

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

Commonwealth of Pennsylvania, DCNR Bureau of Forestry

Pennsylvania, United States of America

SCS-FM/COC-00011N

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CERTIFIED	EXPIRATION
2014-01-01	2018-12-31

DATE OF FIELD AUDIT
Sep. 3, 2015
DATE OF LAST UPDATE
Oct. 20, 2015

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Foreword

Cycle in annual surveillance audits			
<input type="checkbox"/> 1 st annual audit	<input checked="" type="checkbox"/> 2 nd annual audit	<input type="checkbox"/> 3 rd annual audit	<input type="checkbox"/> 4 th annual audit
Name of Forest Management Enterprise (FME) and abbreviation used in this report:			
Commonwealth of Pennsylvania, DCNR Bureau of Forestry (BOF)			

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

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

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

Organization of the Report

This report of the results of our evaluation is divided into two sections. Section A provides the public summary and background information that is required by the Forest Stewardship Council. This section is made available to the general public and is intended to provide an overview of the evaluation process, the management programs and policies applied to the forest, and the results of the evaluation. Section A will be posted on the FSC Certificate Database (<http://info.fsc.org/>) no less than 90 days after completion of the on-site audit. Section B contains more detailed results and information for the use by the FME.

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SECTION A – PUBLIC SUMMARY

1. General Information

1.1 Annual Audit Team

Auditor Name:	Paul E. Pingrey	Auditor role:	Lead Auditor
Qualifications:	Paul Pingrey began as an independent auditor for SCS Global Services in 2010. He is an ISO19011 accredited lead auditor for Chain of Custody and forest management reviews. His work for SCS builds on 35 years of experience at the Wisconsin Department of Natural Resources. Positions included DNR Forest Certification Coordinator, Private Forestry Staff Specialist, Wisconsin Forest Tax Law Supervisor, and Madison Area Forestry Supervisor. From 2004 to 2009, Paul oversaw Forest Stewardship Council, Sustainable Forest Initiative, and American Tree Farm System certification for 6 million acres of DNR forestry programs. He assisted a national panel that developed the FSC-US Forest Management Standard in 2008-2009. His career with Wisconsin DNR included work with small woodland owners in six southern Wisconsin counties, state park and county forest operations, property master planning, and environmental impact assessment. He served in Society of American Foresters leadership positions and was chair of the National SAF Certification Working Group. Paul received a forest management degree from Iowa State University in 1974 and completed U.S. Forest Service Silviculturist Certification in 1988.		
Auditor Name:	Michelle Matteo	Auditor role:	Forestry and Wildlife Management Specialist
Qualifications:	Michelle L. Matteo is a lead auditor for SCS Global Services based in Southern New England. Michelle is a forester and arborist and maintains a (state) Massachusetts Forester License as well as an International Society of Arboriculture (ISA) Arborist Certification. Michelle has completed a 3-day ISO 19011 training designed & presented in relation to the FSC Standards. She earned an MS in Forestry and BS in Wildlife & Fisheries Biology, both from the University of Massachusetts.		

1.2 Total Time Spent on Evaluation

A. Number of days spent on-site assessing the applicant:	3
B. Number of auditors participating in on-site evaluation:	2
C. Additional days spent on preparation, stakeholder consultation, and post-site follow-up:	4
D. Total number of person days used in evaluation:	10

1.3 Standards Employed

1.3.1. Applicable FSC-Accredited Standards

Title	Version	Date of Finalization
FSC-US Forest Management Standard	1-0	Jul 8, 2010
All standards employed are available on the websites of FSC International (www.fsc.org), the FSC-US (www.fscus.org) or the SCS Standards page (www.scsglobalservices.com/certification-standards-and-program-		

[documents](#)). Standards are also available, upon request, from SCS Global Services (www.SCSglobalServices.com).

1.3.2. SCS Interim FSC Standards

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

2 Annual Audit Dates and Activities

2.1 Annual Audit Itinerary and Activities

Aug 31, 2015 Monday	
FMU/Location/ sites visited	Activities/ notes
Opening Meeting and District 5 (Rothrock)	8:00 AM Opening Meeting: Introductions, client update, review audit scope, audit plan, intro/update to FSC and SCS standards and protocols, review of open CARs/OBS, final site selection, District Overview
Field Sites – Rothrock State Forest (District #5)	9:00 AM – 4:30 PM
<ol style="list-style-type: none"> Underwood Trail – Prescribed burning site preparation for timber harvest. Site includes 43 a. and 46 a. fenced blocks. An intermediate thinning had been conducted in 2000. Regeneration was poor, and so deer-proof fences were installed in 2006. The foresters unsuccessfully tried mountain laurel mowing to reduce competition. To address the regen problem, a burn plan was developed and the burn executed in spring 2015. Regen surveys will be conducted two and five years after the burn to evaluate results. Musser Recreational Trailhead (Tussey Mountain Gateway to the Rothrock) – DCNR acquired 700 acres in two tracts just north of State College. The land was on the market and planned for subdivision, but the Clearwater Conservancy helped purchase it for the State Forest in 2006. A land use plan for the property was developed in cooperation with NGOs, county and town governments, recreational user groups and others. Location of Indian artifacts and a water access easement were noted as constraints. A \$40,000 grant and significant volunteer work are being used for recreational trail (hiking/biking) development. Volunteer groups helped name the new trails through Facebook interaction. Other prominent features of the tract included: a) A water access ROW between a spring on the tract and five adjacent residences; b) Invasive species control with spraying; c) A salvage cut, tree planting and other efforts to rehabilitate disturbed woodlands. Roaring Run Timber Sale – 2013 1st stage shelterwood harvest. Site had experienced a hurricane-related wind event and salvage in 2002. Scattered dead trees have been retained for bat habitat. Site was fenced to reduce deer browse. As part of the timber sale contract, the logger obtained a commercial pesticide license and treated black gum with 3% Stalker 	

herbicide solution (a reduced rate compared to 6% label amount). District will also likely spray Oust for fern control in 2016. During the stand walk-through, the auditors and forestry staff narrowly missed treading on a very large timber rattler concealed under blueberry shrubs. Discussion ensued about snake-bite related accidents and safety procedures.

4. Alan Seeger Natural Area – 118 acre tract being treated for Hemlock Woolly Adelgid control. About 45 volunteers (supervised by licensed DCNR staff) applied pesticide tablets around higher potential hemlocks. Imidacloprid (CoreTect®) tablets (2-3 per inch of DBH) were inserted through a tube into the ground around the trees. Proper PPE (e.g., vinyl gloves) was used. DCNR and Penn State researchers have tried biocontrol agents such as predatory beetle releases, which have so far been ineffective against the pest. An FSC derogation is being developed to allow continued use of Imidacloprid, which was recently added to the FSC highly hazardous pesticide list.
5. Seeger Road Active Timber Sale – 112 acre intermediate harvest (thinning from below). Pulpwood-quality trees less than 12" DBH are being cut to stimulate oak regeneration. Auditors interviewed the logger who was working on-site. He described SFI safety/BMP training he renews every-other year. He uses chaps, hardhat, eye protection, gloves and other PPE when using chain saws. A cell phone is available to call for help if needed. A spill kit and first-aid supplies were available in the truck. A fire extinguisher in the skidder was up-to-date. Logger described pre-harvest conference and regular inspections conducted by DCNR foresters. Logger said he is satisfied with the availability of smaller jobs that DCNR sets up for loggers such as himself. Auditors walked sale area and observed a careful, responsible logging job.
6. Conklin Road Project – Two fenced blocks that will be burned in conjunction with a Penn State research project on the effects of Rx burning on rattlesnakes, vernal pools and vegetation. Crew walked into a 45 acre vernal-pool study area. Monitoring equipment had been set up to gather weather and hydrologic data. Penn State research assistants are conducting pre-treatment plant and animal surveys. Auditors interviewed two researchers doing rattlesnake monitoring. They were well-equipped with safety gear and had been trained on proper safety procedures near snakes. They said 60 rattlesnakes had been counted on the site, and 15 had been fitted with radio trackers. Study blocks will involve fenced, unfenced and control areas. Foresters said the Rx burn will likely be conducted in spring or fall 2016.

Sep 1, 2015 Tuesday	
FMU/Location/ sites visited	Activities/ notes
District Overview and Field Sites – Bald Eagle State Forest (District #7)	8:00 AM - Noon
<ol style="list-style-type: none"> 1. Phantom Deer Timber Sale – Foresters described history of stand treatments on the 33 acre tract. A deer enclosure fence was erected in 2002 and a 1st stage shelterwood harvest conducted. Gypsy moth defoliation in 2003-2006 setback progress, and a salvage harvest occurred in 2006. 2012 regeneration survey data collected for the SILVAH program indicated favorable conditions for an overstory removal. Site preparation in the form of a prescribed burn was done in 2013 and the timber was sold. Cutting was still active at the time of the 2015 site visit. Tree retention was good, but forester noted that he had to warn the logger to stop skidding through the designated reserve islands. Auditors noted that sale administration 	

<p>procedures were followed and logger behavior was corrected per said procedures.</p> <p>2. Pine Flat Timber Sale – A larger than normal 289 acre regeneration harvest was conducted and closed in 2014. Repeated gypsy moth defoliation and resulting mortality had reduced the live basal area to only about 40 ft² per acre, and there were many standing dead trees. A waiver process was followed, with the central office granting approval for the large cut and whole-tree (chip) harvesting. About 10-20 ft² of oaks were retained across the site, and white pine seedlings were planted. A PDNI search indicated rattlesnake presence and the location of an adjacent wetland plant sanctuary. The plant sanctuary border was buffered (based on advice from the ecologist) to prevent raising water levels excessively.</p> <p>3. I80 Overlook Timber Sale – Audit team drove by another planned coppice regeneration harvest similar to the previous site. While en route, the caravan encountered a sedan that had collided with a road bank and flipped over in the middle of the narrow state forest roadway. The accident had apparently occurred just minutes before, but no vehicle occupants were present. State Forest personnel immediately searched the area to render aid if needed (no driver was found) and contacted the authorities via radio. Proper procedures were followed to secure the accident scene. District Forester remained at the accident site to await the authorities’ investigation while the rest of the audit team traveled on.</p>	
<p>District Overview and Field Sites – Weiser State Forest (District #18)</p>	<p>1:00 PM – 5:00 PM</p>
<p>1. Aqua America, Roaring Creek Area – Ash treatment area adjoining parking lot. About 100 ash trees were treated with emamectin benzoate (TREE-äge®, which is on the FSC Highly Hazardous Pesticide List for 2015 ...an FSC derogation is in the works). The pesticide is labeled to be effective for three years before re-treatment is recommended. Foresters said the product is expensive (about \$600 per liter, or \$35 to \$50 per tree). BOF Silviculturist said 776 ash trees were treated statewide to preserve the genome, and about 40 grocery bags of seed have been sent off for cryogenic storage in Colorado. The treated ash trees are tagged and geo-located for monitoring.</p> <p>2. Natalie 1 Timber Sale and Aqua America Waterline Project – The timber harvest totals 148 acres in seven blocks. It is a marked 1st stage shelterwood, harvested last winter. A 100’ buffer was thinned lightly along the road. Hay-scented ferns were treated with glyphosate in spring to release tree regeneration. Auditors reviewed the weekly sale inspection reports, which showed the harvest was closed down for a couple weeks due to wet ground and risk for rutting. Foresters said sale administration was tight to protect the municipal watershed.</p> <p>Adjoining the sale area is a planned route where Aqua America, which holds the water rights for the 9,000 acre block, intends to install an upgraded water line used for a municipal water supply system. It will be replacing a 100+ year-old 16” cast iron pipe with a 36” synthetic pipe. Trees in the corridor will be removed.</p> <p>Discussion centered on a lawsuit brought by a private citizen that sought an injunction against the timber harvest and the waterline upgrade. DCNR personnel testified. Suit against DCNR and Aqua was dismissed by court in July. The petitioner appealed to Pennsylvania Supreme Court on August 24, 2015. (Feudale v. Aqua Pa., Inc., PICS Case No. 15-1213 Pa Commonwealth July 22, 2015). From an FSC perspective, there is a dispute resolution process, which is being followed.</p>	

3. Ruffed Grouse Wildlife Habitat Project – A 13-acre donut-shaped block was clearcut to stimulate aspen regeneration for grouse habitat. It was cut in winter 2014-15. Aspen sprouts are doing well. The area is fenced to reduce deer browsing. A hiking trail passes through the block, and there are gates so that hikers can easily get through the fence. Additional seeding will be done this fall to retire the logging road.
4. Weiser Office GIS demonstration. Forestry staff showed auditors examples of FIMS data including tracking invasive species and HCVF sites on the forest. Field staff exhibit exemplary GIS skills.
5. American Chestnut Planting – Small nursery near the District 18 office. Blight resistant chestnut seedlings were recently planted and are protected in a fenced area. Project was done in cooperation with the [American Chestnut Foundation](#).

Sep 2, 2015 Wednesday

FMU/Location/ sites visited	Activities/ notes
District Overview and Field Sites – Gifford Pinchot State Forest (District #11)	8:00 AM to 3:00 PM
<ol style="list-style-type: none"> 1. Mocanaqua Park – District overview and discussion of the coal mining heritage of the Pinchot State Forest. Historic interpretation (including the display at the park) is an important role for the State Forest. The Pinchot SF has experienced a significant increase in size from 2002-2014 from 8,100 acres to its current size of 47,584 acres. This increase in state forest land was made possible by cooperation between DCNR, Luzerne, Lackawanna, and Monroe Co, governments, land trust and conservancies, and local public support. Land purchases were mainly former water company and coal company ownerships. Over 20,000 acres of SFL are under timber reservation through 2028. 2. Harvey Creek Timber Sale – A 1,400 block of older property acquired in the 1950s. Multiple gypsy moth defoliations and hurricane-related blowdown had caused significant hardwood dieback. About 20% of the area received salvage harvests intended to stimulate oak regeneration. The 83 acre tract visited by the audit team had an overstory removal harvest in 2013. A deer fence was erected and mile-a -minute invasive plants had been sprayed. The district worked with the local township government to address concerns about logging truck impacts to town roads. 3. Avondale Hill Mine Reclamation Project – 150 acre in Plymouth Township, Luzerne County -- The area known as Curry Hill-Avondale in Plymouth Township is a \$2.7 million project funded by the Abandoned Mine Reclamation Trust Fund. The abandoned mine site is the result of strip mining done in the 1960-1970s. The project involved backfilling and grading more than 6,000 feet of dangerous high wall at heights of between 25 and 100 feet. The project involves construction of drainage ditches, creation of ten acres of wetlands, grassland seeding and tree planting. The work began in February 2015 and is scheduled to be completed this year. Discussion at the site included PDNI natural heritage surveys and protection of bat hibernacula in the old mines. 4. Orchid Timber Sale – 75 acre harvest, of which 50 acres was overstory removal. The timber was 110 year-old oak that was hit multiple times by gypsy moth defoliation. Oak regeneration was well-stocked. A deer fence might be constructed this fall if warranted, based on results from a tree regeneration survey. A PDNI search found a nearby wetland plant sanctuary with endangered orchids, and so the harvest buffered the area to prevent excessive change in moisture levels. Harvest plan includes specific BMP requirements related to water drainage. Eco personnel said that plant sanctuaries are visited and monitored at least once every three 	

years.	
5. Reliability Power Line ROW – Highlights included a negotiated PPL Northeast Pocono Reliability License Agreement to protect the State Forests interests. That involved acquisition of the 600 acre + Polish National Catholic Church Property as mitigation for the PPL power line right of way on state forest land. Also, acquisition of the 4 acre Spall property for public access into the 6,500 acre Crystal Lake Tract.	
PA DCNR Offices	3:00 PM to 3:30 PM – Closing Meeting Preparation: Auditors take time to consolidate notes and confirm audit findings
	3:30 PM – Closing Meeting and Review of Findings: Convene with all relevant staff to summarize audit findings, potential non-conformities and next steps

2.2 Evaluation of Management Systems

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

3. Changes in Management Practices

In January 2015, the Bureau of Forestry produced an updated [Transition Document](#), used to inform state elected officials of BOF functions. A few excerpts relevant to the FSC® Certified State Forest System:

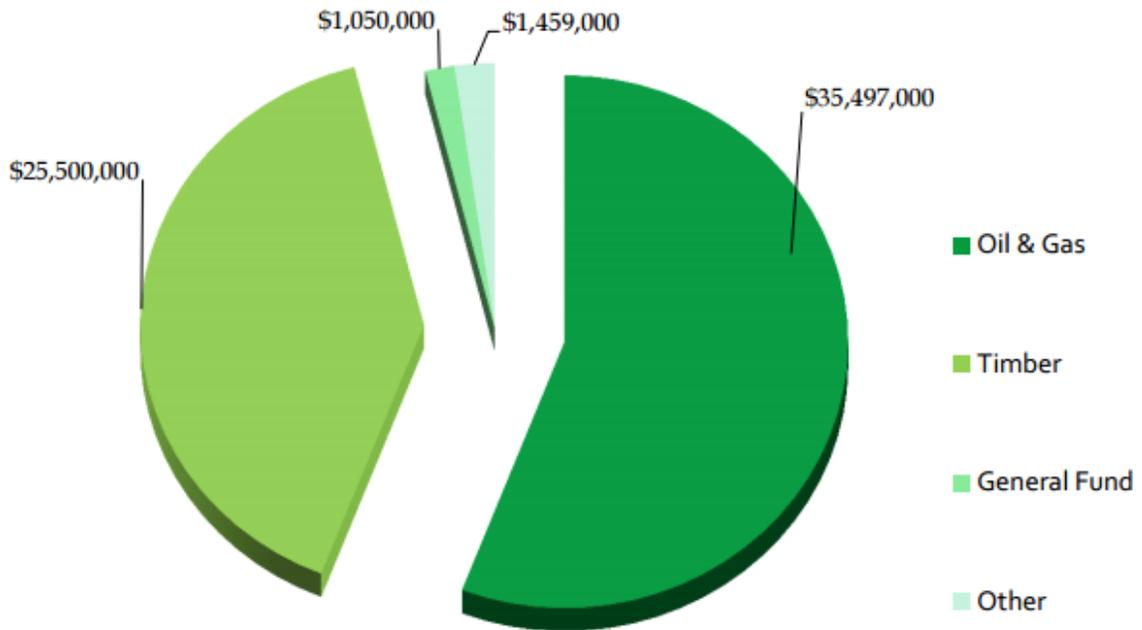
The state forest system of Pennsylvania—2.2 million acres in 50 of 67 counties – comprises 13 percent of the forested area of the Commonwealth. These forest lands represent one of the largest expanses of wildland in the eastern United States, making them a truly priceless public asset. The bureau proudly manages this third-party certified forest with an ecosystem management approach to provide a multitude of uses, values and resources to Pennsylvania citizens.

For the purposes of administering and implementing bureau programs on the ground, the Commonwealth is divided into 20 forest districts. These forest districts serve the “line functions” of the bureau. Field operations in each forest district are supervised by a district forester and conducted by a staff that varies in size according to the specific circumstances in the district.

Each district is responsible for protecting all forest land within the district from fire and destructive insects and disease.

The bureau consists of 536 salary positions including: 83 managers; 187 professional and technical staff (foresters, forest technicians, geologists, botanists, ecologists and program specialists); 58 clerical and administrative personnel; 33 public contact employees (forest rangers); 32 wildfire suppression specialists; and 143 state forest maintenance personnel (equipment operators and maintenance specialists). The bureau also employs 290 seasonal wage staff.

State Forest Operations Budget FY 2014-2015 \$63.4 million



The State Forest Resource Management Plan is on schedule to be updated in 2015. A draft of the plan will be on the Internet in mid-September. Twelve public input sessions are scheduled across the state. Key components of the plan include:

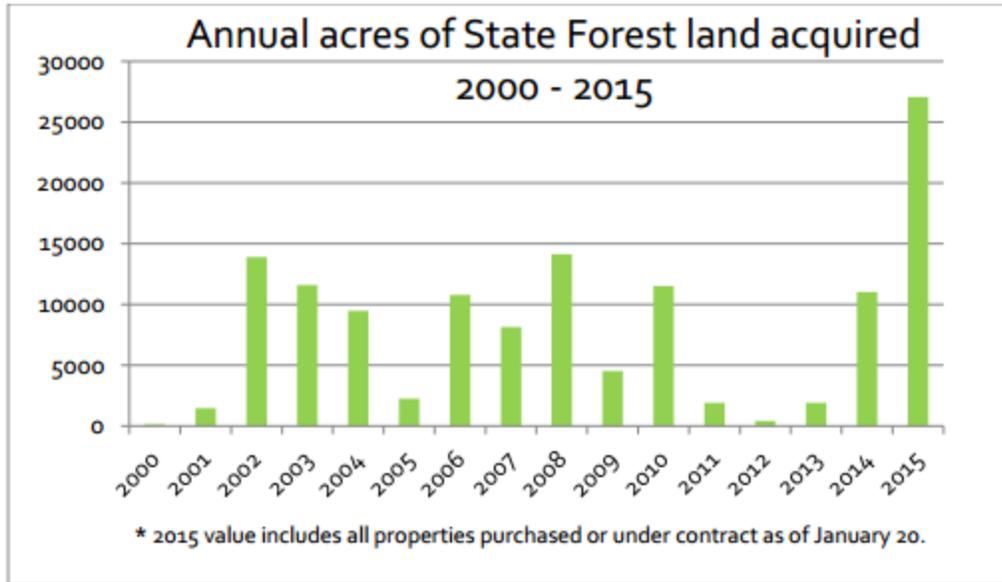
- A zoning system for the state forest to guide land management activities. The state forest has been zoned for various uses and management activities based on environmental considerations as well as desires of the public. The multiple resource zone includes areas actively managed for timber, recreation, and oil and gas development. Buffer zones protect streamside forests and aesthetics along roads and

trails. Wild and Natural areas provide remote recreation opportunities and protect unique habits and special places like remnant old growth forests. Areas zoned for limited use protect water and soil resources on steep hillsides, wetlands, and rocky areas.

- A timber harvest allocation model establishing annual and 10-year harvest goals based on an overall goal to sustainably regenerate the state forest system. The 10- year goals allow for an even flow of forest products and revenue generation. The harvest allocation was developed and adopted with considerable stakeholder involvement. The bureau has just entered the 2nd decade goals for the harvest allocation model in 2014.
- A Recreation Opportunity Spectrum planning tool used to manage and protect landscape-level recreation on state forests.
- Inventory reports communicating forest conditions.
- Guidelines summaries for silviculture, recreation, and oil and gas activities.
- A landscape-level inventory and management process for managing the state forest for a broad array of ecological and social values.

LAND ACQUISITIONS AND EXCHANGES

The Planning Section coordinates land acquisitions and exchanges, and plays a key role whenever land rights are in dispute. Access to a number of funding sources have made possible the purchase of tens of thousands of acres over the past several years. Since 2000, the bureau has acquired approximately 130,000 acres of state forestland Land exchanges provide opportunities for the bureau to acquire lands suitable to our mission while allowing lands more suitable for other purposes to be utilized by other landowners. [The bureau acquired 34,759 acres since September 2014.]



4. Results of the Evaluation

4.1 Existing Corrective Action Requests and Observations

Finding Number: 2014.1	
Select one: <input checked="" type="checkbox"/> Major CAR <input type="checkbox"/> Minor CAR <input type="checkbox"/> Observation	
FMU CAR/OBS issued to (when more than one FMU):	
Deadline	<input type="checkbox"/> Pre-condition to certification <input checked="" type="checkbox"/> 3 months from Issuance of Final Report <input type="checkbox"/> Next audit (surveillance or re-evaluation) <input type="checkbox"/> Other deadline (specify):
FSC Indicator:	FSC-US indicator 4.4.d.
Non-Conformity (or Background/ Justification in the case of Observations): Actions to close Minor CAR 2013.1 were devised, but not implemented. BOF Public Engagement 2014.docx provides an overview of BOF’s public engagement processes. While BOF’s broader approach in its response to the CAR is positive, it has not implemented its public participation process for harvest plans.	
Corrective Action Request (or Observation): The Bureau of Forestry shall clearly define and implement accessible methods for public participation in short-term planning processes, specifically for harvest plans, per the elements of indicator 4.4.d.	
FME response (including any evidence submitted)	Attached is an example of the documents we prepared to address public notification at a local level, as well as our harvest schedule plans. This example is for the Michaux State Forest, which you visited during the audit. The two documents (2015 planned activities and harvest schedule summary) will be posted on each district’s website in the coming weeks/days to clear it up with the final report. [Sample link available:

	<p>http://www.dcnr.state.pa.us/forestry/stateforests/michaux/index.htm click on 'Forest Management' tab.]</p> <p>For each component of indicator 4.4.d, here is how BOF currently meets them: Part 1 is meant to provide public participation in long and short-term planning processes. We do not have a general public notification policy that contradicts a continuously open process.</p> <p>For Part 2, 2015 is the first iteration of these harvest plans, but we do plan on updating these from the districts every 6 months in January and July. For timber sales, the minimum amount of time that a sale could be marked and go to bid in the decision making process would be 4 months, but this is rare and they more typically take about a year. By updating the process every 6 months, we are providing for timber sales and other potential projects a minimum of 60-90 days for public review and input, which is sufficient to learn of projects and comment during the planning process and consider in decisions.</p> <p>For Part 3, with these being posted and revised every 6 months that should give the public time to review and appeal a project or a decision through the chain of command. This was not necessarily clearly identified in the public notification documents, so we revised the language to make this clearer. This general approach to conflict resolution is used for agreements, leases, contracts and other mechanisms for the purpose of resolution. This is also expressed in the public engagement document attached.</p>
SCS review	<p>In addition to showing that comments are solicited through the planned activities and harvest schedule summary available on the web for each state forest, BOF provided a template for these documents. This will allow BOF to track any changes over time and implement them more efficiently. BOF Public Engagement 2014.docx provides an overview of BOF's general public engagement processes and how the public may comment on planning. The continuously open process for public engagement on harvest plans meets the intent of providing a defined and accessible means for public participation on short-term planning processes. BOF provided email records of the letter being sent out on November 24. BOF has ensured that the elements of 4.4.d are met for harvest planning processes and this CAR is closed.</p>
Status of CAR:	<p><input checked="" type="checkbox"/> Closed (Closed by SCS on Dec 10, 2014)</p> <p><input type="checkbox"/> Upgraded to Major</p> <p><input type="checkbox"/> Other decision (refer to description above)</p>

Finding Number: 2014.2	
Select one: <input type="checkbox"/> Major CAR <input checked="" type="checkbox"/> Minor CAR <input type="checkbox"/> Observation	
FMU CAR/OBS issued to (when more than one FMU):	
Deadline	<input type="checkbox"/> Pre-condition to certification <input type="checkbox"/> 3 months from Issuance of Final Report <input checked="" type="checkbox"/> Next audit (surveillance or re-evaluation) <input type="checkbox"/> Other deadline (specify):
FSC Indicator:	SCS COC indicators for FMEs, indicator 2.3
Non-Conformity (or Background/ Justification in the case of Observations): All information a)-g) is included on timber sale contracts. Contract templates include all information. However, on timber sale 04-2011BC04 (8100-FM-FR0113 10/10), BOF's previous certificate code is included, which is no longer valid.	
Corrective Action Request (or Observation): BOF shall ensure that all sales documents issued for outputs sold with FSC claims include the information a)-g) of SCS COC indicator 2.3.	
FME response (including any evidence submitted)	<p>November 2014: Attached are the letters we will be sending to all our 2014 active timber buyers to notify them of the certification code change, should they be affected by any inaccurate timber contracts, as well as a copy of our timber contract depicting the correct code. Although the letter is dated in October, it has not been sent, but should be in the next week or two. We can provide a date at that time if needed to address and close this CAR. If you need anything else, please let me know.</p> <p>December 2014: Attached is the letter and list dated on the day it went out. In addition, we provided the copy of the timber contract that now contains the correct coding (which was corrected in April). The letter provided for 2014.2 was mailed November 24th, 2014 to the active buy list. The contract language is centralized, so there is not a risk of someone using the old template.</p>
SCS review	The letter dated November 21 includes the names of all timber sale buyers that received it, which was sent out on November 24. The contract template now contains the updated certificate code. BOF's actions are sufficient to close this CAR.
Status of CAR:	<input checked="" type="checkbox"/> Closed (Closed by SCS on Dec 10, 2014) <input type="checkbox"/> Upgraded to Major <input type="checkbox"/> Other decision (refer to description above)

4.2 New Corrective Action Requests and Observations

Finding Number: 2015-1	
Select one: <input type="checkbox"/> Major CAR <input type="checkbox"/> Minor CAR <input checked="" type="checkbox"/> Observation	
FMU CAR/OBS issued to (when more than one FMU):	
Deadline	<input type="checkbox"/> Pre-condition to certification <input type="checkbox"/> 3 months from Issuance of Final Report <input type="checkbox"/> Next audit (surveillance or re-evaluation) <input checked="" type="checkbox"/> Other deadline (specify): June 30, 2016
FSC Indicator:	6.6.a No products on the FSC list of Highly Hazardous Pesticides are used.
Background: In February 2015, FSC adopted a new standard listing chemicals considered highly hazardous (FSC-STD-30-001 V1-0; FSC-STD-30-001a). Pesticide use reports from PA DCNR indicate it is using two products on the new HHP list: imidacloprid (CoreTect® used in hemlock wooly adelgid control) and emamectin benzoate (TREE-äge® used in emerald ash borer control). DCNR is leading a multi-state derogation application effort that includes a stakeholder consultation being conducted by FSC-US.	
Observation: Either discontinue use of prohibited HHP chemicals or obtain FSC-approved derogations by June 30, 2016.	
FME response <i>(including any evidence submitted)</i>	
SCS review	
Status of CAR:	<input type="checkbox"/> Closed <input type="checkbox"/> Upgraded to Major <input type="checkbox"/> Other decision (refer to description above)

5. Stakeholder Comments

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

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

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

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

5.1 Stakeholder Groups Consulted

FME Management & Staff	Penn State Research Assistants
Timber Producer	

Stakeholder consultation activities are organized to give participants the opportunity to provide comments according to general categories of interest based on the three FSC chambers, as well as the SCS Interim Standard, if one was used. The table below summarizes the major comments received from stakeholders and the assessment team’s response. Where a stakeholder comment has triggered a subsequent investigation during the evaluation, the corresponding follow-up action and conclusions from SCS are noted below.

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

<input checked="" type="checkbox"/> FME has not received any stakeholder comments from interested parties as a result of stakeholder outreach activities during this annual audit.	
Stakeholder comments	SCS Response
Economic concerns	
Social concerns	
Environmental concerns	

6. Certification Decision

The certificate holder has demonstrated continued overall conformance to the applicable Forest Stewardship Council standards. The SCS annual audit team recommends that the certificate be sustained, subject to subsequent annual audits and the FME’s response to any open CARs.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<p>Comments: A few of the exceptional strengths noted by the auditors during the 2015 audit:</p> <ul style="list-style-type: none"> • Excellent communications and support provided by the Central Office to the Districts. BOF managers noted this has been a special effort and are glad the results are showing. • Collaboration between the BOF and Districts with user groups; NGOs; universities; and other federal, state, county, local governmental agencies. DCNR has multifaceted, strong community relationships. • Confident and expert use of prescribed fire for habitat maintenance and restoration. • Cultural and historic interpretation on all Districts, and also notably of the Gifford Pinchot State Forest as it assimilates former coal mining lands. • Geographic Information System capabilities developed by the Central Office and GIS literacy of field staff. • Eco-Services support for innovative habitat projects and surveys for new land acquisitions. 	

- Public outreach and education efforts exemplified by interpretive displays in District offices, updated forestry publications, and planned stakeholder sessions for the SFRMP update.

7. Changes in Certification Scope

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

Name and Contact Information

Organization name	PA Department of Conservation and Natural Resources, Bureau of Forestry		
Contact person	Michael Hoffman		
Address	PO Box 8552 Harrisburg, PA 17105-8552	Telephone	717-783-0387
		Fax	717-783-5109 (717-783-0389)
		e-mail	michahoffm@pa.gov
		Website	http://www.dcnr.state.pa.us/forestry/index.aspx

FSC Sales Information

<input checked="" type="checkbox"/> FSC Sales contact information same as above.			
FSC salesperson			
Address		Telephone	
		Fax	
		e-mail	
		Website	

Scope of Certificate

Certificate Type	<input checked="" type="checkbox"/> Single FMU		<input type="checkbox"/> Multiple FMU	
	<input type="checkbox"/> Group			
Number of FMUs in scope of certificate	1			
Geographic location of non-SLIMF FMU(s)	Latitude & Longitude:			
Forest zone	<input type="checkbox"/> Boreal		<input checked="" type="checkbox"/> Temperate	
	<input type="checkbox"/> Subtropical		<input type="checkbox"/> Tropical	
Total forest area in scope of certificate which is: Units: <input type="checkbox"/> ha or <input checked="" type="checkbox"/> ac				
privately managed	0			
state managed	2,203,332 - 45,843 (excluded) = 2,157,489			
community managed	0			
Number of FMUs in scope that are:				
less than 100 ha in area	0	100 - 1000 ha in area	0	
1000 - 10 000 ha in area	0	more than 10 000 ha in area	1	
Division of FMUs into manageable units:				

The forests within the FMU are divided into 20 forest districts state-wide.

Production Forests

Timber Forest Products	Units: <input type="checkbox"/> ha or <input checked="" type="checkbox"/> ac
Total area of production forest (i.e. forest from which timber may be harvested)	<p style="text-align: right;">1,101,063</p> <p>Classified "Multiple Resource Management Zone". Timber harvests in other zones may be allowed if warranted under extenuating circumstances.</p>
Area of production forest classified as 'plantation'	None
Area of production forest regenerated primarily by replanting or by a combination of replanting and coppicing of the planted stems	<p>None</p> <p>Natural regeneration is the norm on state forest lands. Although the bureau planted on approximately 3,079 acres in Spring 2015, this was all supplemental planting for recovery efforts in Gypsy Moth salvage operations where there was inadequate natural regeneration. Additional areas are planted to supplement natural regeneration, to increase habitat diversity, or to promote landscape level goals for habitat enhancement, such as increasing conifer cover.</p>
Area of production forest regenerated primarily by natural regeneration, or by a combination of natural regeneration and coppicing of the naturally regenerated stems	<p style="text-align: right;">5,448*</p>
Silvicultural system(s)	Area under type of management
Even-aged management	File reference: Annual Timber Report 2014.
Clearcut (clearcut size range)	<p style="text-align: right;">595*</p>
Shelterwood (initial stage)	<p style="text-align: right;">6,973*</p>
Shelterwood (overstory removal)	<p style="text-align: right;">4,853*</p>
Other:	<p style="text-align: right;">Improvement – 169* Two Aged – 1,060* Two Aged Shelterwood – 307* Salvage – 242* Misc – 161* O&G related - 116 (sold as Uncertified – BF-16 Invoice)</p>

Uneven-aged management	
Individual tree selection	80*
Group selection	
Other:	
<input checked="" type="checkbox"/> Other (e.g. nursery, recreation area, windbreak, bamboo, silvo-pastoral system, agro-forestry system, etc.)	<p>The PA DCNR BOF Nursery (Penn Nursery) which is not included in the certificate is 325 acres. Growing stock is for BOF or State Park use only.</p> <p>There is a golf course lease which is also not included Under the certificate and is 61 acres.</p>
The sustainable rate of harvest (usually Annual Allowable Harvest or AAH where available) of commercial timber (m3 of round wood)	<p>14,778 acres per year</p> <p>87,194 MBF/year Or 303,508 m³</p> <p>This figure includes both sawtimber and cordwood projected by the Harvest Allocation Model</p> <p>Assuming 1,000 board feet = 3.48 cubic meters</p>
Non-timber Forest Products (NTFPs)	
Area of forest protected from commercial harvesting of timber and managed primarily for the production of NTFPs or services	1,103,040 acres are not zoned for multiple resource management. The strictest protected zones are State Forest Natural Areas = 80,648 acres. File Reference: Acres Zoning.xlsx
Other areas managed for NTFPs or services	
Approximate annual commercial production of non-timber forest products included in the scope of the certificate, by product type	No commercial production of NTFPs
Explanation of the assumptions and reference to the data source upon which AAH and NTFP harvest rates estimates are based:	
<p>File References: HarvestAllocationGoals_2014-present.pdf Harvest Allocation Summary.doc Annual Timber Report 2014.pdf2014-2015 Chemical Query.xlsx Acquisition Tables for Audit.xlsx Acres Zoning.xlsx Acres_SFL.pdf</p>	
Species in scope of joint FM/COC certificate: (Scientific / Latin Name and Common / Trade Name)	
<i>Pinus strobus</i> (White Pine), <i>Tsuga Canadensis</i> (Eastern Hemlock), <i>Pinus rigida</i> (Pitch Pine), <i>Pinus virginiana</i> (Virginia Pine), <i>Pinus pungens</i> (Table Mountain Pine), <i>Picea abies</i> (Norway Spruce), <i>Acer</i>	

saccharum (Sugar Maple), Acer rubrum (Red Maple), Quercus rubra (Northern Red Oak), Quercus velutina (Eastern Black Oak), Quercus coccinea (Scarlet Oak), Quercus prinus (Chestnut Oak), Betula alleghaniensis (Yellow Birch), Betula lenta (Sweet Birch), Betula papyrifera (White Birch), Fagus grandifolia (American Beech), Fraxinus Americana (White Ash), Fraxinus pennsylvanica (Green Ash), Tilia americana (Basswood), Liriodendron tulipifera (Tulip Tree), Carya ovata (Shagbark Hickory), Ulmus Americana (American Elm), Populus grandidentata (Big-tooth Aspen), Nyssa sylvatica (Black Gum), Juglans nigra (Black Walnut), Prunus serotina (Black Cherry), Magnolia acuminata (Cucumber Tree), Morus alba (Mulberry).

*Figures reported in amount of acres harvested or treated since last audit

FSC Product Classification

Timber products		
Product Level 1	Product Level 2	Species
W1	W1.1 (Roundwood Logs)	See Above
W1	W1.2 (Fuelwood)	See Above
Non-Timber Forest Products		
Product Level 1	Product Level 2	Product Level 3 and Species
No Commercial Products		

Conservation Areas

Total area of forest and non-forest land protected from commercial harvesting of timber and managed primarily for conservation objectives:		~208,855 ac		
High Conservation Value Forest / Areas				
High Conservation Values present and respective areas:				Units: <input type="checkbox"/> ha or <input checked="" type="checkbox"/> ac
	Code	HCV Type	Description & Location	Area
<input checked="" type="checkbox"/>	HCV1	Forests or areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g. endemism, endangered species, refugia).	Wild Plant Sanctuaries and Ecological Focus Areas	1.1= 9,467 1.2 = 34,718
<input checked="" type="checkbox"/>	HCV2	Forests or areas containing globally, regionally or nationally significant large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance.	Wild Areas Natural Areas > 2,000 Acres Wild Areas Natural Areas > 2,000 Acres William Penn SF Parcels Four Corners	2.1 = 136,462 2.2 = 159,277
<input checked="" type="checkbox"/>	HCV3	Forests or areas that are in or	Old Growth	3.1 = 19,454

		contain rare, threatened or endangered ecosystems.	ROS Primitive Areas >500ac S1 Natural Communities	3.2 = 21,644 3.3 = 955
<input checked="" type="checkbox"/>	HCV4	Forests or areas that provide basic services of nature in critical situations (e.g. watershed protection, erosion control).	Public Drinking Water DEP Buffers. Critical Floodplain	4.1 = 7,432 4.2 = 6,580.02 4.3 = 96
<input type="checkbox"/>	HCV5	Forests or areas fundamental to meeting basic needs of local communities (e.g. subsistence, health).		
<input checked="" type="checkbox"/>	HCV6	Forests or areas critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).	PHMC Archaeological PASS Data	268
<p>Total Area of forest classified as 'High Conservation Value Forest / Area'</p>				<p><u>Total – 208,855.46</u></p> <p>*Note: This is not a sum of all above acres. These areas may duplicate or overlap boundaries. This number is an exact representation of the acres set aside. Acres are subject to change annually as these boundaries may change due to data entry methods and refinement of coarse data.</p>

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

<input type="checkbox"/> <i>N/A – All forestland owned or managed by the applicant is included in the scope.</i>	
<input checked="" type="checkbox"/> <i>Applicant owns and/or manages other FMUs not under evaluation.</i>	
<input type="checkbox"/> <i>Applicant wishes to excise portions of the FMU(s) under evaluation from the scope of certification.</i>	
<p>Explanation for exclusion of FMUs and/or excision:</p>	<p>The DCNR BOF is currently in possession of several properties where timber rights were reserved for a period of time by the seller. The BOF also has one Nursery and one golf course. These properties are excluded from the scope of the certificate.</p> <p>DCNR Bureau of Forestry occasionally</p>

	arranges harvests for other state agencies that are not certified (e.g., Bureau of State Parks). Procedures require that contracts specify “Not FSC-certified” for such sales.	
Control measures to prevent mixing of certified and non-certified product (C8.3):	The FME does not sell certified timber mixed with non-certified timber. Certified sales are designated with the FSC claim and COC code on the first page of the contracts. For uncertified gas development clearings, “BF16 Invoices” with no COC information are used.	
Description of FMUs excluded from, or forested area excised from, the scope of certification:		
Name of FMU or Stand	Location (city, state, country)	Size (<input type="checkbox"/> ha or <input checked="" type="checkbox"/> ac)
EXCLUDED		
District	Acreage	Reason
11	25,606	Timber reservations
4	2363	Timber reservations
1	61	Golf Course – non-forest use
Penn Nursery	325	Not part of a forest mgt property
13	17,488	Timber reservations
		Elk County
		45,843

8. Annual Data Update

8.1 Social Information

Number of forest workers (including contractors) working in forest within scope of certificate (differentiated by gender):
Male workers: 685
Female workers: 121

Additionally, there are 28 Western Pennsylvania Conservancy employees wholly or partially contracted by the Bureau of Forestry.		
Number of accidents in forest work since last audit	Serious: # There were 91 cases tracked in the Office of Administration's compensation database since the last audit.	Fatal: 0

8.2 Annual Summary of Pesticide and Other Chemical Use

<input type="checkbox"/> FME does not use pesticides.					
Commercial name of pesticide / herbicide	Active ingredient	Quantity applied annually (kg or lbs)	Size of area treated during previous year	Reason for use	
<p>Please see the attachment 2014-2015 Chemical Query. BOF's database is too large and complex to report in this form. BOF also can generate chemical use reports for each district via IntraForestry Database. This information is available upon request and was provided to the certification body to maintain in its records.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  2014-2015 Chemical Query.xlsx </div> <div style="text-align: center;">  2015_I&D_chemical_applications.docx </div> </div> <p>Note that BOF is aware of the revised 2015 FSC HHP list. The bureau is leading the nationwide application for derogations for imidacloprid (CoreTect® used in hemlock wooly adelgid control) and emamectin benzoate (TREE-äge® used in emerald ash borer control). Part of the application process includes a stakeholder consultation that is being conducted by FSC-US.</p>					

SECTION B – APPENDICES (CONFIDENTIAL)

Appendix 1 – List of FMUs Selected For Evaluation

- FME consists of a single FMU
 FME consists of multiple FMUs or is a Group

Appendix 2 – List of Stakeholders Consulted

List of FME Staff Consulted

Name		Title	Contact Information	Consultation method
			PA DCNR Contacts Website	Interview in field – all staff
Date	First Name	Last Name	Section/District	Site Visit
08/31/15	Jason	Albright	Director's Office	Rothrock
08/31/15	Robert	Beleski	Silviculture	Rothrock
08/31/15	Mandy J.	Bergoon	Rothrock	Rothrock
08/31/15	Rebecca	Bowen	Eco Services	Rothrock
08/31/15	Tim	Cole	Rothrock District 5	Rothrock
08/31/15	Sharon	Coons	Forest Health	Rothrock
08/31/15	Nathan	Fite	Recreation Section	Rothrock
08/31/15	Zach	Hetrick	Rothrock	Rothrock
08/31/15	Michael	Hoffman	Planning	Rothrock
08/31/15	Mike	Kern	Fire Protection	Rothrock
08/31/15	Ben	Livelsberger	Silviculture	Rothrock
08/31/15	Mark	Long	Rothrock District 5	Rothrock
08/31/15	Jake	Mazzei	Rothrock	Rothrock
08/31/15	Ethan	Park	Rothrock	Rothrock
08/31/15	Amanda	Parks	Inv/Mon and Planning	Rothrock
08/31/15	Joe	Petroski	Geospatial Applications	Rothrock
08/31/15	Mark	Potter	Rothrock	Rothrock
08/31/15	Zack	Roeder	Planning	Rothrock
08/31/15	Ryan	Szuch	Planning	Rothrock
08/31/15	Josh	Thompson	Rothrock	Rothrock
08/31/15	Bob	Wetzel	Rothrock	Rothrock
08/31/15	David	Yeager	Rothrock	Rothrock
09/01/15	Jason	Albright	Director's Office	Bald Eagle
09/01/15	Mike	Becker	District 07	Bald Eagle
09/01/15	Bob	Beleski	Silviculture	Bald Eagle
09/01/15	Rebecca	Bowen	Eco Services	Bald Eagle
09/01/15	Travis	Deluca	District 07	Bald Eagle

09/01/15	Amy	Griffith	D7 District Forester	Bald Eagle
09/01/15	Michael	Hoffman	Planning	Bald Eagle
09/01/15	Mark	Hofmann	District 07	Bald Eagle
09/01/15	Peter	Johnson	D7 Asst. District Forester	Bald Eagle
09/01/15	Emily	Just	Eco Services	Bald Eagle
09/01/15	Ben	Livelsberger	Silviculture	Bald Eagle
09/01/15	Scott	Miller	Silviculture	Bald Eagle
09/01/15	Amanda	Parks	Inv/Mon and Planning	Bald Eagle
09/01/15	Joe	Petroski	Geospatial Applications	Bald Eagle
09/01/15	John	Portzline	District 07	Bald Eagle
09/01/15	Andrew	Rohrbaugh	Eco Services	Bald Eagle
09/01/15	Daniel	Smith	District 07	Bald Eagle
09/01/15	Ryan	Szuch	Planning	Bald Eagle
09/01/15	Bob	Beleski	Silviculture	Weiser
09/01/15	Rebecca	Bowen	Eco Services	Weiser
09/01/15	Andrew	Brought	D 18 Forester	Weiser
09/01/15	Jean	Devlin	Communications	Weiser
09/01/15	Jake	Glick	D 18 Fire Forester	Weiser
09/01/15	Wes	Harner	D 18 Forester	Weiser
09/01/15	Michael	Hoffman	Planning	Weiser
09/01/15	Emily	Just	Eco Services	Weiser
09/01/15	Matt	Keefer	Director's Office	Weiser
09/01/15	Bob	Kurilla	D 18 An F	Weiser
09/01/15	Tim	Ladner	FD 18 -- DF	Weiser
09/01/15	Ben	Livelsberger	Silviculture	Weiser
09/01/15	R	Martynowych	D 18 Forester	Weiser
09/01/15	Scott	Miller	Silviculture	Weiser
09/01/15	Jake	Novitsky	D 18 Forester	Weiser
09/01/15	Joe	Petroski	Geospatial Applications	Weiser
09/01/15	Brian	Price	Ranger	Weiser
09/01/15	Lucas	Repa	D 18 Forest Tech	Weiser
09/01/15	Andrew	Rohrbaugh	Eco Services	Weiser
09/01/15	Frank	Snyder	D 18 Service Forester	Weiser
09/01/15	Ryan	Szuch	Planning	Weiser
09/01/15	Michael	Walker, Jr.	D 18 Forest Tech	Weiser
09/01/15	Jeff	Woleslagle	Communications	Weiser
09/01/15	Steve	Ziegler	D 18 Forester	Weiser
09/01/15	Nick	Zulhi	D 18 ADF	Weiser
09/02/15	Chris	Cayaon	FD 11	Gifford Pinchot
09/02/15	Don	Egoen	Division of Forest Health	Gifford Pinchot
09/02/15	Ben	Hardy	FD 11	Gifford Pinchot
09/02/15	Michael	Hoffman	Planning	Gifford Pinchot

09/02/15	Matt	Keefer	Director's Office	Gifford Pinchot
09/02/15	Tim	Latz	FD 11	Gifford Pinchot
09/02/15	Nick	Lylo	FD 11	Gifford Pinchot
09/02/15	John	Maza	D 11	Gifford Pinchot
09/02/15	Joe	Newell	FD 11	Gifford Pinchot
09/02/15	Joe	Petroski	Geospatial Applications	Gifford Pinchot
09/02/15	Joe	Polaski	FD 11	Gifford Pinchot
09/02/15	Ellen	Schultzebarger	Conservation Sci and Eco Resources	Gifford Pinchot
09/02/15	Kelly	Sitch	Eco Services	Gifford Pinchot
09/02/15	Ryan	Szuch	Planning	Gifford Pinchot
09/02/15	Joe	Ulozas	FD 11	Gifford Pinchot

List of other Stakeholders Consulted

Name	Organization	Contact Information	Consultation method	Requests Cert. Notf.
David Yoder	Logger		Interview in field	N
Alex Dison	Penn State Research Asst.	Dr. Chris Howe	Interview in field	N
Allison Hoestra	Penn State Research Asst.	Dr. Chris Howe	Interview in field	N

Appendix 3 – Additional Audit Techniques Employed

None.

Appendix 4 – Pesticide Derogations

<input checked="" type="checkbox"/> There are no active pesticide derogations for this FME.		
Name of pesticide / herbicide (active ingredient)		Date derogation approved
Condition	Conformance (C / NC)	Evidence of progress

Appendix 5 – Detailed Observations

Evaluation Year	FSC P&C Reviewed
2013	All – (Re)certification Evaluation
2014	1.5, 2.1, 2.2, 2.3, 3.1, 3.2, 3.3, 3.4, 4.2, 4.4, 5.6, 6.2, 6.3, 6.5, 6.7, 6.8, 6.9, 8.2, 8.3 (SCS COC indicators), and 9.4.
2015	1.1, 1.2, 1.3, 1.4, 1.5, 1.6, 2.3, 3.2, C4.1, 4.2, 4.4, 4.5, 5.1, 5.2, 5.3, 5.4, 5.5, 5.6, 6.2, 6.3, 6.6, 6.9, 8.2, 9.4

	 2015_PA_DCNR_FSC_Criteria.xlsx
2016	
2017	

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

FSC Principles Checklist

FSC Forest Management Standard (v1.0)—United States

REQUIREMENT	C/NC	COMMENT/CAR
Principle #1: Compliance with Laws and FSC Principles Forest management shall respect all applicable laws of the country in which they occur, and international treaties and agreements to which the country is a signatory, and comply with all FSC Principles and Criteria.		
1.1 Forest management shall respect all national and local laws and administrative requirements.	C	
1.1.a Forest management plans and operations demonstrate compliance with all applicable federal, state, county, municipal, and tribal laws, and administrative requirements (e.g., regulations). Violations, outstanding complaints or investigations are provided to the Certifying Body (CB) during the annual audit.	C	PA DCNR exhibits strong conformance with laws, rules, and regulations. There are no enforcement actions against the agency related to compliance with applicable federal, state, or local forestry and related environmental laws and regulations.
1.1.b To facilitate legal compliance, the forest owner or manager ensures that employees and contractors, commensurate with their responsibilities, are duly informed about applicable laws and regulations.	C	DCNR has an extensive set of internal administrative policies that assure compliance with laws. Training is provided to employees to make them aware of requirements. Notices and updates to policies are regularly distributed. Department legal staff advises the agency. Interviews with staff indicate that the Pennsylvania State Code is readily available via the Internet . Timber sale contracts include a section on “CONTRACTOR INTEGRITY PROVISIONS” (Timber Sale Contract FMT4.PDF Exhibit E) that summarizes applicable laws and regulations.
1.2. All applicable and legally prescribed fees,	C	

<p>royalties, taxes and other charges shall be paid.</p>		
<p>1.2.a The forest owner or manager provides written evidence that all applicable and legally prescribed fees, royalties, taxes and other charges are being paid in a timely manner. If payment is beyond the control of the landowner or manager, then there is evidence that every attempt at payment was made.</p>	<p>C</p>	<p>The Department is required by statute to pay aid in lieu of taxes of \$1.20 per acre to municipalities in which State Forest lands are located (Pennsylvania Forest Reserves Municipal Financial Relief Law). Interview with Assistant State Forester confirmed the annual payments are made by electronic transfer, with copies to the State Comptroller via a network system to verify the transfers.</p> <p>Fees associated with gas and oil leases are also shared with local governments, but the revenue is collected by the state Utility Commission, which is responsible for disbursement to other units of government. An interactive website (accessed 9/5/2015) shows how PA oil and gas fees are distributed.</p>
<p>1.3. In signatory countries, the provisions of all binding international agreements such as CITES, ILO Conventions, ITTA, and Convention on Biological Diversity, shall be respected.</p>	<p>C</p>	
<p>1.3.a. Forest management plans and operations comply with relevant provisions of all applicable binding international agreements.</p>	<p>C</p>	<p>State Code and statutes include protocols for implementation of binding international agreements. § 7a.46. Resolving conflicts with other jurisdictions reads: “It is not the intention of this subchapter to violate or conflict with any international treaty or reciprocal preference statute of another jurisdiction.” There is no evidence to suggest the DCNR does not abide by written protocols.</p> <p>PA DCNR webpages that describe protected species include reference to CITES (e.g., ginseng harvest).</p>
<p>1.4. Conflicts between laws, regulations and the FSC Principles and Criteria shall be evaluated for the purposes of certification, on a case by case basis, by the certifiers and the involved or affected parties.</p>	<p>C</p>	
<p>1.4.a. Situations in which compliance with laws or regulations conflicts with compliance with FSC Principles, Criteria or Indicators are documented and referred to the CB.</p>	<p>C</p>	<p>The audit team found no evidence of any conflicts between laws and the FSC-US Forest Management Standard. DCNR actively communicates with SCS and FSC-US on concerns related to the standard.</p>
<p>1.5. Forest management areas should be protected from illegal harvesting, settlement and other unauthorized activities.</p>	<p>C</p>	

<p>1.5.a. The forest owner or manager supports or implements measures intended to prevent illegal and unauthorized activities on the <i>Forest Management Unit</i> (FMU).</p>	<p>C</p>	<p>For general unauthorized activities by forest visitors, the Bureau’s Ranger Program employs 38 wage and salaried Forest Rangers. The role of Forest Rangers is to provide visitor services, educational programs and information, and to enforce Forestry Rules and Regulations and Commonwealth laws. Rangers have full state police powers and address minor violations occurring on DCNR lands.</p> <p>In addition, salary employees in various job classifications become State Forest Officers who have authority to enforce various state forest rules and regulations and only have jurisdiction on state forest lands. When observing violations of laws, rules, or regulations, they do not have the authority to enforce and refer information concerning a violation to a Forest Ranger or other appropriate police or legal authorities. The Bureau has 284 personnel with State Forest Officer duties.</p> <p>2015 site visits included evidence of cooperation between Forest Districts and County Sheriffs. (e.g. Bald Eagle field site #3). Also, mine reclamation work on Pinchot Forest is expected to help put an end to illegal dumping on the tract (Pinchot field site #3).</p>
<p>1.5.b. If illegal or unauthorized activities occur, the forest owner or manager implements actions designed to curtail such activities and correct the situation to the extent possible for meeting all land management objectives with consideration of available resources.</p>	<p>C</p>	<p>In 2014, there were two separate incidents involving illegal harvesting of ginseng. One occurred in Forbes State Forest and involved the finding of recently harvested ginseng tops. Investigation followed, but no suspects were identified. The second occurred in Loyalsock State Forest. Suspects were contacted in possession of ginseng. Citations were filed.</p> <p>On the 2015 Bald Eagle State Forest audit site visits, BOF personnel called in the law enforcement authorities to investigate suspicious circumstances surrounding an overturned car on a state forest road.</p> <p>At the field level, signage and gates were observed to deter unlawful uses of forest resources. Permits are required for firewood harvests to control collection times and types of wood collected. While the level of</p>

		involvement varies on state forests, the use of volunteer trail maintenance crews has led to a certain degree of self-policing among recreational users to reduce negative impacts to soil and water resources.
1.6. Forest managers shall demonstrate a long-term commitment to adhere to the FSC Principles and Criteria.	C	
1.6.a. The forest owner or manager demonstrates a long-term commitment to adhere to the FSC Principles and Criteria and FSC and FSC-US policies, including the FSC-US Land Sales Policy, and has a publicly available statement of commitment to manage the FMU in conformance with FSC standards and policies.	C	PA DCNR has been FSC-certified since 1998 – the first certified state agency in U.S. The SFRMP includes an FSC Commitment. An FSC commitment is also posted on the DCNR Forest Certification Internet page (accessed Sep 5, 2015).
1.6.b. If the certificate holder does not certify their entire holdings, then they document, in brief, the reasons for seeking partial certification referencing FSC-POL-20-002 (or subsequent policy revisions), the location of other managed forest units, the natural resources found on the holdings being excluded from certification, and the management activities planned for the holdings being excluded from certification.	C	The DCNR BOF is currently in possession of 45,843 acres excluded from the scope of the certificate. This includes land where timber rights were reserved for a period of time by the seller (about 45,500 a.), a tree nursery and one golf course. DCNR Bureau of Forestry occasionally arranges harvests for other state agencies that are not certified (e.g., Bureau of State Parks). Procedures require that contracts specify “Not FSC-certified” for such sales. Likewise, the timber sale process for land clearing related to gas well development excludes harvest volume from FSC claims.
1.6.c. The forest owner or manager notifies the Certifying Body of significant changes in ownership and/or significant changes in management planning within 90 days of such change.	C	Long history of FSC certification and interaction with CBs demonstrates conformance. See land acquisition report in BOF Transition Document.
Principle #2: Long-term tenure and use rights to the land and forest resources shall be clearly defined, documented and legally established.		
2.1. Clear evidence of long-term forest use rights to the land (e.g., land title, customary rights, or lease agreements) shall be demonstrated.	NE	
2.2. Local communities with legal or customary tenure or use rights shall maintain control, to the extent necessary to protect their rights or resources, over forest operations unless they delegate control with free and informed consent to other agencies. <i>Applicability Note: For the planning and management of publicly owned forests, the local community is</i>	NE	

<p><i>defined as all residents and property owners of the relevant jurisdiction.</i></p>		
<p>2.3. Appropriate mechanisms shall be employed to resolve disputes over tenure claims and use rights. The circumstances and status of any outstanding disputes will be explicitly considered in the certification evaluation. Disputes of substantial magnitude involving a significant number of interests will normally disqualify an operation from being certified.</p>	<p>C</p>	
<p>2.3.a If <i>disputes</i> arise regarding tenure claims or use rights then the forest owner or manager initially attempts to resolve them through open communication, negotiation, and/or mediation. If these good-faith efforts fail, then federal, state, and/or local laws are employed to resolve such disputes.</p>	<p>C</p>	<p>With almost 2.2 million acres of state forestland, BOF manages a large amount of boundary line and disputes do arise. In all cases, BOF resolves the matters through inspection of the situation by land surveyors and advice from legal counsel.</p> <p>The 2015 annual update summary provided by BOF includes the following example of a land boundary dispute settlement:</p> <p>On December 19th of 2008, DCNR closed on the purchase of a parcel of ground known as the Leslie tract, in Jackson Township, Cambria County. This land was purchased from the Western Pennsylvania Conservancy, with DCNR Community Conservation Partnerships Program grant funding. The tract became part of Gallitzin State Forest.</p> <p>A boundary survey was performed in 2008 by Brian Kelly, PLS, on behalf of Mr. and Mrs. Myers. This survey differed from a 1961 boundary survey performed by J.C. Buckley for the Department. The 2008 survey placed the northern boundary line further to the north than the 1961 Buckley survey, and “increased” the acreage by 60 acres. Prior to closing on the purchase, concerns were voiced by the Department about the line discrepancy and the potential for conflict with the property owner to the north of the Leslie tract, the Johnstown Rod and Gun Club. Mr. Kelly responded in writing with an explanation as to what caused the discrepancy, and stated that title to the tract was not affected by the</p>

		<p>discrepancy. He claimed the Buckley survey of the northern property line was incorrect, and that he had the documentation and research to prove his placement of the northern boundary line. The Department relied upon his statements and went forward with the purchase.</p> <p>In 2011, the Johnstown Rod and Gun Club had their property surveyed by Kimball and Associates. The 2011 Kimball survey shows the same line discrepancy as previously identified, resulting in a land dispute to the 60 acre portion of the Leslie tract. Given the survey discrepancies, DCNR and the Johnstown Rod and Gun Club appear willing to split the 60 acre tract. DCNR suggests that the establishment of the agreed upon boundary line be accomplished through the use of a boundary line agreement to be recorded in Cambria County.</p> <p>During a 2015 site visit to the Weiser State Forest, staff described a lawsuit (Feudale v. Aqua Pa., Inc., PICS Case No. 15-1213 Pa Commonwealth July 22, 2015) that had been filed in State Court to stop a timber harvest and improvement of a municipal water supply system located on the forest. The State Court dismissed the case, but the petitioner recently appealed the decision to the State Supreme Court. Clearly, a legal dispute resolution process exists, and it is being followed.</p>
<p>2.3.b The forest owner or manager documents any significant disputes over tenure and use rights.</p>	<p>C</p>	<p>See 2.3.a. Disputes over tenure and use rights are handled using a combination of district and central office staff, and always require documentation for tracking purposes.</p>
<p>Principle #3: The legal and customary rights of indigenous peoples to own, use and manage their lands, territories, and resources shall be recognized and respected.</p>		
<p>3.1. Indigenous peoples shall control forest management on their lands and territories unless they delegate control with free and informed consent to other agencies.</p>	<p>NE</p>	
<p>3.2. Forest management shall not threaten or diminish, either directly or indirectly, the resources or tenure rights of indigenous peoples.</p>	<p>C</p>	

<p>3.2.a During management planning, the forest owner or manager consults with American Indian groups that have legal rights or other binding agreements to the FMU to avoid harming their resources or rights.</p>	<p>C</p>	<p>BOF did not have any management activities in 2014-15 that affected the legal or informal rights of indigenous people.</p> <p>BOF has invited participation from American Indian groups during management plan and maintains a contact list of tribal contacts (last updated Aug 27, 2015). The state also maintains a Tribal Consultation webpage with detailed guidance (site visited Sep 5, 2015).</p>
<p>3.2.b Demonstrable actions are taken so that forest management does not adversely affect tribal resources. When applicable, evidence of, and measures for, protecting tribal resources are incorporated in the management plan.</p>	<p>C</p>	<p>PennDOT and the Pennsylvania Historic and Museum Commission (PHMC) created the Cultural Resources Geographic Information System (CRGIS). The CRGIS is a password protected database that depicts on USGS topographic maps, prehistoric sites, historic resources, and completed archaeological surveys. Details about the database, mapping and protections are described in the BOF Silviculture Manual.</p>
<p>3.3. Sites of special cultural, ecological, economic or religious significance to indigenous peoples shall be clearly identified in cooperation with such peoples, and recognized and protected by forest managers.</p>	<p>NE</p>	
<p>3.4. Indigenous peoples shall be compensated for the application of their traditional knowledge regarding the use of forest species or management systems in forest operations. This compensation shall be formally agreed upon with their free and informed consent before forest operations commence.</p>	<p>NE</p>	
<p>Principle #4: Forest management operations shall maintain or enhance the long-term social and economic well-being of forest workers and local communities.</p>		
<p>4.1. The communities within, or adjacent to, the forest management area should be given opportunities for employment, training, and other services.</p>	<p>C</p>	
<p>4.1.a Employee compensation and hiring practices meet or exceed the prevailing <i>local</i> norms within the forestry industry.</p>	<p>C</p>	<p>The DCNR and BOF provide quality employment opportunities using primarily civil service hiring practices and negotiated compensation packages. In 2013, managers received a total of 2.75% pay raises, in line with union raises. In 2014, manager raises were set to match union raises, totaling 4.75 percent. A recent DCNR Human Resources pay study found that forest manager pay levels are comparable to those in other states in the mid-Atlantic region.</p>

		<p>Pennsylvania makes state salaries available online and it updates them on a monthly basis.</p>
<p>4.1.b Forest work is offered in ways that create high quality job opportunities for employees.</p>	<p>C</p>	<p>Positions are developed that provide diverse job opportunities, and staff members are able to engage in special areas of interest within the Districts. Employees may start as part-time, seasonal, or interns and advance into other positions.</p>
<p>4.1.c Forest workers are provided with fair wages.</p>	<p>C</p>	<p>During a 2015 site visit interview, a logger expressed satisfaction with availability of state timber sales. In general, the state logging community appears to be fairly stable, and most timber harvest proposals receive multiple bids indicating a willingness to accept the available compensation.</p> <p>National salary data (Bureau of Labor Statistics) indicates that PA logger pay is close to the national average of \$35,034/year:</p>  <p>Graphic from Salary.com.</p>
<p>4.1.d Hiring practices and conditions of employment are non-discriminatory and follow applicable federal, state and local regulations.</p>	<p>C</p>	<p>Hiring practices are covered by Pennsylvania civil service regulations.</p>
<p>4.1.e The forest owner or manager provides work opportunities to qualified local applicants and seeks opportunities for purchasing local goods and services of equal price and quality.</p>	<p>C</p>	<p>Work opportunities are offered internally and externally. Qualifications are determined by the position and within the civil service requirements (e.g., testing procedures, etc.). Many employees, workers, services and goods are sourced locally (e.g., employees are local residents, contractors live locally, utilities and other services are provided locally).</p>
<p>4.1.f Commensurate with the size and scale of operation, the forest owner or manager provides and/or supports learning opportunities to improve public understanding of forests and forest management.</p>	<p>C</p>	<p>BOF has made a strong commitment to supporting public knowledge and understanding of forestry and forests in Pennsylvania. Efforts include news releases, social media, interpretive centers, interpretive trails and signage, and newsletters. The BOF has also recently increased activities for Project Learning Tree (PLT) and other environmental education efforts.</p>

		<p>During the 2015 site visits, the BOF Communications Section Chief met with the auditors and provided copies of recently updated publications. The Weiser State Forest Visitor Center (like other recently updated DCNR facilities) includes professionally designed educational exhibits observed by the auditors.</p>
<p>4.1.g The forest owner or manager participates in local economic development and/or civic activities, based on scale of operation and where such opportunities are available.</p>	<p>C</p>	<p>The 2015 site visits included the Musser Gap Trail on the Rothrock State Forest. The trail, located near State College, was developed with the assistance of community interest groups in part to stimulate visitation and local recreational opportunities.</p> <p>2015 interviews with the District Forester at the Gifford Pinchot State Forest indicate that cultural interpretation of the property’s coal mining heritage is part of a regional tourism effort.</p> <p>Many BOF employees are active community members, and engaged in civic activities. Activities include public presentations, working weekend and extended hours to participate in meetings, hosting tours, and work with local businesses and schools.</p>
<p>4.2. Forest management should meet or exceed all applicable laws and/or regulations covering health and safety of employees and their families.</p>	<p>C</p>	
<p>4.2.a The forest owner or manager meets or exceeds all applicable laws and/or regulations covering health and safety of employees and their families (also see Criterion 1.1).</p>	<p>C</p>	<p>There have been 115 workers’ compensation claims tracked since the last audit. These were all covered by workman’s compensation and are tracked by DCNR’s Bureau of Human Resources.</p> <p>As of the end of June 2015, DCNR achieved a 9.8% decrease in reported injuries when compared to the past fiscal year. When comparing costs between the two years, there was an increase in projected costs of \$194,399 dollars this fiscal year.</p>
<p>4.2.b The forest owner or manager and their employees and contractors demonstrate a safe work environment. Contracts or other written agreements include safety requirements.</p>	<p>C</p>	<p>Timber harvest contracts examined at all districts cite OSHA and legal requirements as safety requirements. A herbicide application contract requires that applicators be licensed and has other specific provisions for safe operations.</p>

		<p>The 2015 site visits included an interview with an active logger. He described SFI safety/BMP training he renews every-other year. He uses chaps, hardhat, eye protection, gloves and other PPE when using chain saws. A cell phone is available to call for help if needed. A spill kit and first-aid supplies were available in the truck. A fire extinguisher in the skidder was up-to-date.</p> <p>The 2015 site visits included interviews with two research assistants from Penn State who were conducting rattle snake surveys. They had received safety training and were wearing appropriate PPE.</p>
<p>4.2.c The forest owner or manager hires well-qualified service providers to safely implement the management plan.</p>	<p>C</p>	<p>BOF requires SFI training for operators and copies of training documentation was included in the contract files and confirmed through stakeholder interviews. Interviews with logger demonstrated a high level of conformance to this indicator.</p>
<p>4.3 The rights of workers to organize and voluntarily negotiate with their employers shall be guaranteed as outlined in Conventions 87 and 98 of the International Labor Organization (ILO).</p>	<p>NE</p>	
<p>4.4. Management planning and operations shall incorporate the results of evaluations of social impact. Consultations shall be maintained with people and groups (both men and women) directly affected by management operations.</p>	<p>C</p>	
<p>4.4.a The forest owner or manager understands the likely social impacts of management activities, and incorporates this understanding into management planning and operations. Social impacts include effects on:</p> <ul style="list-style-type: none"> • Archeological sites and sites of cultural, historical and community significance (on and off the FMU); • Public resources, including air, water and food (hunting, fishing, collecting); • Aesthetics; • Community goals for forest and natural resource use and protection such as employment, subsistence, recreation and health; • Community economic opportunities; • Other people who may be affected by 	<p>C</p>	<p>The Bureau of Forestry evaluates social impacts at a statewide level, and in each district. State forests are managed for all Pennsylvanians, and each district interacts with its surrounding communities. The Bureau employees many tools to evaluate social impacts, the following examples illustrate such efforts:</p> <ul style="list-style-type: none"> - <u>HHP Derogations</u>: The bureau is leading the nationwide application for derogations for HHPs, imidacloprid and emamectin benzoate. Part of the application process includes a stakeholder consultation that is being conducted by FSC-US. - <u>Advisory committees</u>: Collaboration, facilitation, information sharing, and informal dialogue are key principles that guide the Bureau of Forestry’s advisory committees. The Bureau’s approach to

<p>management operations. A summary is available to the CB.</p>		<p>promoting stakeholder feedback and methods for managing public meetings. The Bureau provides specific mechanisms and encourages stakeholders with divergent interests to express their viewpoints and recommendations in an atmosphere that promotes common understandings and acknowledges differing opinions. Gathering diverse opinions allows us to make better, more-informed decisions. This informal approach allows for greater dialogue and transparency and produces recommendations and other products supported and understood by all committee members. If the group identifies differing recommendations, then those differences are noted and provided. The group typically does not vote on recommendations. The recommendations are provided to DCNR for consideration.</p> <ul style="list-style-type: none"> - <u>SFRMP survey</u>: The Bureau of Forestry is revising the State Forest Resource Management Plan. The Bureau created a survey as part of the public participation process for the plan revision. The survey helps the Bureau understand and consider the public’s interest as the plan is revised. Survey questions were about considerations, values, and satisfaction regarding state forest management activities. The survey was posted on the Bureau of Forestry website, promoted with a press release, and emails were sent to district stakeholder lists, and statewide lists. Additional opportunities for public input through the process will include written comment and public meetings. - <u>SCORP</u>: The State Comprehensive Outdoor Recreation Plan (SCORP) is a plan including a research component that the states prepare and submit to qualify for Land and Water Conservation Fund grants. The bureau of forestry is engaged in the DCNR effort to develop the plan. The research was in its infancy through 2013, but has included a statistically valid representative resident survey, an open stakeholder survey, a provider survey, and will continue to engage and understand citizens,
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		<p>communities, and stakeholders statewide.</p> <ul style="list-style-type: none"> - <u>VUM</u>: The Bureau of Forestry is engaged in research mirroring the National Visitor Use Monitoring Program. The goals are to produce estimates of the volume of visitation to state forests, and to produce descriptive information about that visitation, including; activity participation, demographics, visit duration, and trip spending connected to the visit. Studies have been initiated in two districts per year for five years. - <u>Social monitoring (shale gas)</u>: The Bureau of Forestry monitoring program has focused on shale-gas monitoring, and includes a social monitoring specialist. Components of social monitoring have included: focus groups, gas tour surveys, district comment cards, Recreation Opportunity Spectrum analysis, noise monitoring, and aesthetic/viewshed assessment. Many of these items were reflected in the 2014 Shale Gas Monitoring Report (Recreation and Community Engagement chapters). - <u>District projects</u>: Each of the 20 forest districts, and Penn Nursery engage stakeholders such as Fire Wardens meetings, Camp Lessees, Conservation Volunteers, or other groups related to specific projects, issues or interests. These outreach efforts provide ongoing feedback on district and state wide management. Additionally, each forest district prepares an annual proposed activity summary.
<p>4.4.b The forest owner or manager seeks and considers input in management planning from people who would likely be affected by management activities.</p>	<p>C</p>	<p>As a public agency, the bureau has many efforts to communicate with the public and makes every effort to respond to all requests, concerns, ideas, or thoughts. It continuously receive stakeholder comments through a variety of methods and responds accordingly. It also has a formal process to respond to 'log letters' that include inquiry from the governor's office, inquiries from legislators regarding constituent concerns, or inquiries directly to our executive staff.</p> <p>The Bureau provides very open opportunities to</p>

		<p>engage with the public and receive comments through the availability of comment cards at the district offices, through emails received at the public PA_Forester email account, and participation in the widely attended PA Farm Show and Outdoorsman Show, and at local county fairs.</p> <p>The Bureau is posting data relating to the Shale Gas Monitoring Report on its public website for public use and consumption. The Bureau began by posting water and infrastructure data and is now reporting on: air quality, flora, forest health, forest landscape, incidents, recreation, revenue, soil, and timber as well. This was in response to stakeholders’ interest in viewing the source data for the analysis in the report.</p>
<p>4.4.c People who are subject to direct adverse effects of management operations are apprised of relevant activities in advance of the action so that they may express concern.</p>	<p>C</p>	<p>See Advisory committees, Social monitoring (shale gas), and other items in 4.4.a and 4.4.b.</p> <p>Interviews with foresters on each of the State Forest districts visited in 2015 indicate they contact neighboring landowners and cabin lease holders when a timber harvest is planned in their vicinity.</p> <p>On the Gifford Pinchot State Forest, adjacent communities were advised in advance about planned work to mitigate former open pit coal mine hazards and water runoff. See 2015 field site notes.</p> <p>On the Weiser State Forest, the public was advised in advance of planned timber harvests and an upgrade of a pipe related to an Aqua PA water right holding. A citizen expressed his concern by filing for a court injunction to stop the projects.</p>
<p>4.4.d For <i>public forests</i>, consultation shall include the following components:</p> <ol style="list-style-type: none"> 1. Clearly defined and accessible methods for public participation are provided in both long and short-term planning processes, including harvest plans and operational plans; 2. Public notification is sufficient to allow interested stakeholders the chance to learn of upcoming opportunities for public review and/or comment on the proposed management; 	<p>C</p>	<p>BOF Consultation includes the following components:</p> <ol style="list-style-type: none"> 1. Web sites for each State Forest include a “Forest Management” tab, which provides links to planned activities. Public engagement opportunities are clearly listed. Example for the Rothrock S.F. 2. Timber harvest plans are posted under the State Forests’ “Forest Management” tabs. By updating the process every 6 months, BOF provides a minimum of 60-90 days for public review and input, which is sufficient to learn of projects and

<p>3. An accessible and affordable appeals process to planning decisions is available. Planning decisions incorporate the results of public consultation. All draft and final planning documents, and their supporting data, are made readily available to the public.</p>		<p>comment during the planning process and consider in decisions.</p> <p>3. The public can request review and appeal a project or a decision through the chain of command. This general approach to conflict resolution is used for agreements, leases, contracts and other mechanisms for the purpose of resolution.</p> <p>2015 interviews with Planning Section staff indicate the State Forest Resource Management Plan is on schedule to be updated this year. A draft of the plan will be on the Internet in mid-September. Twelve public input sessions are scheduled across the state.</p>
<p>4.5. Appropriate mechanisms shall be employed for resolving grievances and for providing fair compensation in the case of loss or damage affecting the legal or customary rights, property, resources, or livelihoods of local peoples. Measures shall be taken to avoid such loss or damage.</p>	<p>C</p>	
<p>4.5.a The forest owner or manager does not engage in negligent activities that cause damage to other people.</p>	<p>C</p>	<p>There was no evidence found during the audit that indicated negligent activities by the BOF. Signs are posted to warn of truck traffic and other conditions that may create a hazardous situation and gates may be closed to prevent entry during activities.</p> <p>During the 2015 Pinchot State Forest visit to a mine reclamation site, closed area signs were clearly posted and the project gated. A mine inspector stopped the audit crew to verify what we were doing there.</p> <p>Rx burning projects must follow an approved plan that includes safe weather and staffing parameters.</p>
<p>4.5.b The forest owner or manager provides a known and accessible means for interested stakeholders to voice grievances and have them resolved. If significant disputes arise related to resolving grievances and/or providing fair compensation, the forest owner or manager follows appropriate dispute resolution procedures. At a minimum, the forest owner or manager maintains open communications, responds to grievances in a timely manner, demonstrates ongoing good faith efforts to resolve the grievances, and maintains records of legal suits and claims.</p>	<p>C</p>	<p>Individuals and organizations are able to easily contact personnel (contact information is provided online). The BOF maintains open communications (an open door policy) and demonstrated a commitment to prioritizing the resolution of conflicts in a timely, consistent, and thoughtful manner. Records of legal conflicts are maintained and were provided to the CB for review.</p>

<p>4.5.c Fair compensation or reasonable mitigation is provided to local people, communities or adjacent landowners for substantiated damage or loss of income caused by the landowner or manager.</p>	<p>C</p>	<p>BOF utilizes legal staff and other professionals such as real estate specialists to aid in determining fair compensation and mitigation procedures when the need arises (e.g., land exchanges, boundary disputes, etc). See 2015 site notes for Reliability Power Line ROW, including a negotiated agreement with the power utility.</p>
<p>Principle #5: Forest management operations shall encourage the efficient use of the forest’s multiple products and services to ensure economic viability and a wide range of environmental and social benefits.</p>		
<p>5.1. Forest management should strive toward economic viability, while taking into account the full environmental, social, and operational costs of production, and ensuring the investments necessary to maintain the ecological productivity of the forest.</p>	<p>C</p>	
<p>5.1.a The forest owner or manager is financially able to implement core management activities, including all those environmental, social and operating costs, required to meet this Standard, and investment and reinvestment in forest management.</p>	<p>C</p>	<p>BOF has 536 salary positions including: 83 managers; 187 professional and technical staff (foresters, forest technicians, geologists, botanists, ecologists and program specialists); 58 clerical and administrative personnel; 33 public contact employees (forest rangers); 32 wildfire suppression specialists; and 143 state forest maintenance personnel (equipment operators and maintenance specialists). The bureau also employs 290 seasonal wage staff. The agency utilizes a \$63 million DCNR annual budget that combines revenue from gas leases (56% of total), timber harvests (40% of total) and other sources.</p> <p>On 2015 site visits, District Foresters reported recent increases in funding for road maintenance and invasive species control. As noted in the summary report, funding for land acquisition has been good. The bureau acquired 34,759 acres since September 2014.</p>
<p>5.1.b Responses to short-term financial factors are limited to levels that are consistent with fulfillment of this Standard.</p>	<p>C</p>	<p>As a public agency, DCNR has weathered periods of statewide financial difficulty, previously requiring salary freezes, hiring restrictions, etc. Revenues from gas leasing, however, have provided relief for the Department and a recent expansion of employees, especially those needed to manage the gas extraction and assess the impacts of same. Interviews with BOF administrators indicate that current low fuel prices (2015) will likely cause some short term drop in state revenues from shale gas fees in the near future.</p>

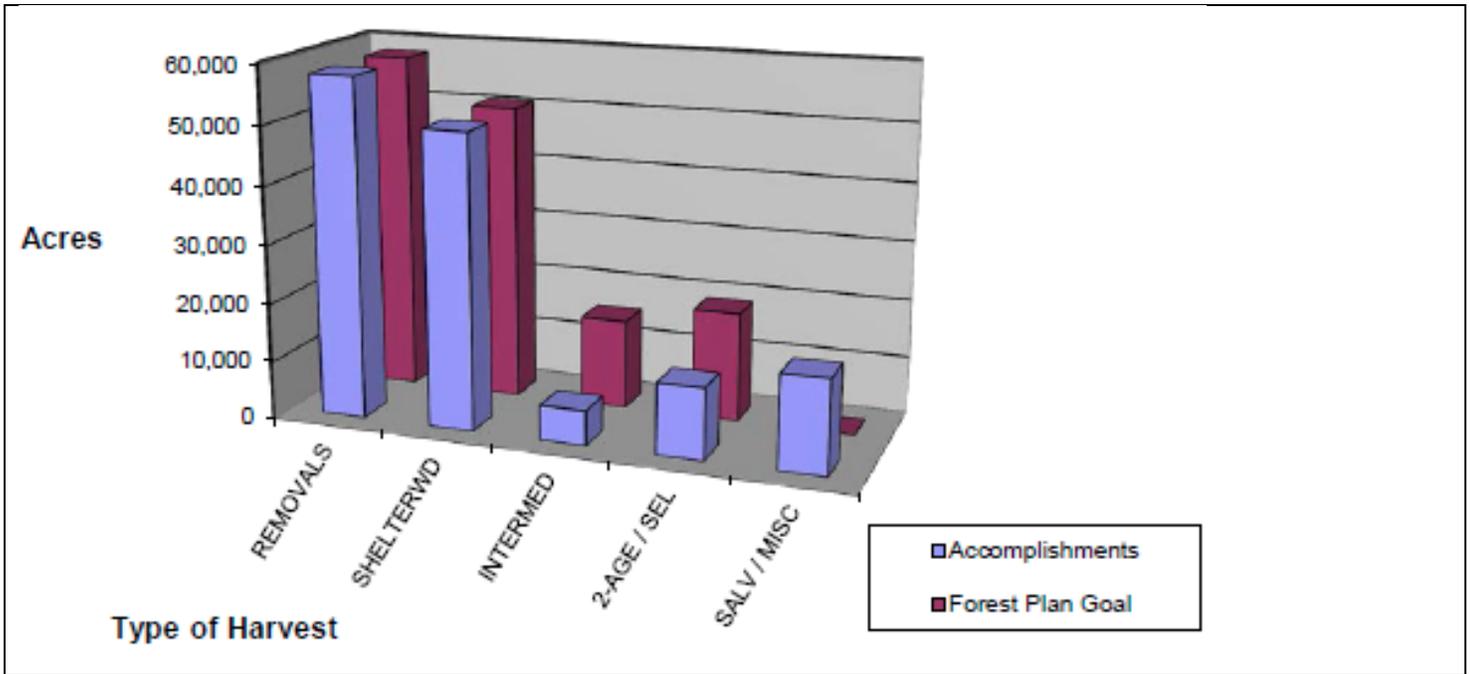
<p>5.2. Forest management and marketing operations should encourage the optimal use and local processing of the forest’s diversity of products.</p>	<p>C</p>	
<p>5.2.a Where forest products are harvested or sold, opportunities for forest product sales and services are given to local harvesters, value-added processing and manufacturing facilities, guiding services, and other operations that are able to offer services at competitive rates and levels of service.</p>	<p>C</p>	<p>Inspection of harvest operations, interviews with contract employees, and examination of contracts for forest harvesting and other services, confirm that local businesses—large and small—are most commonly awarded harvesting contracts. Local mills are numerous, some of which bid for sales almost exclusively on state forest lands.</p> <p>The forest products industry is a vital part of the Pennsylvania economy and many local communities. The industry includes more than 2,100 establishments, and employs over 45,000 Pennsylvanians accounting for 0.6% of total employment in PA. (NAICS Classifications, 2012) The forest products industry in Pennsylvania manufactures products in excess of \$11.5 Billion annually. The total economic impact of the industry is estimated to be over \$19 Billion annually. (HDC, 2012)</p>
<p>5.2.b The forest owner or manager takes measures to optimize the use of harvested forest products and explores product diversification where appropriate and consistent with management objectives.</p>	<p>C</p>	<p>DCNR sells trees on the stump, thus the diversification of products is controlled primarily by advertising sales in a variety of forest types and age classes. Although declining, salvage harvests have provided opportunity for commercial firewood operators and pulp sales. The Bald Eagle S.F. managers reported a robust firewood sale program close to State College. The 2014 harvest report says, “Approximately 9722 cords of firewood were sold to Pennsylvanians on small permits along State Forest roads. These sales returned approximately \$201 thousand dollars to the Commonwealth. The wood removed was used principally for domestic fuelwood consumption and potentially replaced 1.6 million gallons of fuel oil.”</p> <p>Total monetary value of wood products used from state forestland in 2014 was \$24,061,714.97. The DCNR 2014 Annual Timber Report details the diverse products sold.</p>
<p>5.2.c On public lands where forest products are harvested and sold, some sales of forest products or</p>	<p>C</p>	<p>DCNR advertises a wide variety of sales, allowing bids by contractors of all sizes. 2015 timber sale data for</p>

<p>contracts are scaled or structured to allow small business to bid competitively.</p>		<p>the Rothrock S.F. show sales range in size from 18 acres to 159 acres, providing opportunities for a range of producers.</p>
<p>5.3. Forest management should minimize waste associated with harvesting and on-site processing operations and avoid damage to other forest resources.</p>	<p>C</p>	
<p>5.3.a Management practices are employed to minimize the loss and/or waste of harvested forest products.</p>	<p>C</p>	<p>DCNR foresters prepare sales prospectuses and mark trees carefully to assure harvests that avoid waste. Usually, all trees to be cut are marked. If a marked tree is not merchantable, then it is simply felled and left on the site to provide structure. 2015 inspection of landings and recently harvest stands confirmed that utilization is excellent. Use of older/historic landings was viewed on multiple sites.</p>
<p>5.3.b Harvest practices are managed to protect residual trees and other forest resources, including:</p> <ul style="list-style-type: none"> • soil compaction, <i>rutting</i> and erosion are minimized; • residual trees are not significantly damaged to the extent that health, growth, or values are noticeably affected; • damage to NTFPs is minimized during management activities; and • techniques and equipment that minimize impacts to vegetation, soil, and water are used whenever feasible. 	<p>C</p>	<p>DCNR foresters do not hesitate to stop forest harvesting operations when soil conditions are unsuitable for machinery. Foresters visit sites approximately once per week and have clear communications with loggers in regard to limiting operations when needed due to site conditions, as confirmed with interviews of multiple loggers. Also, it is common to see examples where harvest prescriptions limit harvest to winter months when ground is frozen. Inspection of more than a dozen recent harvest sites revealed almost no damage to residual trees, and great care to avoid unacceptable rutting and erosion.</p> <p>Timber sale contracts for 2015 site visits each specified BMP practices to be followed on site. Statewide, approximately 122 miles of haul roads were constructed or improved as a result of timber sale activities. Approximately 278 acres of roads and landings were seeded for erosion control and wildlife habitat upon retirement from motorized use. These seeded and retired roads provide important access to the forest for forest fire protection and recreation. (DCNR 2014 Annual Timber Report)</p>
<p>5.4. Forest management should strive to strengthen and diversify the local economy, avoiding dependence on a single forest product.</p>	<p>C</p>	
<p>5.4.a The forest owner or manager demonstrates</p>	<p>C</p>	<p>Supervising foresters in four districts visited during the</p>

<p>knowledge of their operation’s effect on the local economy as it relates to existing and potential markets for a wide variety of timber and non-timber forest products and services.</p>		<p>audit were quite informed about the local economy and aware of the importance of their operations on local communities. The community and inter-governmental networks established on the Rothrock, Bald Eagle, Weiser and Gifford Pinchot State Forest visited in 2015 were remarkable, not only for conventional timber products but recreational opportunities, water supply, quality of life, etc. Direct effect on the local economy is evidenced as logs are sold to multiple local mills.</p> <p>In May 2015, DCNR published an updated “Pennsylvania Timber Product Output Summary” that evaluates the economic impact of forestry operations in the state.</p>
<p>5.4.b The forest owner or manager strives to diversify the economic use of the forest according to Indicator 5.4.a.</p>	<p>C</p>	<p>Beyond a reasonably consistent flow of timber products, recent development of shale gas on state forests is bolstering local businesses. Recreational opportunities abound on state forests visited during the audit (e.g., recreational train use on the Bald Eagle, fall auto tour on the Weiser and coal mining heritage on the Gifford Pinchot State Forests). Four thousand leased camp (cabin) sites on state forests attract many thousands of people to state forests and the surrounding communities.</p>
<p>5.5. Forest management operations shall recognize, maintain, and, where appropriate, enhance the value of forest services and resources such as watersheds and fisheries.</p>	<p>C</p>	
<p>5.5.a In developing and implementing activities on the FMU, the forest owner or manager identifies, defines and implements appropriate measures for maintaining and/or enhancing forest services and resources that serve public values, including municipal watersheds, fisheries, carbon storage and sequestration, recreation and tourism.</p>	<p>C</p>	<p>As a public land management agency, DCNR’s primary mission is to assure the health of the Commonwealth’s forests and conservation of native wild plants. Major program areas, however, also include recreation and ecological services. Protection for wildlife species and public water supplies were viewed. Close working relationships were evident with the Game Commission and Fish and Boat Commission. Planning documents for the entire State Forest System and for each Forest District address the many services and resources managed by the Department.</p> <p>2015 site visits included cooperation between the</p>

		<p>Weiser State Forest and a private water rights holder to improve and protect a municipal watershed. On the Gifford Pinchot S.F., DCNR had negotiated with a power utility developing the Pocono Reliability Project, a new power line serving much of the East Coast.</p>
<p>5.5.b The forest owner or manager uses the information from Indicator 5.5.a to implement appropriate measures for maintaining and/or enhancing these services and resources.</p>	<p>C</p>	<p>The DCNR Forest Action Plan and State Forest Resource Management Plan (a 2015 revision set for public hearings starting in September) are developed around information related to the variety of forest services and resources provided.</p>
<p>5.6. The rate of harvest of forest products shall not exceed levels which can be permanently sustained.</p>	<p>C</p>	
<p>5.6.a In FMUs where products are being harvested, the landowner or manager calculates the sustained yield harvest level for each sustained yield planning unit, and provides clear rationale for determining the size and layout of the planning unit. The sustained yield harvest level calculation is documented in the Management Plan.</p> <p>The sustained yield harvest level calculation for each planning unit is based on:</p> <ul style="list-style-type: none"> • documented growth rates for particular sites, and/or acreage of forest types, age-classes and species distributions; • mortality and decay and other factors that affect net growth; • areas reserved from harvest or subject to harvest restrictions to meet other management goals; • silvicultural practices that will be employed on the FMU; • management objectives and desired future conditions. <p>The calculation is made by considering the effects of repeated prescribed harvests on the product/species and its ecosystem, as well as planned management treatments and projections of subsequent regrowth beyond single rotation and multiple re-entries.</p>	<p>C</p>	<p>BOF’s Harvest Allocation Model (HAM) developed timber harvest schedules that considered the long-term sustainable flow of forest products and would lead to desirable sustainable forest structure on state forestland. The HAM specifically addressed several goals and objectives from the State Forest Resource Management Plan:</p> <ul style="list-style-type: none"> - To promote and maintain desired landscape conditions, including balancing the age class distribution of the multiple resource, commercial land base. - To ensure and maintain areas of older forest. - To provide economic and social benefits through a sustained yield of forest products. - To determine sustainable, long-term timber harvest levels. - To promote silvicultural practices that sustains ecological and economic forest values. - To develop feasible timber management plans considering forest regeneration issues and resources available to the Bureau of Forestry. <p>The HAM was developed on a 140-year rotation schedule to meet these goals, broken into 10-year planning horizons to serve as average benchmarks during the horizon. BOF just completed the first decade and is moving into the second decade planning horizon, which includes new targets for the 10-year average (HarvestAllocationModel.doc, HarvestGoals.pdf, Model Description.doc).</p>

		<p>For 2014, DCNR was on target for a total annual goal of 14,778 acres treated, but slightly below on regenerated acres. State Forests targeted 7,653 acres of even-aged regenerated acres to meet harvest goals and achieved 5,448 acres regenerated. Goals are based on decade long targets with slight fluctuations permitted year to year.</p> <p>There was a slight adjustment in Annual Allowable Harvest beginning in 2014. This is due to moving to the second decade for the harvest allocation model. Total acres increased slightly from 14,337 acres to 14,778 acres and regenerated acres were increased from 5,923 acres to 7,653 acres. The first decade was lower due to prepping work that had to be done with shelterwood harvests to ready enough acres for overstory removal.</p>
<p>5.6.b Average annual harvest levels, over rolling periods of no more than 10 years, do not exceed the calculated sustained yield harvest level.</p>	<p>C</p>	<p>During the last decade of BOF's 10-year planning horizon, the average annual cut was 14,337 to reach the goals of the Harvest Allocation Model (HarvestAllocationModel.doc, HarvestGoals.pdf, Model Description.doc). During the 10-year planning horizon, in some years BOF harvested more or less than this average. 2013 was the last year of the 10-year planning horizon and BOF finished at 101% for the decade.</p> <p>Bureau of Forestry Statewide Timber Harvesting Summary of Decade #1 (1/1/2004 - 12/31/2013):</p>

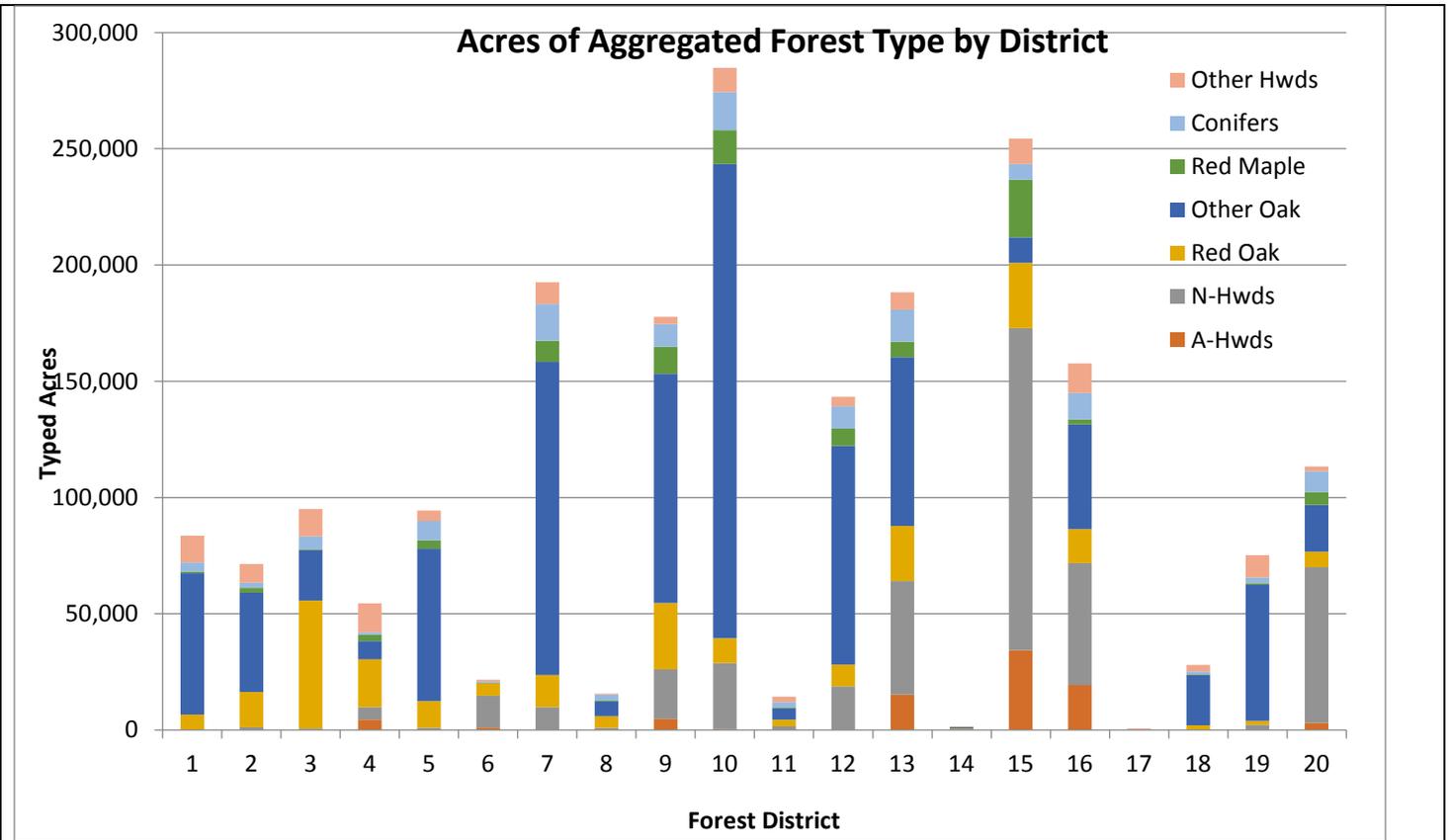


5.6.c Rates and methods of timber harvest lead to achieving desired conditions, and improve or maintain health and quality across the FMU. Overstocked stands and stands that have been depleted or rendered to be below productive potential due to natural events, past management, or lack of management, are returned to desired stocking levels and composition at the earliest practicable time as justified in management objectives.

C 14,441 acres were sold in 2014 with a majority of these treatments being a shelterwood (6973 ac.) or an overstory removal (4853 ac.) BOF has remained within harvest limits and stays on top of areas affected by storms or forest health issues such as insects or disease.

In 2014, DCNR completed the Cycle 3 Continuous Forest Inventory (CFI) that was implemented between 2009 and 2013. The majority of the 1,664 CFI plots were located in the Multiple Resource, Limited Resource and Buffer management zones, with 58 plots located within Wild and Natural Areas. The CFI plots show the state is on-target for its goals.

See following chart of forest types, 2015 data provided by BOF GIS Specialist.



5.6.d For NTFPs, calculation of quantitative sustained yield harvest levels is required only in cases where products are harvested in significant commercial operations or where traditional or customary use rights may be impacted by such harvests. In other situations, the forest owner or manager utilizes available information, and new information that can be reasonably gathered, to set harvesting levels that will not result in a depletion of the non-timber growing stocks or other adverse effects to the forest ecosystem.

C NTFPs are not harvested for significant commercial purposes. Records show that miscellaneous personal use permits are issued for insignificant amounts of lycopodium, moss, and shale. Income from these sales is compiled in the DCNR 2014 Annual Timber Report.

Ginseng is a coveted product in many parts of the world. The plant is found on fertile sites scattered throughout state forestland and has been harvested in the past, regulated only by the requirement of a \$5 permit. This practice was discontinued several years ago so BOF could assess the population of the species in the forest and determine if sustainable harvest levels could be established. The most recent change in the state’s ginseng harvest has been to change the harvest season to match that of surrounding states to prevent illegal harvests.

Principle #6: Forest management shall conserve biological diversity and its associated values, water resources, soils, and unique and fragile ecosystems and landscapes, and, by so doing, maintain the ecological functions and the integrity of the forest.

6.1. Assessments of environmental impacts shall be NE

<p>completed -- appropriate to the scale, intensity of forest management and the uniqueness of the affected resources -- and adequately integrated into management systems. Assessments shall include landscape level considerations as well as the impacts of on-site processing facilities. Environmental impacts shall be assessed prior to commencement of site-disturbing operations.</p>		
<p>6.2 Safeguards shall exist which protect rare, threatened and endangered species and their habitats (e.g., nesting and feeding areas). Conservation zones and protection areas shall be established, appropriate to the scale and intensity of forest management and the uniqueness of the affected resources. Inappropriate hunting, fishing, trapping, and collecting shall be controlled.</p>	C	
<p>6.2.a If there is a likely presence of RTE species as identified in Indicator 6.1.a then either a field survey to verify the species' presence or absence is conducted prior to site-disturbing management activities, or management occurs with the assumption that potential RTE species are present.</p> <p>Surveys are conducted by biologists with the appropriate expertise in the species of interest and with appropriate qualifications to conduct the surveys. If a species is determined to be present, its location should be reported to the manager of the appropriate database.</p>	C	<p>The Bureau conducts various surveys for RTE species. Botanists and Wildlife Biologists in the Ecological Services Section monitor known populations of RTE species and routinely survey for these species to keep the information up-to-date and to be aware of any conservation management needs. In addition, through Pennsylvania Natural Diversity Index reviews, foresters or project managers query for potential impacts to RTE species during the planning stages for timber, recreation, or other projects on state forestland. If a potential impact is identified, Botanists or Wildlife Biologists in the Ecological Services Section review the project and may perform surveys or field assessments if necessary to develop protection guidelines/mitigations for the RTE populations.</p> <p>The Ecological Services Section performs routine surveys for new populations of RTE species and ensures new information is entered into the proper databases and forest managers are aware of new populations. 2015 site visits on the Gifford Pinchot State Forest included discussion of the biological inventories being conducted on new acquisitions.</p> <p>In cooperation with the Western Pennsylvania Conservancy, the Bureau contracts survey work for</p>

		<p>larger areas that may have gas development impacts to assess and survey known or new RTE species populations. The Bureau is also part of the Pennsylvania Natural Heritage Program and collaborates with specialists from the PA Game Commission, PA Fish and Boat Commission, Western Pennsylvania Conservancy, and US Fish and Wildlife Service to continually monitor, survey, and manage for RTE species on state forestland.</p> <p>The bureau is developing a Habitat Conservation Plan for Indiana bat and potentially northern long-eared bat. This plan will establish zones where seasonal restrictions on forest management will apply.</p> <p>The Bureau of Forestry Information & Communications Section Chief explained a number of Internet outreach efforts DCNR has designed to respond to the public’s intense interest in occurrences of special wildlife and plants. The Ecological Division Chief explained new web tools being developed that will make access to natural heritage databases (at the appropriate level of specificity) easier for users.</p> <p>Numerous timber harvest sites visited on the 2015 field tour (see site notes) had potential E&S species hits. Wildlife biologists explained their role in conducting site inspections and prescribing precautions and harvest restrictions/limitations if suitable habitat was present.</p>
<p>6.2.b When RTE species are present or assumed to be present, modifications in management are made in order to maintain, restore or enhance the extent, quality and viability of the species and their habitats. Conservation zones and/or protected areas are established for RTE species, including those S3 species that are considered rare, where they are necessary to maintain or improve the short and long-term viability of the species. Conservation measures are based on relevant science, guidelines and/or consultation with relevant, independent experts as necessary to achieve the conservation goal of the Indicator.</p>	<p>C</p>	<p>Pennsylvania Natural Diversity Index (PNDI) reviews are conducted on all activities on state forest lands and reviewed for any potential impacts for plants or wildlife. This includes timber management, habitat improvement or management, trails, parking areas, educational areas, energy infrastructure, etc. The Bureau’s Botanists and Wildlife Biologists, or partners working with DCNR specialists, may survey the project site before the activity begins if reasonable impacts may be anticipated. Projects are often also revisited after they are concluded to assess the amount of impact, if any. The Bureau tracks observations in</p>

	<p>reports and a sharepoint tracking database. In addition, the Botanist and Wildlife Biologist embedded in the Marcellus monitoring program conduct more intensive monitoring efforts to assess any changes in the forest in areas managed for gas extraction (http://www.dcnr.state.pa.us/forestry/NaturalGas/monitoringreport/index.htm). Activities are tracked for non-timber forest products such as ginseng licenses and amounts of ginseng that get certified through our district offices.</p>
<p>6.2.c For medium and large public forests (e.g. state forests), forest management plans and operations are designed to meet species’ recovery goals, as well as landscape level biodiversity conservation goals.</p>	<p>C</p> <p>Notable specific measures that were taken to protect RTE species during PNDI reviews included:</p> <ul style="list-style-type: none"> - Adjusting invasive species treatments to avoid nesting bald eagles and endangered aquatic species. - Relocating a limit of disturbance along a right of way to protect timber rattlesnake habitat. - Protection of bat hibernacula by developing a Habitat Conservation Plan for bats. - Ongoing project requests to protect timber rattlesnake habitat – do not disturb rocky features near known gestation or den habitat, do not disturb rocky areas during hibernation periods, no heavy equipment use during active season, buffering rocky outcroppings, and educating workers on safety in regards to timber rattlesnake interactions. - 100 meter avoidance measure from wetlands with known populations of the federally Endangered northeastern bulrush. <p>Management activities in Wild and Natural Areas (WNA) are restricted, but management activities may be approved for a variety of reasons that benefit conditions within WNAs. State Forest Environmental Reviews are conducted for these projects with an internal review to ensure no impacts to the WNA are expected and waivers to allow restricted activities may be granted with approval from the State Forester. An example from this year is a waiver to allow for emerald ash borer treatment in a Natural Area so as to maintain canopy coverage around a sensitive stream</p>

		<p>ecosystem that hosts endangered mussels.</p> <p>High Value Conservation Forests are considered during management activities and no activities have occurred within them that diminish the values for which the HCVF were designated. Where possible, the Bureau encourages management in these areas to promote or sustain the values for which the HCVF was designated. HCVFs correspond to a number of unique attributes and FIMS notes the presence of these attributes. Upon auditor request, Stands were queried in the Forest GIS by District staff and multiple HCVF attributes were reviewed for a variety of stands.</p> <p>DCNR is in the process of completing their Bat Habitat Conservation Plan for Indiana bats and northern long-eared bats. Rather than just focus on seasonal cutting restrictions to save bats in hardwood stands, the HCP looks at larger landscape-scale efforts to provide a shifting mosaic of early-successional forest cover favorable to bats. The plan would involve monitoring over a 30-year time period if adopted. Currently, the BOF will have a draft HCP and EIS for public review in late 2016 and a final HCP near the end of 2016, beginning of 2017. The plan includes input from a broad spectrum of experts and stakeholders.</p> <p>Through interviews with BOF wildlife staff and reviews of site plans, it was found that BOF incorporates wildlife considerations into all projects. Harvest areas frequently include exposing rock faces for reptiles, particularly for threatened timber rattlesnakes. Retained trees and openings provide forage and cover for small mammals that the snakes feed on. In addition to common harvest types, landscape conservation objectives are also met through specific management areas. For example, the Mt. Streams Wildlife area is managed for bird species that depend on early successional habitat.</p>
<p>6.2.d Within the capacity of the forest owner or manager, hunting, fishing, trapping, collecting and other activities are controlled to avoid the risk of</p>	<p>C</p>	<p>The Bureau does not authorize recreational or hunting/collection activities that could impact RTE species. Two incidents involving ginseng harvesting</p>

<p>impacts to vulnerable species and communities (See Criterion 1.5).</p>	<p>were reported as mentioned earlier. The Ecological Services Section issues permits for the collection of Threatened or Endangered plants across the Commonwealth. Collection is restricted to voucher specimens associated with RTE plant surveys and could be associated with management activities on state forestland. Those collecting T&E plants agree to follow specific guidelines (http://www.gis.dcnr.state.pa.us/hgis-er/PNDI_DCNR.aspx).</p> <p>Due to proper PNDI reviews and project mitigations, no RTE species, habitats or plant communities were known to be negatively impacted during management activities. However, a variety of projects were implemented on state forestland to enhance RTE species habitat or populations, as well, including these notable examples:</p> <ul style="list-style-type: none"> - In cooperation with US Fish and Wildlife Service, light conditions were increased to a population of the federally endangered northeastern bulrush by treating a couple overstory trees in a Wild Plant Sanctuary (also HCVF). - Timber rattlesnake habitat enhancement projects were conducted in 4 districts, and a habitat management plan draft for timber rattlesnakes is under review. - Red pines were planted in several locations as part of improvements for northern flying squirrel habitat. - Timber sales in several districts have been managed for golden wing warbler habitat. - Allegheny chinquapin habitat, a species with a very limited range in PA, was enhanced to promote growth and reproduction of the species and to gather seed to be grown at Penn Nursery for conservation efforts. - A management plan has been drafted and activities have been conducted to improve habitat structure and species composition on a designated HCVF containing several state-listed grassland bird species. The bureau is currently surveying part of
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		<p>the area for Henslow’s sparrows to potentially nominate the area as a globally important bird area.</p> <ul style="list-style-type: none"> - Invasive plants have been removed around a population of pink lady slipper orchids. - Habitat improvements for spotted turtles - Caging and fencing for PA endangered plants <p>Vegetation clearing at a Wild Plant Sanctuary to increase suitable habitat for several globally rare serpentine plant species.</p>
<p>6.3. Ecological functions and values shall be maintained intact, enhanced, or restored, including: a) Forest regeneration and succession. b) Genetic, species, and ecosystem diversity. c) Natural cycles that affect the productivity of the forest ecosystem.</p>	<p>C</p>	
<p>6.3.a.1 The forest owner or manager maintains, enhances, and/or restores under-represented <i>successional</i> stages in the FMU that would naturally occur on the types of sites found on the FMU. Where old growth of different community types that would naturally occur on the forest are under-represented in the landscape relative to natural conditions, a portion of the forest is managed to enhance and/or restore old growth characteristics.</p>	<p>C</p>	<p>Through the promotion of ecosystem management as the guiding philosophy for state forest management, maintaining or enhancing under-represented, naturally occurring successional stages and plant species composition and distribution is addressed during management activities. Direction in the State Forest Resource Management Plan (SFRMP) includes managing towards a balanced age class distribution on sites suitable for commercial forest management. By working towards this balanced age class approach, under-represented early successional habitats will be increased over time. The model also considers extended rotation ages for different forest types and site classes to ensure areas of older forest beyond the minimum rotation age. As mentioned in 5.6, the Harvest Allocation Model is used to achieve this goal. This approach will promote under-represented, naturally occurring successional stages on state forestland.</p> <p>In areas that are not considered suitable for timber management, additional areas are set aside for the development of old growth in a number of community types designated as Natural Areas, Wild Areas, and ‘Limited Zone’ areas. Unique or under-represented communities on state forestland are incorporated and protected in Natural Areas system as set asides,</p>

		<p>including all identified existing old growth forests. Additionally, almost 500,00 acres (~23% of the FMU) have been identified as potential old growth areas with the goal of reducing and limiting forest fragmentation and promoting connectivity of high canopy forests by retaining large patches of intact forest with minimal disturbance.</p> <p>The HCVF dataset in the Forest’s GIS was viewed by the auditors and specific management goals, such as ‘No management’ or ‘limited management’ were viewed for selected stands in FIMS. Also, the Forest has fragmentation tool (CLEAR model) to identify and retain large patches and identify other fragmentation issues.</p> <p>Invasive plant treatments also contribute to enhancing native plant species composition in forested environments.</p>
<p>6.3.a.2 When a <i>rare ecological community</i> is present, modifications are made in both the management plan and its implementation in order to maintain, restore or enhance the viability of the community. Based on the vulnerability of the existing community, <i>conservation zones</i> and/or <i>protected areas</i> are established where warranted.</p>	<p>C</p>	<p>2015 site visits included rare ecological community protected areas such as hemlock natural areas (which are receiving targeted pesticide applications per a Hemlock Woolly Adelgid Action Plan) and vernal ponds (including a research site on the Rothrock State Forest to improve habitat for rattlesnakes).</p> <p>If PNDI data detects a rare plant or community, forest managers consult relevant staff to modify management plans to avoid such areas or devise activities that will aid with recovery or maintenance. Some communities have site-specific plans (e.g., wetland plant sanctuary on the Weiser State Forest) that include basic maintenance activities, such as buffers and invasive species control. With the addition of a large amount of acreage on the Pinchot District, new plant sanctuaries have been tentatively identified by interested members of the public and will be confirmed through the inventory process of the newly acquired lands and protected as necessary.</p>
<p>6.3.a.3 When they are present, management maintains the area, structure, composition, and processes of all <i>Type 1</i> and <i>Type 2 old growth</i>. Type 1 and 2 old growth are also protected and buffered as</p>	<p>C</p>	<p>The Bureau does not harvest in identified old growth forests, which are incorporated and protected in the Natural Areas system and represent less than 1% of the entire FMU. All Natural Areas are subject to a 600-</p>

<p>necessary with conservation zones, unless an alternative plan is developed that provides greater overall protection of old growth values.</p> <p>Type 1 Old Growth is protected from harvesting and road construction. Type 1 old growth is also protected from other timber management activities, except as needed to maintain the ecological values associated with the stand, including old growth attributes (e.g., remove exotic species, conduct controlled burning, and thinning from below in dry forest types when and where restoration is appropriate).</p> <p>Type 2 Old Growth is protected from harvesting to the extent necessary to maintain the area, structures, and functions of the stand. Timber harvest in Type 2 old growth must maintain old growth structures, functions, and components including individual trees that function as refugia (see Indicator 6.3.g).</p> <p>On public lands, old growth is protected from harvesting, as well as from other timber management activities, except if needed to maintain the values associated with the stand (e.g., remove exotic species, conduct controlled burning, and thinning from below in forest types when and where restoration is appropriate).</p> <p>On American Indian lands, timber harvest may be permitted in Type 1 and Type 2 old growth in recognition of their sovereignty and unique ownership. Timber harvest is permitted in situations where:</p> <ol style="list-style-type: none"> 1. Old growth forests comprise a significant portion of the tribal ownership. 2. A history of forest stewardship by the tribe exists. 3. High Conservation Value Forest attributes are maintained. 4. Old-growth structures are maintained. 5. Conservation zones representative of old growth stands are established. 6. Landscape level considerations are addressed. 7. Rare species are protected. 		<p>foot buffer during management activities. Exceptions can be made when a road, pipeline, or powerline serve as a boundary of the designated area, in which case a 300-foot wide buffer applies. Active management in the Natural Areas system can only occur if the activity will benefit the values for which the area was designated as a Natural Area and those activities must go through a State Forest Environmental Review and receive state forester approval before implementation. Several old growth hemlock stands in the Natural Area system on different Districts were treated in 2013, and more are planned, to protect hemlocks from the hemlock wooly adelgid, thus, protecting the old growth values for which the areas were designated.</p>
<p>6.3.b To the extent feasible within the size of the</p>	<p>C</p>	<p>General forest management activities have various</p>

<p>ownership, particularly on larger ownerships (generally tens of thousands or more acres), management maintains, enhances, or restores habitat conditions suitable for well-distributed populations of animal species that are characteristic of forest ecosystems within the landscape.</p>		<p>positive impacts on wildlife habitat and function. Shelterwood harvests are known to support songbird species, including the golden-winged warbler. Invasive plant treatments encourage native vegetation and structure that enhance wildlife habitat and food sources. Prescribed fire may promote oak regeneration and in turn, maintain an oak component in the forest canopy, a vital mast producing species for a variety of wildlife species. Several specific management or restoration activities to benefit wildlife habitat and function have occurred in the past year on state forestland.</p> <p>Many districts have been planning and implementing projects to improve habitat for woodcock, a species that has been in decline in the state. These activities were planned in cooperation with the Pennsylvania Game Commission and will in turn also improve habitat for other early successional species, such as grouse, songbirds, and game species.</p> <p>An on-going project to create habitat for the golden-winged warbler using silvicultural practices and incorporating an existing powerline right-of-way. Planting native mast-producing shrubs around oil or gas infrastructure to enhance species diversity and wildlife habitat, while also improving edge effects.</p> <p>Many districts planted native species that benefit wildlife and improve habitat function in a previously disturbed areas, including old strip & deep mines, along pipeline corridors, and seeding native grasses to rejuvenate species composition in permanent herbaceous openings.</p> <p>Other examples of activities to benefit wildlife habitat and function can be found in C6.2.</p>
<p>6.3.c Management maintains, enhances and/or restores the plant and wildlife habitat of Riparian Management Zones (RMZs) to provide:</p> <p>a) habitat for aquatic species that breed in surrounding uplands;</p>	<p>C</p>	<p>Riparian Management Zones are managed on state forestland through our Aquatic Buffer Guidelines and general buffer guidelines. These buffers are focused on providing connectivity, wildlife habitat, and protecting water quality. Streams, seeps, vernal pools and</p>

<ul style="list-style-type: none"> b) habitat for predominantly terrestrial species that breed in adjacent <i>aquatic habitats</i>; c) habitat for species that use riparian areas for feeding, cover, and travel; d) habitat for plant species associated with riparian areas; and, e) stream shading and inputs of wood and leaf litter into the adjacent aquatic ecosystem. 		<p>wetlands receive specific inner and outer zone buffers. These buffers provide appropriate habitat for toads, turtles, salamanders, and many other species to return to aquatic habitats during breeding seasons to successfully reproduce. Additionally, through this management, species have the ability to utilize surrounding terrestrial habitats throughout the year.</p> <p>Vernal pool complexes are managed in a manner to allow for connectivity wherever possible. Stream crossings may be incorporated into timber harvests and require permits granted from the Department of Environmental Protection. Stream crossings are avoided during sale layout as best possible, but when stream crossings are necessary for harvest implementation, all best management practices, regulations, and buffer guidelines are followed.</p> <p>The bureau is in the process of updating its Aquatic Habitat Buffer Guidelines as well as its Brook Trout Conservation Plan. Additionally, the bureau has recently developed guidance for proper installation of culverts and stream crossings (CulvertBmps.pdf).</p>
<p>Stand-scale Indicators</p> <p>6.3.d Management practices maintain or enhance plant species composition, distribution and frequency of occurrence similar to those that would naturally occur on the site.</p>	C	<p>Harvest recovery techniques observed on site visits leverage natural regeneration. Pitch pine and other hard pines are reserved from cutting in stand harvests intended to increase the conifer component, and native pines are planted if natural regeneration is in doubt. Hundreds of stands on the forest have been protected from deer browsing by erecting tall fences. The PA legislature enacted a law that relaxes liability concerns for proper use of prescribed fire, making it practical for forest managers to use fire to restore natural forest composition. Three timber harvest sites visited on the Forbes State Forest demonstrated how effective fire can be in helping re-establish oaks. Through mostly even-aged management systems, overstory removal, shelterwood, and salvage observed in 2015 mimic disturbances caused by wind or pathogens. Fencing is used to protect or secure regeneration given the overabundance of deer.</p>
<p>6.3.e When planting is required, a local source of</p>	C	<p>Seed sources for the past year primarily came from</p>

<p>known provenance is used when available and when the local source is equivalent in terms of quality, price and productivity. The use of non-local sources shall be justified, such as in situations where other management objectives (e.g. disease resistance or adapting to climate change) are best served by non-local sources. Native species suited to the site are normally selected for regeneration.</p>		<p>Penn Nursery, the Bureau’s own nursery that supplies state forests with seedlings. Seed for growing stock area at the nursery is collected on state forestland or within designated genetic conservation zones (‘seed zones’) to employ native germplasm in revegetation or artificial regeneration activities. Seed mix of native grasses for landings and roads has been previously confirmed to be approved through the State.</p>
<p>6.3.f Management maintains, enhances, or restores habitat components and associated stand structures, in abundance and distribution that could be expected from naturally occurring processes. These components include:</p> <ul style="list-style-type: none"> a) large live trees, live trees with decay or declining health, snags, and well-distributed coarse down and dead woody material. Legacy trees where present are not harvested; and b) vertical and horizontal complexity. <p>Trees selected for retention are generally representative of the dominant species found on the site.</p>	<p>C</p>	<p>DCNR’s Silviculture Manual provides detailed guidelines on retention of snags, mast producing trees, legacy trees, etc. Timber sales inspected during the audit exhibited abundant snags, legacy trees, clumps of retained trees, and downed woody debris. Interviews with foresters confirmed their understanding of the important of retention and the spatial distribution of retained trees.</p> <p>During discussions at 2015 field sites, foresters described efforts to reduce populations of black gum trees and mountain laurel, but these species are in overabundance and at no risk of elimination. On all harvest sites visited in 2015, retention of live trees occurred in groups or as dispersed individuals for the purposes of seed or den trees. Retained trees include representative species. The use of retention in groups is used to retain smaller or slower growing species and to promote vertical and horizontal complexity. Snags and downed-woody debris were observed throughout harvest sites.</p>
<p>6.3.g.1 In the Southeast, Appalachia, Ozark-Ouachita, Mississippi Alluvial Valley, and Pacific Coast Regions, when even-aged systems are employed, and during salvage harvests, live trees and other native vegetation are retained within the harvest unit as described in Appendix C for the applicable region.</p> <p>In the Lake States Northeast, Rocky Mountain and Southwest Regions, when even-aged silvicultural systems are employed, and during salvage harvests, live trees and other native vegetation are retained within the harvest unit in a proportion and configuration that is consistent with the characteristic</p>	<p>C</p>	<p>BOF conducted 4,853 acres of overstory removal and 595 acres of clearcut- with residuals. They reported no known problems in meeting retention guidelines. All even-aged harvests visited had level of retention consistent with the Appalachian regional indicators.</p>

<p>natural disturbance regime unless retention at a lower level is necessary for the purposes of restoration or rehabilitation. See Appendix C for additional regional requirements and guidance.</p>		
<p>6.3.g.2 Under very limited situations, the landowner or manager has the option to develop a qualified plan to allow minor departure from the opening size limits described in Indicator 6.3.g.1. A qualified plan:</p> <ol style="list-style-type: none"> 1. Is developed by qualified experts in ecological and/or related fields (wildlife biology, hydrology, landscape ecology, forestry/silviculture). 2. Is based on the totality of the best available information including peer-reviewed science regarding natural disturbance regimes for the FMU. 3. Is spatially and temporally explicit and includes maps of proposed openings or areas. 4. Demonstrates that the variations will result in equal or greater benefit to wildlife, water quality, and other values compared to the normal opening size limits, including for sensitive and rare species. 5. Is reviewed by independent experts in wildlife biology, hydrology, and landscape ecology, to confirm the preceding findings. 	<p>C</p>	<p>Two of the harvest sites visited in 2015 exceeded Appalachian opening size limits. Each sale had gone through an expert review and received approved derogations based on needs for gypsy moth recovery, overcoming projected deer browsing issues and other justified resource improvement objectives.</p>
<p>6.3.h The forest owner or manager assesses the risk of, prioritizes, and, as warranted, develops and implements a strategy to prevent or control invasive species, including:</p> <ol style="list-style-type: none"> 1. a method to determine the extent of invasive species and the degree of threat to native species and ecosystems; 2. implementation of management practices that minimize the risk of invasive establishment, growth, and spread; 3. eradication or control of established invasive populations when feasible: and, 4. monitoring of control measures and management practices to assess their effectiveness in preventing or controlling invasive species. 	<p>C</p>	<p>Invasive plants are dealt with in a number of ways on State forest lands. At the general level districts locate, track, and prioritize treatment of invasive plants when possible during the year and where treatment will be most effective. Personnel are routinely trained in identification and treatment of invasive plants, and courses that include pesticide certification credits are offered throughout the year. Each district appoints an invasive plant coordinator that is responsible for communicating invasive plant issues to central office staff, where the Ecological Services Section plays a major role in providing direction in invasive plant management. The Bureau of Forestry recognizes the need for a focused approach to invasive plant management and has developed an invasive plant prioritization approach and Early Detection Rapid Response protocols for high priority invasive plants in</p>

	<p>gas development areas, and continues to work on developing a bureau-wide invasive plants tracking database.</p> <p>The following measures have occurred this past year:</p> <ul style="list-style-type: none"> - The bureau has received special funding to purchase equipment and contract licensed professionals to treat invasive plants on state forest lands. - The Early Detection Rapid Response protocol is in its third year of implementation in gas areas and in its pilot season on Rothrock State Forest. - Biocontrols have been released for mile-a-minute and spotted knapweed - New provisions have been included in Surface Use Agreements and Right-of-Way agreements to outline necessary prevention, treatment, and monitoring efforts to be implemented by the operators. - The bureau is partnering with gas operators to assist in invasive species identification and monitoring. <p>The Forest Health Division provides support to protect forest resources from forest pests and other destructive agents. The division provides technical assistance to state-wide forest landowners and managers, as well as to state forest managers, to evaluate factors affecting forest health through an integrated pest management approach. Insect and disease trends on state forestland for the last year included:</p> <ul style="list-style-type: none"> - The Division of Forest Health and the Silviculture Section collaborated on developing Ash Management Plans for state forest districts that provide direction on addressing the impacts from the emerald ash borer and ash decline in Pennsylvania. - In conjunction with Division of Forest Health, districts continue to treat hemlock trees, with priority given to old growth hemlock and those in ecologically sensitive areas, to protect them
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	<p>against the hemlock woolly adelgid and hemlock scale.</p> <p>Fields are present in FIMS where invasives information is captured. Per interview with GIS and Ecological Services staff, employees in the field will be equipped with data collectors and will be able to more easily and accurately track the occurrence, location, and density of invasive species.</p>																														
<p>6.3.i In applicable situations, the forest owner or manager identifies and applies site-specific fuels management practices, based on: (1) natural fire regimes, (2) risk of wildfire, (3) potential economic losses, (4) public safety, and (5) applicable laws and regulations.</p>	<p>The use of prescribed fire as a management tool to reduce competing vegetation and promote oak regeneration continues increase on the FMU.</p> <p style="text-align: center;">Pennsylvania Historical Prescribed Fire Data</p> <table border="1" data-bbox="878 705 1555 905"> <thead> <tr> <th>Year</th> <th>All Agencies and Organizations - Number of Prescribed Fires</th> <th>All Agencies and Organizations - Number of Prescribed Fire Acres</th> <th>DCNR - Number of Prescribed Fires</th> <th>DCNR - Number of Prescribed Fire Acres</th> </tr> </thead> <tbody> <tr> <td>2010</td> <td>56</td> <td>2737</td> <td>12</td> <td>186</td> </tr> <tr> <td>2011</td> <td>70</td> <td>6301</td> <td>11</td> <td>189</td> </tr> <tr> <td>2012</td> <td>96</td> <td>4133</td> <td>10</td> <td>208</td> </tr> <tr> <td>2013</td> <td>142</td> <td>8058</td> <td>35</td> <td>866</td> </tr> <tr> <td>2014</td> <td>161</td> <td>7094</td> <td>26</td> <td>338</td> </tr> </tbody> </table> <p>In 2009, the Pennsylvania General Assembly recognized the importance of prescribed burning in the Pennsylvania Prescribed Burning Practices Act. This act provides requirements for the regulation and implementation of prescribed burning in Pennsylvania. Liability risk is reduced if prescribed fires are conducted according to DCNR reviewed and approved burning plans. The legislation makes use of prescribed fire a more viable option in PA compared to most other states.</p> <p>According to official 2013 statistics, Bureau of Forestry employees and/or forest fire wardens responded to 871 wildfires that burned 4511 acres of field, brush, and woodlands. A majority of those occurred in the spring, with 681 fires burning 3,954 acres. The largest single fire burned across 888 acres in south-central Pennsylvania’s Buchanan State Forest District on mid-April. Clear Creek State Forest District reported the most fires for the year-141, across 378 acres- and Buchanan State Forest District had the most acres burned-964, in 16 fires. Leading cause across the state was debris burning, which started 468 fires that</p>	Year	All Agencies and Organizations - Number of Prescribed Fires	All Agencies and Organizations - Number of Prescribed Fire Acres	DCNR - Number of Prescribed Fires	DCNR - Number of Prescribed Fire Acres	2010	56	2737	12	186	2011	70	6301	11	189	2012	96	4133	10	208	2013	142	8058	35	866	2014	161	7094	26	338
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		<p>scorched 1,223 acres. (2014 DCNR Annual Timber Report)</p> <p>There were 18 wildfires on state forestland on 46 acres of state forest land in 2014 and an additional 28 fires on 199 acres in 2015 to date.</p>
<p>6.4. Representative samples of existing ecosystems within the landscape shall be protected in their natural state and recorded on maps, appropriate to the scale and intensity of operations and the uniqueness of the affected resources.</p>	<p>NE</p>	
<p>6.5 Written guidelines shall be prepared and implemented to control erosion; minimize forest damage during harvesting, road construction, and all other mechanical disturbances; and to protect water resources.</p>	<p>NE</p>	
<p>6.6. Management systems shall promote the development and adoption of environmentally friendly non-chemical methods of pest management and strive to avoid the use of chemical pesticides. World Health Organization Type 1A and 1B and chlorinated hydrocarbon pesticides; pesticides that are persistent, toxic or whose derivatives remain biologically active and accumulate in the food chain beyond their intended use; as well as any pesticides banned by international agreement, shall be prohibited. If chemicals are used, proper equipment and training shall be provided to minimize health and environmental risks.</p>	<p>C</p>	
<p>6.6.a No products on the FSC list of Highly Hazardous Pesticides are used (see FSC-POL-30-001 EN FSC Pesticides policy 2005 and associated documents).</p>	<p>C</p>	<p>DCNR has a well-developed system for tracking the use of chemical pesticides, beginning with a web-based Chemical Application Tracking Database, where an initial request for use of chemicals to control insects or plants is submitted. Conspicuously displayed on web page is a link for the list of FSC prohibited pesticides. Numerous interviews with DCNR staff during the assessment confirmed that personnel involved with use of chemicals are well aware of the prohibited products.</p> <p>BOF is aware of the revised 2015 FSC HHP list. The bureau is leading the nationwide application for</p>

		<p>derogations for imidacloprid (CoreTect® used in hemlock woolly adelgid control) and emamectin benzoate (TREE-äge® used in emerald ash borer control). Part of the application process includes a stakeholder consultation that is being conducted by FSC-US (see Observation 2015-1).</p>
<p>6.6.b All toxicants used to control pests and competing vegetation, including rodenticides, insecticides, herbicides, and fungicides are used only when and where non-chemical management practices are: a) not available; b) prohibitively expensive, taking into account overall environmental and social costs, risks and benefits; c) the only effective means for controlling invasive and exotic species; or d) result in less environmental damage than non-chemical alternatives (e.g., top soil disturbance, loss of soil litter and down wood debris). If chemicals are used, the forest owner or manager uses the least environmentally damaging formulation and application method practical.</p> <p>Written strategies are developed and implemented that justify the use of chemical pesticides. Whenever feasible, an eventual phase-out of chemical use is included in the strategy. The written strategy shall include an analysis of options for, and the effects of, various chemical and non-chemical pest control strategies, with the goal of reducing or eliminating chemical use.</p>	<p>C</p>	<p>To achieve conformance with FSC standards, DCNR revamped their system for approving and tracking chemical use for various purposes on state forests in 2006. A detailed pesticide use database is maintained. An initial application for use of chemicals requires the applicant to propose other methods of controlling pests and justify a chemical approach. Interviews during the assessment (e.g., Rothrock 2015 Roaring Run Timber Sale) confirmed that DCNR staff explore numerous ways to reduce chemical use.</p>
<p>6.6.c Chemicals and application methods are selected to minimize risk to non-target species and sites. When considering the choice between aerial and ground application, the forest owner or manager evaluates the comparative risk to non-target species and sites, the comparative risk of worker exposure, and the overall amount and type of chemicals required.</p>	<p>C</p>	<p>DCNR has a robust Division of Forest Pest Management, comprised of almost 20 professional employees. In addition to the Silviculture team, auditors found, during interviews, that personnel are quite aware of appropriate methods, of applications and potential hazards to non-target species. These same professionals are well-connected with other resources at Penn State University and USFS. Any widespread applications are done by approved contractors.</p>
<p>6.6.d Whenever chemicals are used, a written prescription is prepared that describes the site-specific hazards and environmental risks, and the precautions</p>	<p>C</p>	<p>Most chemical applications on state forest lands are contracted to approved pesticide applicators. An example 2015 contract for chemical treatment of</p>

<p>that workers will employ to avoid or minimize those hazards and risks, and includes a map of the treatment area.</p> <p>Chemicals are applied only by workers who have received proper training in application methods and safety. They are made aware of the risks, wear proper safety equipment, and are trained to minimize environmental impacts on non-target species and sites.</p>		<p>undesirable understory species was examined. Precautions, methods of application and amounts, and required training were all spelled out in detail.</p> <p>For smaller applications, e.g., small patches of invasive plants, DCNR employees are required to submit the Chemical Tracking Application, which includes a map or specific description of the treatment site.</p>
<p>6.6.e If chemicals are used, the effects are monitored and the results are used for adaptive management. Records are kept of pest occurrences, control measures, and incidences of worker exposure to chemicals.</p>	C	<p>Monitoring for effects of control of insect pests is conducted routinely by surveys conducted by the Division of Forest Pest Management. For silviculture use, repeated visits to forest stands are routine. Chemical tracking reports also report on success of previous applications.</p>
<p>6.7. Chemicals, containers, liquid and solid non-organic wastes including fuel and oil shall be disposed of in an environmentally appropriate manner at off-site locations.</p>	NE	
<p>6.8. Use of biological control agents shall be documented, minimized, monitored, and strictly controlled in accordance with national laws and internationally accepted scientific protocols. Use of genetically modified organisms shall be prohibited.</p>	NE	
<p>6.9. The use of exotic species shall be carefully controlled and actively monitored to avoid adverse ecological impacts.</p>	C	
<p>6.9.a The use of <i>exotic species</i> is contingent on the availability of credible scientific data indicating that any such species is non-invasive and its application does not pose a risk to native biodiversity.</p>	C	<p>Supplemental planting on State Forest lands is a common practice for activities such as re-vegetating a log landing after harvest, erosion and sedimentation control, forage and cover habitat in wildlife openings, and reclamation and restoration in gas development areas. The Bureau of Forestry advocates for native species in supplemental plantings whenever possible; however, there are occasions when native species do not fully support the purpose of the planting and non-native species may be preferred and justified, such as preparing for climate change. The bureau maintains guidelines (BOF Planting and Seeding Guidelines_2015 Draft.doc) on the appropriate selection and use on non-native plantings and the monitoring thereof. The document presents abundant cautions for seed mixes</p>

		<p>and nursery stock, especially non-woody plants used to stabilize bare soils and in food plots for wildlife. Exotic species are used almost exclusively for erosion control or as food for wildlife, with care taken to prevent invasive species.</p> <p>Norway spruce is one exotic tree that has been planted and is being considered as a possible replacement for hemlock trees lost to disease. The current recommendation, however, is to avoid further use of this species until evaluation is complete.</p> <p>Norway spruce is also a possible cover type due to CCC plantings in the 1930s. These stands are rarely entered for management other than a thinning and only when markets permit a profitable or break-even sale. Native species are allowed to persist in the understory and are not controlled in any way. The use of this species is currently on well less than 1% of the FMU. Norway spruce does not regenerate well on sites where it has been planted and rarely offsite. Plantings throughout the Northeast, Appalachia and the Lake States have shown that it is not invasive and does not pose a risk to native species.</p>
<p>6.9.b If exotic species are used, their provenance and the location of their use are documented, and their ecological effects are actively monitored.</p>	<p>C</p>	<p>Written guidelines mentioned above address the need to document both provenance and location of use. Each district submits, annually, a detailed list of all plantings on the district. Monitoring of non-native species use will occur within 5 years of planting and will be completed by district staff and specialists from the Ecological Services Section.</p>
<p>6.9.c The forest owner or manager shall take timely action to curtail or significantly reduce any adverse impacts resulting from their use of exotic species</p>	<p>C</p>	<p>DCNR’s extensive program for monitoring and controlling invasive species should assure that any adverse impact from planting exotic species is addressed.</p> <p>The bureau continues its normal operations of treating invasive plant species through hand removals and biocontrol and herbicide when warranted. All chemical treatments are entered into the chemical tracking database. The bureau is developing an invasive species tracking database to track locations and treatments of</p>

		invasive species. 2015 site visit at Weiser State Forest included a demonstration of exotic and invasive species tracking in the GIS.
6.10. Forest conversion to plantations or non-forest land uses shall not occur, except in circumstances where conversion: a) Entails a very limited portion of the forest management unit; and b) Does not occur on High Conservation Value Forest areas; and c) Will enable clear, substantial, additional, secure, long-term conservation benefits across the forest management unit.	NE	
Principle #7: A management plan -- appropriate to the scale and intensity of the operations -- shall be written, implemented, and kept up to date. The long-term objectives of management, and the means of achieving them, shall be clearly stated. (NE)		
Principle #8: Monitoring shall be conducted -- appropriate to the scale and intensity of forest management -- to assess the condition of the forest, yields of forest products, chain of custody, management activities and their social and environmental impacts.		
8.1 The frequency and intensity of monitoring should be determined by the scale and intensity of forest management operations, as well as, the relative complexity and fragility of the affected environment. Monitoring procedures should be consistent and replicable over time to allow comparison of results and assessment of change.	NE	
8.2. Forest management should include the research and data collection needed to monitor, at a minimum, the following indicators: a) yield of all forest products harvested, b) growth rates, regeneration, and condition of the forest, c) composition and observed changes in the flora and fauna, d) environmental and social impacts of harvesting and other operations, and e) cost, productivity, and efficiency of forest management.	C	
8.2.a.1 For all commercially harvested products, an inventory system is maintained. The inventory system includes at a minimum: a) species, b) volumes, c) stocking, d) regeneration, and e) stand and forest composition and structure; and f) timber quality.	C	Monitoring activities are carried out on a number of levels. Broadly, all projects are reviewed spatially in the FIMS system. Certain activities require detailed monitoring efforts, such as with silvicultural activities, herbicide projects, road or bridge contracts, gas activities, and are monitored by staff on a regular basis. Some special resource management plans incorporate monitoring to evaluate special resource values and results of management practices or natural

		<p>succession of environmental factors. A few specific programs:</p> <ul style="list-style-type: none"> - Growth rates, natural regeneration and general conditions are monitored through the Bureau’s Continuous Forest Inventory data. - Timber harvests are inspected throughout the contract term and are followed up at intervals after sale completion by forester to monitor management objectives. - Landscape Exams are conducted to evaluate changes in stands and across landscapes over 15 year intervals. These exams consider ecological, geologic, and cultural values of the forest. - Division of Forest Health conducts annual forest health surveys to monitor defoliation and mortality across the landscape. - The Bureau also assesses regeneration stocking in even-aged harvests to provide an immediate determination of stocking in stands 20-24 years of age. - Additionally, the Bureau of Forestry, Silviculture Section is developing a joint research project with Penn State and USFS to look at ways of evaluating SILVAH prescriptions 5 and 10 years post-harvest. Pending the outcome of this study, new protocols may or may not be developed. No decision will be made until the study is complete. <p>Vegetation conditions are monitored before and after prescribed burns through a formal monitoring process to ensure desired conditions are met and to assess prescribed fire as an effective tool for forest management.</p>
<p>8.2.a.2 Significant, unanticipated removal or loss or increased vulnerability of forest resources is monitored and recorded. Recorded information shall include date and location of occurrence, description of disturbance, extent and severity of loss, and may be both quantitative and qualitative.</p>	<p>C</p>	<p>The most common losses being tracked by DCNR involve infestations of invasive species, most recently gypsy moth, hemlock woolly adelgid and emerald ash borer. These concerns are addressed in detailed action plans that prioritize response areas and silvicultural strategies. Wind, fire, hail and other events are also tracked. Stand level occurrences and salvage operations are tracked in the FIMS database.</p> <p>No unanticipated removals were reported during the</p>

		2015 audit.
8.2.b The forest owner or manager maintains records of harvested timber and NTFPs (volume and product and/or grade). Records must adequately ensure that the requirements under Criterion 5.6 are met.	C	Annual harvest for 2014 was 66.7 million board feet of timber and 26,483,000 cubic feet of pulpwood. Details are available in an annual Forest Products Statistical Report.
8.2.c The forest owner or manager periodically obtains data needed to monitor presence on the FMU of: 1) Rare, threatened and endangered species and/or their <i>habitats</i> ; 2) Common and rare plant communities and/or habitat; 3) Location, presence and abundance of invasive species; 4) Condition of protected areas, set-asides and buffer zones; 5) High Conservation Value Forests (see Criterion 9.4).	C	Wildlife Biologists and Botanists from Ecological Services Section routinely monitor RTE or common wildlife and plant communities on state forestland while conducting surveys and collecting data. As part of the PNDI review process, these specialists will also monitor projects before and after activities to evaluate potential positive or negative impacts to species of concern. RTE species are monitored at least every 25 years (standard state-wide procedure, but more often on state forestland) to assess the information known about particular species or populations. The Deer Management Assistance Program (DMAP) also monitors vegetation on state forestland to assess deer impacts to forest communities and evaluate areas to be included in the program http://www.dcnr.state.pa.us/forestry/deer/dmap/index.htm). The Pennsylvania Natural Heritage Program tracks RTE species, habitats and communities. Monitoring and assessment of rare and threatened animals is done in partnership with the Pennsylvania Fish and Boat Commission and the Game Commission. Location, presence and abundance of invasive species are currently tracked at both the district and central office levels. Districts keep track of locations and treat areas internally. A forester in each district is charged with monitoring insect and plant pests within the district. Populations are noted in landscape exams and also through the FME chemical tracking database. In some cases large populations are contracted out for control. In addition central office staff keeps tabs on populations of invasive species and a tracking database is being developed and will be incorporated into the centralized FIMS. For insect pests the division of forest pest management conducts surveys and maps threats

		<p>statewide.</p> <p>Protected areas, set-asides and buffer zones are identified in the SFRMP land zoning system and are regularly updated.</p> <p>Each HCVF type has a separate monitoring protocol as identified in the HCVF Plan.</p> <p>As part of the Shale Gas Monitoring Program (http://www.dcnr.state.pa.us/forestry/NaturalGas/monitoringreport/index.htm), a botanist and wildlife biologist continue their efforts to monitor the impacts of natural gas development on state forestland. In cases where a non-native species is selected for vegetative cover, BOF monitors for offsite migration and to assess the value of this species on state forestland. In addition, there are partnerships with organizations such as the PA Natural Heritage Program, Western PA Conservancy, and The Nature Conservancy to monitor and develop plans for areas or species of special consideration.</p>
<p>8.2.d.1 Monitoring is conducted to ensure that site specific plans and operations are properly implemented, environmental impacts of site disturbing operations are minimized, and that harvest prescriptions and guidelines are effective.</p>	<p>C</p>	<p>All projects are reviewed spatially in the FIMS system. Certain activities require detailed monitoring efforts such as with silvicultural activities, herbicide projects, prescribed burning, road or bridge contracts, gas activities etc. All site disturbing activities require completion of a State Forest Environmental Review. During 2015 field stops, wildlife biologists said that population counts are organized to evaluate the success of various management techniques such as the viewed habitat work for woodcock and golden winged warblers. They said the proposed Bat HCP includes monitoring of timber harvest effects for the next 30 years.</p> <p>Timber sales are inspected throughout the contract term and are followed up at intervals after sale completion by the foresters to monitor management goals. Any issues that need addressed are confronted and improvements implemented.</p>
<p>8.2.d.2 A monitoring program is in place to assess the</p>	<p>C</p>	<p>DCNR conducts a regular forest road and trail surveys,</p>

<p>condition and environmental impacts of the forest-road system.</p>		<p>and survey (with results are stored as in a GIS layer), studies ATV and motorcycle impacts and monitors trucking impacts related to O&G development and timber harvests. DCNR also cooperates with PennDOT on evaluating the condition of roads and bridges.</p> <p>During 2015 site visits, district road specialists described how road maintenance and infrastructure work is planned 2-3 years in advance. Road maintenance funding has been adequate and a recent \$45 million infrastructure allotment has enabled a number of more ambitious projects, such as bridge replacements.</p>
<p>8.2.d.3 The landowner or manager monitors relevant socio-economic issues (see Indicator 4.4.a), including the social impacts of harvesting, participation in local economic opportunities (see Indicator 4.1.g), the creation and/or maintenance of quality job opportunities (see Indicator 4.1.b), and local purchasing opportunities (see Indicator 4.1.e).</p>	<p>C</p>	<p>Social monitoring occurs at a variety of levels in relation to state forest management activities. The Bureau is in the process of revising the State Forest Resource Management Plan. As part of those efforts, the Bureau will involve public meetings and input opportunities after a draft is formulated and reviewed internally and with advisory committees.</p> <p>The Bureau has established a number of Advisory committees to address different focus areas. These committees are made up of agency professionals, university professionals, industry, business and forest users and are listed as follows: Natural Gas Advisory Committee, Recreation Advisory Committee, Ecosystem Management Advisory Committee, and the Silviculture/Timber Advisory Committee. The BOF also participates in DCNR’s Conservation and Natural Resources Advisory Committee, the Snowmobile ATV Advisory Committee, and the Pine Creek Rail Trail Advisory Committee.</p> <p>Environmental impact monitoring is generally conducted at the project level as part of the PNFI or State Forest Environmental Review process. In addition, our Continuous Forest Inventory provides a mechanism to monitor change of environmental impacts to forest ecosystems across the state forest system. Many of the processes to monitor environmental impacts are described in the previous</p>

		<p>two questions.</p> <p>The 2014 Shale Gas Monitoring Report (http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_20029147.pdf) also monitors the environmental and social impacts from gas development on state forestland. BOF identified several 'monitoring values' to monitor changes of these values as a result of gas development that could impact environmental or social values. For social monitoring, it including two focus groups in selected communities to gather input on the impacts to local communities and comment cards to visitors on how their experience may have changed due to gas development.</p>
<p>8.2.d.4 Stakeholder responses to management activities are monitored and recorded as necessary.</p>	<p>C</p>	<p>SFRMP plan appendices list feedback from stakeholders. Public input survey forms are available on the DCNR website and in the field at kiosks, as observed near recreational trails.</p> <p>Current SFRMP plan appendices list feedback from stakeholders. Bureau of Forestry has started the planning process to revise the State Forest Resource Management Plan. The Bureau developed a survey to gather public input on the status of state forest lands. The survey was available online through October 31, 2013. Results from the survey have been analyzed and a report is available. Twelve hearings and stakeholder input meeting are planned starting in September 2015.</p> <p>During opening meetings at District offices for the 2015 sites visits, managers described a variety of stakeholder response tools including mail-in cards, email and web surveys. The most popular approach in recent years has been comments on Facebook.</p>
<p>8.2.d.5 Where sites of cultural significance exist, the opportunity to jointly monitor sites of cultural significance is offered to tribal representatives (see Principle 3).</p>	<p>C</p>	<p>DCNR maintains a tribal contact list and regularly invites input, but they have not received any tribal responses.</p> <p>CRGIS is a map-based inventory of the historic and archaeological sites and surveys stored in the files of the Bureau for Historic Preservation (BHP). The</p>

		<p>Pennsylvania Historical and Museum Commission (PHMC) has been collecting information concerning archaeological sites and historic resources for the greater part of a century. Currently there are about 23,000 archaeological sites and 129,503 historic properties recorded.</p> <p>Cultural preservation and interpretation is of great significance according to the foresters interviewed during 2015 site visits. They said cooperation with other entities is essential considering the scope of cultural resources.</p>
<p>8.2.e The forest owner or manager monitors the costs and revenues of management in order to assess productivity and efficiency.</p>	<p>C</p>	<p>The Bureau of Forestry is continuously looking for ways to improve its efficiency and productivity at various levels. The Bureau encourages open communication among our staff to express ideas or issues on understanding its productivity/efficiency gaps.</p> <p>Central office program areas routinely perform field visits with the districts to monitor effectiveness of programs in the field and address any issues. These efforts demonstrate a feedback loop in identifying and addressing productivity and efficiency issues for state forest management activities. After action reviews are performed after large incidents to evaluate the effectiveness of the incident management team and improve efficiency in future incidents. Many program areas require routine reporting on activities or incidents, allowing them to monitor progress, identify issues, and improve processes for productivity and efficiency.</p> <p>BOF also monitors productivity through implementation of the Harvest Allocation Model (referenced elsewhere in this document), our annual timber products output report, miles of road or trail projects completed with allocated special funding (Dirt and Gravel Road funding, Liquid Fuels funding, Snowmobile and ATV funding), and other measures. This monitoring allows the bureau to examine how well it meets its targets and efficiently use funding to</p>

		complete proposed projects.
8.3 Documentation shall be provided by the forest manager to enable monitoring and certifying organizations to trace each forest product from its origin, a process known as the "chain of custody."	NE	
8.4 The results of monitoring shall be incorporated into the implementation and revision of the management plan.	NE	
8.5 While respecting the confidentiality of information, forest managers shall make publicly available a summary of the results of monitoring indicators, including those listed in Criterion 8.2.	NE	
<p>Principle #9: Management activities in high conservation value forests shall maintain or enhance the attributes which define such forests. Decisions regarding high conservation value forests shall always be considered in the context of a precautionary approach.</p> <p>High Conservation Value Forests are those that possess one or more of the following attributes:</p> <ul style="list-style-type: none"> a) Forest areas containing globally, regionally or nationally significant: concentrations of biodiversity values (e.g., endemism, endangered species, refugia); and/or large landscape level forests, contained within, or containing the management unit, where viable populations of most if not all naturally occurring species exist in natural patterns of distribution and abundance b) Forest areas that are in or contain rare, threatened or endangered ecosystems c) Forest areas that provide basic services of nature in critical situations (e.g., watershed protection, erosion control) d) Forest areas fundamental to meeting basic needs of local communities (e.g., subsistence, health) and/or critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities). 		
9.1 Assessment to determine the presence of the attributes consistent with High Conservation Value Forests will be completed, appropriate to scale and intensity of forest management.	NE	
9.2 The consultative portion of the certification process must place emphasis on the identified conservation attributes, and options for the maintenance thereof.	NE	
9.3 The management plan shall include and implement specific measures that ensure the maintenance and/or enhancement of the applicable conservation attributes consistent with the precautionary approach. These measures shall be specifically included in the publicly available management plan summary.	NE	
9.4 Annual monitoring shall be conducted to assess the effectiveness of the measures employed to maintain or enhance the applicable conservation attributes.	C	

<p>9.4.a The forest owner or manager monitors, or participates in a program to annually monitor, the status of the specific HCV attributes, including the effectiveness of the measures employed for their maintenance or enhancement. The monitoring program is designed and implemented consistent with the requirements of Principle 8.</p>	<p>C</p>	<p>BOF monitors HCVFs on many levels. Forest managers are often working in the vicinity of or directly within these areas on a daily basis and monitor informally for any noticeable changes. BOF’s geospatial system (FIMS) is also a very effective tool in monitoring any changes that may occur in HCVFs over time. Any management projects (timber, gas development, trail work, etc.) conducted in the forests is checked against a GIS database to look for any potential impacts to HCVFs (whether positive or negative) as well as other features. Many of the areas fall within the continuous forest inventory (CFI) and many others such as wild plant sanctuaries and ecological focus areas have regular monitoring by the Ecological Services Section.</p> <p>HCV1.1 Wild Plant Sanctuaries – FIMS, Research Agreements, annual eco services monitoring of 20 plant sanctuaries per year HCV1.2 Focus Areas – FIMS, Conservation Partners, annual eco services monitoring HCV2.1 Wild and Natural Areas – FIMS, Research Agreements, CFI HCV 2.2 Wild and Natural Areas – FIMS, Research Agreements, CFI HCV 3.1 Old Growth – FIMS, Research Agreements, CFI HCV 3.2 ROS Roadless Areas – FIMS HCV 3.3 RTE Ecosystems – FIMS, Conservation Partners HCV 4.1 SWPZ & GWPZ – FIMS, District relationship with municipal authorities HCV 4.2 SWPZ & GWPZ – FIMS, District relationship with municipal authorities HCV 4.3 Coastal Floodplain – FIMS, Research Agreements, District monitoring, CFI HCV 6.1 Archeological – FIMS, Research Agreements, District monitoring HCV 6.2 Archeological – FIMS, Research Agreements, District monitoring</p> <p>Multiple queries were run on HCVFs by District staff per auditor request. HCVF attributes were confirmed and maps of selected stands and areas were viewed.</p>
<p>9.4.b When monitoring results indicate increasing risk</p>	<p>C</p>	<p>Three specific examples of conformity were observed</p>

<p>to a specific HCV attribute, the forest owner/manager re-evaluates the measures taken to maintain or enhance that attribute, and adjusts the management measures in an effort to reverse the trend.</p>		<p>during 2015 site visits:</p> <ul style="list-style-type: none"> • Monitoring of prescribed burning impacts on rattlesnake populations (Rothrock S.F.). • Natural Area monitoring indicated loss of hemlock due to woolly adelgid infestations. High priority sites such a critical trout streams were identified, and pesticide treatments to protect hemlocks have been focused there. • Monitoring of bat hibernacula indicated serious population declines due to white nose syndrome. Simple seasonal timber cutting restrictions don't appear to helping much, and so DCNR and partners in the state are developing a more comprehensive Bat HCP that looks at long-term effects across the landscape. Bat hibernacula related to a mine reclamation project on the Gifford Pinchot State Forest were protected.
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APPENDICES

APPENDIX C: REGIONAL LIMITS AND OTHER GUIDELINES ON OPENING SIZES: Indicator 6.3.g.1

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

APPALACHIA REGION

6.3.g.1.a When even-aged silviculture (e.g., seed tree, regular or irregular shelterwood), or deferment cutting is employed, live trees and native vegetation are retained and opening sizes are created within the harvest unit in a proportion and configuration that is consistent with the characteristic natural disturbance regime in each community type, unless retention at a lower level is necessary for restoration or rehabilitation purposes. Harvest openings with no retention are limited to 10 acres.

Guidance: *Even-age silviculture is used only where naturally occurring species are maintained or enhanced. Retention within harvest units can include riparian and streamside buffers and other special zones. In addition, desirable overstory and understory species may be retained outside of buffers or special zones while allowing for regeneration of shade-intolerant and intermediate species consistent with overall management principals. Where stands have been*

C

BOF practices retention on all harvest sites. Silvicultural practices are consistent with the indicator's guidance, as confirmed through field observation.

<i>degraded, less retention can be used to improve both merchantable and non-merchantable attributes.</i>		
<p>6.3.g.1.b When uneven age silvicultural techniques are used (e.g., individual tree selection or group selection), canopy openings are less than 2.5 acres.</p> <p>Applicability note: <i>Uneven age silvicultural techniques are used when they maintain or enhance the overall species richness and biologic diversity, regenerate-shade tolerant or intermediate-tolerant species, and/or provide small canopy openings to regenerate shade-intolerant and intermediate species. Uneven-age techniques are generally used to develop forests with at least three age classes. Uneven age silviculture is employed to prevent high-grading and/or diameter limit cutting.</i></p>	C	DCNR seldom uses uneven-aged silvicultural techniques other than in buffer strips, which are maintained for continuous canopy cover.

APPALACHIA REGION: *The SMZ is designed to allow harvesting and provide flexibility for silvicultural management.*

<p>6.5.e.1.a All perennial streams have buffers (streamside management zones, SMZs) that include an inner SMZ and an outer SMZ. SMZ sizes are minimum widths that are likely to provide adequate riparian habitat and prevent siltation. If functional riparian habitat and minimal siltation are not achieved by SMZs of these dimensions, wider SMZs are needed.</p>	C	Met or exceeded in PA DCNR Aquatic Habitat Buffer Guidelines, Effective January 1, 2007
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Table 6.5.f (APP only) Widths of inner and outer Streamside Management Zones. Widths of outer SMZs are applicable where data do not support narrower widths*

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

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

<p>6.5.e.1.b (APP only) The inner SMZ for <i>non-high-quality waters</i> (see state or local listings describing the highest quality waters in the state or region) extends 25 feet from the high water mark. Single-tree selection or small group selection (2-5 trees) is allowed in the inner SMZ, provided that the integrity of the stream bank is maintained and canopy reduction does not exceed 10 percent (90 percent canopy maintenance). Trees are directionally felled away from streams. Note: The inner</p>	C	Met or exceeded in PA DCNR Aquatic Habitat Buffer Guidelines, Effective January 1, 2007.
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SMZ is designed as a virtual no-harvest zone, while allowing the removal of selected high-value trees.		
6.5.e.1.c (APP only) Along perennial streams that are designated as <i>high-quality waters</i> (see state or local listings describing the highest quality waters in the state or region), no harvesting is allowed in the inner SMZ (25 feet from the high water mark), except for the removal of wind-thrown trees. Stream restoration is allowed if a written restoration plan provides a rational justification and if the plan follows local and regional restoration plans.	C	Met or exceeded in PA DCNR Aquatic Habitat Buffer Guidelines, Effective January 1, 2007.
6.5.e.1.d (APP only) Outer SMZs, outside and in addition to inner SMZs, are established for all intermittent, and perennial streams, as well as other waters. When the necessary information is available, the width of a stream management zone is based on the landform, erodibility of the soil, stability of the slope, and stability of the stream channel as necessary to protect water quality and repair habitat. When such specific information is not available, the width of streamside management zone is calculated according to Table 6.5.f	C	Met or exceeded in PA DCNR Aquatic Habitat Buffer Guidelines, Effective January 1, 2007.
6.5.e.1.e (APP only) Harvesting in outer SMZs is limited to single-tree and group selection, while maintaining at least 50 percent of the overstory. Roads, skid trails, landings, and other similar silviculturally disturbed areas are constructed outside of the outer SMZ, except for designated stream crossings or when placement of disturbance-prone activities outside of the SMZ would result in more environmental disturbance than placing such activities within the SMZ. Exceptions may be made for stream restoration.	C	Met or exceeded in PA DCNR Aquatic Habitat Buffer Guidelines, Effective January 1, 2007.
6.5.e.1.f (APP only) The entire SMZ of intermittent streams is managed as an outer buffer zone.	C	Met or exceeded in PA DCNR Aquatic Habitat Buffer Guidelines, Effective January 1, 2007.
6.5.e.1.g (APP only) The activities of forest management do not result in observable siltation of intermittent streams. The activities of forest management do not result in observable siltation of intermittent streams.	C	Met or exceeded in PA DCNR Aquatic Habitat Buffer Guidelines, Effective January 1, 2007.

Appendix 6 – Chain of Custody Indicators for FMEs

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