide the prescription for planting or natural regeneration.</li> </ul>
2.1.2	C	<p>“Clear Requirements to judge adequate regeneration and appropriate actions to correct understocked areas and achieve desired species composition and stocking rates for both artificial and natural regeneration.”</p> <ul style="list-style-type: none"> <li>• Oak regeneration is a major challenge, but IDOF is taking appropriate actions. Regeneration standards are provided in guidance provided to foresters (handbook).</li> </ul>
2.1.3	C	<p>“Minimized plantings of exotic tree species and research documentation that exotic tree species, planted operationally, pose minimal risk.”</p> <ul style="list-style-type: none"> <li>• Exotics are not planted; confirmed in tract plans and field observations.</li> </ul>
2.1.4	C	<p>“Protection of desirable or planned advanced natural regeneration during harvest.”</p> <ul style="list-style-type: none"> <li>• Confirmed such protection by field observations at all sites visited.</li> </ul>
2.1.5	N.A.	<p>“Artificial reforestation programs that consider potential ecological impacts of a different species or species mix from that which was harvested.”</p> <ul style="list-style-type: none"> <li>• Not Applicable. The Indiana Division of Forestry does not plan to change species composition through planting, but might use increased levels of supplemental planting of difficult-to-regenerate species to help maintain composition. Have not been doing much planting, &amp; only to maintain the natural and indigenous forest base.</li> </ul>
2.2		<p><b><i>“Program Participants shall minimize chemical use required to achieve management objectives while protecting employees, neighbors, the public and the forest environment.”</i></b></p>

2.2.2	C	<p>“Use of least toxic and narrowest spectrum pesticide narrowest spectrum and least toxic pesticides necessary to achieve management objective.”</p> <ul style="list-style-type: none"> <li>• At OPSF in storage in garage: <ul style="list-style-type: none"> <li>○ Pathway (vines on TSI) Picloram and 2-4-D</li> <li>○ Garlon 4 being bought for future use</li> <li>○ Roundup (glyphosate)</li> <li>○ Rodeo (water version of roundup)</li> </ul> </li> <li>• At GSSF listed as applied: <ul style="list-style-type: none"> <li>○ Razor pro- glyphosate</li> <li>○ Crossbow -24d garlon 3A</li> <li>○ Garlon 4</li> <li>○ Tordon K</li> <li>○ Aqua Neat –glyphosate for water</li> <li>○ Invade 80 -surfactant</li> <li>○ Emulus - emulsifier</li> <li>○ Axit - Oil</li> <li>○ Stalker- Arsenal (no longer used, but released by FSC)</li> </ul> </li> </ul>
2.2.5	C	<p>“Supervision of forest chemical applications by state-trained or certified applicators.”</p> <ul style="list-style-type: none"> <li>• Bill Gallogly and Rob at Owen Putnam are both certified; Steve Siscoe at Greene-Sullivan has core training but not licensed, because he doesn’t apply restricted chemicals, instead using commercial applicators who are licensed</li> <li>• Confirmed that periodic safety inspections documented at OPSF; occur at all locations.</li> <li>• Periodic training documented at OPSF – topic of the February, 2007 training was “MSDS Material Safety Data Sheets”</li> </ul>
2.2.6	Minor	<p>“Use of best management practices appropriate to the situation; for example ... chemicals stored at appropriate locations”</p> <p><u>SFI-2007-03: At the Owen Putnam State Forest Headquarters chemicals were stored inside and outside (on top of) a lockable, dedicated metal but unvented “flammable liquid storage cabinet” within a garage/workshop adjacent to the work area of an employee.</u></p> <ul style="list-style-type: none"> <li>• At the Owen Putnam State Forest Headquarters chemicals were stored inside and outside (on top of) a lockable, dedicated metal but unvented “flammable liquid storage cabinet” within a garage/workshop adjacent to the work area of an employee.</li> </ul>
2.3	C	<p><b><i>“Program Participants shall implement management practices to protect and maintain forest and soil productivity.”</i></b></p>
2.3.1	EXR	<p>“Use of soils maps where available.”</p> <p><u>Exceeds the SFI Requirements: Soils maps and use of information from them exceed requirements.</u></p> <ul style="list-style-type: none"> <li>• Forest soil descriptions, based on soils maps, are included in all tract management guides. Some guides also include the maps themselves.</li> </ul>
2.3.2	C	<p>“Process to identify soils vulnerable to compaction and use of appropriate methods to avoid excessive soil disturbance.”</p> <ul style="list-style-type: none"> <li>• Trained foresters plan and supervise all harvests, which are approved by the timber management specialist.</li> </ul>
2.3.3	C	<p>“Use of erosion control measures to minimize the loss of soil and site productivity.”</p> <ul style="list-style-type: none"> <li>• Confirmed by field observations at all sites visited.</li> </ul>
2.3.4	C	<p>“Post-harvest conditions conducive to maintaining site productivity (e.g., limited rutting, retained down woody debris, minimized skid trails).”</p> <p><u>Closed CAR SFI-2006-01: based on documentation and interviews, confirmed the following:</u></p> <p><i>“DoF Action: The site has been water barred, leveled and seeded as per BMP protocol</i></p>

		<p><i>(Completed December 5 2006). The revised timber sale contract specifies a limit of acceptable rutting. Foresters continue to closely monitor sales and will prevent this unacceptable activity to the extent possible. DoF staff has worked extensively to create BMP legislation which would improve harvesting practices statewide.</i></p> <p>Confirmed by field observations at all sites visited that there was ample down woody debris, minimized skid trails, and little rutting.</p>
2.3.5	EXR	<p>“Retention of vigorous trees during partial harvesting, consistent with silvicultural norms for the area.”</p> <p><u>Exceeds the SFI Requirements: Silvicultural practices throughout the forests are superb.</u></p> <ul style="list-style-type: none"> <li>• Confirmed by field observations at all sites visited.</li> </ul>
2.3.6	C	<p>“Criteria that address harvesting and site preparation to protect soil productivity.”</p> <ul style="list-style-type: none"> <li>• Contracts now include a standard clause for rutting limits.</li> </ul>
2.3.7	EXR	<p>“Minimized road construction to meet management objectives efficiently.”</p> <p><u>Exceeds the SFI Requirements: Roads are exceptionally well designed, constructed, and maintained.</u></p> <ul style="list-style-type: none"> <li>• Review of maps and field inspections revealed an appropriate road density.</li> </ul>
2.4		<p><b><i>“Program Participants shall manage so as to protect forests from damaging agents such as environmentally or economically undesirable wildfire, pests and diseases to maintain and improve long-term forest health, productivity and economic viability.”</i></b></p>
2.4.2	C	<p>“Management to promote healthy and productive forest conditions to minimize susceptibility to damaging agents.”</p> <ul style="list-style-type: none"> <li>• Confirmed by field observations at all sites visited that stands are generally thinned in a timely manner, and post-harvest stands consist of mostly very healthy and vigorous trees.</li> </ul>
2.5		<p><b><i>“Program Participants that utilize genetically improved planting stock including those derived through biotechnology shall use sound scientific methods and follow all applicable laws and other internationally applicable protocols.”</i></b></p>
3.1		<p><b>“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 Environmental Protection Agency (EPA)-approved state water quality programs other applicable federal, provincial, state or local programs.”</b></p>
3.1.1	Minor	<p>“Program to implement state or provincial equivalent BMPs during all phases of management activities.”</p> <p><u>Minor Non-conformance SFI-2007-2: At Ferdinand State Forest Compartment 4 Tract 7/8 an ephemeral stream was crossed in three places, was disturbed by harvest activities, and was blocked in one place by a berm intended to reestablish the stream channel at the primary crossing. Page 35 of Indiana Logging and Forestry Best Management Practices includes under general guidelines for ephemeral streams “minimize soil disturbance, crossings and channel blockages”.</u></p> <ul style="list-style-type: none"> <li>• Foresters are trained, plan harvests to include BMPs, work with loggers to ensure BMPs through mandatory pre-harvest conference, periodic inspections with results shared, post-harvest “punch-list”, and closeout inspections.</li> <li>• BMP compliance rates are quite high (89%).</li> </ul>
3.1.2	C	<p>“Contract provisions that specify BMP compliance.”</p> <ul style="list-style-type: none"> <li>• Confirmed that contracts specify BMP compliance.</li> </ul>
3.1.4	EXR	<p>“Monitoring of overall BMP implementation.”</p> <p><u>Exceeds the SFI Requirements: The program for monitoring of BMP use and effectiveness is the strongest the team has seen.</u></p> <ul style="list-style-type: none"> <li>• BMP Monitoring (via internal audits of BMPs) on all aspects of all completed harvests has been done for several years; results show very high compliance rates.</li> <li>• BMP monitoring is reviewed by a third party.</li> </ul>

3.2		<b><i>“Program Participant shall have or develop, implement, and document, riparian protection measures based on soil type, terrain, vegetation and other applicable factors.”</i></b>
3.2.1	C	<p>“Program addressing management and protection of streams, lakes and other water bodies and riparian zones.”</p> <ul style="list-style-type: none"> <li>• Foresters plan and supervise all harvests and land management activities; they are trained in mitigation measures for protection of these features, which are shown on maps and generally avoided when planning treatments if possible.</li> </ul>
3.2.2	C	<p>“Mapping of streams, lakes and other water bodies and riparian zones, and where appropriate, identification on the ground.”</p> <ul style="list-style-type: none"> <li>• Confirmed by field observations at all sites visited and by review of timber harvest maps that aquatic resources are shown on maps (good topographic maps are readily available showing most such features) and that BMP-related protection zones are flagged or designated for protection.</li> </ul>
3.2.3	C	<p>“Implementation of plans to manage or protect streams, lakes and other water bodies.”</p> <ul style="list-style-type: none"> <li>• Confirmed by field observations at all sites visited.</li> </ul>
3.2.5	N.A.	<p>“Where regulations or BMPs do not currently exist to protect riparian areas, use of experts to identify appropriate protection measures.”</p> <ul style="list-style-type: none"> <li>• N.A.: BMPs do exist</li> </ul>
4.1	C	<b><i>“Program participants shall have programs to promote biological diversity at stand- and landscape- scales.”</i></b>
4.1.1	C	<p>“Program to promote the conservation of native biological diversity, including species, wildlife habitats, and ecological or natural community types, at stand and landscape levels.”</p> <ul style="list-style-type: none"> <li>• Indiana now has a statewide “Comprehensive Wildlife Strategic Plan” that help identify species habitat conservation needs. It is being used to help develop the “DRAFT Wildlife Strategic Plan”</li> <li>• Reviewed and discussed with staff “DRAFT Management Guidelines for Wildlife Habitat Features”</li> <li>• Reviewed and discussed with staff “DRAFT Wildlife Strategic Plan”</li> <li>• Individual properties or groups of properties will have wildlife plans developed over the next two years. These will replace the 5-year fish and wildlife habitat operational guides done in the past.</li> </ul>
4.1.2	C	<p>“Program to protect threatened and endangered species.”</p> <ul style="list-style-type: none"> <li>• Database of known T&amp;E species checked during tract planning and sale planning</li> <li>• When T&amp;E species are found protection measures are developed and implemented; the Indiana bat strategy; draft bat HCP are examples.</li> </ul>
4.1.3	C	<p>“Plans to locate and protect known sites associated with viable occurrences of critically imperiled and imperiled species and communities. 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.”</p> <ul style="list-style-type: none"> <li>• Indiana bats are the most threatened.</li> <li>• “As of October 30, 2007, HCVFs are limited to dedicated Nature Preserves (2,018 acres) and Old Forest Areas (5,706 acres) and five areas with special features or values under consideration as HCVFs (591 acres) for a total of 8,315 acres.”</li> <li>• Nature preserves program in gradually surveying the state forest system.</li> </ul>
4.1.4	MINOR	<p>“Development and implementation of criteria, as guided by regionally appropriate science, for retention of stand-level wildlife habitat elements (e.g., snags, mast trees, down woody debris, den trees, nest trees).”</p> <p><u>Minor Non-conformance SFI-2007-01 Criteria for stand level wildlife habitat elements (based</u></p>

		<p><u>on available science) have been drafted but not approved or implemented. Training has begun, but field foresters are not yet fully applying the draft standards.</u></p> <p><u>Closed Minor Non-conformance SFI-2006-2 , but then issued a more restricted Minor non-conformance focused on implementation. DNR Response to 2006-2 CAR: “DoF Action: See FSC CAR2006.4. After an extensive search, the Division employed a Wildlife Specialist who reported to work on September 24, 2007. In the five weeks with the Division, he is becoming familiar with the Division and our personnel, forests, issues, etc. He has developed draft wildlife habitat guidelines in the document “DRAFT Management Guidelines for Wildlife Habitat Features.doc”. Additionally, he is developing a wildlife habitat strategic plan draft, “DRAFT Wildlife Strategic Plan.doc”. Property personnel have been exposed to training on wildlife habitat elements during a classroom training session at Clark SF on 10/23/2007 and a field exercise at Martin SF on 10/24/2007.”</u></p> <ul style="list-style-type: none"> <li>• At Owen Putnam SF large cull trees are marked with X, meaning logger’s choice for removal or retention. If the buyer wants these trees they can all be removed, which does not ensure that large snags needed to meet bat management guidelines are created.</li> <li>• The two-day training was focused on Oak regeneration, but Scott Haulton, Wildlife Specialist provided background and used many field sites to do some preliminary training on HCP and guidelines. He also got input on the draft guidelines.</li> </ul>
4.1.5	C	<p>“Assessment, conducted individually or collaboratively, of forest cover types and habitats at the individual ownership level and, where credible data are available, across the landscape, and incorporation of findings into planning and management activities, where practical and when consistent with management objectives.”</p> <ul style="list-style-type: none"> <li>• New wildlife biologist is working on property-specific wildlife plans. His approach will strengthen the existing 2.5 mile radius review done for each tract management guide.</li> </ul>
4.1.6	C	<p>“Support of and participation in plans or programs for the conservation of old-growth forests in the region of ownership.”</p> <ul style="list-style-type: none"> <li>• Indiana Division of Forestry has identified 5,706 acres of Old Forest Areas. These are designated on 7 state forests, where older forest canopy (125 + years) is maintained. These areas are managed with limited harvesting using single-tree selection designed to maintain old-forest attributes, using longer entry intervals (30+ years), higher residual retention, and more retention of snags and coarse woody debris than in the rest of the forest, but will also use larger openings to maintain oak-dominated composition where it exists. These planned treatments are reviewed at the division level to ensure that they are appropriate.</li> </ul>
4.1.7	C	<p>“Participation in programs and demonstration of activities as appropriate to limit the introduction, impact, and spread of invasive exotic plants and animals that directly threaten or are likely to threaten native plant and animal communities.”</p> <ul style="list-style-type: none"> <li>• Participation in the Invasive Species Task Force</li> <li>• Invasive species control contract reviewed; confirmed that funding is available, used, and increasing, but so is the problem.</li> <li>• Have many contracts for control of invasives; examined records for GSSF from 10/31/07 back to April 2005 for in-house, well-organized spreadsheet with date, personnel, location, species, acres, chemicals, and method (basal foliar)</li> <li>• For outside contracts they keep records of contract, certified applicator: example Paul Clayton, Nelson, Asplundh Tree Expert License# 17951 (license must be in hand before the work can be done, DOA does bidding on contracts and the review is done by an engineering group that manages the process)</li> </ul>
4.1.8	C	<p>“Program to incorporate the role of prescribed or natural fire where appropriate.”</p> <ul style="list-style-type: none"> <li>• Review of data shows that prescribed fire is used.</li> </ul>

4.2		<b><i>“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.”</i></b>
4.2.2	C	<p>“A methodology to incorporate research results and field applications of biodiversity and ecosystem research into forest management decisions.”</p> <p>Closed SFI-2006-3 by review of Indiana Division of Forestry written response</p> <p><u>The corrective action plan was confirmed during the 2007 Surveillance audit by review of documentation of research meetings, by interviews with central office staff who organized and presented, and by field staff who attended training that connected research to their assigned responsibilities. Staff also demonstrated knowledge of the subject matter of the training and research.</u></p> <p><i>“DoF Action: We will continue to conduct research efforts with the Hardwood Ecosystem Experiment and will implement management activities based on data from that effort. We will continue to hold annual meetings to deliver research findings to our management personnel. Two annual meetings have been held to date, with the next to be scheduled during the late winter or spring, 2008.</i></p> <p><i>The presence of a wildlife specialist on staff will help field personnel incorporate biodiversity issues into forest management decisions. Furthermore, we will require that all professional staff in the Properties Section complete the level of training necessary to meet the Certified Forester standard as defined by the Society of American Foresters. A copy of those eligibility and recertification requirements is available in the file “SAF CF Requirments.doc.”</i></p> <p><i>To address the specific training gaps, the Division has begun and will continue to provide training sessions to meet identified needs. This year has focused on oak regeneration, disturbance regimes necessary to maintain oak-hickory dominated forests, and successional trends in an undisturbed oak-hickory forest. Toward that end, we encouraged our field personnel to attend SILVAH: OAK training in Nashville, IN, 02/21-22/07 (oak regeneration, stand development, disturbance, prescribed fire), Oak Regeneration and Management sponsored by the University of Kentucky Extension, 10/3-4/07 (regeneration dynamics, management tools), and oak management training at Clark/Martin SF 10/23-24/07. The Division has an enhanced budget to cover out-of-state training and has encouraged all staff to take advantage of training opportunities.</i></p> <p><i>To enhance our staff training in the area of managing wildlife species of concern, our staff Wildlife Specialist will provide both classroom and field training. This training will occur concurrently with the implementation of property level wildlife management plans. Two other emphasis areas under consideration include management of sensitive plant communities and a forest stand dynamics course. The Division of Nature Preserves was unable to provide the plant community training but recommended an outside contractor which we have been unable to secure at this time. The forest stand dynamics will also involve a contract trainer based on the work of Oliver and Larson.”</i></p> <ul style="list-style-type: none"> <li>• The above list of actions was confirmed. IDOF has clearly increased its attention to training and to ensuring that research access is a major part of training.</li> </ul>
5.1	C	<b><i>“Program Participants shall manage the impact of harvesting on visual quality.”</i></b>
5.1.1	C	<p>“Program to address visual quality management.”</p> <ul style="list-style-type: none"> <li>• Trained foresters continue to plan and supervise all harvests and incorporate visual considerations into all activities.</li> </ul>
5.1.2	C	<p>“Incorporation of aesthetic considerations in harvesting, road, landing design and management, and other management activities where visual impacts are a concern.”</p> <ul style="list-style-type: none"> <li>• Confirmed by field observations at all sites visited.</li> </ul>

5.2		<b><i>“Program Participants shall manage the size, shape, and placement of clearcut harvests.”</i></b>
5.2.1	C	<p>“Average size of clearcut harvest areas does not exceed 120 acres, except when necessary to respond to forest health emergencies or other natural catastrophes.”</p> <ul style="list-style-type: none"> <li>Review of over 20 tract management plans as well as observations in the field revealed that most clearcuts are quite small and embedded within a matrix of closed canopy forest. Only occasional cuts exceed 10 acres, so the average clearcut size is very low.</li> </ul>
6.1.	C	<b><i>“Program Participants shall identify special sites and manage them in a manner appropriate for their unique features.”</i></b>
6.1.1	C	<p>“Use of existing natural heritage data and expert advice in identifying or selecting sites for protection because of their ecologically, geologically, historically, or culturally important qualities.”</p> <ul style="list-style-type: none"> <li>Have found a few new tribal sites in the past year; lithic scatter remains but not burial sites; typically discovered by field staff or by more detailed arch review by means of shovel probes on a grid.</li> </ul>
6.1.2	C	<p>“Appropriate mapping, cataloging, and management of identified special sites.”</p> <ul style="list-style-type: none"> <li>NHI hit for nearby butterfly at Ferdinand caused Indiana to attempt to buy the land.</li> <li>Interviews provided good evidence of management of special sites, but none visited.</li> </ul>
7.1	C	<b><i>“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.”</i></b>
7.1.1	C	<p>“Program or monitoring system to ensure efficient utilization, which may include...”</p> <ul style="list-style-type: none"> <li>Confirmed by field observations at all sites visited that sawtimber utilization is good but that top wood is rarely utilized.</li> </ul>
9.1		<b><i>“Program Participants shall individually, through cooperative efforts, or through associations provide in-kind support or funding, in addition to that generated through taxes, for forest research to improve the health, productivity, &amp; management of forest resources.”</i></b>
9.2		<b><i>“Program Participants shall individually, through cooperative efforts, or through associations develop or use state, provincial, or regional analyses in support of their sustainable forestry programs.”</i></b>
10.1		<b><i>“Program Participants shall require appropriate training of personnel and contractors so that they are competent to fulfill their responsibilities under the SFI Standard.”</i></b>
10.1.2	C	<p>“Assignment and understanding of roles and responsibilities for achieving SFI Standard objectives.”</p> <ul style="list-style-type: none"> <li>Carl Hauser is the management representative with overall responsibility for the program including tracking CARs and responses. Field-related objectives are the responsibility of foresters, while Objectives 9-13 are covered by central office.</li> </ul>
10.1.3	C	<p>“Staff education and training sufficient to their roles and responsibilities.”</p> <p><u>There is an opportunity to improve the system for record-keeping on training.</u></p> <ul style="list-style-type: none"> <li>Indiana Division of Forestry’s response to FSC CAR.2006.6 provided many good examples of increased training for ecological forestry and related issues.</li> <li>2008 Budget will include \$20,000 for in-state training and \$10,000 for out-of-state training; printed budget showed \$67,450 for in-state travel and \$6,150 for out of state travel; remainder from other sources such as grants.</li> <li>Will be providing incentives for their foresters (resource specialists) to attain training that is the equivalent of the SAF Certified Forester credential.</li> <li>Ay Ariens, Forest Archeologist attended training sponsored by InDOT on methods for effective tribal consultation and communication.</li> </ul>

		<ul style="list-style-type: none"> <li>• Information on special status species: research-oriented internal seminar planned for April 2007 on species of concern</li> <li>• October 10 training for new foresters at Clark SF; agenda included how to conduct a state heritage database search, provided hints for doing internet searches (Google); also new wildlife specialist as well as heritage botanists; did not document who attended</li> <li>• Discussed annual evaluation reviews done by property managers of resource specialists; formal protocol includes a training category, which is discussed annually; (historically training was under-funded)</li> <li>• Reviewed training plan portion of the annual review conducted by one Property Manager for one Resource Specialist; the “Employee Development Plan” portion outlined a goal for attending annual pesticide training to maintain license; attend Covert Wildlife training, wants to attend more SAF meetings and various workshops, scheduling public education events; discussed the person’s changed job responsibilities and how their training needs are affected.</li> <li>• For managers there are some required training courses and many other optional training courses; one manager told me he did the mandated training but not much more; his manager is aware of this; training was getting less attention last year due to the emphasis on timber goals, but more recently is being re-emphasized.</li> </ul>
10.1.4	C	<p>“Contractor education and training sufficient to their roles and responsibilities.”</p> <p>SFI-2006-4: Closed based on the state forester’s decision on the final day of the audit that all timber sales offered by the Indiana Division of Forestry will require one trained member of the logging crew on each active timber sale will have taken at least introductory logger training (i.e. Soren Erickson Level 1).</p> <ul style="list-style-type: none"> <li>• At the opening meeting Indiana Division of Forestry indicated that they had not incorporated logging training requirements into the contract template as intended in the above CAP. During the course of the audit staff determined that sufficient loggers were already formally trained to incorporate a training requirement into the contract. State Forester Jack Siefert made this provision official on the last day of the audit, and the CAP is sufficiently implemented to close the CAR.</li> </ul>
10.2	C	<p><b><i>“Program Participants shall work closely with state logging or forestry associations, or appropriate agencies or others in the forestry community, to foster improvement in the professionalism of wood producers.”</i></b></p>
10.2.1	C	<p>“Participation in or support of SFI Implementation Committees to establish criteria and identify delivery mechanisms for wood producers’ training courses...”</p> <ul style="list-style-type: none"> <li>• The Indiana SFI Implementation Committee has been reactivated with the support and encouragement of Indiana Division of Forestry. A letter was sent to all Indiana Sawmill Owner and/or Operators describing the SIC, inviting participation including the next executive meeting, and providing handouts including: SFI Tool Kit and 3 SFI tri-fold brochures. The initial focus is to be logger training.</li> <li>• Indiana Division of Forestry helped organize and draft this letter/ mailing</li> </ul>
11.1		<p><b><i>“Program Participants shall take appropriate steps to comply with applicable federal, provincial, state, and local forestry and related environmental laws and regulations.”</i></b></p>
11.2	C	<p><b><i>“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.”</i></b></p>
11.2.1	C	<p>“Written policy demonstrating commitment to comply with social laws, such as those covering civil rights, equal employment opportunities, antidiscrimination 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.”</p>

		<ul style="list-style-type: none"> <li>Posters on bulletin boards at all work sites visited describe many aspects of worker's rights according to federal and state law.</li> </ul>
12.1		<b><i>“Program Participants shall support and promote efforts by consulting foresters, state and federal agencies, state or local groups, professional societies, and the American Tree Farm System® and other landowner cooperative programs to apply principles of sustainable forest management.”</i></b>
12.1.1		<p>“Support for efforts of SFI Implementation Committees.”</p> <ul style="list-style-type: none"> <li>See 10.2.1 above. The initial focus is on logger training. Review during next audit.</li> </ul>
12.2		<b><i>“Program Participants shall support and promote, at the state, provincial or other appropriate levels, mechanisms for public outreach, education, and involvement related to forest management.”</i></b>
12.2.1		<p>“Support for the SFI Implementation Committee program to address outreach, education, and technical assistance (e.g., toll-free numbers, public sector technical assistance programs).”</p> <ul style="list-style-type: none"> <li>See 10.2.1 above. The initial focus is on logger training. Review during next audit.</li> </ul>
12.3	C	<b><i>“Program Participants with forest management responsibilities on public lands shall participate in the development of public land planning and management processes.”</i></b>
12.3.1	C	<p>“Involvement in public land planning and management activities with appropriate governmental entities and the public.”</p> <ul style="list-style-type: none"> <li>A notice was sent that included the following statement: <i>“Hoosiers' input will be sought in three public meetings this month on whether DNR should provide more recreational opportunities at state forests, and if so, the methods by which the State should pay for them.”</i> The notice included dates, times, and locations for three public meetings.</li> <li>Reviewed input received to date in report “Notes from Public Meetings – May 29-31, 2007, Recorded by Carl Hauser – 07/10/2007”</li> <li>Discussed pending updates/improvements to web site and challenges when updating.</li> </ul>
12.3.2	C	<p>“Appropriate contact with local stakeholders over forest management issues through state, provincial, federal, or independent collaboration.”</p> <ul style="list-style-type: none"> <li>Reviewed report “2007 Indiana State Forest Open House Process Prepared by Tom Lyons, July 2007” which included statement: “Between January and May of 2007 the Division of Forestry conducted nine (9) open houses. Each of the state forest management units participated in one of the open houses. For the attendees convenience and to lessen the preparation effort for the properties, Jackson-Washington State Forest, Starve Hollow Beach SRA and Selmier State Forest jointly participated in a single open house as did Clark State Forest and Deam Lake SRA and Ferdinand/Pike State Forests. Salamonie State Forest joined with Salamonie Reservoir SRA in a single open house.”</li> <li>A summary of comments received was prepared, overall description: “Attendance at the 2007 open houses varied from 6 to 118. A total of 301 people registered at the open houses and a total of 29 comments were received.” Details on attendance and comments received and attendees by property or session were provided in a table. The process appears to be allowing for a meaningful dialogue and input.</li> <li>Reviewed poster (also available on the web site): “Indiana Department of Natural Resources -Division of Forestry: Summary of Annual Accomplishments – 2006”</li> </ul>
12.4	C	<b><i>“Program Participants with forest management responsibilities on public lands shall confer with affected indigenous peoples.”</i></b>
12.4.1	C	<p>“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; and c. address the sustainable use of nontimber forest products of value to indigenous peoples in areas where Program Participants have management responsibilities on public lands.”</p>

		<ul style="list-style-type: none"> <li>Confirmed May 16, 2007 letter to the Native American Indian Affairs Commission inviting comments on the Draft Strategic Plan and notifying them of three public input meetings.</li> <li>State archeologist improved her skill through training; several new sites are reported each year and protected.</li> </ul>
12.5		<b><i>“Program Participants shall establish, at the state, provincial, or other appropriate levels, procedures to address concerns raised by loggers, consulting foresters, employees, the public, or Program Participants regarding practices that appear inconsistent with the SFI Standard principles and objectives.”</i></b>
12.5.2	C	<p>“Process to receive and respond to public inquiries.”</p> <ul style="list-style-type: none"> <li>Confirmed by interviews and review of documents from open houses and strategic plan update that there are robust processes in place and that input is considered in the development of plans and in making decisions.</li> </ul>
12.6		<b><i>“Program Participants shall report annually to the SFI Program on their compliance with the SFI Standard.”</i></b>
12.6.1*	C	<p>“Prompt response to the SFI annual progress report.” (*Note: This indicator will be reviewed in all audits.)</p> <ul style="list-style-type: none"> <li>Confirmed with SFI, Inc. that report was provided.</li> </ul>
12.6.2	C	<p>“Recordkeeping for all the categories of information needed for SFI annual progress reports.”</p> <ul style="list-style-type: none"> <li>Confirmed record-keeping by reviewing reports, interviewing foresters, and checking selected data against data presented verbally. Most measures are accurate, but there were some discrepancies.</li> </ul>
13.1*	C	<b><i>“Program Participants shall establish a management review system to examine findings and progress in implementing the SFI Standard, to make appropriate improvements in programs, and to inform their employees of changes.”</i></b>
13.1.1	C	<p>“System to review commitments, programs, and procedures to evaluate effectiveness.”</p> <ul style="list-style-type: none"> <li>Indiana Division of Forestry has systems in place to track goals and results, formally established annually as “Property Performance Goals” for each of the ten administrative units. A tracking mechanism exists, for example, for cultural resources and for timber marking, timber sales, TSI, and forest inventory.</li> </ul>
13.1.2	C	<p>“System for collecting, reviewing, and reporting information to management regarding progress in achieving SFI Standard objectives and performance measures.”</p> <ul style="list-style-type: none"> <li>A program specialist is assigned to certification. He is responsible for accumulating data to fill out the SFI Annual Survey.</li> <li>The assistant state forester compiles the “Property Performance Goals” and accomplishments.</li> <li>SFI-specific issues, while closely tracking the Indiana Division of Forestry’s goals and objectives, are not explicitly addressed in data collection, review, and reporting.</li> </ul>
13.1.3	OFI	<p>“Annual review of progress by management and determination of changes and improvements necessary to continually improve SFI conformance.”</p> <p><u>There is an opportunity to improve ongoing methods for SFI-specific management review.</u></p> <ul style="list-style-type: none"> <li>Not formally conducted with agenda or minutes, but clearly was done more informally. During the audit a summary of meetings and management review was provided to the audit team.</li> <li>A critical factor in the decision for conformance is the active involvement of the State Forester in all aspects of certification, including attendance in all certification activities and site visits during all three audits to date (Readiness Review, Certification Audit, Surveillance Audit).</li> </ul>

## **Field Sites Visited**

### Tuesday November 6 - Owen Putnam State Forest

Site 1: C8, Tract 10 – Ongoing harvest 52 acres intermediate harvest (selective thin, improvement cut, some salvage); Eric Emerich Logging Supervisor has formal logger training

Site 2: C7, Tract 6 – 91-acre completed thinning

### Wednesday November 7 - Greene-Sullivan State Forest

Site 1: C4, Tract 2, Stand 1 – Thinning of planted stand on old surface mine

Site 2: C4, Tract 2, Stand 2 – Large opening, was leveled to smooth out mile tailings, will plant

Site 3: Dugger Unit - Drive through with some brief stops, reviewed and discussed recreation, fishing, horseback riding, hunting

Site 4: Dugger Unit, West Dugger Releaf Demonstration Area - various trials including ripping to overcome severe compaction from mine restoration, late-season fertilization in nursery with fencing, other.

Site 5: C2, Tract 4 – Marked for thinning of planted stand on old surface mine

### Wednesday November 7 - Pike State Forest

Site 1: C9, Tract 4 - Completed 42-acre improvement harvest, follow-up TSI girdling

Site 2: C9, Tract 4 - Completed Salvage of Gas Pipeline ROW widening timber

Site 3: C9, Tracts 5 + 6 - Marked thinning with 4 regeneration openings, extensive discussion of marking and of retention of trees with habitat value, particularly hollow sections, holes, dead portions.

### Thursday November 8 - Ferdinand State Forest

Site 1: C4, Tract 7 – Completed pine removal for conversion to hardwoods; issues with protections for ephemeral stream

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