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**Rainforest
Alliance**

SmartWood Program

Forest Management
2011 Annual audit
Report for:

Commonwealth of Pennsylvania,
DCNR Bureau of Forestry
In
Harrisburg, PA USA

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Standard Conversions

1 mbf = 5.1 m³
 1 cord = 2.55 m³
 1 gallon (US) = 3.78541 liters

 1 inch = 2.54 cm
 1 foot = 0.3048 m
 1 yard = 0.9144 m
 1 mile = 1.60934 km
 1 acre = 0.404687 hectares

 1 pound = 0.4536 kg
 1 US ton = 907.185 kg
 1 UK ton = 1016.047 kg

1. INTRODUCTION

The purpose of this report is to document annual audit conformance of **Commonwealth of Pennsylvania, DCNR Bureau of Forestry (BOF)**; also referred to as the Forest Management Enterprise, or FME in this report). The report presents the findings of SmartWood auditors who have evaluated company systems and performance against FSC forest management standards and policies. Section 2 of this report provides the audit conclusions and any necessary follow-up actions by the company through corrective action requests.

SmartWood audit reports include information which will become public information. Sections 1-3 will be posted on SmartWood’s website according to FSC requirements. All appendices will remain confidential.

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2. AUDIT FINDINGS AND RESULTS

2.1. Audit conclusion

Based on Company’s conformance with FSC and SmartWood requirements, the audit team makes the following recommendation:	
<input checked="" type="checkbox"/>	Certification requirements <u>met</u>, certificate maintenance recommended Upon acceptance of CAR(s) issued below
<input type="checkbox"/>	Certification requirements <u>not met</u>:
Additional comments:	
Issues identified as controversial or hard to evaluate.	<p>This annual audit included a detailed review of the Marcellus Gas Leasing program on State Forest Lands (SFL). Because of potential environmental and social impacts, Marcellus gas drilling and associated activities (e.g., road construction, truck traffic, water withdrawals, pipeline corridors, and transport of hazardous materials), this has been a high-profile issue statewide and on SFL. Beginning in 2008 the BOF has leased 137,970 acres, or 6.5% of the SFL, for Marcellus gas extraction. The majority of the lease area is located in the “Big Woods” section of the SFL in the North/Central section of the state.</p> <p>The BOF has invested significant amounts of personnel time and money to address the leasing for, and expansion of activity in, Marcellus shale gas development over the past few years. Each District has at least one forestry person dedicated to monitoring gas well pad installation and development. Dozens of personnel are involved in well pad siting, including an in-house team of geologists (presently four people, with two more geologists to be hired by the BOF in the near future), with BOF activities ranging from examination of site-specific assessment of ecological conditions to landscape-level impact on recreation.</p>

The BOF needs to ensure that the FSC Standard is being met only for activities that occur within the scope of the certificate. Because the FSC standard is a forest certification standard, including the impacts of gas leasing activities, presented an auditing challenge as the areas in question have been converted to non-forest use. The approach used by the audit team was to consider the impacts of the activity on the surrounding forest, including but not limited to resulting from direct loss of forest cover, forest fragmentation, increased potential for invasive plant species, impacts to species and habitats of management concern, stream flow and water quality concerns. Conformance with legal requirements, public outreach, stakeholder input, dispute resolution, economic effects, and effects on the BOF to complete activities associated with its core mission were also considered. Additionally, the auditing approach was that once it has been determined that forest is being converted (for utility easements, gas well pads, communication towers, etc.) the land is no longer being managed for forestry and the FSC standard is no longer applicable for the actual conversion activities (the actual clearing of the forest).

In addition, areas that were considered to be outside the scope of the FSC standard and not included in the audit included truck traffic on roads outside of the forest that are used by gas companies operating on both the SFL and those on private lands (access roads only used by drilling companies operating on SFL lands would be considered within the scope of the certificate); water withdrawals outside of the SFL, and potential subsurface impacts (e.g., pollution of aquifers from leakage of gas or hydrofracturing fluids).

During the audit SmartWood interviewed a large number of stakeholders, including environmental groups, recreation users, academics, and personnel from public agencies that enforce and monitor environmental regulations, including the Department of Environmental Protection, Pennsylvania Game Commission, and the Susquehanna River Basin Commission, as well as BOF employees. A summary of stakeholder comments and SmartWood responses is included in Section 2.3. The responses summarize the audit findings for many of the potential environmental and social issues identified.

Gas and oil development is occurring on forestland where the Commonwealth of Pennsylvania owns the subsurface rights (the areas leased as mentioned above) and also on forestland where the Commonwealth does not own the subsurface rights. For the areas subject to the leases (where the subsurface rights are owned by the Commonwealth), PA DCNR has substantial control over activities to ensure conformance with the FSC standards and requirements.

For lands where the Commonwealth does not own the subsurface rights, it is not clear, in all situations, whether PA DCNR has enough control over activities to ensure conformance with FSC standards and requirements.

PA DCNR needs to evaluate the certified landbase and determine in which situations they maintain enough control to ensure conformance with the FSC standards. For “severed lands” where they cannot ensure conformance, these lands will need to be excised. (Note: The entire

leased area does not need to be excised. Only the areas that are directly impacted by oil and gas activities (i.e. converted to non-forest use) need to be excised.) PA DCNR needs to provide SmartWood with the protocol used in making this determination and the results of this evaluation. See **OBS 06/11**.

2.2. Changes in the forest management of the FME and the associated effects on conformance with the standard.

BOF has instituted minor changes in its management systems to address minor Corrective Action Requests (CARs) issued in calendar year 2009 (2010 audit year), including clarification of whole tree harvest policies, systems to address containment of spills and leaks from timber harvesting equipment. Details of these changes are included in Section 2.4.

BOF has corrected its High Conservation Value Forest (HCVF) assessment in response to CAR 04/10. The revised HCVF designation is approximately 220,803 acres. This is explained in greater detail in Sections 2.4 and 2.5.

The rapid increase in drilling for Marcellus shale gas on new leases (2008 and later) and on older gas leases has resulted in a number of new policies, assessments, and management activity to address the gas leasing program. Because of this increase, a review of the impact of gas drilling activities on the forest was a major focus of the current annual FSC audit.

Land acquisitions and exchanges resulted in a net increase of 3,085 acres of land managed by the BOF. The total area covered by the certificate is 2,147,259 acres (868,984 ha).

BOF has had net decrease in employees due to a reduction in seasonal staffing. However, new full-time positions have been added to deal with the increased work load resulting from the Marcellus gas lease activity.

2.3. Stakeholder issues

The audit team received many comments on the Marcellus gas issue as well as general comments on the FME's forest management. Stakeholder comments and SmartWood's response are summarized in the table below.

Stakeholder comment	SmartWood response
General Comments	
<p>Penn State University (PSU) faculty has received research funding in recreation- and silviculture-related areas. For example, there is a long-term project to improve BOF forest management planning and interject GIS and harvest planning concepts into their FMPs.</p> <p>For PSU classes, there are academic field trips whereby BOF staff contributes to class lectures. One professor uses state lands such as Alan Seger Natural Area and Bear Meadows for outdoor classrooms. BOF local foresters have hosted field tours on PA DCNR lands for the regional SAF</p>	<p>None required.</p>

Stakeholder comment	SmartWood response
<p>Chapter.</p> <p>The PA DCNR hires PSU graduates.</p> <p>Regarding mineral extraction issues, many of the deans and directors from various universities have participated in two tours of gas well sites.</p> <p>The BOF has a reputation as one of the premier natural resources agencies in the U.S. and has been looked at as a forward looking organization with very professional and motivated leadership. Many people consider them a cutting edge organization as they implement planning programs (i.e., public and private forest lands) and in their use of management sciences on the state forest. Their field staff live in local communities and participate as both employees and citizens.</p> <p>The BOF works well with the public; gathering input, conveying information, and building relationships.</p> <p>Much of what was learned about forest regeneration on the state forest lands can be attributed to their staff that helps to manage these areas. They cautiously make good decisions and use science to guide their work (e.g., application of SILVAH and Penn State Oak Regeneration Guidelines).</p> <p>The BOF is not just focused on trees. They have high regard for other plants and animals; as witnessed by the work performed by their Ecological Services unit.</p>	
<p>An individual recommended topics in the past for meetings with the BOF which were used for meeting presentations. There is a concern that there used to be 4 meetings a year, and now they are down to 1 or 2 at the most. Several stakeholders have served on the PA DCNR Recreation Advisory Committee and have found it to be beneficial.</p>	<p>The BOF is under pressure from budgetary concerns to reduce the number of meetings. Additionally, several meetings have been poorly attended. Stakeholders and advisory committee members can always schedule special meetings for any issues of concern and have, in fact, done so. The auditors have determined there is no nonconformance with the applicable FSC standards.</p>
<p>A recreation-related business is involved with boating, biking, and hiking recreation. This operation provides rest rooms, changing stations, and a parking lot. There are a number of issues with the BOF. First, without notification, they upgraded a canoe landing. At the Blackwell boat launch, the BOF put in loose rocks where the public needs to walk and it is very unstable. They have not fixed this, despite calls to do so. In addition, the BOF took down a parking sign to access the river and then put a big rock in the</p>	<p>With increased pressure to perform their jobs, cut backs in the work force, and the additional attention given to increased oil and gas drilling, the BOF may be cutting back in areas such as recreation management. While the audit team did not uncover direct evidence of this during its visit, the team recommends that his situation and BOF's management of other recreational sites and activities be continually monitored future audits. See OBS 02/11.</p>

Stakeholder comment	SmartWood response
<p>middle of the road to prevent cars from entering the area. Now a raft cannot get around the rock to access the creek. The biggest issue for him is water levels, without which he can't operate. Some years are better than others. Water quality would become an issue, if the creek was despoiled, it would ruin his business.</p> <p>A stakeholder stated that the BOF has been slow to recognize their responsibility to provide outdoor recreation opportunities. However, some progress has been made in recent years.</p>	<p>See above comment.</p>
<p>Forest industry stakeholders were very supportive of timber sale contracts with spill containment requirements, and if certification driven, that is good. They also support related requirements, like logger safety training evidence. However, logging contracts need to be consistent with contracts or agreements for other work. For example, harvesting for logs creates a large economic impact and requires logger training; however, clearing for Rights of Way, the BOF does not require trained loggers. This is a safety issue and the loss of work for trained loggers in the state. There needs to be consistency in permits, agreements, and contracts on safety, insurance, and training requirements.</p>	<p>The BOF needs to ensure that the FSC Standard is being met only for activities that occur within the scope of the certificate. The FSC Standard applies only to forest management. Once it has been determined that land is being cleared for utility easements (Rights of Way) or clearing for other non-forest uses (e.g., gas well pads, communication towers, etc.) the land is no longer being managed for forestry and the FSC standard is no longer applicable; only impacts to the surrounding forest land is considered to be applicable. Therefore, there is no nonconformance with the FSC standards.</p>
<p>BOF need's to show what they are doing relative to FSC certification and involve their constituency. FSC certification is not well known among stakeholders and as a result, not as valued as it should be. They claim and can be said to be a market leader but they have a very poor Web site.</p>	<p>Among the stakeholders interviewed there was an acute awareness about FSC certification. However, this is not as prevalent among the general public. While education and public relations efforts are exceptional, the auditors found that they were lacking relative to the BOF involvement in FSC certification. It was acknowledged by the BOF that their Web site is in need of an overhaul. In fact, they are now in the process of planning on Web site improvements. However, the auditors have determined there is no nonconformance with the applicable FSC standards.</p>
<p>Oak regeneration is inadequate across BOF forest lands, in large part due to poor forest management.</p>	<p>Forest regeneration was observed to be generally well maintained and enhanced by BOF across State Forests. It was clear that BOF invests significant resources to maintain intact, enhance or restore regeneration through efforts in deer impact control (use of DMAP, manipulation of forage and browse, fencing) coupled with silvicultural interventions to control light (including use of overstory tree harvests and site preparation with herbicides and prescribed fire). Anecdotally (stakeholder interviews and general observations), efforts to regenerate oak on a variety of sites have been improved by the BOF over the last 10 years, with success (increased oak regeneration). Some of this success is attributed to training – all BOF foresters and many forest technicians have recently attended the U.S. Forest</p>

Stakeholder comment	SmartWood response
	<p>Service oak silviculture training session. Efforts to use prescribed fire – an important tool to promote oak regeneration through control of interfering plants and change in soil dynamics – have been expanded and supported by recent passage of PA’s Prescribed Burning Practices Act (House Bill 262, passed in July 2009). BOF prescribe burned ~200 acres in 2010, with >500 acres planned for 2011. The audit team has found the BOF’s regeneration efforts to be consistent with the FSC Appalachian Standard, Criterion 6.3.</p>
<p>BOF Districts do not appear to be monitoring how they are following their tactical plans (harvest targets, age class distribution), and what is the process for management plan revision?</p>	<p>Each Forest District annually reports harvest levels and amount of timber harvests (area by silvicultural method) to the BOF Silviculture Section. These reports are analyzed, summarized, and assessed against Forest District targets. To date, harvesting achievements were described by the BOF as generally being on target. Overall evaluation of harvest levels and forest conditions will occur with the State Forest Plan revision, which is set to begin in 2012 and be completed by 2014. The audit team has found these BOF monitoring efforts to be consistent with the FSC Appalachian Standard, Criteria 8.1 and 8.2.</p>
<p>Over browsing by white-tailed deer is a problem on many State forests, requiring efforts to control the deer herd through concentrated hunting or costly fencing to exclude deer from select areas. Deer are currently impacting PA forest lands by browsing tree seedlings, shrubs and wildflowers beyond their capacity to reproduce, impacting the ability to sustain a healthy, fully functioning forest. In 2003, the PA Game Commission developed the Deer Management Assistance Program (DMAP), to provide assistance to landowners whose lands are impacted by deer over browsing or who have specific deer management goals that include reducing the doe herd. Permits issued through DMAP are valid only on the area they were assigned to, allowing landowners to accomplish specific deer management goals on individual areas. DMAP has worked on State Forests, as evidenced by a reduction in fencing over the past 10 years. In 2009, the PA Game Commission changed DMAP, effectively reducing the number of total deer permits issued across the State. It is expected that DMAP will be further altered and that sustainability of PA forest jeopardized while the deer herd increases.</p>	<p>BOF quickly responded to the late changes in 2009 DMAP policy and procedure and were able to secure nearly all desired permits for high priority areas across the State Forest system. An important element of this responsiveness was the intensive efforts to monitor and collect data on forest regeneration, a key forest health indicator. Since 2006, BOF staff have intensively surveyed forest regeneration and browsing impact across more than 2 million acres of State forestland (thousands of miles of transects and tens of thousands of plots). While DMAP decisions are based primarily on habitat condition, other factors are considered, such as hunter access and planned management activities. Not all State Forest areas that requested DMAP permits were covered this past year. Coupled with the general overall reduction in deer permits, it is expected that increased deer herd size and impact will negatively affect PA forest conditions. BOF is working with staff, scientists and the PA Game Commission to maintain the DMAP program. They will continue to monitor forest conditions as related to deer browsing, fencing efforts to regenerate areas to diverse and desirable species, and be actively providing information to inform their stakeholders, including the PA Game Commission. This year, forest conditions outside fences were generally observed to reflect lowered deer impact across the State. It is expected that increased problems with deer as a result of changes in DMAP may only begin to appear in the forest in the next few years as deer herds build. At present, BOF’s efforts to regenerate forests through control of deer, with DMAP, fencing and control of forage and browse, was found by the audit team to be</p>

Stakeholder comment	SmartWood response
	consistent with the FSC Appalachian Standard, Criteria 6.3.
<p>One stakeholder recommended that BOF use large, long-term exclosures to collect data on tracts with no over-browsing and no vegetation management.</p>	<p>BOF conducted an extensive study has looked at oak regeneration within fence exclosures specific to deer effects, as well as many other aspects of oak regeneration (e.g., see Yuska et al. 2008). This information assists the BOF when determining where areas should be enrolled in the Pennsylvania Game Commission’s Deer Management Assistance Program (DMAP). The BOF has had habitat analyzed inside versus outside fences by researchers on State Forest land, and other similar studies have been conducted across Pennsylvania. The BOF considers these studies as they move forward in improving data collection for monitoring habitat for deer and other wildlife.</p> <p>BOF has also begun a pilot project in one district (Tioga) to improve data collection and decision making. The Tioga Pilot Project monitoring protocol includes overstory conditions, herbaceous and understory vegetation, recent timber history, cover of competing vegetation, forest type, forest floor seed bank, and other information that may assist in distinguishing effects of high deer density from other major influences on forest recovery. The auditors have determined there is no nonconformance with the applicable FSC standards.</p>
<p>Natural conversion of certain black cherry stands to black birch seems to be increasing as a problem in north-central PA. Over the past decade, it appears that cherry seed years have been less due to failures in cherry seed crop, there are changed seedling dynamics (seedlings seem to “just sit” once established), lowered deer impact levels have allowed other species to dominant (e.g., birch, red maple and pin cherry), and possible inappropriate silvicultural prescriptions may have exacerbated the problem. The concern for a cherry-to-birch conversion in regenerating hardwood stands may be most commonly occurring in Allegheny hardwood stands in northwestern to north-central PA.</p>	<p>Information on this cherry problem and cherry-birch conversion have been anecdotal information. Only recently have scientists begun to explore the problems. Interviews with dozens of State Foresters and field assessment of review of 15 regenerating areas on four State Forests in north-central PA did not support the notion of current, broad scale problems with conversion of cherry to birch. Regenerating areas were observed to be diverse with at least three major commercial species as co-dominants in each visited stand. BOF staff submitted that cherry seed supply has been low; with no discernible cause (black cherry dieback has been observed by BOF staff across PA). Apparently, cherry are recovering this year with improved vigor (crown conditions) and a large seed crop. Birch were observed to be a dominant in stands that regenerated over a decade or two ago, particularly in association with sugar maple decline. It is recognized that the increase in birch and other species such as pin cherry could be a concern, particularly if deer browsing continues to be low, but that problem does not yet appear to be omnipresent. BOF staff is aware of the concern, monitoring regeneration cuts for problems, and cooperating with scientists to learn more about the unfolding ecology associated with cherry-birch stands. At present, BOF is successfully regenerating forests with potential cherry and birch problems, and were therefore found by the audit team to be operating</p>

Stakeholder comment	SmartWood response
<p>One stakeholder expressed concern regarding BOF plans for exotic pests in general, but the emerald ash borer specifically.</p>	<p>consistent with the FSC Appalachian Standard, Criteria 6.3.</p> <p>Emerald Ash Borer (EAB). BOF tools for dealing with EAB, include early detection, limitation of spread, and public education and working with affected stakeholders. Examples of BOF efforts include PA genotype ash seed collection and storage, EAB detection (purple panel traps across the state), educating landowners, working to bring speakers with EAB experience to stakeholder gatherings, alerting camp leases about quarantine and risks of moving firewood, working with communities to complete risk assessments and strategies for dealing with the problem, and participating actively in research programs, and potential biological control organisms.</p> <p>PA Department of Agriculture and the USDA APHIS, not BOF, enforce quarantines. BOF works to educate industry about the quarantine and how to comply with it (usually involves compliance agreements. Generally ash is a minor component of most BOF timber sales. BOF works with buyers on a case by case basis to determine how it can accommodate the buyer's needs (most commonly expressed concern is that a current contract does not provide enough time to remove ash logs due to the seasonal restriction on hauling).</p> <p>Hemlock Woolly Adelgid (HWA). BOF conducts surveys along the leading edge, monitors hemlock health, releases predators and monitor the sites, conducts HWA suppression activities on DCNR State Forest and State Park lands, and cooperates with researchers studying the genetic diversity of eastern hemlock.</p> <p>Gypsy Moth. Since 1972 BOF has conducted an annual gypsy moth suppression program on state, federal, and private lands on a request/voluntary basis. The size of program based on need, requests, and funding. BOF also conducts annual defoliation surveys and egg mass surveys.</p> <p>The auditors have determined there is no nonconformance with the applicable FSC standards.</p>
<p>One stakeholder indicated, if the BOF is still doing even-management with no retention, they object to the practice in the strongest possible terms.</p>	<p>The FSC Appalachian standard does not require retention of live trees and other vegetation for final even-aged harvests (e.g., clearcuts, overstory removals, and other harvests that result in single-aged or two-aged stands) 10 acres or less in size. Because this is permitted by the Standard the audit team cannot require justification. The audit team has found the BOF's retention practices for even-aged regeneration harvest blocks large than 10 acres to be inconsistent with the FSC Appalachian Standard, Indicator 8.3.a.8. See CAR</p>

Stakeholder comment	SmartWood response
One stakeholder objects to whole tree logging.	<p>05/11 in Section 2.5 of this report for details.</p> <p>Whole tree harvesting is allowed by the FSC standard if soil structure, function, and fertility are not threatened and if ecologically justified (see Appalachian Standard, Indicator 6.3.c). BOF estimates that approximately 95% of the BOF's timber sales specifically do not permit whole tree harvesting (WTH). The small number of sites on which the BOF does whole tree harvesting requires approval by the State Forester. WTH is permitted in cases where the BOF needs to meet its objectives for early successional habitats for species at risk and other species, but the stands to be harvested lack the volume or quality to be harvested commercially. The BOF has found that without the use of whole tree harvesting fewer acres would be regenerated each year to early successional habitat. When WTH is used, the State' biomass having guidelines, which require retention of a percentage of the harvested material, are used. See also findings for CAR 01/10 in Section 2.4 of this report.</p>
Past audits have noted BOF planting non-native tree species. One stakeholder strongly objects if that still is occurring, we object strongly, and we want an explanation of why it's being done.	<p>Planting of exotic (non-native) species is allowed under the FSC standard if the species has been shown to be non-invasive, records are kept of the use, and the ecological effects are monitored (see Criterion 6.9). Over the three-year period 2006-2008, BOF planted approximately 15,000 exotic trees per year, or enough to plant about 20 acres per year at 800 trees per acre. The 2008 reassessment found a gap in the BOF's monitoring of exotic species, which was addressed during last year's annual audit. One prior planting of black alder (an invasive plant) was eradicated in the past year (see CAR 03/10). The species planted and procedures used by BOF are consistent with the FSC Standard.</p>
One stakeholder is concerned that consistent, verified RTE species screening, documentation, review and real adaptive management has not been implemented across all districts.	<p>DCNR is a partner in the Pennsylvania Natural Heritage Program (PNHI, formerly the Pennsylvania Natural Diversity Index) and maintains current data on rare, threatened and endangered species and natural communities. This information is reviewed before any site disturbing activities, including forest management, recreation site development (e.g., trails) and approving well locations on oil and gas leases. Potential impacts are reviewed by BOF's Ecological Services Division. Where potential impacts are not clearly addressed by standard guidelines (e.g., activity within rattlesnake foraging habitat) BOF consults with the Game Commission or Fish and Boat Commission as appropriate. The RTE review process and associated documents were reviewed with BOF during the current audit and found to be in conformance with the FSC standard.</p>

Marcellus Gas Comments	
PA DCNR is not ready to explain to the public what impacts Marcellus drilling will have on their recreation programs. Furthermore, they need to be ready to counter any misimpressions that the public may be forming.	The BOF has extremely active education and public relations mechanisms in place for both its forest management activities and for all issues related to the oil and gas issue, including public meetings, tours, Web site, and media relations. The auditors have determined there is no nonconformance with the applicable FSC standards.
<p>PA DCNR needs to study the environmental impacts of gas development and the subsequent impacts on recreation opportunities.</p> <p>The traffic on the Eagleton Road in the Sproul State Forest resembles a major city at rush hour rather than a sustainable, well managed forest.</p>	The BOF is planning an expanded monitoring program to address environmental impacts of gas development. The BOF has funded numerous recreation-related projects over the years, and it is reasonable to assume that they will be looking at gas drilling impacts, not only on recreation, but on all aspects of their management. Some work has been done on this already and, with further funding, they will be able to increase the depth and breadth of studies to address public concerns. As noted above, the audit team recommends that recreation programs be a focus area for a future audit. This focus should include the impacts of oil and gas drilling on recreational use. Currently, the auditors have determined there is no nonconformance with the applicable FSC standards. However, the auditors recommend that the impact of traffic and other drilling activities be more closely evaluated in a future annual audit.
The BOF is not using their advisory groups properly and efficiently (e.g., witness the process for the State Forest Assessment).	The BOF is under pressure from budgetary concerns to reduce the number of meetings. Additionally, several meetings have been poorly attended. Stakeholders and advisory committee members can always schedule special meetings for any issues of concern and have, in fact, done so. The auditors have determined there is no nonconformance with the applicable FSC standards.
The BOF can use more experts for specific issues rather than addressing entire advisory groups of generalists, or in some cases exclusively working in-house.	Outside of stakeholder advisory committee processes the BOF consults with experts in other agencies, conservation groups, and academia. These efforts are expected to increase as the BOF implements its expanded monitoring program and collaborates with outside research on the impacts of O&G development. The auditors have determined there is no nonconformance with the applicable FSC standards.
The BOF needs to address whether gas drilling and certification compatible.	The PA DCNR Web site, in support of a moratorium on Marcellus development, has an analysis of the relationship of FSC certification and O&G development. It is expected that this annual audit, which has a focus on O&G development, will provide additional information. Currently, the auditors have determined there is no nonconformance with the applicable FSC standards.

<p>Feasibility, cost estimates and liability issues related to contamination of ground water, surface waters, wetlands and land by drillers, operators and contractors are concerns. If not already in place, BOF must develop and implement insurance, bonding and related requirements, based on realistic cost estimates, to ensure the polluter pays, not the Commonwealth's taxpayers.</p>	<p>The BOF and O&G operators have lease agreements in place to cover performance bonds and liability from all related activities. Leases may be suspended or revoked for non-conformance with the performance requirements. The auditors have determined there is no nonconformance with the applicable FSC standards.</p>
<p>One stakeholder is very concerned about thousands of small leaks over a wide area. Many special interest groups and citizens are fighting for stricter rules and regulations covering mineral excavation and drilling.</p>	<p>The BOF has a monitoring program that focuses on holding gas companies to their contractual agreements for gas production, environmental impacts, and road use. These agreements have been met to date with few exceptions. BOF plans to hire more foresters as O&G inspectors over the next year. The auditors have determined there is no nonconformance with the applicable FSC standards.</p>
<p>Gas installations visible from the Pine Valley on Route 44 are viewshed violations.</p>	<p>The installation in question was brought to the attention of BOF staff in this District. They stated that the item in question (a drill rig) was there on a temporary basis, and will be removed from the viewshed when the drilling is complete. It was sited on the more visible location in order to avoid other more sensitive features and understanding that the viewshed would only be impacted for a short period of time. The auditors have determined there is no nonconformance with the applicable FSC standards.</p>
<p>The BOF has been able to meet challenges and have addressed issues in the past, such as fencing for regeneration, proper silviculture, sustainable forestry, etc. so they can meet the challenge of being FSC certified and properly addressing the gas drilling issue. They have good personnel, and they will find a way to solve their problems. But, there is concern whether BOF has or will have the personnel to do their work, given the added responsibilities associated with Marcellus gas development.</p>	<p>Forest management activities to date have occurred at levels needed to fulfill plans, but it is recognized that as the level of Marcellus gas development activity increase, more BOF personnel may be needed to meet administrative and management needs of both gas development and forest management. OBS 02/11 was issued in this audit to highlight forest certification concern. BOF has an aggressive plan for personnel management that, if acted upon, should allow forest management to continue to planned levels.</p>
<p>DCNR cannot rely on DEP to completely and fully monitor Marcellus gas development activity. DCNR and BOF need to hire their own O&G inspectors and train them as normal for BOF and in DEP-type regulatory O&G inspections.</p>	<p>BOF and DEP (among others) appear strained by the level of planning, management, and monitoring required for the gas leasing program. BOF is supporting a three-year moratorium on new leases to provide time to improve its monitoring and management of the current leases and evaluate if additional leases are feasible within the goals of the State Forest System and certification. In addition, each District has at least one forestry person dedicated to monitoring gas well pad installation and development. Dozens of personnel are involved in well pad siting, including an in-house team of geologists</p>
<p>The state needs to charge for gas lines in the same way they do Rights of Way.</p>	<p>Charges for gas lines associated with a specific lease are included in the overall lease payments.</p>

<p>If current rates of drilling combined with the legislative mood on this issue there are sure to be problems. The legislature does not want to step up to the plate and make sure there is adequate oversight.</p>	<p>BOF has planned a significant increase in its O&G monitoring program and it expects to receive the funding. The auditors have determined there is no nonconformance with the applicable FSC standards.</p>
<p>The Bureau staff has become heavily involved in the Marcellus Gas play and is doing an excellent job of protecting their resources under the pressure to develop. There have been few negative events; but, the Bureau has been responsive. They have worked hard to protect important habitats and special places. They have done an exemplary job.</p>	<p>Comment noted; no response necessary.</p>
<p>Some will note recent gas development on state forest lands and the decision to lease drilling rights. This was a political decision and imposed on the management staff by the governor's office.</p>	<p>SmartWood evaluates performance of the BOF relative to the FSC Standard. The initial impetus for leasing (political or otherwise) is does not affect how performance is evaluated.</p>
<p>Studying each proposed round of leasing is not sufficient. Policies, procedures, standards, reporting requirements and protocols for assessment of cumulative impacts are a baseline requirement for credible management of Marcellus Shale development impacts.</p>	<p>SmartWood found that the BOF's cumulative impact assessment on the DCNR Web site "Impacts of Leasing Additional State Forest Land" to be a thorough analysis that meets the intent of the FSC standard for any new leases. However, SmartWood has found insufficient detail in the cumulative impact analyses for the three recent Marcellus gas leases and it has issued. CAR 03/11 has been issued to address this concern.</p>
<p>BOF should ensure environmental/ ecological assessment policies, procedures, standards, reporting requirements and protocols require full consideration of fragmentation and edge effects for roads, ROWs and all clearings. Areas which currently provide excellent interior forest habitat conditions and which remain undrilled will be degraded by edge effects from new, adjacent roads, ROWs and clearings.</p>	<p>The audit team has found that DCNR's approach to conserving interior forest habitat at the landscape scale is consistent with the requirements the FSC Standard. The leasing program excludes large blocks of interior forest found within the Marcellus gas shale region. The cumulative impact analysis in support of a moratorium found that of the roughly 1.5 million acres in the Marcellus region, approximately 800,000 acres should be reserved from future gas development due to the presence of ecologically sensitive areas and additional Primitive Land. Within the leased areas fragmentation has been minimized by avoiding sensitive sites (e.g., large areas of steep slopes, clusters of wetlands, and river corridors) that will maintain interior habitat blocks. Fragmentation is further minimized by directing development (well pads, roads, and pipelines) along the existing road network. Nonetheless, while the cumulative impact assessment in support of the moratorium is strong, SmartWood found the impact assessment for leases issued in 2008, 2009, and 2010 to be insufficient in regard to habitat fragmentation (see CAR 03/11).</p>
<p>BOF needs to ensure environmental/ ecological assessment policies, procedures, standards, reporting requirements and protocols include full consideration of the new infection paths for exotic invasive plants and insects. BOF needs to look at increased/accelerated spread from existing (pre-drilling) infestations on BOF lands in addition to the issue of all the new pathways/opportunities for new infections/infestations.</p>	<p>SmartWood has found BOF's method to address invasive exotic plants in the 2008 and later leases to meet the requirements of the FSC standard, include pre-construction baseline studies and post construction monitoring and control. However, the audit team has found that that risk is greater for older leases. See CAR 04/11. Relative to new infections, BOF has found that the</p>

	<p>pathways for infections - roads, corridors, and equipment – are the same as for traditional forest uses (logging and recreation) and that existing education, monitoring, and control programs address these risks. As with any other area of increased activity, O&G sites are targeted for increased detection and monitoring activity under the BOF’s expanded monitoring program.</p>
<p>If BOF is truly serious about sound ecosystem management, Marcellus Shale development impacts must be addressed with compensatory mitigation. We need new and expanded Natural Areas, Wild Areas, Wild Plant Sanctuaries and other special designation areas to compensate for the areas being heavily impacted. It is very important that mitigation include reduced commercial and salvage logging also. The acreage that is cleared on a semi-permanent basis for Marcellus Shale development must be accounted for in future timber sale planning, including salvage sales.</p>	<p>The FSC standard does not use the term “compensatory mitigation,” but the concept is generally addressed by Criterion 6.10.c. FSC Criterion 6.10 only allows conversion to non-forest use (e.g., gas and oil development) if three requirements are met. Conversion is allowed only if it:</p> <p>a. Entails a very limited portion of the management unit. FSC US guidance (Forest Management Standard V1.0, July 2010) defines “very limited portion” as less than 2% of the certified forest area of the FMU over a five-year period. Using data supplied by the BOF, SmartWood estimates that the total forest conversion from Marcellus activities since the program began in 2008 has been approximately 344 from BOF leases and 1,059 acres on lands with severed subsurface rights. At this rate for a 5-year period this would amount to less than 0.2% of the FMU (the entire 2.14 million acre SFL is a single FMU) for BOF leases and leases with severed rights combined. While this is well within the limit of a “very limited portion”, BOF conversion figures are based on estimates and not on actual measurements. See OBS 05/11.</p> <p>No land has been converted to plantations as defined by the FSC.</p> <p>b. Does not occur in High Conservation Value Forest areas. Based on BOF’s corrected High Conservation Value Forest assessment (see findings for CAR 04/10 for detail), there is no conversion of HCVF to plantations or non-forest use.</p> <p>c. Will enable clear, substantial, additional, secure, long-term conservation benefits across the forest management unit. From 2005-2010 BOF has spent over \$38 million to add over 44,000 acres to the SFL. Funding is from a variety of sources, including legislative bond packages, the Oil and Gas Fund, and other funds. The O&G Fund is not strictly dedicated to land conservation and has been primarily for operations and programs in recent years. However, the non-dedicated nature of the O&G fund allows flexibility in the timing and sources of revenues used for land conservation while meeting other funding needs of the DCNR.</p> <p>Areas protected by this re-investment include rare, threatened, and endangered species habitats, important natural plant communities, wetlands, and additions to</p>

	<p>Wild Areas and Natural Areas (current or potential High Conservation Value Forest areas). Other conservation benefits of these land acquisitions include water quality protection, wetland protection, wildlife habitat, timber management improvement, historic site protection, recreational opportunities, aesthetical values (viewsheds), and carbon sequestration benefits. Over 5,000 acres in near expanding population areas were protected from risk of development, and much of the other land conserved was at varying degrees of risk from low density development</p> <p>The audit team has found that these benefits are clear, substantial, additional, and long-term as clarified in the 6.10.c intent statement of the FSC-US Forest Management Standard.</p> <p>The area converted to non-forest uses is accounted for in periodic revisions to the sustainable harvest calculation. Because the area lost to gas development is estimated to be roughly 1.6% of the forest in the Marcellus gas region over life of the existing leases (40+ years), impacts on allowable harvests will be correspondingly small. The allowable harvest also accounts for salvage sales (e.g., from insect mortality) and is updated periodically to reflect additions and subtractions to the forest land base.</p>
<p>One stakeholder indicated their concern is protecting the state forests from gas exploration which will have a severe impact on the health of the forests. The leasing of state forest land for gas drilling is an ecological disaster for all Pennsylvania.</p> <p>Another wondered how oil and gas drilling on state forests can be considered an environmentally responsible forest management practice. And another indicated: "In my opinion describing these State Forests as well managed and sustainable is wrong. Having experience of forty years of gas exploration and storage the Gas Companies talk the talk but never walk the walk. The certification should be denied."</p>	<p>SmartWood has evaluated the BOF's oil and gas program against the specific requirements of the FSC standard. The method used to audit the oil and gas leasing program in the context of a forest management program is described in Section 2.1.</p> <p>New Corrective Action Requests have been issued where non-conformance with the Standard was noted (see Section 2.5) and Observations were issued where the Standard was met but concerns were noted (see Section 2.6).</p>
<p>Many citizens get their water from wells. The big fear is methane in the water from the Marcellus Project.</p>	<p>DEP reports that wells on BOF lands are located far from drinking water wells. DEP reports that within 6 months of the commencement of drilling operations a landowner complains about methane, the burden of proof is on the gas company to prove that they did not cause the problem. Most companies sample wells within 2500 feet prior to drilling to provide baseline data. The auditors have determined there is no nonconformance with the applicable FSC standards.</p>
<p>One stakeholder wondered if a Life Cycle Analysis being performed to compare oil and gas drilling activities to forest management activities.</p>	<p>A "Life Cycle Analysis" comparing with forest management with non-forest uses is not part of the FSC Standard. Rather, the approach to is a) see if the conversion meets the requirements of Criterion 6.10 as</p>

	described above, and b) see if the impacts of the non-forest uses on the forest meet the requirements of the specific criteria and indicators that are applicable to gas leasing, as described in Section 2.1 .
One stakeholder was concerned with carbon markets and leakage (loss of net stored carbon) that could come with removing land that are associated with O&G impacts from the FSC certificate. If BOF has a percent of land certified versus specific suite of lands it could be a concern. Lowered carbon sequestration (leakage) associated with removing land from the certificate is a concern.	The FSC Standard is not a system for verifying carbon sequestration from carbon markets. If the BOF chooses to enter carbon markets, the carbon standard selected by the BOF will evaluate the system independently of which lands are in or out of the FSC certificate. As a point of clarification, the FSC Standard only requires that land be excised (removed) from the certificate if it cannot control activities on the land to the extent that it cannot assure conformance with the FSC standard. If any lands are excised, only the area converted to non-forest use needs to be excised. Loss of carbon sequestration will occur due to conversion regardless of whether or not the areas in question are excised or not. The auditors have determined there is no nonconformance with the applicable FSC standards.

2.4. Conformance with applicable corrective action requests

The section below describes the activities of the certificate holder to address each applicable corrective action issued during previous evaluations. For each CAR a finding is presented along with a description of its current status using the following categories. Failure to meet CARs will result in nonconformances being upgraded from minor to major status with conformance required within 3 months with risk of suspension or termination of the SmartWood certificate if Major CARs are not met. The following classification is used to indicate the status of the CAR:

Status Categories	Explanation
Closed	Operation has successfully met the CAR.
Open	Operation has either <u>not met</u> or has <u>partially met</u> the CAR.

Check if N/A (there are no open CARs to review)

CAR 01/10	Reference to Standard: 6.3.b.1, 6.3.c.1, 6.3.c.2.	
Non-conformance		Whole tree harvesting was being used in District 18 and very low levels of woody debris were observed by the audit team. PA has guidelines for retaining woody biomass in harvest operations, but field staff were not aware of or using guidelines for retaining woody debris on harvest sites. The information was verbally discussed by Harrisburg staff with the District but not included in the project proposal or harvest contract.
Major <input type="checkbox"/>	Minor <input checked="" type="checkbox"/>	
Corrective Action Request: BOF shall develop and implement procedures to ensure that adequate amounts of coarse woody debris are retained in all harvest operations consistent with the guidelines for retaining woody biomass.		
Timeline for conformance:		Prior to next annual audit
Evidence to close CAR:		BOF has taken the following steps to ensure that adequate amounts of coarse woody debris are retained in harvest operations: <ul style="list-style-type: none"> • Since September 2009, whole tree harvest waiver

	<p>requests are closely reviewed by the Silviculture Section and by the Chief Forest Planning & Inventory Division. On October 1, 2010 the Chief Forest Planning & Inventory Division reviewed, on site, a sale (10-09BC05) during which the whole tree harvest option was discussed (but not ultimately requested, nor approved).</p> <ul style="list-style-type: none"> • Since December 2009, the Silviculture section has issued Approval letters documenting actions needed to maintain compliance with the PADCNr documents Guidance for Harvesting Woody Biomass in Pennsylvania when waivers to whole tree harvesting prohibition have been requested and approved. Examples of approval letters were reviewed by the audit team. • An e-mail notification to districts on Feb 9 2010 drew attention of all BOF employees to the CARs and noted that changes to business practices would be required. • At the May 27, 2010 District Foresters meeting, the Planning Section Chief addressed the issue, noting that additional actions are needed to ensure biomass guidelines, noting there are several suitable potential strategies which were discussed in some detail. • When sufficient experience has been collected with the techniques used to retain adequate biomass, the formalized process will be included in the Silviculture Manual. <p>Very few whole tree harvesting waivers are issued. Because all active operations observed during the audit were subject to contracts that were signed prior to the new procedures, the audit team was not able to verify implementation in the field. However, whole tree harvest approval letters verify that the procedures are being implemented at the administrative level.</p>
CAR Status:	CLOSED
Follow-up Actions (if app.):	None

CAR 02/10	Reference to Standard: 6.7.a.				
<table border="1"> <tr> <td data-bbox="178 1428 324 1602">Non-conformance</td> <td data-bbox="324 1428 467 1602"></td> </tr> <tr> <td data-bbox="178 1470 324 1602">Major <input type="checkbox"/></td> <td data-bbox="324 1470 467 1602">Minor <input checked="" type="checkbox"/></td> </tr> </table>	Non-conformance		Major <input type="checkbox"/>	Minor <input checked="" type="checkbox"/>	Consistent with the findings in BOF's assessment, loggers contacted during the audit do not have on-site spill kits. On one active harvest area, machinery was observed leaking fluids from an axle and several older spills were observed. No attempt had been made by the logger to contain the active spill.
Non-conformance					
Major <input type="checkbox"/>	Minor <input checked="" type="checkbox"/>				
Corrective Action Request: BOF shall develop and implement a system to ensure contractors and other service providers adhere to state regulations regarding the containment and remediation of hazardous material spills on BOF lands.					
Timeline for conformance:	Prior to next annual audit				
Evidence to close CAR:	Over the last year, BOF developed a system to ensure contractors and other service providers adhere to state regulations regarding the containment and remediation of hazardous material spills on State forest lands. This system				

	includes a notice added to timber sale prospectuses and the addition of new oil spill-related language to timber sale contracts (post August 1 st , 2010, all operators are required to have spill kits on all trucks suitable to handle spills up to 5 gallons and notification of DEP and BOF of any spills greater than 5 gallons), an updated weekly Sale Inspection Report (FMT-9) that includes two new check boxes dealing with spills, a detailed explanation on why the change was made (an internal Word document primarily for Timber Sale Administrators), and a listing of various spill kit costs and possible sources as a means of aiding contractors. The system was instituted only in early August 2010, just prior to the annual audit. This recent implementation should be followed up in future audits to be sure the system is working. During the audit, one logging contractor was observed to not have a spill kit on site, and on the same job, it was observed that log loading equipment had recently, regularly leaked oil along the roadside (OBS 04/11).
CAR Status:	CLOSED
Follow-up Actions (if app.):	OBS 04/11

CAR 03/10	Reference to Standard: 6.9.a.	
Non-conformance	BOF reported that last year it planted 50 European black alder, a species on the DCNR list of invasive plants, in a gravel pit. While the likelihood of the alder spreading is low on this type of site, the planting of recognized invasive species is against BOF and FSC policies. To clarify, exotic species which have not been categorized as invasive or safe may be planted only within a program where they are monitored to determine their eventual classification.	
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Major <input type="checkbox"/>	Minor <input checked="" type="checkbox"/>	
Corrective Action Request: BOF shall provide peer-reviewed scientific evidence that the black alder is non-invasive on this site or destroy the black alder identified above.		
Timeline for conformance:	Prior to next annual audit	
Evidence to close CAR:	The BOF destroyed the European black alder planted in 2008 on State Forest land. Additionally, this species is no longer grown at or supplied from Penn Nursery, BOF's primary source of forest planting materials	
CAR Status:	CLOSED	
Follow-up Actions (if app.):	None	

CAR 04/10	Reference to Standard: 6.10.b.
Non-conformance	BOF converts some areas to non-forest use by developing gas wells

Major <input type="checkbox"/>	Minor <input checked="" type="checkbox"/>	where it owns the mineral and gas rights. Approximate 324 acres has been converted by PADCNr over the past 5 ½ years. This constitutes a “very limited portion” of the 2.14 million-acre FMU. However, as of 2009 BOF has designated the entire forest as HCVF. Thus, technically the gas well conversions are occurring in HCVF. PADCNr has taken a conservative approach to designating HCVF and likely has placed more acres in HCVF than the minimum that would be required by the standard and under emerging guidance (the draft FSC-US HCVF Assessment Framework). Because conversions are only occurring in multiple use areas and do not appear to be threatening the HCVs of these areas at current rates of conversion, the risk of adverse impacts is considered to be low and thus a Minor, not a Major, CAR is warranted.
Corrective Action Request: BOF shall stop converting any HCVF to non-forest use, either by stopping forest conversion altogether or revising its HCVF designation, while still meeting the requirements of Criteria 9.1-9.4, to ensure that no conversion occurs within HCVF.		
Timeline for conformance:		Prior to next annual audit
Evidence to close CAR:		<p>BOF has revised its HCVF assessment to include only those specific areas with identified high conservation values. The resulting approach is more consistent current guidance on HCVF assessment provided by FSC-US. There is no longer a non-conformance to Criterion 6.10.b. However, the revised HCVF assessment was found to have conformance gaps with the requirements in the standard (see CAR 07/11 below for details).</p> <p>NOTE: The way CAR 04/10 was written implied that BOF was converting HCVF. This was not the case. The auditors determined that PADCNr had taken an aggressive approach to designating HCVF and placed more acres in HCVF than the minimum that was appropriate given the requirements in the standard and under new guidance (the FSC-US HCVF Assessment Framework). At the time of this designation, the HCVF Assessment Framework was in draft form and clear guidance on interpreting and implementing the HCVF concept was just emerging. Since some lands were incorrectly designated as HCVF, conversion of actual HCVF was not occurring.</p>
CAR Status:		CLOSED
Follow-up Actions (if app.):		See CAR 07/11

2.5. New corrective actions issued as a result of this audit

CAR 01/11	Reference to Standard: Appalachia 1.1.a. (FSC US Forest Management Standard 1.1.a.)
Non-conformance	Pennsylvania’s Erosion and Sediment Control regulations (Chapter 102

Major <input type="checkbox"/>	Minor <input checked="" type="checkbox"/>	of the Clean Stream Law) require that Erosion and Sediment (E&S) Plans be available for review and inspection by the DEP or the County Conservation District at the project site during all stages of the earth disturbance activity, yet E&S Plans were not observed to be on site for all active logging jobs.
Corrective Action Request: BOF shall ensure that forest management plans and operations comply with federal, state, county, municipal, and tribal laws, case law, and regulations.		
Timeline for conformance:		Prior to next annual audit
Evidence to close CAR:		Pending
CAR Status:		OPEN
Follow-up Actions (if app.):		

CAR 02/11	Reference to Standard: Appalachia 4.2.a. (FSC US Forest Management Standard 4.2.a.)	
Non-conformance	A logging subcontractor was observed to not wear proper PPE (hard hat) when topping felled trees on an active harvest site. In some cases on BOF State Forestland, workers are exempt from wearing certain PPE if doing so violates religious beliefs and rules. BOF has worked with OSHA and State lawyers to develop policy and procedure with regard to religious exemptions for contractors and subcontractors working as timber harvesters on State Forests. The key element of worker with PPE religious exemption is that each worker must have written support from their religious leader as to the need for not using PPE. The subcontractor who was not wearing a hardhat did not have such a letter on file with the BOF.	
Major <input type="checkbox"/>	Minor <input checked="" type="checkbox"/>	BOF hard hat policy was unknown to most BOF staff interviewed during the audit, and it was observed that hard hat use is inconsistent and irregular within and across Districts, particularly with staff from different BOF Divisions and Sections working in the forest.
Corrective Action Request: BOF shall ensure the use of safety equipment appropriate to each task.		
Timeline for conformance:		Prior to next annual audit
Evidence to close CAR:		Pending
CAR Status:		OPEN
Follow-up Actions (if app.):		

CAR 03/11	Reference to Standard: Appalachia 6.1.c. (FSC US Forest Management Standard 6.1.b.)	
Non-conformance	Upon review of the State Forest Environmental Reviews (SFER) for	

Major <input type="checkbox"/>	Minor <input checked="" type="checkbox"/>	<p>2008, 2009 and 2010, the audit team has found the assessment for impacts to plant and wildlife habitat impacts to non-listed species and groundwater to be lacking. Impact assessments of current leases are included in the environmental review documents for individual leases (e.g., see “FY 2009-10 Oil and Gas lease Sale Environmental Review,).</p> <p>For non-listed species these documents include a short paragraph describing measures that will be used to protect and manage non-listed species (e.g., see “FY 2009-10 Oil and Gas lease Sale Environmental Review,” Section 18, Habitat Diversity and Interspersion). However, the Environmental Review does not include a short-term or cumulative impact assessment of the lease on non-listed species. In particular the impact of forest loss and fragmentation (approximately 24,000 acres and 3,000 miles of forest edge http://www.dcnr.state.pa.us/forestry/marcellus/pdfs/ProjectedForestConversion_OilGas.pdf); on species that depend on large, unfragmented blocks of forest is not addressed by the Environmental Review for current leases.</p> <p>Likewise the groundwater section of the Environmental Review also focuses on preventive measures and does not address short-term and cumulative impacts.</p>
Corrective Action Request: BOF shall evaluate potential short-term environmental impacts and their cumulative effects prior to commencement of management activities.		
Timeline for conformance:		Prior to next annual audit
Evidence to close CAR:		Pending
CAR Status:		OPEN
Follow-up Actions (if app.):		

CAR 04/11		Reference to Standard: Appalachia 6.1.e. (FSC US Forest Management Standard 6.3.h.)
Non-conformance		<p>DCNR’s 2008 and later Marcellus gas leasing provides the option for invasive plant species be monitored prior to approval for site development in order to collect baseline data. If invasive plants are identified after site development they must be controlled prior to site disturbance. Leases from 2008 to the present require that the lease holder monitor invasive species for five years following construction, or until invasive species are not observed on site, whichever is longer and new occurrences of invasive plants must be controlled (for example, see FY 2009-10 Gas Lease Sale Environmental Review, Section 20). However, BOF does not have similar invasive plants monitoring for pre-2008 leases and has even less control over lands with severed subsurface rights that do not have a recent negotiated land use agreement. While BOF is planning an expanded monitoring program for gas activities, the details have not been specified and the funding has not been secured.</p>
Major <input type="checkbox"/>	Minor <input checked="" type="checkbox"/>	
Corrective Action Request: BOF shall monitor invasive species establishment throughout the forest with special emphasis on disturbed areas and areas where invasive species are known to exist.		
Timeline for conformance:		Prior to next annual audit

Evidence to close CAR:	Pending
CAR Status:	OPEN
Follow-up Actions (if app.):	

CAR 05/11	Reference to Standard: Appalachia 6.3.a.8. (FSC US Forest Management Standard 6.3.g.1., 6.3.g.2.)	
Non-conformance	The BOF <i>Silviculture Manual</i> specifies a minimum 10-20 square feet per acre of retention in clearcuts and overstory removal (OSR) harvests, and 20-40 square feet where 2-aged management is practiced (primarily buffer zones). The retention may be in clumps or scattered trees within the harvest block. One district visited relied primarily on clump retention, which all canopy layers and ground vegetation intact in roughly 1/10 to 1/4-acre patches. Sites at other two districts audited were characterized by scattered retention, often uniformly spaced, with no midstory or understory structure retained. The <i>Silviculture Manual</i> makes no reference to retention of live trees and native vegetation and opening sizes in a manner that is consistent with the characteristic natural disturbance regime in each community type (as required by indicator 6.3.a.8). Opening sizes and retention appeared to be characteristic of catastrophic disturbances, not characteristic disturbances. Interviews with field foresters indicated that the guideline in the manual and other guidance on production forestry (e.g. Silvah model outputs), not natural community disturbance patterns, guided their decisions on retention and opening sizes.	
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Major <input type="checkbox"/>	Minor <input checked="" type="checkbox"/>	
Corrective Action Request: BOF shall ensure that when even-aged or two-aged management (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 (see Glossary), unless retention at a lower level is necessary for restoration or rehabilitation purposes. Harvest openings with no retention are limited to 10 acres.		
Timeline for conformance:	Prior to next annual audit	
Evidence to close CAR:	Pending	
CAR Status:	OPEN	
Follow-up Actions (if app.):		

CAR 06/11	Reference to Standard: Appalachia 8.5.a. (FSC US Forest Management Standard 8.5.a.)	
Non-conformance	Monitoring data from oil and gas development impacts to the surrounding forest has been collected by the BOF for decades, with increased monitoring efforts over the last few years associated with the expansion of gas leasing. Some monitoring information is available on the website; however, the BOF has not fully reported nor summarized for the public all of these oil and gas data.	
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Major <input type="checkbox"/>	Minor <input checked="" type="checkbox"/>	
Corrective Action Request: BOF shall develop and maintain either full monitoring results or an up-to-date summary of the most recent monitoring information on oil and gas development, covering the Indicators listed in Criterion 8.2 that will be available to the public, free or at a nominal price, upon request.		

Timeline for conformance:	Prior to next annual audit
Evidence to close CAR:	Pending
CAR Status:	OPEN
Follow-up Actions (if app.):	

CAR 07/11		Reference to Standard: Appalachia 9.1.a. (FSC US Forest Management Standard 9.1.a., 9.1.b., 9.1.c.)
Non-conformance		<p>As reported in the 2010 audit report, during 2008-2009, BOF conducted the required analysis for all State Forest Lands and documented the findings. Documentation reviewed by the audit team, at that time, included:</p> <ul style="list-style-type: none"> • “High Conservation Value Identification, Management, and Monitoring Processes within the State Forest System: A Corrective Action Request Response” (HCVF EMS1.doc), which is the primary response to CAR 08/08. • HCV Maps.pdf • Screen shot of HCV4 assessment tool <p>The 2010 audit determined that: “The HCVF EMS1.doc analysis addresses each of the six High Conservation Values (HCV) potentially present and found that all are present on the forest. The assessment process included appropriate data sources and range of stakeholders.” At that point, BOF designated the entire forest as HCVF. The auditors determined that PADCNR had taken an aggressive approach to designating HCVF and placed more acres in HCVF than was appropriate given the requirements in the standard and under new guidance (the FSC-US HCVF Assessment Framework). At the time of this designation, the HCVF Assessment Framework was in draft form and clear guidance on interpreting and implementing the HCVF concept was just emerging.</p> <p>The 2010 audit also identified a new potential nonconformance with Criterion 6.10 and HCVF. Under Criterion 6.10, conversion of HCVF is not allowed. Since, BOF had, in error, designated the entire forest as HCVF. CAR 04/10 was issued; however, since some lands were incorrectly designated as HCVF, conversion of actual HCVF was not occurring. CAR 04/10 has been closed in this report; for details see above for findings to close CAR 04/10.</p> <p>Prior to this audit, BOF provided the audit team with a corrected High Conservation Value Forest (HCVF) assessment. The corrected assessment includes 220,803 acres designed as HCVF (reduced from 2.14 million acres indicated in the 2010 report). The new HCVF designation includes all Wild Areas and Natural Areas (WNAs). The BOF has determined that the designation of WNAs correlates closely with the HCVF definitions and is consistent with their 2009 HCVF assessment. Due to their conservation value, WNAs have been designated as HCV1 (Significant concentrations of biodiversity) HCV2 (Significant large landscape level forests), and HCV3 (Rare, threatened or endangered</p>
Major <input checked="" type="checkbox"/>	Minor <input type="checkbox"/>	

	<p>ecosystems). While currently, all WNAs are designated as HCVF, there are small portions where sub-surface rights had previously been severed or leased to others. There is no conversion allowed on HCVF. Since the potential for conversion is largely outside of the control of BOF, if the sub-surface right holder decides to exercise their rights which would result in a conversion of acreage in a WNA to non-forest use, BOF would have to excise the area before it is converted (as per the FSC excision policy (20-003)) in order to remain in conformance with the FSC standard. (Note: Only the specific areas that are directly converted need to be excised.)</p> <p>The corrected HCVF assessment has not been formally vetted with stakeholder or otherwise formalized to reflect the recent changes. Therefore, a new CAR has been issued for BOF to formally revise their HCVF assessment. BOF must correct the HCVF assessment and ensure the HCVF designation is consistent with FSC standards and policies.</p> <p>Since there was a previous nonconformance with the Indicator, FSC procedures require that this be issued as a major CAR. Due to the complexity of the issue, the size of the FMU and that PA DCNR BOF manages public land, in order for BOF to complete a thorough revision to their HCVF assessment (utilizing their full, detailed planning process), BOF has six (6) months to address this CAR. Additionally, because BOF has already completed an HCVF assessment and HCVF areas are currently designated and protected, this extended time frame is appropriate.</p>
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Corrective Action Request: BOF shall revise their HCVF assessment in conformance with Indicator 9.1.a.	
Timeline for conformance:	Six (6) months from finalization of this report, September 30, 2011
Evidence to close CAR:	Pending
CAR Status:	OPEN
Follow-up Actions (if app.):	

CAR 08/11	Reference to Standard: Appalachia 9.2.a. (FSC US Forest Management Standard 9.2.a, 9.2.b.)
Non-conformance	The 2008 assessment found that BOF had conducted adequate

Major <input type="checkbox"/>	Minor <input checked="" type="checkbox"/>	<p>stakeholder consultations for the areas included as HCVF at that time. Additionally, the 2010 audit found that the assessment process and consultation addressed all six HCV elements, designated and mapped areas with the identified HCVs, and met the requirements of Criteria 9.1 and 9.2.</p> <p>The areas that are currently included as HCVF (Wild Areas and Natural Areas) have been subject to extensive stakeholder consultation and review. However, BOF has recently corrected the HCVF assessment. BOF did not consult with stakeholders and scientist to confirm that the revised areas with HCVF attributes and resulting HCVF were properly identified, nor was there a public review process to review the changes in the HCVF assessment.</p>
<p>Corrective Action Request: BOF shall</p> <p>a) consult with outside stakeholders and scientists to confirm that HCVF locations and their attributes have been accurately identified;</p> <p>b) conduct a transparent and accessible public review of proposed HCVF attributes and HCVF areas; and</p> <p>c) integrate information from stakeholder consultations and other public review into HCVF descriptions and delineations.</p>		
Timeline for conformance:		Prior to next annual audit
Evidence to close CAR:		Pending
CAR Status:		OPEN
Follow-up Actions (if app.):		

2.6. Audit observations

Observations are very minor problems or the early stages of a problem which does not of itself constitute a non-conformance, but which the auditor considers may lead to a future non-conformance if not addressed by the client. An observation may be a warning signal on a particular issue that, if not addressed, could turn into a CAR in the future (or a pre-condition or condition during a 5 year re-assessment).

OBS 01/11	Reference Standard & Requirement: Appalachia 4.4.b. (FSC-US Forest Management Standard 4.4.b.)
<p>Through stakeholder contacts and auditor analysis of stakeholder lists provided by the Bureau of Forestry, it was determined that opportunities for public input was limited in some cases as certain individuals and groups were not made aware of program activities where public inputs were to be requested by the Bureau of Forestry.</p>	
<p>Observation: BOF should ensure the people and groups affected by management operations have opportunities to provide input into management planning.</p>	
OBS 02/11	Reference Standard & Requirement: Appalachia 5.1.a. (FSC-US Forest Management Standard 5.1.a.)

The districts were observed to be well staffed in support of timber management, though some concern was raised with regard to reductions in maintenance personnel and how it is affecting/will affect non-timber forest values and services, particularly in the area of road maintenance and recreation access. Shortfalls in maintenance personnel could expand to affect other forest and natural resources management work if budgets continue to be cut, revenues shrink, and gas management activities expand. Monetary support for the BOF comes primarily from appropriated State funds, timber receipts, and gas and oil leases. Lower stumpage prices (particularly for cherry) and shifts in how gas lease dollars are used in the State budget have produced growing concerns within and outside the agency about future funding and staffing.

Observation: BOF should ensure they have the resources to support long-term forest management.

OBS 03/11	Reference Standard & Requirement: Appalachia 6.3.b.2. (FSC-US Forest Management Standard 6.3.b.)
The BOF protects, maintains and enhances a wide variety of habitats for native species, but some ecologically important within-stand elements are not currently being fully conserved, e.g., late-successional forest remnants and monolithic rock complexes.	
Observation: BOF should ensure that a diversity of habitats for native species is protected, maintained, and/or enhanced.	

OBS 04/11	Reference Standard & Requirement: Appalachia 6.7.a. (FSC-US Forest Management Standard 6.7.a.)
Recent implementation of spill policy and management systems should be followed up in future audits to be sure the system is working. During the audit, one logging contractor was observed to not have a spill kit on site, and on the same job, it was observed that log loading equipment had recently and regularly leaked oil along the roadside.	
Observation: BOF should ensure that employees and contractors have the equipment and training necessary to respond to hazardous spills.	

OBS 05/11	Reference Standard & Requirement: Appalachia 6.10.a (FSC US Forest Management Standard 6.10.a)
While the audit team is confident that the total amount of conversion is well below the FSC-US definition of “very limited amount,” the following areas of concern were noted in the conversion estimates supplied by BOF:	
<ol style="list-style-type: none"> 1. Marcellus conversion estimates reported by BOF are based on average well pad size. 2. In reviewing the data, it was not clear how accurately conversion due to roads and pipelines was accounted for in the conversion estimates, which were based on an average figure per well pad. 	
BOF reports that conversion from older leases and other sources of conversion are minimal, but does not have accurate records.	
Observation: BOF should accurately verify that forest conversion from all sources entails a very limited portion of the forest management unit.	

OBS 06/11	Reference Standard & Requirement: Appalachia 6.10; FSC-POL-20-003 (excision policy) (FSC US Forest Management Standard 6.10.f)
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Gas and oil development is occurring on forestland where the Commonwealth of Pennsylvania owns the subsurface rights (the areas leased as mentioned above) and also on forestland where the Commonwealth does not own the subsurface rights. For the areas subject to the leases (where the subsurface rights are owned by the Commonwealth), PA DCNR has substantial control over activities to ensure conformance with the FSC standards and requirements.

For lands where the Commonwealth does not own the subsurface rights, it is not clear, in all situations, whether PA DCNR has enough control over activities to ensure conformance with FSC standards and requirements.

PA DCNR needs to evaluate the certified landbase and determine in which situations they maintain enough control to ensure conformance with the FSC standards. For “severed lands” where they cannot ensure conformance, these lands will need to be excised. (Note: The entire leased area does not need to be excised. Only the areas that are directly impacted by oil and gas activities (i.e. converted to non-forest use) need to be excised.) PA DCNR needs to provide SmartWood with the protocol used in making this determination and the results of this evaluation.

Observation: For all conversion to non-forest uses, BOF should ensure conformance with Criterion 6.10 and all other FSC Principles and Criteria and requirements or decide to remove the area as per the FSC Excision Policy (FSC-POL-20-003), if permitted.

OBS 07/11	Reference Standard & Requirement: Appalachia 7.1 (FSC-US Forest Management Standard 7.1)
While the Bureau of Forestry has documentation that addresses issues related to oil and gas leasing, sections in the SFRMP are brief and do not reflect the current level of gas leasing activity. Key supplemental documents are relatively new, in draft form, and/or in development and not presently linked to the SFRMP.	
Observation: BOF should ensure management planning documents adequately address the oil and gas issue as it related to the requirements of Criterion 7.1.	

OBS 08/11	Reference Standard & Requirement: Appalachia 8.1.a. (FSC-US Forest Management Standard 8.1.a.)
Rapid expansion in gas development and new monitoring programs will produce monitoring reports in subsequent years, the BOF does not have monitoring reports to date on oil and gas activities. While the audit team did review data on current oil and gas program management and field inspection forms, full reports on the spectrum of oil and gas monitoring are not currently available.	
Observation: BOF should ensure there is a consistently implemented, written monitoring protocol for oil and gas activities.	

OBS 09/11	Reference Standard & Requirement: Appalachia 8.2.d.1 (FSC US Forest Management Standard 8.2.d.1)
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Once an oil and gas project is under construction and BOF relies in part on DEP for site-specific monitoring of direct impacts from drilling operations (e.g., road sediment, spills, leaks, etc.). DEP monitoring personnel report being understaffed and they do not have the time to visit all phases of each operation, and cannot respond to all spills. Because DEP does not have the resource to visit all sites frequently, DEP relies on self-reporting from the gas companies. Thus, there are potential gaps in the monitoring of gas drilling and associated road and pipeline construction.

Observation: BOF should ensure that monitoring of the environmental impacts of site disturbing activities is suitable to the scale and intensity of the operation.

OBS 10/11	Reference Standard & Requirement: Appalachia 8.5.a (FSC-US Forest Management Standard 8.5.a)
<p>As observed in the 2008 assessment:</p> <p>BOF’s Executive Summary contains the Montreal Process’s monitoring indicators as a summary of monitoring used on state forest lands. In addition, BOF’s website includes the SFRMP District Forest Plans, 2007 update documents, and numerous links to annual reports of various monitoring programs. However, there is not a single annual report that compiles all of the various monitoring results.</p> <p>These findings led to an observation which is modified here to emphasize the need for a summary.</p>	
<p>Observation: BOF should consider developing an annual report that summarizes and compiles the results of the various monitoring protocols used in BOF’s management, including those listed in Criterion 8.2.</p>	

3. AUDIT PROCESS

3.1. Auditors and qualifications:

Auditor Name	Robert R. Bryan, M.S.	Auditor role	Team Leader, Ecologist
Qualifications:	<p>M.S. Forestry, University of Vermont (1984); B.S. Botany and Environmental Studies, University of Vermont (1976). Currently president of Forest Synthesis LLC. Previously employed as Forest and Wetlands Habitat Ecologist/Forester, Maine Audubon (1995 - 2008) Licensed Maine Forester #907. Member SAF and Forest Guild. Certification Experience: FSC auditor since 2003. Lead auditor (SmartWood), including over 45 FSC Forest Management certification audits and assessments in the Northeast, Lake States, and Appalachia, and Southeast US including family forests, investment and industrial forests, managed conservation forests, and public lands. Member of FSC Northeast Standards Committee 1997-2003 and FSC-US national standards advisory committee (2007-2008), peer review of SFI industrial forest certification in Northern Maine, member of state-level forest certification policy committees.</p>		
Auditor Name	Stephen C. Grado, Ph.D.	Auditor role	Social Assessor
Qualifications:	<p>Steve is a Society of American Foresters (SAF) Certified Forester/Forest Certification Auditor #1155 and Fellow, a Professor of Forestry, and the George L. Switzer Professor in the Department of Forestry at Mississippi State University. He received a Ph.D. in Forest Resources in 1992, a M.S. in Forest Resources</p>		

	and Operations Research in 1984, and a B.S. in Forest Science in 1979 at The Pennsylvania State University, State College, Pennsylvania. He also has a B.A. in Political Science from Villanova University near Philadelphia, Pennsylvania. Dr. Grado has served as a socio-economic assessor/auditor on 44 SmartWood pre-assessments (1, lead; 3, team), assessments (5 lead, 21 team), USDA Forest Service Test Evaluations (2 team, 1 with SGS), and numerous annual field audits (8 lead, 4 team; 1 with SFI). In addition, he has served as an assessor/auditor for innumerable SmartWood chain-of-custody assessments/audits, and also served as a peer reviewer of FSC certification assessment reports.		
Auditor Name	Christopher A. Nowak, Ph.D.	Auditor role	Forester
Qualifications:	Professor. Ph.D., M.S., and B.S. in Forest Resources Management from SUNY College of Environmental Science and Forestry-Syracuse; A.A.S. in Forest Technology from SUNY College of Environmental Science and Forestry-Wanakena. Experience: Professor of Forest and Natural Resources Management at SUNY College of Environmental Science and Forestry (12 years, current); 5½ years as a Research Forester at U.S. Forest Service's Forestry Sciences Laboratory, Irvine, PA; 6 years as a Research Scientist with Research Foundation of SUNY, Syracuse, NY; 2 years as a land surveyor in western NY. FSC certification experience since 1997, with work on 49 FSC Forest Management assessments or audits across the eastern hardwood region. Team leader for 38 assessments and audits covering over 4,000,000 acres from Wisconsin to Maine to Pennsylvania. Periodic assessment training with SmartWood, including a Lead Auditor Workshop in Minnesota, June 2009.		

3.2. Audit schedule

Date	Location /Main sites	Principal Activities
August 3, 2010	BOF Harrisburg, Pennsylvania office	Opening meeting (morning/early afternoon): introductions; review agenda; review work addressing outstanding CARs; presentation and discussion of Marcellus shale development on State forests.
August 3, 2010	BOF Harrisburg, Pennsylvania office	Stakeholder consultations (afternoon; one auditor)
August 3, 2010	District 7	Review BOF field performance (afternoon; one auditor).
August 4, 2010	BOF Harrisburg, Pennsylvania office	Stakeholder consultations (morning; one auditor)
August 4, 2010	District 16	Review BOF field performance (two auditors in morning/early afternoon, three auditors in late-afternoon).
August 5, 2010	BOF Williamsport, Pennsylvania office	Stakeholder consultations (one auditor, all day)
August 5, 2010	District 15	Review BOF field performance (two auditors)
August 6, 2010	District 10	Review BOF field performance (three auditors; early to late morning).
August 6, 2010	BOF Harrisburg, Pennsylvania office	Closing meeting in early- to mid-afternoon to discuss gas development and HCVF, other audit findings, information needs, and next steps with FME staff.

Total number of person days used for the audit: **18**

= number of auditors participating (**3 auditors**) X number of days spent in preparation, on site and post site visit follow-up including stakeholder consultation (**6 days/auditor**).

3.3. Sampling methodology:

SmartWood has a goal of sampling at least three SFL districts each year. For the current audit, four Districts were sampled. Because Marcellus gas drilling was a major focus of the audit, three Districts were chosen where Marcellus operations were active on State Forest Land (SFL) leases (Districts 10, 15, and 16). District 15 also provided an opportunity to evaluate regeneration methods for black cherry, which was mentioned as a concern by a stakeholder (see Stakeholder Comments, Section 2.3). District 7 was sampled to evaluate concerns regarding a reduction in antlerless deer (DMAP) permits (see Stakeholder Comments, Section 2.3 for a discussion of this issue).

Twenty-one sites were visited during the audit.

Within each District the sampling process included a range of forest types and harvest methods. Proximity to sensitive sites (e.g. streams, vernal pools, wetlands) was also a priority in selecting sites. Active harvests were selected to evaluate current impacts to soils, water, and existing vegetation, while closed harvests were sampled to observe longer-term impacts on resources and the amount of forest regeneration.

Activities of four oil and gas leaseholders and a variety of practices were sampled on five sites. Drilling pad construction, ongoing drilling, setup for “frac’ing” wells, freshwater storage ponds, gas pipeline corridors, new road construction, enlargement of existing roads, and associated best management practices were observed.

3.4. Stakeholder consultation process

The purpose of the stakeholder consultation strategy for the FME audit was threefold. It was to:

- 1) ensure that the public was aware of, and informed about, the audit process and its objectives;
- 2) assist the field audit team in identifying potential issues; and,
- 3) provide diverse opportunities for the public to discuss and act upon the findings of the audit.

This process is not just stakeholder notification, but wherever possible, detailed and meaningful stakeholder interaction. The process of stakeholder interaction does not stop after the field visits, or for that matter, after even a certification decision is made. SmartWood welcomes, at any time, comments on certified operations and such comments often provide a basis for field audits.

Prior to the actual audit process, SmartWood developed a public consultation stakeholder announcement. SmartWood and the FME provided the lists of stakeholders. On June 30, 2010 SmartWood sent out the initial 30-day notification via e-mail alerting stakeholders (n=1,257) to the impending FME audit to take place from August 3-6, 2010. The public announcement was sent to 216 stakeholders from SmartWood’s “Stakeholder Lists for all USA Forest Management Operations” and to 1,041 from its “FSC Certified Client List” (i.e., FM and CoC). In addition, SmartWood sent the announcement to the FME’s stakeholder lists on June 30, 2010. The FME received the public announcement on June 30, 2010 and notified their employees.

The FME's stakeholder lists also provided a basis for the audit team to select people for interviews (i.e., in person, by telephone, through e-mail). Prior to the field visit, stakeholders were contacted by the auditors to solicit their opinions and detect any issues of importance. Interviews were held with local, regional, state, and federal stakeholders. In addition to stakeholder outreach prior to the field visit, FME personnel and other stakeholder were interviewed at BOF offices in Harrisburg and Williamsport, Pennsylvania, and in the field during the week of the visit. Some stakeholders were contacted during the field visit for interviews and contacted by telephone and e-mails up to four weeks after the audit team left Pennsylvania. Public meetings were not held, although ads were placed in local newspapers by the FME to make contact with the audit team while in Pennsylvania, or afterward.

During the audit, the Social Assessor remained in the BOF's Harrisburg, Pennsylvania offices to speak to any stakeholders, including employees. This was accomplished on Tuesday afternoon, August 3, 2010, and Wednesday morning, August 4, 2010. The Social Assessor also visited BOF's Williamsport, Pennsylvania office to accomplish a similar task on Thursday, August 5, 2010. An ad to this effect was posted in a local Williamsport paper to notify the public of this activity. During both office visits the Social Assessor also used any downtime to make telephone calls to those listed on BOF's stakeholder lists.

Stakeholder type^a	Stakeholders notified (#)	Stakeholders consulted or providing input (#)
Academia	18	5
Advocacy Groups	13	0
County Agency	21	0
ENGOS	128	5
Federal Agencies	14	1
Forest Industry	590	2
Foresters	3	2
Forestry Consultants	4	0
General Contractors	6	0
Hunt Clubs	2	0
Local Government	6	0
Logging Contractors	3	3
Medical Industry	4	0
Oil and Gas Concerns	146	5
Other	1	0
Other Forestry Contractors	19	0
Other PA DCNR Staff	14	2
PA DCNR BOF Staff	81	52
Politicians	3	0
Private Business	15	0
Private Citizens	4	2
Recreation Business	7	2
Recreation Organizations	30	0
State Agencies	33	3
Tribal Concerns	36	0
Water Authorities, Commissions	2	1

^aMany members of these stakeholders groups belonged to the FME's Advisory Committees.

3.5. Changes to Certification Standards

Forest stewardship	Appalachia (USA) Regional Forest Stewardship Standard, Version 4.2
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standard used in audit:	
Revisions to the standard since the last audit:	<input checked="" type="checkbox"/> No changes to standard. <input type="checkbox"/> Standard was changed (detail changes below)
Changes in standard:	
Implications for FME:	Not applicable - no new requirements

APPENDIX I: List of visited sites (confidential)

FMU or other Location	Compartment/ Area	Site description / Audit Focus and Rationale for selection
August 3, 2010		
District 7	Sale 07-2004BC04	"Sand Mountain Salvage". 128-acre harvest area containing overstory removal with reserves, two-age, shelterwood and light partial cut (improvement cut referred to as a "selection" cut). Visited Block 5 (fenced and unfenced overstory removal with reserves) and Block 8 (selection cut). Even-aged, mixed oak forest type about 75 years old. Harvested 2006 using conventional chainsaw and choker skidder from late summer to winter. Audit focus: DMAP changes and impacts, fencing and development of regeneration, riparian zone management, silvicultural interventions, reserve trees (uniform or clumped dispersal), hunting camp lease, multipurpose recreation trail.
August 4, 2010		
District 16	Marcellus shale gas well pad 815-State	In-progress, 8-acre well pad for natural gas leased and operated by Ultra Resources. Wells were in process of getting prepared for impending frac'ing. Audit focus: off pad impact to forest including main and secondary upgraded access roads (including culverts), pipeline and waterline rights-of-way, pad drainage controls (e.g., berms, back drain, settling ponds), and a hunting camp that had been moved due to truck traffic on the main forest road.
District 16	Sale 16-2005BC15	"Cedar Mountain High". 123-acre harvest area. Visited Blocks 3, 4 and 5 (42-acre fenced and prescribe burned overstory removal, with burn/fencing in 2009 and recently completed timber harvest). Steep, even-aged, mixed oak forest type about 75 years old. Harvested using conventional chainsaw and choker skidder. Audit focus: main skid trail, new haul road, older haul road with recent water drainage problems including a plugged culvert, landing, large amount of cut pole timber left on the ground across the stands.
District 16	Sale 16-2007BC08	"O'Connor East". 86-acre harvest area. Visited Blocks 1 and 2 (86-acre shelterwood cut in 2009 and herbicide treated for interfering understory plants in 2006). Even-aged northern hardwoods about 80-years old with a small (5-acre) area of multi-aged, late-successional forest with 150+ year old hemlock, beech, maple and birch. Harvested using conventional chainsaw and choker skidder. Audit focus: regeneration, late successional forest management and large hemlocks as reserves, skid trail-haul road, roadside landing.
District 16	Sale 16-2007BC01	"Old Chemwood Removal". 173-acre harvest area. Visited Blocks 3 (41-acre overstory removal in the process of being cut) and 6 and 7 (98 acre shelterwood, cut 2010 and herbicide treated to control interfering understory plants in 2007). Even-aged northern hardwoods/Allegheny hardwoods about 80 years old. Harvested using conventional chainsaw and choker skidder (one person operation). Audit focus: regeneration, forested wetland inclusion, coal mining

		impacts, skid trail and landing, use of a gas industry monitoring well pad for parking recently developed as part of the Marcellus play development.
District 16	Sale 16-2006BC05	"General Orders Removal". 86-acre harvest area. Visited Block 3 (39-acre overstory removal, marked and pending cut). Herbicide treated and fenced to control interfering plants and shelterwood cut in 2002. Even-aged northern hardwoods/Allegheny hardwoods about 90-years. Audit focus: advance regeneration, marking, fence management, electric transmission line right-of-way, coal mining reclamation, field debriefing of day's audit for District 16.
District 16	Marcellus shale gas well pad Tract 595	In-progress, ~10-acre well pad for natural gas leased and operated by Seneca Resources. Wells were getting frac'ed. Audit focus: off pad impact to forest including pipeline and waterline rights-of-way, pad drainage controls, waste management, water storage, and noise.
August 5, 2010		
District 15	Study 4100-NE-4152-187, Billy Lewis Road – North	Research site used for the past few years, in partnership with the U.S. Forest Service's Forestry Science Laboratory, Irvine, PA. Study of site preparation herbicide effects on understory plant dynamics. Audit focus: research investment; deer fencing; herbicides and site preparation in Allegheny Hardwoods, with specific effort to control striped maple.
District 15	Sale 15-2003BC07	"Billy Lewis II". 254-acre harvest area. Visited Blocks 2 and 7 (96-acre overstory removal, cut in 2005/2006) and Block 6 (45-acre salvage single-tree selection). Herbicide treated to control interfering plants and shelterwood cut in 1997. Even-aged Allegheny hardwoods about 110 years old. Audit focus: regeneration; riparian zone management; road buffer management; and cultural resource protection (110-yr-old narrow-gage railroad grade/bed).
District 15	Sales 15-2005BC21 and 15-2008BC09	"Rockin Ridge" and "Rocked Ridge". Visited Blocks 4 and 5 in both sale areas, which was a recently completed overstory removal in the first sale area, and a marked overstory removal (129 acres) in the second area. Audit focus: reserve trees; old eastern hemlock (250 to 300 years old, a few isolated individuals); regeneration; "royering" (mowing) as a means to control interfering plants; sugar maple and beech decline; conservation of monolithic rocks (salamander habitat) and other ecologically special within stand features.
District 15	Sale 15-2009BC18	"Beech Bash". Planned biomass cut to remove sapling- to pole-sized beech and birch in preparation for regenerating a stand that has had significant mortality associated with sugar maple decline and beech bark disease. Visited Block 1, a 42-acre shelterwood. Audit focus: whole-tree harvesting; sugar maple decline and beech bark disease; ferns as interfering plants.
District 15	Horton Run Gas Well	In-progress, 5-acre well pad for natural gas currently being frac'ed. Audit focus: planning and monitoring; off pad impact to forest including main and secondary upgraded access roads (including culverts); pipeline and waterline rights-of-way; and a set of lease camps near the well pad.
District 15	Sale 15-2007BC23	"Toto". 120-acre harvest area. Visited Blocks 5 and 6 (103-acre shelterwood in 9-yr-old Allegheny hardwoods in the process of being cut). Herbicide treated in 1997 to control interfering plants. Audit focus: residual stand; logger

		interview; oil spills and spill kits; erosion and sediment plans.
District 15	Sale 15-2005BC09	“Three Bears”. 177-acre harvest area. Visited Blocks 8 (overstory removal) and 9 (uncut strip to be cut as part of overall 81 acre overstory removal) in 100-yr-old Allegheny hardwoods. Herbicide treated in 2003 to control interfering plants. Audit focus: regeneration; wooded wetland inclusion; reserve trees, regenerating black cherry and red maple; in-field debriefing and wrap-up for District 15.
August 6, 2010		
District 10	Sale10-2009BC05	“The Manhattan Project”, ongoing 128 acre salvage clearcut with reserves in oak-hickory (Block 1). Audit focus: logger interview; new haul roads and landings; borrow pit; gas well pad development – in construction; oak mortality and gypsy moth.
District 10	Sale 10-2009BC10	“Dishpan Mortality”, recently completed salvage clearcut with reserves in oak-hickory (Blocks 1 and 6). Audit focus: oak and pitch pine regeneration; bracken fern interference; shelterwood vs. clearcut; 1980s gas development (well and pipeline); new, in construction gas compressor station on drive out from job.
District 10	Lease 252, Pad A	Gas lease well pad, drilling completed and in setup stage for frac’ing. This site is subject to an older (pre 2008) lease that gives BOF less control over the operation than current leases. Audit focus: discussed process BOF uses to approve the location of well pads, pipelines and road work with a goal of minimizing environmental impact and disturbance during times of peak recreational activity; relationship with other agencies in terms of permitting and monitoring was also discussed.
District 10	Lease 653, Pad D	New gas well pad under construction adjacent to older, capped shallow gas well pad. Audit focus: reviewed BMPs on significant upgrade to an old gas pad access road, which brought the road up to log-hauling class without cost to the BOF.
District 10	Eagleton Demonstration Forest Trail	Interpretive trail through the forest with 14 designated stops. Americans with Disability Act conformance on the Trail. BOF personnel sprayed for Japanese stilt grass around the parking lot and entry. State-of-Art trail, with berms and drainage ditches seeded with native species. Turnouts for water flow place at appropriate points along the Trail.
District 10	Mordor Harvest Site	Droughty soils. Greater than 50% gypsy moth mortality. A 2010 winter salvage cut of 120 acres still ongoing. All live trees left. A lot of red maple regeneration. Skid road work not completed until finished with remaining 40 acre cut. Skid trail and landing to be limed, fertilized, mulched, and seeded. Main O&G road makes this operation financially feasible.
District 10	Mordor Harvest Site and the Eagleton Mine Camp Trail,	Trail covers 25 miles across the timber sale. All live trees to stay, marked in blue. Distinct red paint used for Trail. Viewshed along Trail was managed to create a diverse experience for recreationist. Trail was partly closed, and then opened as harvest areas were completed. Field audit concluded with a wrap-up for District 10 field findings.

APPENDIX III: Forest management standard conformance (confidential)

The table below demonstrates conformance or non-conformance with the Forest Stewardship Standard used for evaluation as required by FSC. The SmartWood Task Manager should provide guidance on which sections of the standard should be evaluated in a particular audit. SmartWood may evaluate only a subset of the criteria or principles of the standard in any one particular audit provided that the FME is evaluated against the entire standard by the end of the certificate duration. Findings of conformance or non conformance at the criterion level will be documented in the following table with a reference to an applicable CAR or OBS. The nonconformance and CAR is also summarized in a CAR table in Section 2.4. All non-conformances identified are described on the level on criterion though reference to the specific indicator shall be noted. Criteria not evaluated are identified with a NE.

Note: A major focus of the audit was related to the Marcellus Gas Leasing Program (as explained in Section 2.1). Therefore, the auditors focused on evaluating aspects of the FSC Standard that SmartWood determined to have the highest risk of impacts as a result of oil and gas development. For the Criterion selected based on likely intersection with oil and gas activity, there are findings for regular forest management activities and findings specific to the Marcellus Gas Program. While in this situation, the auditors focused on the Marcellus Gas Program, a similar process could be completed for any forest conversion or non-forest use.

P & C	Conformance: Yes/No/ NE	Findings	CAR OBS (#)
Principle 1: COMPLIANCE WITH LAWS AND FSC PRINCIPLES			
1.1	No, 1.1.a. only	<p>For the most part, forest management plans and operations comply with federal, state, county, municipal, and tribal laws, case law, and regulations. No formal citations for non-compliance with laws or regulations were uncovered during the audit. However, Pennsylvania's Erosion and Sediment Control regulations (Chapter 102 of the Clean Stream Law) require that Erosion and Sediment (E&S) Plans be available for review and inspection by the DEP or the County Conservation District at the project site during all stages of the earth disturbance activity, yet E&S Plans were not observed to be on site for all active logging jobs (CAR 01/11).</p> <p>As viewed through field visits, the FME's forestry operations meet or exceed both state forest practice laws and regulations and Best Management Practices (BMPs) for forestry and other protective measures for water quality that exist within the state in which operations occur. Roads were in excellent shape, Streamside Management Zones (SMZs) were properly installed and usually wider than necessary to meet state BMPs, and streams and other water areas were adequately protected to maintain or improve water quality.</p> <p>As a state agency, the FME is compelled to share public information, provide open records, and conduct public participation as required by law. The FME's Web site provides a key resource for getting information out to the public and for garnering inputs. In addition, the FME still produces numerous pamphlets and other documents to advise the public of attractions and activities on the forest. Public</p>	CAR 01/11

		<p>participation is solicited for all planning processes on the forest and decisions about changes in use of the forest. Examples include the public meetings held to review the last FMP and for the DMAP program. No evidence was uncovered to lead the auditors to think they were doing otherwise in regard to public outreach. Stakeholder interviews further confirmed this view See also Criteria addressed under 4.4.</p> <p><u>Gas Lease Arena</u> All plans and guidelines reviewed directed the FME to fulfill its legal obligations. For example, environmental safeguards are addressed in the <i>O&G Guidelines</i> and in actual leases. E&S Plans were observed to be kept on site for the gas development areas, commonly in a temporary mail box set at the corner of access roads.</p> <p>The FME provided the auditors with all documented inspections and violations related to their O&G operations. Violations that have occurred have been addressed (see 6.5 for details).</p> <p>The FME applies state water quality BMPs applicable to the gas operations and modifies practices to control impacts when BMPs are not producing the desired results (see 6.5 for additional details). .</p> <p>Procedures for sharing public information, providing open records, and conducting public participation as required by law are no different for oil and gas issues, than they are for forest management. See also Criteria addressed under 4.4.</p>	
1.2	NE		
1.3	NE		
1.4	NE		
1.5	NE		
1.6	NE		
Principle 2. TENURE AND USE RIGHTS AND RESPONSIBILITIES			
2.1	NE		
2.2	NE		
2.3	NE		
Principle 3. INDIGENOUS PEOPLES' RIGHTS			
3.1	NE		
3.2	NE		
3.3	NE		
3.4	NE		
Principle 4. COMMUNITY RELATIONS AND WORKERS' RIGHTS			
4.1	Yes, 4.1.c only	<p>The BOF is directed to follow all local, state, and federal laws and regulations in regard to field work on all lands not excised from the certificate scope.</p> <p><u>Gas Lease Arena</u> While logging contracts viewed by the auditors have a provision for training this was not included in Right of Way (ROW) agreements. The BOF needs to ensure that the FSC Standard is being met only for activities that occur within the scope of the certificate. The FSC Standard applies only to forest management. Once it has been determined that land is being cleared for utility easements (Rights of Way) or clearing for other non-forest uses (e.g., gas well pads, communication towers, etc.) the land is no longer being managed for</p>	

		forestry and the FSC standard is no longer applicable; only impacts to the surrounding forest land is considered to be applicable. Therefore, ROWs and work on tower installations are not within the scope of certificate, the standard does not apply when forest is being converted to these and other non-forest uses (e.g., gas well pads and pipelines).	
4.2	No, 4.2.a only	<p>The FME's hard hat policy was unknown to most FME staff interviewed during the audit, and it was observed that hard hat use is inconsistent and irregular within and across Districts, particularly with staff from different BOF Divisions and Sections working in the forest (CAR 02/11). Many staff hard hats were more than 10 years old (OSHA recommends a life expectancy of 3 to 5 years for plastic hard hats, and liner replacement every year).</p> <p>A logging subcontractor was observed to not wear proper PPE (hard hat) when topping felled trees on an active harvest site. In some cases on BOF State Forest land, some workers are exempt from wearing certain PPE if doing so violates religious beliefs and rules (J. Hecker, BOF, personal communication). BOF has worked with OSHA and State lawyers to develop policy and procedure with regard to these contractors and subcontractors working as timber harvesters on State Forests. The key element of worker exemption with PPE is that each worker must have written support from his religious lead as to the need for not using PPE. The subcontractor who was not wearing a hardhat did not have such a letter on file with the BOF (CAR 02/11).</p>	CAR 02/11
4.3	NE		
4.4	Yes	<p>The FME is involved in a variety of local and regional planning initiatives. These efforts include working with PA Wilds; working with county planners and municipalities who affect regional zoning and other policies; participation in watershed committees and projects [e.g., , Aquatic Community Classification multi-agency project]; participating in the development of utility (e.g., ROW design and contractual regulations), transportation, and economic development plans; working with state agencies, local governments, funders, and non-profit organizations to strategically work on seven state Conservation Landscape Initiatives; helping private landowners develop plans for managing forest resources on their property (Forest Stewardship Program) and planning and timber harvests; and cooperating and sharing knowledge with various special interest groups (e.g., TNC). In addition, the FME funds research projects through university departments that aid in appropriately facilitating local and regional planning initiatives. Interviews with FME employees, FME documentation, and several stakeholder interviews confirmed that these activities are taking place.</p> <p>The FME's SFRMP makes a clear statement that it encourages ongoing public input on state forest land timber management activities, harvesting levels, harvesting plans, and business processes. Opportunities for the public to provide input into forest management planning were made available by the FME through nine public meetings held throughout the state prior to the SFRMP 2007 Update, Web site entry capabilities (e.g., Contact DCNR, Log Letters, Ask a Forester), and making available addresses to send in written comments. For the SFRMP update there were FME office press releases and the use of list servers to solicit public inputs. In</p>	OBS 01/11

	<p>some cases, District Foresters conducted focus groups to gather employee and public comments. In the document "State Forest Resource Management Plan 2007 Update Process Summary of Public Comments" the public comments were summarized and the FME described how these comments were to be addressed and incorporated into forest management planning. The FME's Web site includes an extensive range of information, and is an excellent public resource. The SFRMP is on the Web site as well as links to other affiliated program and activities. FSC certification public summary audit reports are available on their Web site (http://www.dcnr.state.pa.us/forestry/certification.aspx). In addition, there are other methods available to people to provide ongoing input, including the FME's Web site listings for the Central Office Directory (http://www.dcnr.state.pa.us/forestry/central_contact.aspx) and the District Office Directory (http://www.dcnr.state.pa.us/forestry/dcontacts.aspx). There is also a PA DCNR newsletter published and available to the public (http://www.dcnr.state.pa.us/news/resource/res2010/10-0428-resource.aspx). The FME also provides guidelines on forest and recreation management to the public as well as brochures and public use maps. Examples of these documents were provided to the auditors.</p> <p>The FME's Web site is due to be once again updated. In addition, the FME Resource Planning & Stewardship unit is also developing an e-mail database for all FME stakeholders to more efficiently reach out to these individuals. Individual entries will be categorized by their specific interest areas, whereby e-mail contacts will go only to those that have expressed interest in that area. However, this effort is not completed.</p> <p>There are numerous advisory committees whereby citizens and special interest groups can provide inputs into forest planning and management activities. These groups meet periodically. Meetings can be initiated by the FME, often by the District Foresters, or they can be requested by advisory committee members. The Citizens Natural Resource Advisory Committee (CNRAC), Recreation Advisory Committee (RAC), and Ecosystem Management Committee (EMAC) all have representation from across the Commonwealth, and include people with varied backgrounds. Committee meeting frequency ranges from committee to committee, and some committee meetings (e.g., CNRAC) are open to the public. There are also is an FME wide Communications Committee, and a Strategic Advisory Committee. These internal committees help the FME incorporate and respond to public input.</p> <p>During the current audit, through stakeholder auditor contacts and auditor analysis of stakeholder lists provided by the FME, it was determined that opportunities for public input was limited in some cases as certain individuals and groups were not made aware of programs and activities where public inputs were being requested by the FME (OBS 01/11).</p> <p>The FME has procedures in its Silviculture Manual, Chapter 5 addressing adjacent landowner notification of their forest management activities. When a timber sale boundary is also a FME forest boundary, the FME will make a "good faith" effort to notify</p>	
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	<p>adjacent landowners of pending timber sales. The FME describes good faith efforts as 1) face-to-face communication, 2) a letter describing the sale and providing contact information, and 3) for unknown landowners, signage along property boundaries defining the timber sale and providing contact information. The FME's planning process typically begins six months in advance of an actual harvest operation and at least a 30 day notification will be provided. Sample notification documents (i.e., letters) for timber harvests were provided to the auditors. These were sent to camp owners and the Mid-State Trail Association about a proposed timber sale near their areas of interest. Other samples included letters and maps to three camp lessees, four adjoining landowners, and a water authority. Additionally, timber sale maps are available on the FME's public Web site.</p> <p>Notifications of forest activities on state forest lands also are provided to municipal watersheds, state parks, camp lessees, trail clubs, and pipelines, and electrical line concerns. Other individuals and concerns are also notified of forest activity. As stated in the SFRMP's Silvicultural/Timber Management section, if federal or state listed fauna or flora species, or habitat critical to their survival, either presently known or subsequently identified, occur within or adjacent to a proposed timber management project area, the FME's wildlife biologists or botanists are notified prior to commencement of additional work. Wildlife biologists or botanists determine what, if any, changes to the project are necessary to protect any floral or faunal species or habitat. Also stated in the SFRMP, if archeological sites, either known or subsequently identified, occur within a proposed timber management project area, the FME's Resource Planning and Information Section will be notified prior to commencement of any additional project work. The Section will coordinate assessment of the site and needed protection measures with the Pennsylvania Heritage and Museum Commission (PHMC).</p> <p>Through an examination of the SFRMP, public comments in the SFRMP, field visits during the audit, and through stakeholder outreach it was determined that the FME is doing a credible job addressing significant concerns related to forest management actions and further incorporating these concerns into its forest management policies and plans.</p> <p>Stakeholders acknowledged that not all concerns can be addressed given budget constraints and competing interests on the land base (e.g., recreation and gas drilling). However, stakeholders commented that FME and its personnel show a genuine interest in trying to address its clientele concerns (e.g., those of recreationists and adjacent landowners). It was also recognized that political influences are also a reality for any public agency. There is evidence in public documents that public input has affected policy decisions (e.g. trail building, approaches to gas development, pursuit of wind development, set aside of wild areas), as well as more localized site-specific decisions.</p> <p>The CNRAC summarized a history of their comments to the FME over time, and reports that there is evidence of their advice being implemented (although not all of the time). The willingness for</p>	
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	<p>people to serve multiple terms on advisory committees could be viewed as one indication that they believe their participation has value and the FME is listening to their advice. EMAC members have stated that the FME has taken their advice and used university research to assist in forest management. All advisory groups had some members who were concerned about the reduced frequency of advisory meetings.</p> <p>In July 2009, BOF contacted a representative of the Eastern Delaware Nations, to request their review of the FME's land base for customary use rights and significant sites. As of this audit, the FME had not yet received a response from the Eastern Delaware Nations. A representative had also been invited to participate as a provisional member of the FME's EMAC.</p> <p>In the past, the FME has also sent written invitations, which were reviewed by previous auditors, to the United Eastern Lenape Nation and the Eastern Lenape Nation of Pennsylvania to request their review of the FME's land base for customary use rights and significant sites. To date, the FME had not yet received a response from the Eastern Lenape or any other tribal representatives. Additionally, in August 2009, the FME re-sent its written invitation to all federally-recognized Native American groups identified as having interests in Pennsylvania state forests. This invitation was originally sent in December 2004.</p> <p>In lieu of direct participation from American Indian groups, the FME is able to identify and monitor known sites through communication with, and data provided by, the Pennsylvania Heritage and Museum Commission (PHMC). Database information provided by the PHMC is not shared with any external parties. In the broadest context, the FME has been made aware that most archaeological sites in the state are located in valley bottoms and in close proximity to rivers – areas where the FME generally does not plan harvest activity. On a site-specific level, the FME has access to a database of historic sites. Data is in tabular format and references which compartments have known archaeological sites. If a planned activity falls within a compartment with an archaeological site, maps are then consulted that show the general site location. This search is conducted for every planned activity. No sites of this nature were observed during the audit.</p> <p><u>Gas Lease Arena</u> The FME and O&G concerns are working cooperatively, and following the law, in regard to achieving their goals for use and protection of state forests. These goals are articulated in the SFRMP and various documents related to the O&G issues. O&G representatives interviewed stated that they were committed to following the FME's guidelines and committed to protecting the forest. Also, they were aware of its FSC certification, and the FME's desire to maintain that status. Policy statements and actions by O&G concerns with relevance for local and regional planning more specifically found in the 2010 draft document titled "Administering Oil & Gas Activities on State Forest Lands" and in the lease agreement. The former states that O&G "Operators will be required to submit Development Plans, or seismic acquisition plans, prior to beginning</p>	
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	<p>drilling activity. The Bureau will work with the operator in planning the gas exploration and development in a manner which minimizes impacts to State Forest lands.” Specific actions include a number of plans, all of which are required by the lease, and include seismic surveys, pipelines planning, road plans, well pad development plans, an erosion and sedimentation plan, a water sourcing and waste handling plan, a site restoration plan, and the maintenance of MSDS Chemical Hazards Sheets from all chemicals stored and used on state forest lands. DEP permits and plans are also required and operator compliance builds into regional plans for that agency. In general, the FME specifically also asks all operators to present "master plans" to the forest districts for information and planning as to the size and scope of exploration and development plans on state forest lands now and in the near future.</p> <p>Those with an interest in the Marcellus Project and O&G drilling in general can use traditional means employed by the FME and previously discussed above to contact the FME and voice their opinions and provide inputs in forest management. However, the FME also has a targeted approach to addressing these issues as well. The FME developed a 2010 draft document titled “Marcellus Shale Communications Strategy” whose main purpose is to maintain current efforts and initiate new ones to inform stakeholders of the Marcellus Project and receive inputs by those affected by O&G activities. These groups are primarily state forest visitors, recreationists, private landowners, and environmentally concerned citizens. The strategy has five goals directed toward (1) explaining why there is O&G activity on state forests, (2) providing information on forest ecosystem impacts and FME mitigation activities, (3) providing information to users of the state forest on how O&G activity will impact them, (4) providing avenues for interested or affected parties to make complaints about O&G activity, and (5) providing private landowners information on protecting and restoring forest resources. To adequately address these goals the FME will use a Web site, brochures, a FAQ document, and FME staff. For example, the Marcellus Project Web site is considered a primarily tool for providing information and soliciting inputs on O&G activities (See “Oil and Gas on State Forest Lands,” http://www.dcnr.state.pa.us/forestry/oil_gas.aspx). In addition, each District Forest has a person dedicated to working with oil and gas development, with an emphasis on being available to receive public comments and monitoring drilling areas. The FME also has four geologists on staff that make presentations on the O&G issue, and there is the intent to hire two more. A member of the EMAC stated that they had requested a presentation by the FME on the O&G issues and that was accomplished within a very short time after the request.</p> <p>Those affected by the Marcellus Project and O&G drilling are apprised of activities via traditional means employed by the FME and those previously discussed above. The FME will inform the public about these sales through various print media. The PA DCNR is required to advertise competitive lease sales in a minimum of three (3) newspapers of general circulation in the area(s) where the sale will occur, once a week, for three (3) consecutive weeks. A copy of a “Bidders Notice for Sealed Bids 2008” was provided to the auditors. Typically, leases are very large, sometimes involving,</p>	
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	<p>tens of thousands of acres, and notification is done more by public notices in the newspaper than by other means. PA DCNR also typically issues a press release highlighting the sale specifics and who to contact with questions. Press releases are picked up by the Associated Press, Reuters, and other international media outlets and have generally made the evening (television) news. A copy of an oil and gas press release was provided to the auditors. Recent sales have also been discussed at Governor Rendell's daily press conferences and picked up by all media outlets. PA DCNR also advertises lease sales in the weekly <i>Oil and Gas Journal</i> and <i>IHS Drilling Wire</i> industry publications.</p> <p>The "Oil and Gas on State Forest Lands" Web site also informs the public concerning proposed O&G activity (See for example, "Oil and Gas Leasing Offering", http://www.dcnr.state.pa.us/forestry/gas_lease.aspx). This site has offerings by date and provides maps on locations. The Web site also contains a section summarizing public inputs title "Summary of Public Comments on Natural Gas Leasing" (See http://www.dcnr.state.pa.us/forestry/O&G/Oil_gas_comments_summary.pdf). Beginning in 2008, all materials associated with a PA DCNR competitive lease sales, including the State Forest Environmental Review documents, were posted on the PA DCNR-Bureau of Forestry Web site (i.e., http://www.dcnr.state.pa.us/forestry/marcellus/pdfs/SFER_2008_LeaseSale.pdf).</p> <p>The FME also has modified its procedures in the Silviculture Manual, Chapter V. Section V. to address notification of O&G lessees and adjacent landowners of FME forest management activities. The FME must send a timber sale prospectus to the O&G lessee for all timber sales prepared on the O&G lease. Sample documentation was provided to the auditors on an Assistant District Forester's e-mails on notification and communication with a pipeline company prior to a timber sale. In many cases the District Foresters and O&G operators work together to notify stakeholders on planned activities. For example, in the 2010 draft document titled "Administering Oil & Gas Activities on State Forest Lands" it states that "In the event that gas production from a newly completed well or a well that is being serviced, is required to be vented to the atmosphere and flared for safety reasons, the operator will first notify the District Forester of its plans at least 10 days before the anticipated flaring operation, and will second make provision to notify all stakeholders, as specified by the District Forester, of the planned event and provide for the consideration of special events that may be planned on state forest or state park lands during this time frame. The goal is to eliminate "surprises" to the local community and provide for an uneventful operation." Procedures for notification of the Pennsylvania Fish and Boat Commission, PEMA, local fire departments, local county conservation offices, and possibly the Susquehanna River Basin Commission (SRBC) Inspector are outlined in the document in case there is a suspected pollution event, a road collision involving gas supply trucking, or any other event that may have the potential to release substances into local waterways, vernal pools, wetlands or onto the soil on state forest lands.</p> <p>The "Administering Oil & Gas Activities on State Forest Lands"</p>	
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		<p>document EXHIBIT C, STIPULATIONS FOR PROTECTION AND CONSERVATION OF STATE FOREST LANDS contains a section on Historical and Archaeological Sites, with notification procedures for District Foresters. If a planned O&G activity falls within an area with a known archaeological resource, the FME contacts the PHMC, who then provides instruction on what, if any, survey work is needed. As directed by PHMC, the FME has only been required to conduct Phase 1 survey work (i.e., site visit, background research, testing, analysis). Typically, resources may be potentially impacted when there is surface disturbance that extends below the plow level (e.g., O&G activity such as impoundments or drilling, road building). Protection measures are developed based on the survey results.</p> <p>Through an examination of the SFRMP and associated documents related to the O&G issue (e.g., “Administering Oil & Gas Activities on State Forest Lands,” “Administering Oil & Gas Activities on State Forest Lands,” “Marcellus Shale Communications Strategy,” “Oil and Gas on State Forest Lands” Web site), public comments in the SFRMP and on the Web site at “Summary of Public Comments on Natural Gas Leasing,” field visits during the audit, and through stakeholder outreach it was determined that the FME is doing a credible job addressing significant concerns related to O&G activity and further incorporating these concerns into its forest management policies and plans.</p> <p>Similar to procedures for forest management activities, the FME is able to identify and monitor known sites related to O&G activity through communication with, and data provided by, the PHMC. Database information provided by the PHMC is not shared with any external parties. In the broadest context, the FME has been made aware that most archaeological and historical sites in the state are located in valley bottoms and in close proximity to rivers – areas where the FME generally does not extend leases for O&G activity. On a site-specific level, the FME has access to a database of historic sites. Data is in tabular format and references which compartments have known archaeological sites. If a planned activity falls within a compartment with an archaeological or historical site, maps are then consulted that show the general site location. This search is conducted for every planned activity. No sites of this nature were observed during the audit. For rare and endangered species, the Pennsylvania Natural Diversity Index (PNDI) is searched by the FME prior to any earth disturbance to determine possible presence of rare and endangered flora and fauna species of concern. If rare and endangered species are in close proximity to a planned O&G site, the site is relocated and/or adequate buffers are put in place to protect species of concern.</p>	
4.5	Yes	<p>Mechanisms for resolving grievances are included in District Forest management plans. The first approach on the part of FME staff is to try to resolve the grievance by open communication before use of litigation measures.</p> <p>The FME’s liability insurance, which extends to its employees and its activities, is covered through the Commonwealth. The FME also embraces the Conservation Volunteer Program which is a result of the Conservation and Natural Resources Act, the act of 1995, P. L. 89, No. 18, Section 310, which authorizes the PA DCNR to recruit,</p>	

		<p>train, and accept volunteers “for or in aid of interpretive functions, visitor services, conservation measures and development or other activities in and related to state park and forest areas and other conservation and natural resource activities administered by the department.” The Act, states that volunteers in the program are to be treated as PA DCNR employees for the purposes of workers’ compensation, and general and automotive liability.</p> <p>The requirement of third parties operating within the state forest to hold insurance or post bonds varies. It is FME policy that contractors purchase and maintain, at their expense, several types of insurance. The first is Workmen’s Compensation Insurance which needs to be sufficient to cover all contractor employees. Second they need to have Comprehensive General Liability Insurance, including bodily injury and property damage insurance, to protect the Commonwealth and the contractor from claims arising out of contract performance. The amount of bodily injury insurance should not be less than \$300,000 for injury to or death of persons per occurrence. The amount of Property Damage Insurance shall not be less than \$300,000 per occurrence. If the policy is issued for Bodily Injury and Property Damage combined, the amount should not be less than \$600,000 per occurrence. Last, they need to have Automotive Liability Insurance, covering bodily injury and property damage insurance to protect the Commonwealth and contractor from claims arising out of contract performance. The amount of Automobile Bodily Injury Insurance is not to be less than \$300,000 for injury to or death of persons in a single occurrence. The amount of Automobile Property Damage Insurance is not to be less than \$300,000 per occurrence. If the policy is issued for Bodily Injury and Property Damage combined, the amount should not be less than \$600,000 per occurrence. Evidence of such coverage is required even though the contractor may claim to not to own any vehicles. Liability insurance is required when contractors work in high-density recreation areas (e.g., State Parks) due to the proximity to buildings, paved areas, and other infrastructure. It is also required for contractors that only have to post small bonds (e.g., herbicide, fencing, planting).</p> <p>Performance bonds, but no liability insurance, are required for timber sale buyers. A review of the “TREE ESTIMATE TIMBER STUMPAGE SALE CONTRACT” contains a section titled “Performance Deposit” which stipulates all requirements related to these bonds. Bonds are also required to cover an approved extension of a contract. The FME’s legal department investigated the option of requiring liability insurance for timber sale buyers. However, it was deemed not necessary and was also discouraged by the Pennsylvania Forest Product Association. The feels the bonds posted adequately address any potential liabilities. If not, there is a clause in the contracts stating that the bond is not the sole recourse available to the FME in the event that damages ensue.</p> <p>In terms of recreation, liability insurance coverage is required for all ATVs that are required to have a general registration. Proof of this coverage must be carried by the operator. The law does not specify a minimum dollar amount for coverage</p>	
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	<p>Several measures are taken to avoid loss or damage to legal or customary rights, property, resources and livelihoods, including mapping, marking boundaries, marking all cut and leave trees, environmental reviews, buffers, not skidding along trails, not hauling or skidding on R-O-Ws without written approval of the owner or lessee, clauses in contracts regarding damage to residual trees (and enforcing this with penalties), pre-work meetings with wood buyers and logging contractors to identify risks, and supervisory checks of jobs in progress and after completion.</p> <p><u>Gas Lease Arena</u></p> <p>Mechanisms for resolving grievances related to forest operations are included in District Forest management plans and would be similarly followed by issues related to O&G activity. The first approach on the part of FME staff is to try to resolve the grievance by open communication before use of litigation measures. Also, the 2010 draft document titled “Administering Oil & Gas Activities on State Forest Lands” there is a clear dispute resolution policy for O&G operators relative to disputes with the FME (Section J. Guidelines for Dispute Resolution). These procedures are also delineated in the lease agreement under Section 40. Dispute Resolution. Again, there are several steps that can be taken before legal actions would be taken by either party.</p> <p>The FME and O&G operators have lease agreements in place to cover performance bonds and liability from all activities. A copy of the lease agreement can be found in the 2010 draft document titled “Administering Oil & Gas Activities on State Forest Lands.” Items specific to bonds and liability state that the O&G operator “shall furnish a surety or performance bond satisfactory to Department. Upon Department’s consent to the assignment and assignee’s assumption of all liability under this lease arising or accruing subsequent to the date of such assignment as to the part or parts so assigned, Lessee shall be released from all such liability; and assignee shall be deemed to have assumed and be responsible for the covenants, conditions, and obligations of this lease as to the part or parts assigned.” The lease agreement also states that the “Lessee shall, at its sole expense, provide and maintain in full force and effect during the term of this lease general comprehensive liability insurance in an amount not less than TWO HUNDRED FIFTY THOUSAND DOLLARS (\$250,000) for each occurrence and ONE MILLION DOLLARS (\$1,000,000) aggregate, which shall cover Lessee and Department for damage claims including, but not limited to, personal injury, accidental death, and property loss that may arise from operations conducted under this lease or any occurrence on or about the leased premises whether such operations are by Lessee or anyone directly, or indirectly, employed by Lessee. Department shall be named as additional insured on Lessee’s liability insurance. Lessee shall also maintain equivalent insurance coverage for the operation of its motor vehicles.”</p> <p>Specific measures are taken by the FME to avoid loss or damage to rights, property, resources and livelihoods related to O&G activity, including Web site notification of O&G activity, agency and other landowner notifications, mapping, marking boundaries, creating buffers, provisioning to protect the forest from spills of any liquids,</p>	
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		pre-work meetings with O&G companies and various contractors to identify risks, and supervisory checking of jobs in progress and after completion. Interviews with O&G operators revealed that the planning for a drill site starts at least six months in advance and that they work very closely with the FME and DEP to ensure forest and water resources are going to be protected. During O&G activity, O&G operators stated that they are in continual contact with District Foresters and the FME's geologist, at a minimum. One operator also said they coordinate their projects to minimize interference with hunting season activity, and they also plan equipment movements to account for the topography on state forest lands to account for seasonal climate limitations. Often times they meet or communicate with PA DCNR personnel over a number of issues. Also, communication and cooperatively working with other agencies is essential, and operators realize that this is the law, and the appropriate action to take. Nothing is more important, beyond working with the FME, than cooperating and working with the DEP.	
Principle 5. BENEFITS FROM THE FOREST			
5.1	Yes	<p>The BOF has been a forestry organization (albeit under different names over time, starting with the Division of Forest and Waters in 1895) for over 100 years. A century of persistence as an organization indicates that the BOF has the resources to support long-term forest management. Planning, inventory, resource protection, capital improvements (e.g., forest roads), and post-harvest management activities, among other resource management endeavors, are well supported in terms of attention, money and personnel. Support for silvicultural activities is high. The districts were observed to be well staffed in support of timber management, though some concern was raised with regard to reductions in maintenance personnel and how it is affecting/will affect non-timber forest values and services, particularly in the area of road maintenance and recreation access (OBS 02/11). Shortfalls in maintenance personnel could expand to affect other forest and natural resources management work if budgets continue to be cut, revenues shrink, and gas management activities expand. Monetary support for the BOF comes primarily from appropriated State funds, timber receipts, and gas and oil leases. Lower stumpage prices (particularly for cherry) and shifts in how gas lease dollars are used in the State budget have produced growing concerns within and outside the agency about future funding and staffing.</p> <p>Timber management and other related forest and natural resources management activities have not changed in response to short-term financial factors. Silviculture is fully practiced across BOF forest lands. No degrading timber harvests (e.g., diameter limit cutting) were observed on BOF lands.</p> <p>The BOF has a long history of high investment in managing the forest and restoring health and productivity, including the long standing practice of reinvesting 10% of timber receipts back into the forest for regeneration practices, e.g., fencing, use of herbicides to control interfering plants.</p> <p>Auditors were given copies of documents relating to numerous timber sales, including a prospectus for each visited harvest area (total number of areas = 15). Conditions for each timber sale were</p>	OBS 02/11

		<p>observed to be clearly stated in these documents. A subset of timber sale contracts were reviewed in detail and found to be complete, including high quality timber sale maps (all produced using GIS).</p> <p><u>Gas Lease Arena</u></p> <p>While the BOF is a forest management organization, it is recognized that all natural resources are open for management on PA State Forests, including oil and gas development, to sustainably meet societal needs and desires.</p> <p>It appears that gas development activity has not negatively affected the FMU and that the forest operations of the BOF will continue to provide long-term economic, environmental, and social benefits from the State forests with planned gas development.</p> <p>The BOF has invested significant amounts of personnel time and money to address the leasing for, and expansion of activity in, Marcellus shale gas development over the past few years. Each District has at least one forestry person dedicated to monitoring gas well pad installation and development. Dozens of personnel are involved in well pad siting, including an in-house team of geologists (presently four people, with two more geologists to be hired by the BOF in the near future), with BOF activities ranging from examination of site-specific assessment of ecological conditions to landscape-level impact on recreation.</p> <p>Shortfalls in the State budget caused the BOF to accelerate the development of some gas leases over the past few years as a quick source of revenue, but this does not seem to have affected the agency in its ability to fulfill the forest management plan.</p> <p>Leasing contracts and agreements have become more detailed and complex over the last decade, particularly over the last few years, and seem well in line with what is needed to provide for environmental protection and socioeconomic benefits.</p>	
5.2	NE		
5.3	NE		
5.4	Yes	<p>A diverse variety of forest uses and products are produced by the BOF, including wood products (high quality sawtimber and various biomass-based products such as pulpwood), NTFPs, game for hunting, and various recreational activities (e.g., hiking, mountain biking, horseback riding, skiing, snowmobiling, ATV riding, fishing, camping). Forest composition, structure and function are maintained by the full application of silviculture to regenerate and tend stands of diverse tree species, road and trail construction and maintenance that meets or exceeds state BMP guidelines and regulations, and protection of ecologically special areas (e.g., Natural Areas, Wild Areas, Special Resource Management Zones, Limited Resource Management Zones, Aesthetics/Buffer Management Zones; and proposed Old-growth and Bio-reserve Areas). Ecologically special areas cover nearly 50% of PA State Forest. BOF has worked to control high impact recreational activities such as ATV use by providing dedicated trails and posting all Forests to minimize unauthorized use.</p> <p>The BOF has reinvested in the local economy through the regular</p>	

		<p>production of wood products, development of forest infrastructure (e.g., forest roads, parking areas, hiking trails), and payments in lieu of taxes (\$3.50/acre paid to the counties). Staff at all levels are active in civic organizations, participate in educational activities with local schools, and work with local governments and organizations on advisory boards such as those dealing with water quality and conservation. Examples discovered during the audit include: Pine Creek Watershed Council membership; foresters leading hikes during Hiking Week 2010, providing tours as part of Pabucks, a game habitat and hunting organization, working in booths during county fairs and woods events, maintenance of forest stewardship demonstration sites (e.g., Sproul State Forest), including 40 miles of interpretative trails, and providing field tours and outdoor learning opportunities for College students.</p> <p><u>Gas Lease Arena</u> Gas development is not a forest use or product, but the extraction of gas from the Marcellus play can influence production of forest uses and values. Trucking (stone, water, and equipment) has produced an upgrade of forest roads, but has also temporarily degraded use of forest roads by BOF staff and the general public through increased truck traffic, affecting work and recreational experiences. Many BOF staff complained about being nearly “run off the road” by large, fast moving gas industry trucks and equipment. Other stakeholders influenced by the increased truck traffic are camp lessees – there are ~4,000 leased camp sites across the State Forests, averaging about ¼ acre in size, often with a small cabin.</p> <p>It is expected that road use associated with gas development will be reduced over time after the gas collection systems (wells, pipelines and compressor stations) are installed, perhaps over the next decade. Actual area of disturbed areas, while large for any one well pad site (5 to 15 acres), is small compared to the size of the State Forests, perhaps in total to be less than 0.5% of area affected, so the direct effect on forest uses and values is and will be small. In general, gas development has not apparently negatively affected forest uses and values, but this is an open question that monitoring and research will address.</p> <p>FME staff has been active with local governments and organizations, including participating on advisory boards that are dealing with water quality and conservation issues associated with the Marcellus Project shale development. Staff geologists have been frequent guest speakers at a wide variety of lay and professional meetings on the Marcellus Play, educating these stakeholders on facts associated with hydro fracturing and Marcellus shale (dozens of presentations over the past few years).</p>	
5.5	Yes	<p>Forest management operations recognize, maintain, and, where appropriate, enhance the value of forest services and resources such as watersheds and fisheries. Watersheds are generally protected by the full application of BMPs during timber harvesting and other site disturbing management activities, including the full protection of riparian areas. In most harvest sites, riparian areas are excluded from the timber sale by marking uncut buffers. Also, most timber harvesting has occurred on the relatively dry ridge and plateau tops and upper slopes. BOF recognizes when timber harvest</p>	

		<p>are to occur in municipal watersheds (e.g., watershed sensitivity in the recent District 7 “Sand Mountain Salvage” timber sale and the protection of the headwaters of Lingle Stream, even where the water was only weakly intermittent) and works with community stakeholders to adjust management to protect water. Brook Trout restoration (e.g., deflectors associated with culvert, in-stream placement of CWD) has been conducted with Trout Unlimited over the past few years. The BOF is finalizing a management plan for Brook Trout throughout the State Forest system.</p> <p><u>Gas Lease Arena</u> The BOF identifies, defines and implements appropriate measures for maintaining and/or enhancing forest services and resources that serve public values in the siting, monitoring and required rehabilitation of gas development sites, including protecting water resources and associated fisheries.</p>	
5.6	NE		
Principle 6. ENVIRONMENTAL IMPACT			
6.1	No	<p>The 2008 reassessment confirmed that assessments of ecological processes, current ecological conditions compared with historical conditions, common plants and their habitats, water resources, and soil resources are included in the State Forest Resource Management Plan (SFRMP) as well as the individual District Forest (DF) Plans. BOF has not needed to update these baseline assessments since the 2007 SFRMP was prepared.</p> <p>DCNR is a partner in the Pennsylvania Natural Heritage Program (PNHP, formerly the Pennsylvania Natural Diversity Inventory or PNDI) and maintains current data on rare, threatened and endangered species and natural communities. This information is reviewed before any site disturbing activities, including forest management, recreation site development (e.g., trails) and approving well locations on oil and gas leases. The review process and associated documents were reviewed with BOF during the current audit.</p> <p>Potential impacts are evaluated during the development of harvest prescriptions, such as protection of rare species, measures needed to protect soil and water, and need to control invasive species before harvesting begins.</p> <p>BOF records the presence of invasive non-native plant species in the Continuous Forest Inventory Assessment (CFIA) plots and informally monitors the occurrence of invasive non-native plant species during field activities. BOF conducts annual egg mass counts for gypsy moths across its forests as well as conducts aerial surveys of tree mortality due to gypsy moths. Emerald ash borer and hemlock wooly adelgid are also monitored.</p> <p>BOF continues restoration activities associated with control of deer browsing, including fencing sites to ensure regeneration, and BOF participates in the DMAP program.</p> <p><u>Gas Lease Arena</u> New well pad locations, pipeline locations, road upgrades and new locations and are reviewed and approved by DCNR prior to the</p>	<p>CAR 03/11</p> <p>CAR 04/11</p>

	<p>lessee obtaining permits from other agencies as appropriate to the resource, including those identified under Criterion 1.1. The Oil and Gas (O&G) Program is administered by the Marcellus and Minerals Section in a process that includes Department-wide coordination, including BOF and the Ecological Services Section.</p> <p>Leases issued during or after 2008. For recent leases (2008 and later) DCNR has implemented a landscape and site assessment process to avoid and minimize impacts due to oil and gas activity. First, designated Wild Areas and Natural Areas were categorically excluded from leasing activities, amounting to 226,000 acres or approximately 11% of the BOF lands. Next, other ecologically sensitive areas were identified and assessed on each tract and landscape. Most areas with a concentration of rare, threatened, or endangered species and rare natural communities identified by PNDI data, priority forest patches identified by The Nature Conservancy and the Western Pennsylvania Conservancy and/or concentrations of wetlands were not included in the 2008, 2009, and 2010 lease offerings. Any ecologically significant areas that were included in the lease sales were designated as Areas of Concern, which require further coordination and conference with BOF and other jurisdictional agencies prior to approval.</p> <p>The remaining areas offered for lease had some areas where ecologically or culturally sensitive features (e.g. rare species, steep slopes, wetlands, recreation trails) occur. Within the lease tracts DCNR applied a zoning process that identifies highly critical resources: Non-Development areas and buffers (e.g. wetlands, steep slopes), and Areas of Special Consideration. Areas of Special Consideration include high value timber stands, ecological features (point features, such as rattlesnake dens, or landscape features such as rattlesnake foraging and travel habitat), and viewsheds.</p> <p>The environmental review for each of the three recent Marcellus Shale leases is posted on the DCNR gas leasing Web pages. Additional detail on the process was provided to the audit team by DCNR.</p> <p>After a lease is issued the district BOF field forester works with the lease holder to avoid and minimize impacts within the lease area using BOF guidelines and those of the other applicable agencies (e.g. the PA Boat and Fish Commission guidelines for rattlesnake habitat). BOF buffers for protecting vernal ponds and other water bodies exceed the minimum required by the PA Department of Environmental Protection (DEP) by 100 feet. After review by the District forester, the site plan (for a well pad, pipeline, or road) is reviewed by the central office and approved or modified as necessary based in review by Marcellus and Minerals Section, BOF and the Ecological Services Division.</p> <p>Following DCNR location approval the lease holder then conducts the necessary ecological studies to collect more detailed site information, including wetlands delineation and on-site rare, threatened, and endangered species (RTE) surveys (e.g., rattlesnakes and bats). If additional sensitive features are identified, site location may be modified by DCNR as necessary. The lease</p>	
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	<p>holder then applies for site development permits from DEP, Susquehanna River Basin Commission, PA Fish and Boat, and/or PGC as applicable to the proposed activity. Each of these agencies evaluates the potential impacts from the proposed activity (e.g. habitat loss and fragmentation or the impact of surface and groundwater withdrawals on wetlands and other water bodies) and may impose restrictions on the permit</p> <p>Leases issued prior to 2008. For older leases (pre 2008, leased when shallow drilling was the norm) the landscape-scale planning and zoning processes were not built into the leasing process. For these older leases, DCNR reviews site locations proposed by the lessee and approves or requires that pads be moved based on ecological factors including the presence or rare, threatened or endangered species or rare natural communities in the PNHI data base, steep slopes, and other sensitive features (e.g., streams, wetlands) identified on resource maps and/or by the field forester. Following the BOF approval, the process is identical to that described above for the current leases (2008 and later). Examples of this process were reviewed during the field audit (D-10, Tract 252 Pad A and Tract 653 Pad D).</p> <p>Impact Assessment. Each DCNR lease is subject to an individual environmental impact assessment (e.g., “FY 2009-10 Oil and Gas lease Sale Environmental Review”). Review parameters include erosion and sedimentation, surface water quality, groundwater, water quantity, air quality, soils, aesthetics, noise and light levels, and impacts on protected animals and plants, habitat diversity and interspersions, and biological productivity. These assessments address short-term and cumulative impacts for each of the current leases.</p> <p>BOF has estimated cumulative losses from existing Marcellus gas leases and posted that information on its Web site (see http://www.dcnr.state.pa.us/forestry/marcellus/pdfs/ProjectedForestConversion_OilGas.pdf). Considering the potential amount of habitat loss (almost 24,000 acres) and fragmentation (e.g., over 3,000 miles of new forest edge) that may occur under current leases and areas with severed rights in the Marcellus region (BOF estimate), the audit team has found the assessment for impacts to plant and wildlife habitat impacts in the individual lease assessments to be lacking. Specifically, the individual lease impact assessments describe in a short paragraph measures that will be used to protect and manage non-listed species (e.g., see “FY 2009-10 Oil and Gas lease Sale Environmental Review,” Section 18, Habitat Diversity and Interspersion). However, the description of measures to protect and manage non-listed species does not include a short-term or cumulative impact assessment. For example, the cumulative effect of forest loss and fragmentation on species that depend on large, unfragmented block of forest is not addressed by in the impact assessments before current leases. . Likewise, some of the other resources addressed in the lease assessments (e. g., groundwater) also focus on preventive measures and do not address short-term and cumulative impacts. (CAR 03/11)</p> <p>Beyond the individual leases, BOF has also conducted a cumulative</p>	
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		<p>impact assessment for multiple leases across the entire Marcellus region (see http://www.dcnr.state.pa.us/forestry/marcellus/moratorium.html).</p> <p>DCNR's proposed long-term ecological monitoring (see Principle 8) will also provide data that will be used to refine the ecological impact assessment process and develop additional strategies to avoid and minimize impacts.</p> <p>The Susquehanna River Basin Commission (SRBC) regulates water withdrawals within the Susquehanna River Watershed. The SRBC assesses the impact of proposed water withdrawals on water quantity and aquatic ecology prior to issuing permits. The Delaware River Basin Commission (DRBC) has issued few permits for withdrawals to date because much of the land is in high priority watersheds, including the New York City and Philadelphia water supplies.</p> <p>Invasive Species Monitoring. DCNR's 2008 and later Marcellus gas leasing also requires that invasive plant species be monitored prior to approval for site development. If invasive plants are identified they must be controlled prior to site disturbance. All sites are monitored by the lease holder for five years after completion of the project and any new occurrences of invasive plants must be controlled (for example, see FY 2009-10 Gas Lease Sale Environmental Review, Section 20). BOF does not have similar monitoring or control for pre-2008 leases or for lands with severed subsurface rights that do not have a recent negotiated land use agreement. While BOF is planning an expanded monitoring program for gas activities, the details have not been specified and the funding has not been secured. (CAR 04/11)</p>	
6.2	NE		
6.3	No	<p>6.3.a. Forest regeneration and succession</p> <p>Small landscape units are used as the basis for local management planning.</p> <p>BOF manages for the full range of age classes and successional stages found in natural forests, with the oldest age classes are found on protected sites.</p> <p>BOF relies almost exclusively on natural regeneration.</p> <p>Regeneration techniques are primarily justified for each harvest unit through use of the SILVAH decision support system. Importantly, the SILVAH recommendation can be altered if the forester believes it does not adequately reflect stand conditions and species requirements. A description of regeneration considerations and intent is written by the forester in association with each harvest plan (Timber Sale Proposal, prospectus and contract).</p> <p>BOF indicates they are using uneven-aged silviculture, but timber harvests observed in the field that were referred to as "selection system" were determined by the auditors to be 1st partial cuts to convert 80- to 110-yr-old, even-aged hardwood stands to multi-aged conditions that could eventually support uneven-aged silviculture.</p>	<p>CAR 05/11</p> <p>OBS 03/11</p>

	<p>Canopy openings with these “uneven-aged” partial cuts were less than 2.5 acres in size.</p> <p>Diameter-limit cutting, as a means of maximizing short-term value and as a part of high grading, is not used by the BOF.</p> <p>The BOF <i>Silviculture Manual</i> specifies a minimum 10-20 square feet per acre of retention in clearcuts and overstory removal (OSR) harvests, and 20-40 square feet where 2-aged management is practiced (primarily buffer zones). The retention may be in clumps or scattered trees within the harvest block. One district visited relied primarily on clump retention, which all canopy layers and ground vegetation intact in roughly 1/10 to 1/4-acre patches. Sites at other two districts audited were characterized by scattered retention, often uniformly spaced, with no mid-story or understory structure retained. The <i>Silviculture Manual</i> makes no reference to retention of live trees and native vegetation and opening sizes in a manner that is consistent with the characteristic natural disturbance regime in each community type (as required by indicator 6.3.a.8). Opening sizes and retention appeared to be characteristic of catastrophic disturbances, not characteristic disturbances. Interviews with field foresters indicated that the guideline in the manual and other guidance on production forestry (e.g. Silvah model outputs), not natural community disturbance patterns, guided their decisions on retention and opening sizes. See CAR 05/11.</p> <p>6.3.b. Genetic, species, and ecosystem diversity.</p> <p>Silviculture is focused on maintaining native species diversity, with genetic diversity conserved by allowing open pollination among all forest trees. The best quality trees are left for seed and in shelterwood harvests. The <i>Silviculture Manual</i>, Reservation Guidelines address retaining species diversity and superior trees at the time of harvest. In anticipation of species loss and decline due to climate change, BOF is also preserving seed in long-term storage a potential source</p> <p>Herbicide site preparation is used to reduce understory competition at the time of regeneration, but nearby seed sources and lack of complete kill ensures that the target species will be represented in future stands.</p> <p>The BOF protects, maintains and enhances a wide variety of habitats for native species, but some ecologically important within-stand elements are not currently being fully conserved, e.g., late-successional forest remnants (< 1 acre to nearly stand-sized) and monolithic rock complexes (both were observed and discussed at length during the field audit) (OBS 03/11).</p> <p>Species diversity maintained through BOF silviculture is used as a defense against natural pests. Exotic pests (gypsy moth, emerald ash borer) continue to be a management challenge with no clear silvicultural options to minimize risk.</p> <p>6.3.c. Natural cycles that affect the productivity of the forest ecosystem.</p>	
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Due to limited low value markets and the very limited amount of biomass harvesting allowed on SFL, an abundance of large and small woody material was found on all harvest sites visited in the audit. Coarse woody debris was also evident in the salvage harvests observed. BOF maintains soil fertility and function by only allowing whole tree harvests in very limited cases.

Salvage harvests (gypsy moth mortality) retained an abundance of woody material similar to non-salvage cuts.

BOF estimates that approximately 95% of the Bureau's timber sales specifically do not permit whole tree harvesting (WTH). The small number of sites on which the FME does whole tree harvesting require approval by the State Forester. WTH is permitted in cases where BOF needs to meet its objectives for early successional habitats for species at risk and other species, but the stands to be harvested lack the volume or quality to be harvested commercially. BOF has found that without the use of whole tree harvesting fewer acres would be regenerated each year to early successional habitat.

Gas Lease Arena

6.3.a. Forest regeneration and succession.

6.3.a.1. BOF considers the local landscape context to make management decisions regarding the location of well pads, water storage, roads and gas lines as described above under Criterion 6.1.

The remaining indicators of 6.3.a are applicable to forest management operations only.

6.3.b. Genetic, species, and ecosystem diversity.

6.3.b.2. A diversity of species for native species is protected and maintained beyond the footprint of the area converted to well pads, roads, water storage ponds, and gas pipelines. This is accomplished through the landscape zoning and project location approval processes described in 6.1.

At the landscape scale, impacts include cumulative direct habitat loss and associated impacts of fragmentation (e.g., edge effects). BOF has estimated cumulative losses from existing Marcellus gas leases and posted that information on its Web site (see http://www.dcnr.state.pa.us/forestry/marcellus/pdfs/ProjectedForestConversion_OilGas.pdf). For existing leases and areas where subsurface rights are severed, BOF estimates a loss of 24,833 acres of forest within the portions of the SFL within the Marcellus gas region. This represents 1.57% of the total SFL ownership in the Marcellus region. Approximately 8,725 acres would be converted by 2018, with the balance coming in later years. The total area of new forest edge would be almost 3,063 miles over the life of the leases, or roughly 1.2 miles of edge for every square mile of forest. These and other data are included at the Web link above.

Approximately half of the SFL within the Marcellus region is currently

		<p>leased or subject to severed subsurface rights, thus the density of loss and fragmentation would be greater on the leased lands. BOF is developing strategies to reclaim sites after drilling has ceased to an open herbaceous condition (except for the core pad area). As noted in 6.1, BOF has not adequately assessed the impacts of the current leases on species and ecosystem diversity. However, when considering the habitat zoning and protection measure that are in place, the audit team has found BOF to be in conformance with this sub-indicator.</p> <p>Other indicators of 6.3.b are not applicable to oil and gas development.</p> <p>6.3.c. Natural cycles that affect the productivity of the forest ecosystem.</p> <p>None of the indicators of 6.3.c are applicable to oil and gas leasing.</p>	
6.4	NE		
6.5	Yes	<p>Harvesting, road construction, and other mechanical operations were observed to meet or exceed State Best Management Practices (BMPs).</p> <p>Written harvest plans for the protection of soil, tree and water resources are the timber sale contract, which includes a detailed Erosion and Sediment Control Plan (E&S Plan) and a map of the harvest site showing the locations of streams and other environmentally-sensitive areas (e.g., wetlands).</p> <p>Logging and site preparation (e.g., herbicide treatment to control interfering understory plants, fencing to reduce negative deer impact, prescribed fire to promote oak regeneration) activities were observed to produce desired effects while conserving soil, water and tree resources. Residual damage to trees was negligible.</p> <p>The transportation network, including permanent and temporary haul roads, skid trails, and landings, were observed to be well designed, (re)constructed and maintained. BOF foresters define where contractors will build new roads, main skid trails and landings.</p> <p>Measures to protect streams (including perennial, intermittent, and ephemeral streams and other waters) from degradation of water quality and/or their associated aquatic habitat were observed to be fully and properly used in all forestry operations. All streams—from intermittent to perennial—were marked and buffered in excess of the FSC Standard. BOF avoids crossing streams—no stream crossings were observed during the audit except for long-standing culverts on haul roads. Measures are routinely taken to stabilize active and potential sources of soil erosion through regrading and seeding, consistent with E&S Plans for each harvest area.</p> <p>Activities of forest management resulted in rare, small observable siltation of streams, and in these situations, BOF was set to remediate the situation to control erosion and sediment sources.</p> <p><u>Gas Lease Arena</u> Disturbed areas associated with well pads, access roads, staging</p>	

	<p>areas, and pipeline rights-of-way were exceptional in application of BMPs. At the five Marcellus gas drilling sites audited, little to no effects of these disturbances were observed outside the gas development areas into the surrounding forest.</p> <p>A DEP water quality specialist responsible for monitoring oil and gas activities on DCNR and private lands reported that minor spills of drilling mud, flowback water, and diesel fuel are common. The specialist further reported that no major spills have occurred recently on the DCNR for which the individual is responsible for, significant spills of drilling mud and diesel fuel have occurred on private lands and that containment devices surrounding the pad have not been sufficient to contain larger spills (e.g., 1,000 gallons of drilling mud) in the past. This specialist also reported that pits that hold drilling mud, frac flowback, water, etc. are prone to leakage. Some companies are going "pitless". While there is less risk, DEP reports that tanks do leak on occasion and there is more truck traffic required to transport the waste off site to a containment facility.</p> <p>BOF provided the audit team with all DEP inspection reports from the DEP Web site (most of these reports were for recent activities, but some inspections dated back to 1988). The vast majority of inspections found no non-conformances. Administrative violations (e.g., incomplete E&S Plan) were most common. The reports included the following Environmental Health and Safety violations:</p> <ul style="list-style-type: none"> Improperly lined pit: 1 Failure to implement E&S plan: 14 Discharge of polluttional material into the waters of the Commonwealth: 10 Impoundment not structurally sound: 4 Failure to restore site within 9 months: 1 Improper encapsulation of waste: 1 Failure to take the necessary measures to avoid spills: 2 <p>The reports did not contain sufficient detail to determine the significance of these violations, including short-term and cumulative impacts. See findings in Criterion 8.5 for more details.</p> <p>Forest roads have been upgraded by gas companies to exceed normal forestry standards and have held up well to heavy truck traffic associated with gas development. A DEP water quality specialist noted that the forest roads are much larger than before, and that is difficult to identify the responsible party when impacts occur. For example, there have been complaints about impacts to Fall Brook Creek in District 16, but the impacts could not be specifically tied to gas drilling operations.</p> <p>E&S Plans were observed to be posted by gas development entities on all active well sites, usually in a visible, temporary mail box. Measures to protect streams from degradation of water quality and/or their associated aquatic habitat were observed to be fully and properly used in all operations. Virtually no siltation of streams was observed across gas operations. Each of the audited gas operations was different, one to the other, in terms of BMP applications and associated efforts to conserve soil and water, but all seem to be</p>	
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		<p>working effectively.</p> <p>As noted in 6.1, the Susquehanna River Basin Commission (SRBC) regulates water withdrawals within the Susquehanna River Watershed. Permits for withdrawals for use in gas operations are designed to ensure that sufficient water is available for downstream needs and for maintaining the ecological integrity of the creeks and rivers in the watershed. Permits include a low-water threshold when withdrawals must stop.</p>	
6.6	NE		
6.7	Yes, Indicator 6.7.a only.	<p>In order to address CAR 02/10 issued during the 2009 FSC FM Audit, the BOF developed a system to ensure contractors and other service providers adhere to state regulations regarding the containment and remediation of hazardous material spills on State forest lands. The system was instituted only in early August 2010, just prior to the annual audit. CAR 02/10 has been closed.</p> <p>Recent implementation of spill policy and management systems should be followed up in future audits to be sure the system is working. During the audit, one logging contractor was observed to not have a spill kit on site, and on the same job, it was observed that log loading equipment had recently and regularly leaked oil along the roadside (OBS 04/11).</p>	OBS 04/11
6.8	NE		
6.9	Yes, Indicator 6.9.a only	<p>In order to address CAR 03/10 issued during the 2009 FSC FM Audit, the BOF destroyed all of the recently planted European black alder. Additionally, this species is no longer grown at or supplied from Penn Nursery, the BOF's primary source of forest planting materials. CAR 03/10 has been closed.</p>	
6.10	Yes	<p>Conversion to plantation or non-forest use:</p> <p>a. Entails a very limited portion of the management unit.</p> <p>FSC US guidance (Forest Management Standard V1.0, July 2010) defines "very limited portion" as less than 2% of the certified forest area of the FMU over a five-year period.</p> <p>Marcellus Gas Conversions: Using data supplied by the BOF, SmartWood estimates that the total forest conversion from Marcellus activities since the program began in 2008 has been approximately 344 from BOF leases and 1,059 acres on lands with severed subsurface rights. Pro-rating these data to a 5-year period would indicate less than 0.2% of the FMU (the entire 2.14 million acre SFL is a single FMU) converted for Marcellus gas activities for BOF leases and leases with severed rights combined. For BOF leases only the pro-rated 5-year conversion would be 0.04%.</p> <p>BOF estimates that conversion to non-forest for Marcellus activities will be less than approximately 1.2% of the SFL over the entire life of the development of the gas field (40 years, more or less), based on current BOF leases and areas with severed rights.</p> <p>While the audit team is confident that the total amount of conversion is well below the FSC-US definition of "very limited amount," three areas of concern were noted in the conversion estimates supplied by BOF:</p>	<p>OBS 05/11</p> <p>OBS 06/11</p>

	<ul style="list-style-type: none"> • Marcellus conversion estimates reported above are based on average well pad size and miles of new road constructed, not actual measurements. • In reviewing the data, it was not clear how accurately conversion due to roads and pipelines was accounted for in the conversion estimates, which were based on an average figure per well pad. • BOF reports that conversion from older leases and other sources of conversion are minimal, but does not have accurate records. (OBS 05/11) <p>No land has been converted to plantations as defined by the FSC.</p> <p>b. Does not occur in High Conservation Value Forest areas.</p> <p>BOF has corrected its High Conservation Value Forest (HCVF) assessment, as described in the findings to CAR 04/10 and below for Criterion 9.1. Based on this revision there is no conversion of HCVF to plantations or non-forest use.</p> <p>c. Will enable clear, substantial, additional, secure, long-term conservation benefits across the forest management unit.</p> <p>From 2005-2010 BOF has spent over \$38 million to add over 44,000 acres to the SFL. Funding is from a variety of sources, including legislative bond packages, the Oil and Gas Fund, and other funds. The O&G Fund is not strictly dedicated to land conservation and has been primarily for operations and programs in recent years. However, the non-dedicated nature of the O&G fund allows flexibility in the timing and sources of revenues used for land conservation that provides conservation benefits while meeting other funding needs of the DCNR.</p> <p>Examples of specific conservation benefits of the purchases include: Five tracts totaling 223 acres located on an exceptional value stream were purchased to protect the land from development, 3 of those tracts included species of concern.</p> <ul style="list-style-type: none"> • Several properties were purchased for wetland protection. • Several islands (such as Harigan's, Byer's, and Hess) were purchased which protect unique micro sites and sensitive species such as Bald Eagle, Northern Myotis bat and provide numerous other wildlife and plant habitat values. • A purchase of a number of tracts in 2007 known as the Theta III acquisition with a total of 4171 acres is known for its unique habitat types and wetlands. • Two tracts of the Theta III acquisition in particular host a number of rare plants, plant communities and wildlife. • An 875 acre tract in Westmorland County contains the green salamander and population of sourwood as well as a historic site which encompasses approximately 50 acres of the tract. • A 672 acre tract was purchased in 2009 that contains a rare plant (bushy bluestem) and has a population of the threatened Allegheny Woodrat living just off the property. • Another property that was being considered for a wind farm was acquired in 2008. This 5,061 acre property has a ridge top dwarf tree forest as well as 3 rare plant species.
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		<ul style="list-style-type: none"> • Currently there are 708 acres, purchased in 2009, being proposed to be a Wild Area (Stairway Wild Area, potential HCVF). • Additionally a 15 acre tract purchased in 2007, as well as a 1378 acre tract, a 500 acre and a 376 acre tract purchased in 2006 were added to the Bucktail Natural Area (existing HCVF). • A 50 acre tract purchased in 2009 will be added to the F.H. Dutlinger Natural Area (existing HCVF). <p>Other conservation benefits of these land acquisitions include water quality protection, wetland protection, wildlife habitat, timber management improvement, historic site protection, recreational opportunities, aesthetical values (viewsheds), and carbon sequestration benefits. Over 5,000 acres near expanding population areas were protected from risk of development, and much of the other land conserved was at varying degrees of risk from low density development</p> <p>The audit team has found that the O&G Fund enables DCNR to secure land conservation benefits are clear, substantial, additional, and long-term as clarified in the 6.10.c intent statement of the FSC-US Forest Management Standard.</p> <p>Gas and oil development is occurring on forestland where the Commonwealth of Pennsylvania owns the subsurface rights (the leased areas) and also on forestland where the Commonwealth does not own the subsurface rights. For the areas subject to the leases (where the subsurface rights are owned by the Commonwealth), PA DCNR has substantial control over activities to ensure conformance with the FSC standards and requirements.</p> <p>For lands where the Commonwealth does not own the subsurface rights, it is not clear, in all situations, whether PA DCNR has enough control over activities to ensure conformance with FSC standards and requirements.</p> <p>PA DCNR needs to evaluate the certified landbase and determine in which situations they maintain enough control to ensure conformance with the FSC standards. For “severed lands” where they cannot ensure conformance, these lands will need to be excised. (Note: The entire leased area does not need to be excised. Only the areas that are directly impacted by oil and gas activities (i.e. converted to non-forest use) need to be excised.) PA DCNR needs to provide SmartWood with the protocol used in making this determination and the results of this evaluation. (OBS 06/11)</p>	
Principle 7. MANAGEMENT PLAN			
7.1	Yes	<p>The FME currently abides by the “State Forest Resource Management Plan (SFRMP) 2007 Update” which was developed using the five-year planning and public input cycle established in 2003 as a guide. The current SFRMP involved reviewing and discussing the 2003 SFRMP implementation. This internal review, along with feedback received from several advisory committees (e.g., CNRAC, EMAC, RAC) and other stakeholder groups (e.g., academia, recreationists, oil and gas industry), resulted in the 2007 document completion. The document provides an overview of the</p>	OBS 07/11

	<p>current status of the FME’s planning and management to allow for the most constructive public dialogue possible on prevailing values and concerns. It contains three basic sections: 1) planning history and public input processes; 2) current issues; and 3) a summary of proposed SFRMP updates and new additions.</p> <p>These sections cover management goals and objectives not only for the FME in general, but objectives specific to each category of operation (e.g., silviculture goals, recreation goals). A description of forest resources to be managed, environmental limitations, land use and profile of adjacent lands is included the SFRMP’s main Appendix. Here there is also a link to information titled “Updated Resource Summaries (2007)” providing further descriptions. Silvicultural systems used are described on pp. 11 and 12. Supplemental information to support the silviculture used is based on the ecology of the forest (p. 19) and information gathered through resource inventories are mentioned throughout the SFRMP for various scenarios (e.g., timber inventories, wild area inventories). The rationale for the annual harvest rate and species selection is included, with the harvest goals for the forest and is summarized on p. 35. Also included is a “Harvest Allocation Plan Summary” for each of the FME’s Districts Forests. Provisions for monitoring of forest growth and dynamics is included in the section titled “Analysis of First 5-Year Continuous Forest Inventory Cycle Resource Inventory & Analysis Section” whose main purpose is to describe the monitoring of growth and yield of the forest. Environmental safeguards based on environmental assessments are discussed for each forest management operation throughout the SFRMP. Plans for the identification and protection of rare, threatened and endangered species are found, in a section titled CONSERVING SPECIAL PLACES, DCNR’S PLAN FOR GUIDING FUTURE INVESTMENTS IN LAND ACQUISITION.” Maps, graphs, histograms, and tables, describing the forest resource base (e.g., Table Mountain-Pitch Pine forest communities), including protected areas (e.g., State Forest Districts, sample maps of fenced areas in the Deer Control Permit), planned management activities (e.g., Forest Age Class Distributions by District over time, Potential Opportunities on State Forest Lands, proposed ATV trail connectors), and land ownership (e.g., State Forest Districts) were found throughout the SFRMP. Last, the SFRMP describes and justifies harvesting techniques and equipment to be used on the forest primarily in the section titled “COMPETING VEGETATION TREATMENT GUIDELINES.”</p> <p>FMPs, using basically the same format, have also been developed for all District state forests. FME personnel interviewed by the auditors stated that there have been no substantial changes to the SFRMP since the 2007 revision. The FMP is due for revision within the next few years. Relative to forest management, the audit team has found the FME to remain in conformance with the forest management planning requirements of Criterion 7.1.</p> <p><u>Gas Lease Arena</u> The SFRMP contains a section titled “Current Issues.” Under this there is another section titled “Oil and Gas Leasing” (p. 9) which describes elements of this activity. Other sections of the SFRMP that</p>	
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	<p>address this issue include Appendix Section 4. Geology/ Minerals, p. 25, and a link in the SFRMP to a more detailed section titled “Draft Geology/Minerals Section” covering in detail all items related to the SFRMP components needed for regulatory conformance. The FME utilized the 2007 public meetings to solicit input on its oil and gas (O&G) leasing program.</p> <p>The SFRMP is supplemented through a number of related documents that have been developed to deal with increase in (O&G) activity since the SFRMP was last updated. These include the use of a 2010 document titled “DCNR, Bureau of Forestry, Oil and Gas Monitoring Program.” This document is broader than just monitoring and supplements the SFRMP on every issue from “Mission and Purpose” relative to the forest resource to gathering stakeholder inputs, through the “Oil and Gas Monitoring Program Committee” to “Comprehensive Program Development” complete with forms for monitoring mineral operations and a proposed operational budget.</p> <p>In addition there is a 2010 draft document titled “Administering Oil & Gas Activities on State Forest Lands.” This document provides guidance to the FME staff and O&G interests on how to proceed with mineral extraction, while still maintaining the FME’s mission of ensuring the long-term health, viability, and productivity of the Commonwealth’s forests and to conserve wild plants. A number of other planning and policy documents are located on the PA DCNR natural gas leasing Web pages.</p> <p>Social issues. The FME’s “Oil & Gas Position Statement” clearly states that the primary control mechanisms to avoid conflicts are the terms built into its Oil and Gas Lease. Specifically, there is a conflict resolution section in gas leases. The 2010 draft document titled “Guidelines for Administering Oil & Gas Activities on State Forest Lands” (hereinafter referred to as the <i>O&G Guidelines</i>) contains a section titled “Guidelines for Dispute Resolution” which clearly outlines the processes involved when there will be disputes between lessees and the FME. If the dispute cannot be resolved informally regulations 40. Dispute Resolution, sections 40.01 and 40.02 give a step-by-step process for seeking resolution.</p> <p>The <i>O&G Guidelines</i> contains a section titled “Guidelines for Recreation and Public Safety” which refers to customary use rights to the forest and rules and regulations governing these activities near gas drilling activities and facilities. A general focus on this section is public safety. The “Oil and Gas Monitoring Program” document contains a section on planning around areas of special significance to avoid adverse impacts. Section 1.a. details proactive planning to avoid sensitive areas and will employ a GIS tools, results from State Forest Environmental Reviews, and, in certain cases, additional field surveys. A timeline is included for assessing various social impacts from gas drilling which includes “Park and Forest Image,” Park and Forest Experience,” and “Park and Forest Access and Use Patterns” to name a few.</p> <p>The Penn State Workforce Education and Development Initiative has produced a number of briefs on oil and gas issues. This includes briefs on the economy and economic impacts from these activities,</p>	
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		<p>which includes job impacts. These briefs can be found on the Economic and Workforce Brief section (http://train.ed.psu.edu/brief/). An example brief is titled "Role of Drilling Oil and Gas Wells in the Economy of Elk, Forest, McKean, & Warren Counties." These briefs produce regional or county job multipliers that can be applied to oil and gas activity on state forest lands to identify and assess job creation and maintenance and workforce composition.</p> <p>A summary of O&G lease and subsurface rights held by other parties is included on the PA DCNR Web site.</p> <p>Environmental Issues. The <i>O&G Guidelines</i> is the key document guiding oil and gas leasing. The <i>O&G Guidelines</i> include landscape level issues related to setbacks to water bodies. At the larger scale, the "Lease Sale Decision-making process" and the "Natural Gas Impact Analysis" on the DCNR Web site describes the approach to landscape-level considerations. Invasive species detection and management are addressed in the <i>O&G Guidelines</i> and more specifically in lease documents. Environmental safeguards are addressed in the <i>O&G Guidelines</i> and in the actual leases. Leases were provided to the auditors for examination. RT&E species are addressed in the <i>O&G Guidelines</i>. Additional environmental data is included in the environmental reviews prepared for each lease. More specific "Best Management Practices" for O&G activities are currently being developed by DCNR, with a draft planned for late 2010.</p> <p>Monitoring. Monitoring is addressed in 2010 document titled "DCNR, Bureau of Forestry, Oil and Gas Monitoring Program."</p> <p>Maps. The GIS being used includes all relevant map data required by the FSC Standard. O&G information is integrated with the forest resource data to provide comprehensive analyses.</p> <p>Gas Lease Summary. The audit team found that the O&G information in the 2007 SFRMP to be somewhat limited and dated due to the increase in Marcellus gas activity since the plan was last updated. Since then the FME has developed the policy and planning documents described above, and other tools, to address O&G issues. These documents are being used by DCNR to guide O&G activity SFRMP and serve to meet the requirements of Criterion 7.1 relative to Marcellus gas leasing issues. However, many supplemental documents are relatively new, in draft form, and/or in development and not presently linked to the SFRMP. (OBS 07/11)</p>	
7.2	NE		
7.3	NE		
7.4	NE		
Principle 8. MONITORING AND ASSESSMENT			
8.1	Yes	<p>Implementation of the FME's 2003 <i>State Forest Resource Management Plan</i> (SFRMP) was fully assessed in 2007. Assessment results were reported in the <i>State Forest Resource Management Plan 2007 Update</i> (report available on the following FME Web site): www.dcnr.state.pa.us/forestry/sfrmp/sfrmp_update_2007_complete.pdf.</p> <p>The 2007 report contains three basic sections: 1) Planning history</p>	OBS 08/11

	<p>and public input process; 2) Current issues; and 3) Summary of proposed updates and new additions to the SFRMP. A variety of monitoring reports were presented in the 2007 update, including reports on Continuous Forest Inventory (CFI), forest health, and forest products.</p> <p>Each BOF Division (e.g., Forest Fire Protection) and Section (e.g., Silviculture) has separate goals and objectives, and associated plans, procedures and practices for monitoring. In total, BOF has a comprehensive monitoring program that includes a variety of protocols that evaluate a multitude of parameters throughout the State Forests. Management documents include adequate descriptions of the rationale for and intensity of the various monitoring protocols. BOF has comprehensive and replicable written monitoring protocols, e.g., the new <i>Non-Native Planting, Seeding and Monitoring Guidelines</i>, from the BOF Ecological Service Section, dated January 2010.</p> <p><u>Gas Lease Arena</u></p> <p>Expansion of Marcellus gas development over the past 2 years has led to the development of a gas development-specific monitoring program, including new written protocols related specifically to gas activities. BOF has a Oil and Gas Monitoring Program whose purpose it is to develop and implement a comprehensive approach to track, detect, and report on potential impacts of oil and gas development on State Forest land and institute appropriate correction actions or changes to management activities (from the report entitled <i>Oil and Gas Monitoring Program</i>, dated July 14, 2010). BOF listed potential resource impacts from gas development on water quality and quantity, plant and animal habitats, fragmentation, invasive species, social/recreation values, soil loss and quality, and air quality.</p> <p>Recent monitoring of gas activities on State Forest land includes (from the Geology/Minerals section of the 2007 Update of the SFRMP):</p> <ul style="list-style-type: none"> • Oversight of the premises for mechanical integrity, functionality, and general housekeeping. • Contracting for auditing of gas volumes and revenues as directed in the applicable lease agreements. • Evaluation of adherence to terms of lease agreements by the operator. <p>Expanded monitoring will follow a three-tiered approach (from the report entitled <i>Oil and Gas Monitoring Program</i>, dated July 14, 2010): 1) current oil and gas program management; 2) research and external partner collaboration; and 3) comprehensive program development. Current oil and gas program management relates to monitoring through the following: accounting of planning activities; field management and inspection of well pad and associated infrastructure construction including the completion of inspection forms by BOF personnel for each site visit; tracking of environmental and public incidents; accounting of infrastructure and associated</p>	
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		<p>resources including numbers of wells, pads, gas produced, revenues generated, miles of pipelines and access roads, area of forest land converted; and listing of waiver request to change certain conditions in the lease or guidelines.</p> <p>Ongoing BOF-funded (co-funding with other sponsors) research activities includes the SRBC Water Quality Monitoring Network (\$200,000) and assessing landscape change (fragmentation, tree and plant health, birds, invasive plants, and soils). This landscape project has in-kind support from BOF, with request for funding under consideration. A variety of other research projects are under consideration by the BOF. The research will produce information that will allow the BOF to improve gas management programs.</p> <p>The BOF is planning to expand staffing to support the new monitoring program, including a botanist, a wildlife biologist, water quality specialist, soil scientist, biometrician, GIS specialist, four foresters and four forest technicians. Currently, each BOF District has a person dedicated to working with oil and gas development, with an emphasis on monitoring.</p> <p>Rapid expansion in gas development and new monitoring programs will produce monitoring reports in subsequent years – the BOF does not have reports to date. While the audit team did review data on current oil and gas program management and field inspection forms, full reports on the spectrum of oil and gas monitoring are not currently available (OBS 08/11).</p>	
8.2	Yes	<p>BOF maintains an inventory for all commercially harvested products. Source of monitoring data: CFI inventories (over 1,500 plots across the Forests measured every 5 years); timber sale records, including stand-level inventories used to make silvicultural prescriptions. BOF maintains records of the harvest volumes by species and product for all properties. Source of monitoring data: timber sale records.</p> <p>NTFPs are only rarely harvested from BOF-managed forests (e.g., stone and rock, blueberry bushes, and ornamental greenery including grape vines, bittersweet, and club moss). Level of harvest is currently considered by BOF as negligible in comparison with abundances of these NTFPs across State Forests. BOF does not maintain records of harvested NTFPs (volume and product and/or grade) other than indirectly through permits, nor are records adequately kept to ensure that the requirements under Criterion 5.6 (sustainable harvest levels) are met. These records and associated analyses are not warranted given the small scale and low intensity of NTFP operations.</p> <p>BOF monitors unauthorized activities across the State Forests. Additional unanticipated removal or loss of forest products from fire, pests, disease, storms, and overbrowsing is also monitored by BOF. Source of monitoring data: records of poaching and theft of timber maintained at District office; deer impact evaluations used as a basis for DMAP requests; Forest Pest Management Division assessments of insects and disease.</p> <p>BOF periodically monitors for the following on State Forests: 1) Rare, threatened and endangered species and/or their habitats</p>	OBS 09/11

	<p>(qualitatively evaluated during stand inspection prior to management activity; PNDI database);</p> <p>2) Common and rare plant communities and/or habitat (CFI and stand-level inventories);</p> <p>3) Location, presence and abundance of invasive species (site-specific evaluations to represent the State Forest; see new report and procedure <i>Non-Native Species Monitoring Report 2010</i>);</p> <p>4) Condition of protected areas, set-asides and buffer zones (unknown for protected areas; set –asides and buffer zones are assessed by the District Forester in his/her approval of harvest areas);</p> <p>5) High Conservation Value Forests (see findings associated with Criterion 9.4).</p> <p>Growth rates, regeneration, and condition of the forest are monitored at least every 5 years. Source of monitoring data: CFI inventories; stand-level inventories associated with silvicultural treatments. Final evaluation of a regenerating stand is set for 20 years post silvicultural intervention, but regeneration is informally assessed in these stands on a regular basis, particularly during the first 5 years after cut.</p> <p>Monitoring is conducted by BOF 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. Source of monitoring data: harvest inspection and close-out forms completed by foresters on at least a weekly basis during active timber harvest operations. Condition and environmental impacts of the forest-road system are included in harvest inspections. In addition, BOF road maintenance crews monitor all state forest roads annually.</p> <p>BOF informally and formally monitors relevant socio-economic issues. They do not track the creation and/or maintenance of local jobs in a formal way. BOF does track timber sale volumes, which provides an indication of related jobs. BOF contributes to the development of jobs through its support of local economic development, but it is not possible for the number of jobs to be quantified due to varying and external factors. The BOF monitoring of public responses to management activities by public reporting of timber sales and including information on how to contact the BOF with feedback/input. Surveys of public satisfaction with management operations are periodically conducted, as are town hall meetings for public input on management decisions. Results of these surveys and meetings are formally recorded and kept on file at District offices.</p> <p>BOF works with the Pennsylvania Heritage and Museum Commission to monitor the management of sites of special significance. No sites were observed during the audit.</p> <p>BOF maintains detailed records on the costs of forest management activities. The state Controller’s Office oversees all FME financial transactions.</p> <p><u>Gas Lease Arena</u> Nearly all monitored elements of forest management accounted for</p>
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		<p>in the above findings associated with Criterion 8.2 are included in monitoring for gas development effects (see 8.1 for a summary of monitoring associated with O&G development). It is commonly not necessary to monitor for some elements due to those elements being avoided during the siting process, e.g., RT&E species and communities.</p> <p>Once a project is under construction BOF relies in part on DEP for site-specific monitoring of direct impacts from drilling operations (e.g., road sediment, spills, leaks, etc.). DEP monitoring personnel report being understaffed and they do not have the time to visit all phases of each operation, and cannot respond to all spills. Because DEP does not have the resource to visit all sites frequently, DEP relies on self-reporting from the gas companies. Thus, there are potential gaps in the monitoring of gas drilling operations (OBS 09/11).</p> <p>SRBC monitors watershed level impacts, including the levels and biological integrity of larger creeks and rivers. SRBC is setting up a remote, real-time monitoring program that will be available on the Web and is partnering with DCNR to put a number of stations on SFL.</p>	
8.3	NE		
8.4	NE		
8.5	Yes	<p>As observed in the 2008 assessment:</p> <p>BOF's Executive Summary contains the Montreal Process's monitoring indicators as a summary of monitoring used on state forest lands. In addition, BOF's website includes the SFRMP District Forest Plans, 2007 update documents, and numerous links to annual reports of various monitoring programs. However, there is not a single annual report that compiles all of the various monitoring results.</p> <p>These findings led to an observation which is modified here, with emphasis on need for a summary of monitoring information as more specifically required in the new FSC-US Forest Management standard (OBS 10/11).</p> <p>Gas Lease Arena Monitoring data from oil and gas development has been collected by the BOF for decades, with increased monitoring efforts over the last few years associated with the expansion of gas leasing. BOF has not fully reported nor summarized for the public all of these oil and gas data. For example, DEP incident reports with connection to O&G development on state forests over the last two decades are held by BOF, but were not collectively reported on or summarized. The summary of these incidents reported in this audit report associated with Criterion 6.5 findings were compiled by Robert Bryan, the lead SW/FSC auditor, not by BOF (CAR 06/11).</p>	<p>OBS 10/11</p> <p>CAR 06/11</p>
Principle 9. MAINTENANCE OF HIGH CONSERVATION VALUE FORESTS			
9.1	No	<p>As reported in the 2010 audit report, during 2008-2009, BOF conducted the required analysis for all State Forest Lands and documented the findings. Documentation reviewed by the audit team, at that time, included:</p>	<p>CAR 07/11</p>

		<ul style="list-style-type: none"> • “High Conservation Value Identification, Management, and Monitoring Processes within the State Forest System: A Corrective Action Request Response” (HCVF EMS1.doc), which is the primary response to CAR 08/08. • HCV Maps.pdf • Screen shot of HCV4 assessment tool <p>The 2010 audit determined that: “The HCVF EMS1.doc analysis addresses each of the six High Conservation Values (HCV) potentially present and found that all are present on the forest. The assessment process included appropriate data sources and range of stakeholders.” At that point, BOF designated the entire forest as HCVF. The auditors determined that PADCNR had taken an aggressive approach to designating HCVF and placed more acres in HCVF than was appropriate given the requirements in the standard and under new guidance (the FSC-US HCVF Assessment Framework). At the time of this designation, the HCVF Assessment Framework was in draft form and clear guidance on interpreting and implementing the HCVF concept was just emerging.</p> <p>The 2010 audit also identified a new potential nonconformance with Criterion 6.10 and HCVF. Under Criterion 6.10, conversion of HCVF is not allowed. Since, BOF had, in error, designated the entire forest as HCVF. CAR 04/10 was issued; however, since some lands were incorrectly designated as HCVF, conversion of actual HCVF was not occurring. CAR 04/10 has been closed in this report; for details see above for findings to close CAR 04/10.</p> <p>Prior to this audit, BOF provided the audit team with a corrected High Conservation Value Forest (HCVF) assessment. The corrected assessment includes 245,737 acres designed as HCVF (reduced from 2.14 million acres indicated in the 2010 report). The new HCVF designation includes all Wild Areas and Natural Areas (WNAs). The BOF has determined that the designation of WNAs correlates closely with the HCVF definitions and is consistent with their 2009 HCVF assessment. Due to their conservation value, WNAs have been designated as HCV1 (Significant concentrations of biodiversity) HCV2 (Significant large landscape level forests), and HCV3 (Rare, threatened or endangered ecosystems). While currently, all WNAs are designated as HCVF, there are small portions where sub-surface rights had previously been severed or leased to others. There is no conversion allowed on HCVF. Since the potential for conversion is largely outside of the control of BOF, if the sub-surface right holder decides to exercise their rights which would result in a conversion of acreage in a WNA to non-forest use, BOF would have to excise the area before it is converted (as per the FSC excision policy (20-003)) in order to remain in conformance with the FSC standard. (Note: Only the specific areas that are directly converted need to be excised.)</p> <p>The corrected HCVF assessment has not been formally vetted with stakeholder or otherwise formalized to reflect the recent changes. Therefore, a new CAR has been issued for BOF to formally revise their HCVF assessment. BOF must correct the HCVF assessment and ensure the HCVF designation is consistent with FSC standards and polices (CAR 07/11).</p>	
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		<p>Since there was a previous nonconformance with the Indicator, FSC procedures require that this be issued as a major CAR. Due to the complexity of the issue, the size of the FMU and that PA DCNR BOF manages public land, in order for BOF to complete a thorough revision to their HCVF assessment (utilizing their full, detailed planning process); BOF has six (6) months to address this CAR. Additionally, BOF has already completed an HCVF assessment and HCVF areas are currently designated and protected, this extended time frame is appropriate.</p> <p>The following gaps were identified with the current (corrected) HCVF assessment:</p> <p>1. BOF has not provided the audit team with an updated assessment appropriate to the scale and intensity of its forest management. There was a) no information provided as to what definitions, information sources, and other criteria were used to identify each of the six HCVs (such as that found in the “High Conservation Value Forest Toolkit or the FSC-US HCVF Assessment Framework, or similar definitions and guidance developed by BOF in consultation with stakeholder and scientists), and b) no assessment showing why areas the selected areas were included why and other potential HCVF areas were not. For example, was no evidence provided as to what criteria were used to identify “<i>globally, regionally or nationally significant: concentrations of biodiversity values (e.g. endemism, endangered species, refugia)</i>” (HCV 1), why BOF Wild Areas and Natural Areas contain this value, or why other areas on the forest such as concentrations of rare, threatened, and endangered species mapped by the Pennsylvania Natural Heritage Program (PNHP) do not include HCV 1. There was a similar lack of definition, criteria, and analysis for each of the other five HCVs.</p> <p>2. Municipal watersheds were considered to be HCVF prior to revision of the HCVF assessment, but subsequently none were included as HCVF. In the revised assessment BOF stated that municipal watershed resource values are not at risk from standard forest management activities. While conservation practices are in place to protect municipal watershed values, that is not a reason to exclude any area from consideration as to its potential as an HCVF. If an area has high conservation values, appropriate management is addressed as described under Criterion 9.3. SmartWood recognizes that previous interpretation of HCVF guidance was that municipal watersheds should be designed as HCVF. Current interpretation is that HCVF guidance in the standard should be used by the FME to determine if municipal watersheds are HCVF but municipal watershed are not automatically considered HCVF.</p>	
9.2	No	<p>The 2008 assessment found that BOF had conducted adequate stakeholder consultations for the areas included as HCVF at that time. Additionally, the 2010 audit found that the assessment process and consultation addressed all six HCV elements, designated and mapped areas with the identified HCVs, and met the requirements of Criteria 9.1 and 9.2.</p> <p>The areas that are currently included as HCVF (Wild Areas and Natural Areas) have been subject to extensive stakeholder consultation and review. However, BOF has recently corrected the</p>	<p>CAR 08/11</p>

		HCVF assessment. BOF did not consult with stakeholders and scientist to confirm that the revised areas with HCVF attributes and resulting HCVF were properly identified, nor was there a public review process to review the changes in the HCVF assessment (CAR 08/11).	
9.3	Yes	<p>Potential old growth areas that are under study as potential HCVF (pending outcome of the old growth analysis) are reserved from harvesting. Areas identified as HCVF (Wild Areas and Natural Areas) are excluded from timber harvesting and other site-disturbing activities. This approach should protect the HCV values identified.</p> <p>BOF cooperates and participates with various state and federal agencies that own and manage other HCV areas (e.g., state parks, Allegheny National Forest). BOF is active on advisory committees regarding the planning and management of lands throughout Pennsylvania (e.g., Ecosystem Management Advisory Committee).</p> <p>An update of the HCVF assessment has been posted in the executive summary of the management plan on the BOF Web site. Management and protection policies for these areas are included in the original 2003 FMP, which is available on the PADCNr Web site at http://www.dcnr.state.pa.us/forestry/sfrmp/eco.htm#natural.</p>	
9.4	Yes	<p>Monitoring procedures have been summarized in the document "PA BOF HCVF Monitoring Matrix.doc" (10-1-09). This process enabled BOF to clearly describe its annual monitoring procedures.</p> <p>The audit team confirmed that annual monitoring procedures for the current HCVF (Wild Areas and Natural Areas) continue as described in the last annual audit. See 2010 audit report, CAR 10/08 for details.</p> <p>Wild and Natural areas are monitored annually through forest pest surveillance flights, forest fire detection flights, and on the ground reconnaissance by foresters, maintenance staff, rangers, and state forest users going about their day to day activities. Natural Areas defined by unique community types that create seasonal use patterns such as Bear Meadows (Blueberry/Huckleberry flat) receive increased monitoring by rangers and District managers during high use season to monitor and potentially mitigate use impacts to the biological communities in these areas. Other natural areas defined by communities under threat (such as the Hemlocks Natural Area) receive monitoring from both District staff, forest pest management staff, and Ecological Services staff to monitor treatment effects and community changes. Rangers monitor gated roads in Wild Areas to detect evidence of illegal ATV or OHV intrusion into these areas.</p>	
Principle 10. PLANTATIONS			
10.1	NE		
10.2	NE		
10.3	NE		
10.4	NE		
10.5	NE		
10.6	NE		
10.7	NE		
10.8	NE		
10.9	NE		

APPENDIX IV: Chain-of-Custody Conformance (confidential)

Note: This CoC Appendix is used for FMEs only selling standing timber, stumpage, logs and/or chips produced within a FMU covered by the scope of the certificate. FME certificate scopes that include primary or secondary processing facilities shall include an evaluation against the full FSC CoC standard: FSC-STD-40-004 V2. Refer to that separate report Appendix.

Definition of Forest Gate: (check all that apply)

<input checked="" type="checkbox"/>	Standing Tree/Stump: FME sells standing timber via stumpage sales.
<input checked="" type="checkbox"/>	The Log Landing: FME sells wood from the landing/yarding area.
<input type="checkbox"/>	On-site Concentration Yard: Transfer of ownership occurs at a concentration yard under the control of the FME.
<input type="checkbox"/>	<p>Standing Tree/Stump/Log Landing/On-site Concentration Yard WITH temporary implementation of COC-12 interim policy: Transfer of ownership occurs to a non-certified logging company or other entity prior to delivery off-site to a FSC CoC certified operation but FME has procedures to control wood during transportation. (See COC-12 section below for specific requirements.)</p> <p>Note: FSC requires that use of COC-12 be phased out since it is not consistent with current FSC standards. Phase out time frame is still to be determined but could be as early as 12/31/10. Contact your SmartWood project manager for more information.</p>
<input type="checkbox"/>	Off-site Mill/Log Yard: Transfer of ownership occurs when offloaded at purchaser's facility.
<input type="checkbox"/>	Other: <i>explanation</i>
<p>Comments: The vast majority of timber is sold as stumpage during bid sales. BOF may also sell small quantities of dead timber commercially inoperable timber under firewood permits – in these cases the forest gate is the stump. Occasionally BOF cuts a small amount of timber during maintenance projects – in these cases the landing is the forest gate.</p>	

Scope Definition of CoC Certificate:

<p>Does the FME further process material before transfer at forest gate? <i>(If yes then processing must be evaluated to full CoC checklist for CoC standard FSC-STD-40-004 v2.)</i></p> <p>Note: This does not apply to on-site production of chips/biomass from wood harvested from the evaluated forest area.</p>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<p>Comments:</p>	
<p>Is the FME a large scale operation (>10,000 hectares) or a Group Certificate? <i>(If yes then CoC procedures for all relevant CoC criteria shall be documented.)</i></p>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<p>Comments: See CoC 1.3</p>	
<p>Does non-FSC certified material enter the scope of this certificate prior to the forest gate, resulting in a risk of contamination with wood from the evaluated forest area (e.g. FME owns/manages both FSC certified and non-FSC certified FMUs)?</p>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
<p>Comments: See CoC 2.1</p>	
<p>Does FME outsource handling or processing of FSC certified material to subcontractors (i.e. milling or concentration yards) prior to transfer of ownership at the forest gate? <i>(If yes a finding is required for criterion CoC 7 below.)</i></p>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<p>Comments:</p>	
<p>Does FME purchase certified wood from other FSC certificate holders and plan to sell that material as FSC certified? <i>(If yes then a separate CoC certificate is required that includes a full evaluation of the operation against FSC-STD-40-004 v2.)</i></p>	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
<p>Comments:</p>	
<p>Does FME use FSC and/or Rainforest Alliance trademarks for promotion or product labeling? <i>(If FME does not nor has no plans to use FSC/RA trademarks delete trademark criteria checklist below.)</i></p>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Comments: See CoC 5

Chain-of-Custody Criteria [FM-35 SmartWood Chain-of-Custody Standard for Forest Management Enterprises (FMEs)]

1. Quality Management	
COC 1.1: FME shall define the personnel/position(s) responsible for implementing the CoC control system.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Findings: The primary person responsible for the COC system (Chief of Silviculture) has been identified in the written procedures.	
COC 1.2: All relevant staff shall demonstrate awareness of the FME's procedures and competence in implementing the FME's CoC control system.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Findings: Staff interviewed indicated awareness of the COC system and their responsibilities.	
CoC 1.3: FME procedures/work instructions shall provide effective control of FSC certified forest products from standing timber until ownership is transferred at the forest gate. <i>Note: For large scale operations (>10,000ha) and Group Managers, CoC procedures covering all relevant CoC criteria shall be documented.</i> Including: a) Procedures for physical segregation and identification of FSC certified from non-FSC certified material. (If applicable) b) Procedures to ensure that non-FSC certified material is not represented as FSC certified on sales and shipping documentation. (If applicable) c) Procedures to include FME FSC certificate registration code and FSC claim (FSC Pure) on all sales and shipping documentation for sales of FSC certified products. d) Recordkeeping procedures to ensure that all applicable records related to the production and sales of FSC certified products (e.g. harvest summaries, sales summaries, invoices, bills of lading) are maintained for a minimum of 5 years. e) Procedures to ensure compliance with all applicable FSC/Rainforest Alliance/SmartWood trademark use requirements.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Findings: All procedures listed above are applicable and are found in the document "Chain-of-Custody Guidelines.doc."	

COC-12: SW Interim Policy (COC Certification of Loggers and procedures for bridging gaps in the chain of custody)

Check if section not applicable (FME does not implement COC-12)

COC-12 temporarily allows the FM/COC or COC certificate holder to include a non-certified logging contractor into their scope. For certified landowners, it extends the forest gate to the delivery point at the mill or log yard.

Note 1: FSC requires that use of COC-12 be phased out due to inconsistencies with current FSC standards. Phase out time frame is still to be determined but could be as early as 12/31/10. Contact your SmartWood project manager for more information.

Note 2: This is only applicable if the FME plans to pass on a FSC certified claim on sales of forest products from their FSC certified forests.

2. Certified Material Handling and Segregation	
COC 2.1: FME shall have a CoC control system in place to prevent the mixing of non-FSC certified materials with FSC certified forest products from the evaluated forest area, including: a) Physical segregation and identification of FSC certified from non-FSC certified material. b) A system to ensure that non-FSC certified material is not represented as FSC certified on sales and shipping documentation.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Note: If no outside wood is handled by FME within scope of certificate, mark as N/A.	
Findings: a) There is little to no risk of mixing at the landing; however, procedures specify that certified and non-certified	

wood must be separated.	
b) BOF 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.	
CoC 2.2: FME shall identify the sales system(s) or "Forest Gate", for each FSC certified product covered by the Chain of Custody system: i.e. standing stock; sale from log yard in the forest; sale at the buyer's gate; sale from a log concentration yard, etc.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Findings: The "Chain of Custody Guidelines" identifies the Forest Gates used by the BOF, as described above.	
CoC 2.3: FME shall have a system that ensures that FME products are reliably identified as FSC certified (e.g. through documentation or marking system) at the forest gate.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Findings: Sales contracts are used to identify FSC-certified wood. Timber sale contracts include the certificate number; and the words "FSC Pure" have been added to any new contracts issued after September, 2009. An example was reviewed during the annual audit.	
CoC 2.4: FME shall ensure that certified material is not mixed with non-FSC certified material at any stage, up to and including the sale of the material.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A <input type="checkbox"/>
Note: If no outside wood is handled by FME within scope of certificate, mark as N/A.	
Findings: See findings for CoC 2.1	

3. Certified Sales and Recordkeeping	
COC 3.1: For material sold with FSC claim the FME shall include the following information on sales and shipping documentation: a) FME FSC certificate registration code, and b) FSC certified claim: FSC Pure	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Findings: See findings for CoC 2.3.	
CoC 3.2: FME shall maintain certification production and sales related documents (e.g. harvest summaries, invoices, bills of lading) for a minimum of 5 years. Documents shall be kept in a central location and/or are easily available for inspection during audits.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Findings: BOF procedures require that records be kept for 7 years.	
CoC 3.3: FME shall compile an annual report on FSC certified sales for SmartWood containing monthly sales in terms of volume of each FSC certified product sold to each customer.	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Findings: Records of sales are maintained in digital form on BOF computers. Records of sales can be summarized and printed for any period or product desired. A summary of recent sales was provided to the audit team.	

4. Outsourcing	
CoC 4.1: FME control system shall ensure that CoC procedures are followed at subcontracted facilities for outsourcing and FME shall collect signed outsourcing agreements covering all applicable FSC outsourcing requirements per FSC--40-004 v-2.0 <i>FSC Standard for Chain of Custody</i> November 2007. Note 1: If FME outsources processing or handling of FSC certified material the outsourcing report appendix is required. Note 2: Check N/A If FME does not outsource processing or handling of FSC material.	Yes <input type="checkbox"/> No <input type="checkbox"/> N/A <input checked="" type="checkbox"/>
Findings: There is no outsourcing.	

5. FSC/Rainforest Alliance Trademark (TMK) Use Criteria	
Standard Requirement: The following section summarizes the FME's compliance with FSC and Rainforest Alliance trademark requirements. Trademarks include the Forest Stewardship Council and Rainforest Alliance/SmartWood names, acronyms (FSC), logos, labels, and seals. This checklist is directly based on the FSC labeling standard (FSC-STD-40-201 <i>FSC on-product labeling requirements</i> (version 2.0) and FSC-TMK-50-201 V1-0 <i>FSC Requirements for the Promotional Use of the FSC Trademarks by FSC Certificate Holders</i> . References to	

the specific FSC document and requirement numbers are included in parenthesis at the end of each requirement. (Rainforest Alliance Certified Seal = RAC seal).	
General	
COC 5.1: FME shall have procedures in place that ensure all on-product and off product FSC/Rainforest Alliance trademark use follows the applicable policies:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Findings: COC 5.1 is addressed by the document “ FSC Logo Usage and Certification Referencing Guidelines for the Pennsylvania Bureau of Forestry. ”	
COC 5.2: FME shall have procedures in place and demonstrate submission of all FSC/Rainforest Alliance/SmartWood claims to SmartWood for review and approval prior to use, including” a) On-product use of the FSC label/RAC seal; b) Promotional (off-product) claims that include the FSC trademarks (“Forest Stewardship Council”, “FSC”, checkmark tree logo) and/or the Rainforest Alliance/SmartWood trademarks (names and seal)(50-201,2.3).	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Findings: a) BOF does not use on-product labeling. b) All applicable procedures for promotional use are included in the document “ FSC Logo Usage and Certification Referencing Guidelines for the Pennsylvania Bureau of Forestry. ” All procedures were approved prior to the closure of CAR 6/10 in April 2010. There have been no new uses of the logos since that date.	
COC 5.3: FME shall have procedures in place and demonstrates that all trademark review and approval correspondence with SmartWood is kept on file for a minimum of 5 years (40-201, 1.10; 50-201, 2.4):	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Findings: BOF COC procedures specify that approval correspondence with SmartWood is kept on file for a minimum of 5 years.	

Off-product / Promotional	
<input type="checkbox"/> Check if section not applicable (FME does not, and does not plan to use the FSC trademarks off-product or in promotional pieces)	
Note: promotional use items include advertisements, brochures, web pages, catalogues, press releases, tradeshow booths, stationary templates, corporate promotional items (e.g., t-shirts, cups, hats, gifts).	
When applicable to the FME’s promotional/off-product use of the trademarks, the criteria below shall be met:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Findings: SmartWood has reviewed all uses of trademarks for consistency with the following indicators. Uses reviewed by the audit team were consistent with these requirements. The CoC auditor had questions on one logo use and DOF provided evidence of the approval.	
COC 5.4: If the FSC trademarks are used for promotion of FMUs, FME shall limit promotion to FMUs covered by the scope of the certificate.	
COC 5.5: In cases that the Rainforest Alliance trademarks are used (50-201, 13.1, 13.2): a) The FSC trademarks shall not be at a disadvantage (e.g., smaller size); b) The FSC checkmark tree logo shall be included when the RAC seal is in place.	
COC 5.6: In cases that the FSC trademarks are used with the trademarks (logos, names, identifying marks) of other forestry verification schemes (SFI, PEFC, etc.), SmartWood approval shall be in place (50-201, 3.0).	
COC 5.7: Use of the FSC trademarks in promotion of the FME’s FSC certification shall not imply certain aspects are included which are outside the scope of the certificate (50-201, 1.6).	
COC 5.8: Use of the FSC trademarks on stationery templates (including letterhead, business cards, envelopes, invoices, paper pads) shall be approved by SmartWood to ensure correct usage (50-201, 12.0).	
COC 5.9: In cases that the FSC trademarks are used as part of a product name, domain name, and/or FME name, SmartWood approval shall be in place (50-201, 9.0, 10.0).	

On-product

Check if section not applicable (FME does not, and does not plan to apply FSC labels on product)

APPENDIX V: FSC Annual Audit Reporting Form: (confidential)

Forest management enterprise information:	
FME legal name:	Commonwealth of Pennsylvania, DCNR, Bureau of Forestry
FME Certificate Code:	SW-FM/CoC – 003821

1. Scope Of Certificate	
Type of certificate: single FMU	SLIMF Certificate: not applicable
Annual Sales Information	
Total Sales/ Turnover	\$23,468,367.72 US\$
Volume of certified product sold as FSC certified (i.e. FSC claim on sales documentation) (previous calendar year)	317270 m3
Value of certified product sold as FSC certified (i.e. FSC claim on sales documentation) (previous calendar year)	\$21,095,107.35 US\$

2. FME Information	
<input type="checkbox"/> No changes since previous report (if no changes since previous report leave section blank)	
Forest zone	Temperate
Certified Area under Forest Type	Semi-Natural and Mixed Plantation Natural Forest
- Natural	859497 hectares
- Plantation	0 hectares
- Semi-natural, mix of plantation and natural forest	9487 hectares
Stream sides and water bodies	8543 Linear Kilometers

3. Workers	
Number of workers including employees, part-time and seasonal workers:	
Total number of workers	604 workers
- Of total workers listed above	531 Male 73 Female
Number of serious accidents	53 (compensation claims)
Number of fatalities	0

4. Forest Area Classification	
<input type="checkbox"/> No changes since previous report (if no changes since previous report leave section blank)	
Total certified area	868984 hectares
Total forest area in scope of certificate	868984 hectares
Ownership Tenure	State/Public ownership
Management tenure:	state/public management
Forest area that is:	
Privately managed	0 hectares
State/Public managed	868984 hectares
Community managed	0 hectares
Area of production forests (areas where timber may be harvested)	777596 hectares
Area without <u>any</u> harvesting or management activities: strict forest reserves	91388 hectares

5. High Conservation Values identified via formal HCV assessment by the FME and

respective areas			
<input type="checkbox"/> No changes since previous report (if no changes since previous report leave section blank)			
Code	HCV TYPES ¹	Description: Location on FMU	Area
HCV1	Forest areas containing globally, regionally or nationally significant concentrations of biodiversity values (e.g. endemism, endangered species, refugia).	Wild and Natural Areas	89,425 ha
HCV2	Forest 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	57,896 ha
HCV3	Forest areas that are in or contain rare, threatened or endangered ecosystems.	Natural Areas	31,529 ha
HCV4	Forest areas that provide basic services of nature in critical situations (e.g. watershed protection, erosion control).	None	0 ha
HCV5	Forest areas fundamental to meeting basic needs of local communities (e.g. subsistence, health).	n/a	0 ha
HCV6	Forest areas critical to local communities' traditional cultural identity (areas of cultural, ecological, economic or religious significance identified in cooperation with such local communities).	n/a	0 ha
TOTAL HCVF AREA			89,425 ha
Number of sites significant to indigenous people and communities			0

6. Highly Hazardous Pesticide Use	
FME has a valid FSC derogation for use of a highly hazardous pesticide	<input type="checkbox"/> YES (if yes, fill in below) <input checked="" type="checkbox"/> NO
Number of FSC highly hazardous pesticides used in last calendar year	0
Liters of FSC highly hazardous pesticides	0 liters
Number of hectares treated with FSC highly hazardous pesticides	0 hectares

¹ The HCV classification and numbering follows the ProForest HCVF toolkit. The toolkit also provides additional explanation regarding the categories. Toolkit is available at <http://hcvnetwork.org/library/global-hcv-toolkits>.

APPENDIX VI: SmartWood Database Update Form

Instructions: For each FSC certificate, SmartWood is required to upload important summary information about each certificate to the FSC database (FSC-Info). During each annual audit SW auditors should work with the certificate holder to verify that the information posted on FSC-Info is up to date as follows:

1. Print out current Fact Sheet prior to audit from FSC-Info website or direct link to fact sheets (<http://www.fsc-info.org>)
2. Review information with the FME to verify all fields are accurate.
3. If changes are required (corrections, additions or deletions), **note only the changes** to the database information in the section below.
4. The changes identified to this form will be used by the SW office to update the FSC database.

Is the FSC database accurate and up-to-date? YES NO
(if yes, leave section below blank)

Client Information (contact info for FSC website listings)

Organization name			
Primary Contact		Title	
Primary Address		Telephone	
Address		Fax	
Email		Webpage	

Forests

Change to Group Certificate	<input type="checkbox"/> Yes <input type="checkbox"/> No	Change in # of parcels in group	total members
Total certified area		868,984 Hectares (or)	Acres

Species (note if item to be added or deleted)

Scientific name	Common name	Add/Delete

Products

Product type	Description	Add/Delete