



Legislative Budget and Finance Committee

A JOINT COMMITTEE OF THE PENNSYLVANIA GENERAL ASSEMBLY

Offices: Room 400 • Finance Building • Harrisburg • Tel: (717) 783-1600

Mailing Address: P.O. Box 8737 • Harrisburg, PA 17105-8737

Facsimile (717) 787-5487

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The Costs and Benefits of FSC Certification of DCNR Forests

November 2012

Table of Contents

	<u>Page</u>
Summary and Conclusions	S-1
I. Introduction	1
II. The Costs and Benefits of FSC Certification of State Forests	3
III. Appendix - Response to this Report	17

Report Summary

In 1999, Pennsylvania forests under the management of DCNR's Bureau of Forestry (about 2.1 million acres) were certified as meeting Forest Stewardship Council (FSC) standards for being environmentally appropriate, socially beneficial, and economically viable. DCNR has subsequently maintained this certification, which involves annual certification reviews and independent recertification audits every five years.

Benefits of FSC Certification

DCNR characterizes the benefits of FSC certification as important, but largely for nonfinancial reasons. DCNR cites the primary benefits being an independent review of its forest management practices; improved staff morale in knowing the department meets certification standards; and added credibility in assuring the public that it is managing state-owned forests in a professional and sustainable manner.

Several studies, including one of DCNR timber sales, have found that FSC certification can also provide modest financial benefits, often on the order of a 5 percent premium over noncertified lumber. A 2008 study of DCNR timber sales found that, between 2001 and 2006, FSC-certified buyers of Pennsylvania state forest timber paid approximately \$7.7 million more for this timber than what would have been earned had all buyers been non-certified. According to the study, higher bid prices offered by FSC-certified buyers (primarily for black cherry) translated into roughly a 10 percent increase over what would have been earned in the absence of certification. The study also found that by 2006, FSC-certified buyers accounted for nearly two-thirds of the dollar value of all state forest timber sales.

Demand for certified lumber (FSC is one of several certification programs) may become even stronger in the future as the European Union's regulations that only lumber that is legally produced can be imported into EU countries become effective in 2013 (the FSC is working with EU regulators to ensure that the FSC-certification label will be sufficient proof that the lumber meets this requirement); the LEED (Leadership in Energy and Environmental Design) program becomes more widespread; and more companies such as Time-Warner, Home Depot, and IKEA make policy decisions to purchase at least a percentage of their pulp and lumber needs from certified sources.

The benefits of FSC certification to the health of state forests are less clear. In April 2011, DCNR's State Forester reported to the Pennsylvania Game Commission that DCNR has seen positive signs of recovery in many of state forests as a result of deer management policies of the past 10 years, but that forest habitat

conditions are still poor in most parts of the state. DCNR also noted that, while they view FSC certification as a process that can help support and improve their management practices, it is only one of several sources (including advisory committees, the State Forest Resource Management Planning process, and technical decisions made by DCNR staff) that guide and influence their management decisions.

Costs of FSC Certification

DCNR has a \$101,736 five-year contract with SmartWood to conduct the annual reviews and the five-year recertification audit. DCNR reported it also incurs some additional indirect costs that are harder to measure, including one full-time staff person devoted to coordinating certification, in doing the work necessary to administer the certification program.

Beyond direct costs, DCNR's decision to seek and maintain FSC certification has generated controversy with regard to its "recreational costs", specifically the potential impact on deer hunting. In particular, SCS (Scientific Certification Systems), the organization that conducted the initial certification audit, expressed concerns over the impact of deer browsing on the sustainability of DCNR's forests, and stipulated that one of the conditions of certification was that "Steady and continuous progress will be made by the Commonwealth of Pennsylvania to develop and implement a deer management program that shifts from the current nutritional carrying capacity paradigm to one of diversity carrying capacity."

DCNR accepted the SCS assessment and followed-through by implementing the Deer Management Assistance Program (DMAP) on State Forest lands in an attempt to reduce the impact of deer browsing in specific areas. DMAP allows DCNR (and other landholders) to target certain areas for additional deer permits. In some Wildlife Management Units, the additional DMAP permits account for up to 25 percent of the deer harvested.

DMAP and other efforts to reduce the deer population have been effective, with the Pennsylvania Game Commission estimates of the deer populations statewide falling from about 1.5 million in 2000 to about 1.2 million in 2010. During roughly this same period, PGC general hunting license sales also declined, from 1.05 million in 2001 to 933,208 in 2011. Using U.S Fish and Wildlife Service estimates that the average expenditure per hunter was \$2,484 in 2011, this decrease represents a potential loss of \$285 million in direct economic activity. It would be overly simplistic, however, to link a reduction in either the Pennsylvania deer herd or the number of hunters directly to DCNR's forest certification program, as many factors are involved in these trends.

I. Introduction

In June 2012, the LB&FC officers authorized its staff to study the costs and benefits of Forest Stewardship Council (FSC) certification of state forest lands held by the Department of Conservation and Natural Resources.

Objectives and Methodology

The study objectives are to determine:

1. The costs and benefits, economic and otherwise, derived from Pennsylvania state forests being Forest Stewardship Council (FSC) certified.
2. The requirements imposed by the FSC to obtain and maintain certification.
3. The impact of certification on hunting in Pennsylvania, particularly deer hunting.

To determine the costs and benefits of FSC certification, we interviewed Bureau of Forestry staff and reviewed studies done by academics and others on the costs and benefits of FSC certification, both in the United States and abroad.

To determine the FSC's certification requirements, we interviewed SmartWood staff (the organization under contract with DCNR to conduct its FSC certification audits), reviewed FSC publications and reports by others on FSC requirements, and examined the four most recent FSC certification reviews.

To determine the impact of FSC certification on deer hunting, we interviewed DCNR and SmartWood staff and reviewed statistics on deer populations and general hunting license sales in the Commonwealth.

Acknowledgments

LB&FC staff completed this report with cooperation and assistance provided by DCNR's Bureau of Forestry. We also acknowledge the cooperation and assistance of the Pennsylvania Game Commission and SmartWood staff.

Important Note

This report was developed by Legislative Budget and Finance Committee staff. The release of this report should not be construed as indicating that the Committee's members endorse all the report's findings and recommendations.

Any questions or comments regarding the contents of this report should be directed to Philip R. Durgin, Executive Director, Legislative Budget and Finance Committee, P.O. Box 8737, Harrisburg, Pennsylvania 17105-8737.

II. The Costs and Benefits of FSC Certification of State Forests

In 1998, Pennsylvania enrolled one million acres of state forest lands as part of a state lands trial with Minnesota, thus becoming one of the first states to obtain Forest Stewardship Council (FSC) certification of a public state forest. In 1999, DCNR's Bureau of Forestry (BoF) enrolled its remaining lands. Table 1 shows the number of FSC certified acres (both public and private) in by state.

Table 1

FSC Certified Acres by State			
<u>State</u>	<u>Total Acres</u>	<u>State</u>	<u>Total Acres</u>
AL.....	6,074	MO.....	146,235
AR.....	539,533	MS.....	634,064
CA.....	1,258,933	NC.....	10,455
CT.....	7,840	NH.....	574,040
DE.....	1,358	NJ.....	20
FL.....	120	NY.....	1,242,953
HI.....	24,543	OH.....	218,776
ID.....	838,381	OR.....	566,929
IL.....	1,794	PA.....	2,576,247
IN.....	676,370	SC.....	6,865
KY.....	156,757	TN.....	42,371
LA.....	603,584	TX.....	26,809
MA.....	51,159	VA.....	209,683
MD.....	124,847	VT.....	164,844
ME.....	4,781,057	WA.....	240,372
MI.....	4,637,930	WI.....	5,678,132
MN.....	6,845,367	WV.....	<u>897,777</u>
		Total.....	33,792,218

Source: Forest Stewardship Council

Goals of the FSC Certification Program

In the United States, four forest certification options exist for landowners. These certification programs differ in genesis, cost, philosophy, and implementation. Certification programs include:

- The American Tree Farm System (ATFS)
- The Forest Stewardship Council (FSC)
- Green Tag Forestry
- Sustainable Forestry Initiative (SFI)

Pennsylvania forests under Department of Conservation and Natural Resources (DCNR) control are certified under FSC standards.

Initially begun over concern for the depletion of tropical rainforests, the Forest Stewardship Council was founded in 1993 by loggers, foresters, economists, environmentalists, and sociologists to promote “environmentally appropriate, socially beneficial, and economically viable management of the world’s forests.” The FSC seeks to ensure that forest management is done in a way that maintains the forest’s biodiversity, productivity, and ecology. The FSC standard also includes a social component regarding the benefits to local communities and society of sustainable forest management practices.

FSC certification allows wood harvested from such certified forests to include a product label certifying that management, harvesting, processing, and manufacture of the product met FSC certification standards. While FSC creates the standard, accredited third-party organizations do the actual certification audits and assessments.

According to the FSC, certification:

- Benefits the environment and preserves habitat that for birds and forest animals.
- Unifies all the stakeholders responsible for forest management.
- Provides oversight, ensuring forest management practices are responsible and will be continued to be improved.
- Protects the rights of workers and the rights indigenous communities to use the forests.
- Benefits business, as sustainable forest management preserves the forest for the long-term.
- Creates new markets for products produced as FSC.
- Allows consumers to know where their product originated and enables them to make more conscious choices about their purchases.

FSC has 10 guiding principles and 57 criteria. The guiding principles are listed in Exhibit 1. The criteria and their associated indicators are too lengthy to include in this report, but may be accessed at <http://us.fsc.org/forest-management-certification.225.htm> or by contacting the LB&FC offices.

FSC Principals

- **PRINCIPLE #1: COMPLIANCE WITH LAWS AND FSC PRINCIPLES** - Forest management shall respect all applicable laws of the country in which they occur, and international treaties and agreements to which the country is a signatory, and comply with all FSC Principles and Criteria.
- **PRINCIPLE #2: TENURE AND USE RIGHTS AND RESPONSIBILITIES** - Long-term tenure and use rights to the land and forest resources shall be clearly defined, documented and legally established.
- **PRINCIPLE #3: INDIGENOUS PEOPLES' RIGHTS** - The legal and customary rights of indigenous peoples to own, use and manage their lands, territories, and resources shall be recognized and respected.
- **PRINCIPLE #4: COMMUNITY RELATIONS AND WORKER'S RIGHTS** - Forest management operations shall maintain or enhance the long-term social and economic well being of forest workers and local communities.
- **PRINCIPLE # 5: BENEFITS FROM THE FOREST** - Forest management operations shall encourage the efficient use of the forest's multiple products and services to ensure economic viability and a wide range of environmental and social benefits.
- **PRINCIPLE #6: ENVIRONMENTAL IMPACT** - Forest management shall conserve biological diversity and its associated values, water resources, soils, and unique and fragile ecosystems and landscapes, and, by so doing, maintain the ecological functions and the integrity of the forest.
- **PRINCIPLE #7: MANAGEMENT PLAN** - A management plan — appropriate to the scale and intensity of the operations — shall be written, implemented, and kept up to date. The long-term objectives of management, and the means of achieving them, shall be clearly stated.
- **PRINCIPLE #8: MONITORING AND ASSESSMENT** - Monitoring shall be conducted — appropriate to the scale and intensity of forest management — to assess the condition of the forest, yields of forest products, chain of custody, management activities and their social and environmental impacts.
- **PRINCIPLE # 9: MAINTENANCE OF HIGH CONSERVATION VALUE FORESTS** - Management activities in high conservation value forests shall maintain or enhance the attributes which define such forests. Decisions regarding high conservation value forests shall always be considered in the context of a precautionary approach.
- **PRINCIPLE # 10: PLANTATIONS** - Plantations shall be planned and managed in accordance with Principles and Criteria 1-9, and Principle 10 and its Criteria. While plantations can provide an array of social and economic benefits, and can contribute to satisfying the world's needs for forest products, they should complement the management of, reduce pressures on, and promote the restoration and conservation of natural forests.

The FSC also offers a Controlled Wood, or Chain-of-Custody, certification that enables companies to demonstrate that their wood products have been controlled to avoid sourcing wood that has been harvested illegally, in violation of traditional and civil rights, in forests where high conservation values are threatened by management activities, in forests being converted to plantations or non-forest use, or from forests where genetically modified trees are planted.

DCNR has not sought chain-of-custody (CoC) certification as they sell directly to timber companies. DCNR reports its timber contracts contain a clause indicating that the timber they sell is from an FSC-certified forest, but DCNR sells to both CoC and non-CoC companies. Only chain-of-custody-certified buyers, however, can label the timber they buy as 'FSC certified'.

As of January 2011, more than 330 million acres of forest in 81 countries have received FSC certification. About 40 percent of these certifications are located in Europe, 40 percent in North America, 9 percent in Latin and South America, 6 percent in Asia and Oceania, and 5 percent in Africa. More than 419,300 chain-of-custody certificates have been granted in 105 countries.

Criticism of FSC Certification

Although FSC certification appears to be the most creditable and widely accepted forest certification program, it nevertheless receives criticism, both from those that think its criteria are too strict and those that think the criteria and monitoring audits are too lenient. For example:

- The FSC certification process also burdens the system with unnecessary costs. Not only does the FSC certify forest managers and owners, but they have a chain of custody (COC) certification for manufacturers and subcontractors who utilize certified wood. This means that small furniture manufacturers, casework companies, and millwork shops need to go through the cost and bureaucracy associated with securing and maintaining a certification. Since there is little to no policing of the certified parties to confirm they are practicing the proper utilization of certified woods, the certification amounts to little more than a right to use the FSC logo in marketing materials.
- Forest certification can be a costly endeavor for small forest owners. Certification entails the costs of the certification process (auditor visits, travel, report writing, and monitoring) and on the ground expenditures of additional forest planning, infrastructure, and possible reduced harvest. To date, there are few reported price premiums on certified forest products. As a result, most certification costs are borne by the producer.
- Evidence suggests that increased certification requirements or mandates “will produce the unintended consequence of hastening forest conversion.”

The small forest land owner that faces restricted timber markets due to certification requirements may find forest conversion [to agricultural use or for development] more beneficial than certification.¹

- Voluntary certification systems like the Forest Stewardship Council (FSC) were originally designed to provide an economic reward for foresters in developed and developing countries to follow certain forest practices. Those rules, however, are increasingly substituting politics for science and are sometimes imposed on developing countries to restrict forestry and the international trade of wood products. ... In some cases, environmental activists use certification to place barriers on communities in the Northern Hemisphere and the developing world, thereby leaving people without the prosperity or resources necessary to meet certain certification standards that environmental groups claim to support.

FSC Certification in Pennsylvania

The Pennsylvania Bureau of Forestry reported it was motivated to pursue FSC certification for several reasons. First, the BoF felt strongly that their forest management practices met the standards set by the FSC and that third-party certification would strengthen this claim in terms of public outreach. Second, the BoF welcomed the opportunity that FSC certification provided to strengthen key aspects of their management system, such as the implementation of a timber harvest allocation model. Third, as reported in a 2008 report by the Rainforest Alliance, the certification process allowed the BoF to highlight major areas of concern in terms of forest management, particularly the impact of a large deer population on regeneration. Lastly, the BoF hoped to serve as a model for other public and private forests in the state and elsewhere.

The initial forest certification process was completed at no cost to the Commonwealth, with funding provided by the Heinz Endowments of Pittsburgh through a grant to the Gifford Pinchot Institute for Conservation. The Pinchot Institute facilitated the certification of Pennsylvania's state forests as a case study for other public forestland certifications in the U.S.

SCS (Scientific Certification Systems), which conducted the original certification study, scored the state forest lands based on three major categories: timber resource sustainability; forest ecosystem maintenance; and financial and socioeconomic considerations. In order to receive certification, Pennsylvania needed to receive a score of 80 or greater on a scale of 1 to 100 in each category. Pennsylvania scored 84, 82, and 91, respectively.

¹ *Forest Landowner*, March/April 2012

Forests must be re-certified every five years. Pennsylvania's forests were re-certified in 2003 and again in 2008.

In addition to the five-year recertifications, DCNR must undergo an annual audit to assure compliance with FSC standards. The most recent audit, dated March 8, 2012, was conducted by SmartWood. The audit found that DCNR has continued to meet the FSC certification requirements and recommended that the certification status be maintained for DCNR's forests. We also reviewed the audit reports for 2009, 2010 and 2011, each of which found DCNR to be in compliance with FSC standards.

Costs and Benefits of Forest Certification

DCNR has a five-year contract for \$101,736 covering the recertification audit and the four annual reviews between recertifications. These costs represent about a 4.8 cents per acre over the five-year period, or about a penny a year per acre. DCNR reported it also incurs some additional indirect costs that are harder to measure, including one full-time staff person devoted to coordinating certification, in doing the work necessary to administer the certification program.

While several studies have attempted to assess the costs and benefits of forest certification, often these studies pertain to rainforests in other countries. Findings of cost-benefit studies pertaining to the United States include:

North Carolina. A 2002 report funded by the Pinchot Institute, the Doris Duck Foundation and others of forests owned by the North Carolina State University (4,500 acres), Duke University (8,000 acres) and the North Carolina Division of Forest Resources (42,000 acres) found the average cost to obtain FSC certification for all three organizations was \$1.83 per acre. However, FSC submitted one bid (\$70,000) for the certification work for all three organizations, so it was not possible to separately identify the costs for each organization.

In addition to the direct payment to FSC, the preparation costs were estimated at between \$0.08 per acre (DFR) to \$3.73 per acre (NCSU). The study authors noted that the high cost for NCSU preparation was due primarily to NCSU not having a forest management plan in place, the involvement of many professors in developing the required plan, and the relatively small number of acres NCSU had to spread the costs over.

The study outlined only broad benefits of FSC certification; notably as a "positive means to respond to environmental critics of forest management; and excellent means to demonstrate good forest management; and a platform for ongoing discussion and adaptive forest management."

Minnesota. A 2011 dissertation entitled *Cost and Benefit Analysis of Forest Certification in Northeastern Minnesota* found:

- Little research exists to show that timber coming from a certified forest sells for a premium. Several studies found there is not enough of a premium on certified stumpage over non-certified stumpage to offset the costs of certifying forest land.
- In a few cases, forest certification has resulted in premium prices, but even in these cases the premium was relatively short-lived.
- Certified forestland can, however, enable certified landowners to gain market access and increase market share, even if it does not result in premium prices.
- Forest certification adds credibility to environmental claims and therefore can prevent costly lawsuits by environmental groups and the potential cost of mitigating environmental problems.
- Forest certification often leads to increased dialogue between all stakeholders, which benefits the overall community and surrounding area.

The dissertation noted that initial start up costs vary across much of the research, with large landowners spending approximately \$.10/acre to become certified, while smaller landowners can have costs as high as \$125/acre. Typical costs of forest certification generally range from \$.05/acre to \$.40/acre. Annual costs to maintain certification are more consistent, typically ranging from \$.01/acre to \$.03/acre.

Pennsylvania. In 2008, the Rainforest Alliance, the organization which operates the SmartWood program, conducted an analysis of the economic benefits of Pennsylvania's certified forests². The Alliance analyzed six years of data from timber sales on Pennsylvania FSC-certified state forest land to determine whether FSC chain-of-custody certified buyers are paying more for timber from these sales than non-certified buyers. The study found:

- Between 2001 and 2006 FSC-certified buyers of Pennsylvania state forest timber sales paid approximately \$7.7 million more for this timber than what would have been earned had all buyers been non-certified. Higher bid prices offered by FSC-certified buyers translated into roughly a 10 percent increase in revenue for the Pennsylvania state forest over what would have been earned in the absence of certification.
- By 2006, FSC-certified buyers accounted for nearly two-thirds of the dollar value of all state forest timber sales, up from less than 15 percent in

² The study was conducted by the Interim Director, Evaluation and Research, Rainforest Alliance; an Associate Professor of Environmental Science at Allegheny College, Meadville, PA; and an Assistant Professor in the Department of Biological Sciences at Wright State University, Dayton, Ohio.

1998. The percentage of timber volume going to FSC-certified buyers increased from less than 10 percent in 1998 to over 40 percent in 2006.

- Most of the additional revenue earned by the Pennsylvania state forests through sales to FSC-certified buyers is driven by the sale of black cherry. On average, FSC-certified buyers paid \$198 more per thousand board feet (mbf) for black cherry from state forest timber sales than did non-certified buyers. The price differential for sugar maple was \$138 per mbf, \$49 per mbf for red oak, \$35 per mbf for red maple, and \$17 per mbf for white ash. There was no price differential for white oak. Black cherry accounted for between 70 and 80 percent of the dollar value of all sales.

The findings of these studies are generally in line with a study done by the Center for International Trade in Forest Products, which found that certified companies obtained an average 6.3 percent price premium for certified wood products in European markets, a 5.1 percent price premium in the United States, and a 1.5 percent price premium in Canada. About 25 percent of the companies surveyed reported that the profit margin for certified wood products was 6.7 percent higher than for non-certified wood products, while 40 percent of the companies reported a loss of about 5.6 percent.

In addition to the economic benefits of certification, DCNR notes:

- The confirmation of sound forest management practices through certification ensures the agency and the public that forests are managed sustainably. While the BoF believes it has always sought the most up to date and correct management practices and philosophies, enrolment into certification is in essence a pledge that it will manage the Commonwealth in a scientifically sustainable and socially acceptable manner.

Certification is also a tool that the public can use to address and analyze BoF policies and practices against an openly available yearly assessment. The accountability that certification provides for the Commonwealth ensures a sustainability that from an ecological standpoint incorporates a long-term balance of processes that ensure a healthy environment that will continue to provide many values for all users.

- Another direct benefit is improved operations and management which include improved management systems and function, better planning and implementation, improved record keeping, better internal communications, additional accountability to the public, openly available review of operations and a regular assessment for improved discovery of problems or shortfalls.

Future Demand for Certified Lumber

As environmental and sustainability concerns become more widespread, the demand for “green” products and technologies, including FSC-certified lumber, is likely to increase.

- The green building movement, which focuses on energy efficiency, indoor air quality, and the conservation of natural resources, promotes the use of FSC-certified construction materials through its building rating systems, such as the Leadership in Energy and Environmental Design (LEED) program. LEED claims nearly 9 billion square feet of building space participates in the LEED system and an additional 1.6 million feet being certified per day around the world. Estimates of the annual growth of the green building movement range from 30 percent to 75 percent.
- CHEP, a worldwide supplier of pallets, containers, and crates which operates in 49 countries worldwide, has instituted a sustainable purchasing policy that requires all of the lumber used in its service centers comes from sustainable sources. It also has a target to obtain FSC chain-of-custody certification for lumber pallets by 2015.
- The FSC’s Project Certification Standard is being used by large building contractors for high profile construction projects, notably in Western Europe. For example, the standard was used by Bovis Lend Lease in the construction of the Athletes Village for the London 2012 Olympics. The minimum criterion for wood used on these projects is that it must be FSC Controlled.³
- European door manufacturer JELD-WEN has long been a supporter of FSC, and its UK and French operations have offered FSC products in the market for many years. JELD-WEN has now extended this to include all of its sites in Europe.
- In October 2010, the European Union adopted the EU Timber Regulation (Regulation 995/2010) to prevent sales of illegal timber and timber products on the EU internal market. Under the regulation, beginning March 3, 2013, any operator who places timber or timber products on the EU market for the first time must ensure that they have been legally produced. It covers a wide range of timber products, including plywood, veneer, particle board and furniture, but exempts some products, in particular printed media. Timber accompanied by a FLEGT (Forest Law Enforcement, Governance and Trade) or CITES (Convention on International Trade in Endangered Species) license will be accepted as legal. The FSC reports it is working to ensure that its systems fulfill the requirements of

³ The FSC Controlled Wood concept was developed as an element of FSC's chain-of-custody (CoC) system to ensure that products carrying the FSC label and containing a mixture of FSC-certified and uncertified wood have been controlled to exclude wood coming from unacceptable sources.

the new regulation and will seek formal confirmation from the EU authorities that this will be the case.

- Some companies, including Home Depot, IKEA, and Time-Warner, require that a certain percentages of their products be produced using certified wood. Time-Warner, for example, has set a goal for 80 percent of the pulp it uses to be from certified sources. DCNR cited the demand for certified pulpwood from companies such as Glatfelter, Luke Paper and Domtar as contributing to the more than doubling of pulpwood prices since 2009, despite the generally poor market for timber and lumber since the housing market crash.

FSC Certification and Its Impact on the Pennsylvania Deer Herd

SCS, the organization that conducted the initial FSC certification of DCNR's forests in 1998, stipulated that one of the conditions of certification was that "Steady and continuous progress will be made by the Commonwealth of Pennsylvania to develop and implement a deer management program that shifts from the current nutritional carrying capacity paradigm to one of diversity carrying capacity." In a 2002 letter to the PGC Executive Director, DCNR's Conservation & Natural Resources Advisory Council noted that "Should they [SCS] determine at any point that satisfactory progress is not being made, certification could be jeopardized."

In recent years, the certification audits have been conducted by SmartWood, rather than SCS. While the SmartWood auditors have noted certain concerns over the impact of deer browsing, they have been less explicit in how BOF should address those concerns. Below are some of the comments related to deer management made in the past four certification audits:

From the 2009 Audit:

Audit Finding (minor nonconformance): BOF [Bureau of Forestry] staff works hard to maintain the long-term ecological functions of the forests and to efficiently and effectively utilize the DMAP as a land management tool. However, some BOF staff indicated that the DMAP was being under utilized in non-commercially managed areas (particularly the Wild Plant Sanctuaries and the Old Growth areas) that are particularly vulnerable to over browsing by deer.

Corrective Action Request: BOF shall evaluate deer browse impacts in Wild Plant Sanctuaries, designated Old Growth areas, and other Natural Areas that may be particularly vulnerable to browsing, and if necessary, institute appropriate deer control measures (e.g., enrollment in DMAP Program) to mitigate impacts.

Observation (a very minor or early stage problem): Field observations made by the audit team indicated that over-browsing by deer is a problem throughout much of the state forests, particularly in areas not enrolled in the DMAP program. BOF should consider enrolling all their forests in the DMAP program.

From the 2010 Audit:

Stakeholder Issue: Certain segments of the public are dissatisfied with the lower deer densities that Pennsylvania has achieved over the past 10 years in order to promote more balance and diversity in ecological systems. Reductions in deer herd density in certain areas within BOF's landholdings is one of the tools BOF is using to ensure adequate forest regeneration and BOF is to be commended for achieving this often politically unpopular objective.

Audit Finding (minor nonconformance): BOF staff works hard to maintain the long-term ecological functions of the forests and to efficiently and effectively utilize the DMAP as a land management tool. However, some BOF staff indicated that the DMAP was being under utilized in non-commercially managed areas (particularly the Wild Plant Sanctuaries and the Old Growth areas) that are particularly vulnerable to over browsing by deer.

Corrective Action Request: BOF shall evaluate deer browse impacts in Wild Plant Sanctuaries, designated Old Growth areas, and other Natural Areas that may be particularly vulnerable to browsing, and if necessary, institute appropriate deer control measures (e.g., enrollment in DMAP Program) to mitigate impacts.

From the 2011 Audit:

Auditor Comment: 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 consistent with the FSC Appalachian Standard, Criteria 6.3.

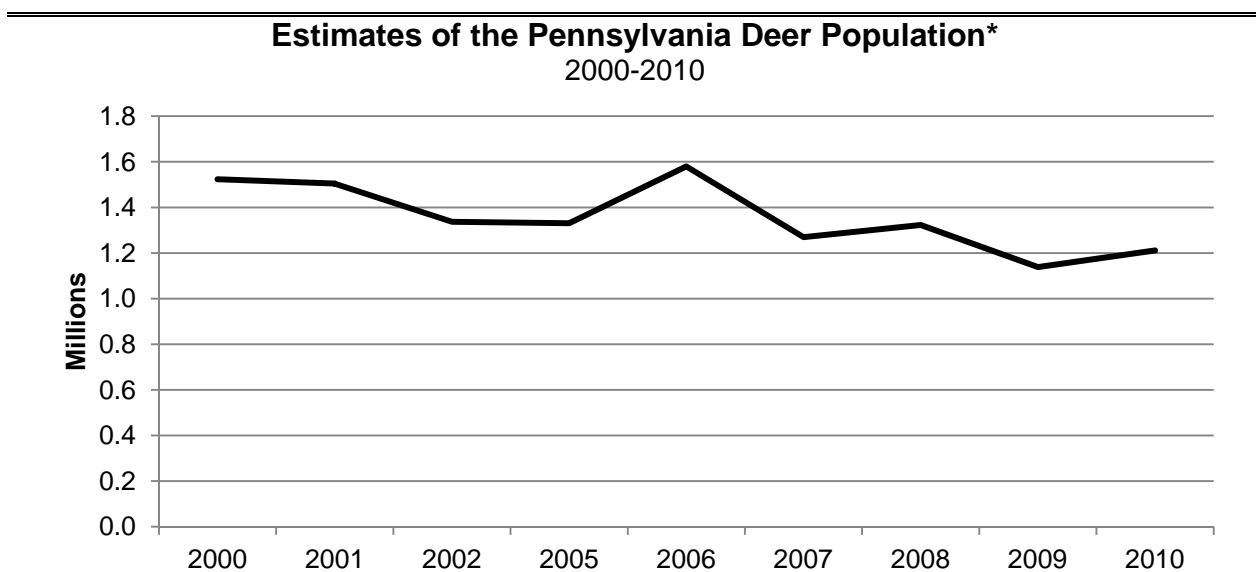
From the 2012 Audit:

The issue of deer management and DMAP policy was not addressed in the 2012 audit.

DCNR Efforts to Control the Deer Population in State Forests

Exhibit 2 shows the estimated size of the Pennsylvania deer herd from 2000 through 2010. These figures include deer on state game lands and private lands as well as on DCNR acreage.

Exhibit 2



*Does not include three special regulation WMUs (2B, 5C, and 5D). The PGC changed its method for estimating deer population in 2003. Data are not available for 2003 and 2004.

Source: Pennsylvania Game Commission.

We should note that the size of the Pennsylvania deer herd is a controversial subject. Dividing the estimated number of deer shown in Exhibit 2 (1.21 million) by the square miles of land in the Commonwealth (excluding WMUs 2B, 5C, and 5D) yields a statewide deer density of approximately 30 deer per square mile. Many believe such deer density figures are unrealistically high.

While there are several ways deer damage can be controlled, DCNR primarily relies on hunting to reduce the size of the deer herd. The awarding of deer permits, however, is the responsibility of the Pennsylvania Game Commission, not DCNR. DCNR therefore is dependent on the PGC allocating sufficient deer permits if it is to reduce the deer herd through hunting.

PGC reports it treats DCNR much like private forest landowners, allowing DCNR to customize deer management within the state forests managed by its Bureau of Forestry. Such customization is largely achieved through the Deer Management Assistance Program (DMAP), a program the PGC created in 2003. Permits issued through DMAP cost \$10 and are valid only on the area they are assigned to, thereby allowing landowners to accomplish specific deer management goals on individual areas.

DCNR reports its foresters and biologists use numerous criteria to determine where to place DMAP areas, one of which is deer impact data. DCNR collects this data using transects with plots (6-foot radius) every 100 feet. DCNR has 1,800 miles of transects and 47,000 plots across 2.1 million acres of state forest. DCNR measures the percentage of plots with acceptable seedlings, presence of indicator species, percentage of plots “adequately stocked,” and the percentage of species browsed.

In FY 2005-06, 7,566 antlerless deer were harvested through the DMAP program, representing about 3 percent of the total antlerless harvest. In some Wildlife Management Units, however, the DMAP program accounted for a far higher percentage. For example, in WMU 2F, the DMAP program accounted for about 25 percent of the antlerless harvest in the 2005-06 and 2006-07 seasons and nearly 24 percent of the antlerless harvest in WMU 2G during the 2006-07 season. WMU 2F and 2G are both in Pennsylvania’s northern tier “Big Woods” area.

DCNR enrolled 899,171 acres in DMAP for 2012 and sought 14,160 permits. DCNR received 13,897 permits for 916,435 acres in 2011. Coupons for DMAP antlerless deer harvest permits may be issued to landowners at a rate of one coupon for every five acres in agricultural operations or one coupon for every 50 acres for all other land uses. Hunters may possess up to two DMAP permits for a specific DMAP property in any given license year.

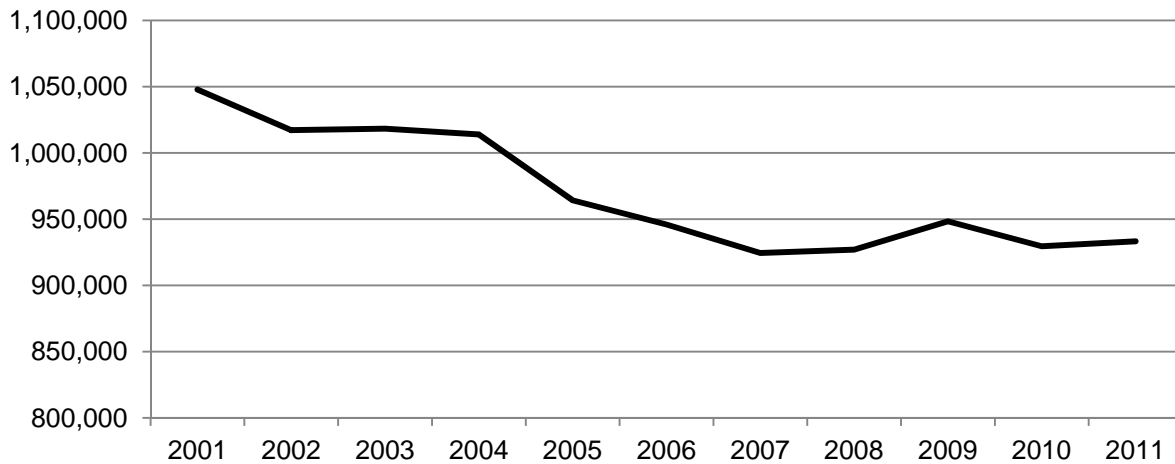
In April 2010, the Board of Game Commissioners approved a regulatory change whereby each WMU antlerless allocation is to be reduced by the number of DMAP antlerless deer permits issued in each WMU during the 2009-10 season. The Board also prohibited the issuance of more DMAP permits for the 2010-11 seasons than were issued for the 2009-10 seasons for each WMU. As noted above, the SmartWood auditors cited these restrictions to the DMAP program in their 2011 audit as being of concern. (DCNR notes that this regulatory change was only approved by the PGC Commissioners for the 2010-11 season.)

Hunting Participation in Pennsylvania

As Exhibit 3 shows, the number of general hunting licenses sold has been trending downward, although sales have recovered somewhat from the low in 2007.

Exhibit 3

General Hunting Licenses Sold in Pennsylvania
2001-2011



Source: Pennsylvania Game Commission.

The downward trend in Pennsylvania is not, however, mirrored at the national level, where the total number of hunters has increased by 5 percent between 2001 (13.03 million) and 2011 (13.67 million). The number of big game hunters, which includes deer hunters, rose by 6 percent between 2001 (10.91 million) and 2011 (11.57 million).⁴

In addition to the loss of PGC general hunting license sales, lower hunter participation can have significant economic effects, particularly in areas where deer hunting is popular. According to the U.S. Fish and Wildlife Service, the average expenditure per hunter was \$2,484 in 2011. The PGC's loss in sales of 114,612 general hunting licenses between 2001 and 2011 therefore represents a potential loss of \$285 million in direct economic activity. It would be overly simplistic, however, to link a reduction in either the Pennsylvania deer herd or the number of hunters directly to DCNR's forest certification program, as many factors are involved in these trends.

⁴ Information on deer hunting participation at the state level will not be available until December 2012.

APPENDIX A

Response to This Report



pennsylvania

DEPARTMENT OF CONSERVATION
AND NATURAL RESOURCES

OFFICE OF THE SECRETARY

November 9, 2012

Mr. Philip Durgin
Executive Director
Legislative Budget and Finance Committee
P.O. Box 8737
Harrisburg, PA 17105-8737

Dear Mr. Durgin:

Thank you for the opportunity to review and provide comments on the Legislative Budget and Finance Committee's report on *The Costs and Benefits of FSC Certification of DCNR Forests*. As the report indicates, Pennsylvania's State Forests have been sustainably certified under the FSC Standard since 1998. This certification provides significant benefits to the Commonwealth and represents a major accomplishment of the Department of Conservation and Natural Resources (DCNR) and its staff. Specifically, it:

- affirms the environmentally- and socially-responsible management of the State Forest;
- provides a source of certified wood critical to the Pennsylvania forest products industry;
- provides transparency to the citizens of the Commonwealth;
- provides specific recommendations for improving DCNR's management of the State Forest;
- helps to boost morale of DCNR staff; and
- helps to elevate forest management efforts throughout Pennsylvania.

The Pennsylvania DCNR, Bureau of Forestry is viewed as a national leader for its long-term commitment to the forest certification process.

Regarding the information compiled for Objectives 1 and 2, the report provides a good overview and national context of FSC Certification. In general, DCNR accepts the information as a fair assessment of Objectives 1 and 2, relating to the costs, benefits, and requirements of FSC certification. Specific comments and points-of-clarification are provided in the accompanying attachment.

Regarding Objective 3, DCNR views the approach for addressing this objective as flawed, non-scientific, and subjective. The findings are not factual and we object to the intent of this objective. The report leads the reader to speculate that FSC Certification could have caused declines in deer numbers, hunting participation, and significant losses of potential economic activity. No data exists to support these speculative conclusions. DCNR does not dispute the fact that it has strategically employed tools such as DMAP to reduce deer browsing impact in

conserve sustain enjoy

Rachel Carson State Office Building | P.O. Box 8767 | Harrisburg, PA 17105-8767 | Phone 717.772.9084 | Fax 717.772.9106

certain parts of the State Forest. However, to speculate that FSC Certification has resulted in decreased hunting opportunities or losses in economic activity is unfounded. Rather, DCNR would argue that hunting opportunities on State Forest lands have increased. DMAP provides additional antlerless tags for hunters, and the opening of gated, administrative roads improves hunter access. Additionally, DCNR routinely conducts habitat improvement projects that help to increase hunting opportunities for many game species on State Forest lands. DCNR objects to the findings presented for Objective 3 and asks the Committee to reconsider its approach for addressing the question. Specific comments and points-of-clarification are provided in the accompanying attachment.

Again, thank you for this opportunity to provide comments on the report. As stated previously, the FSC Certification of the State Forest is very important to DCNR and the Commonwealth of Pennsylvania. DCNR welcomes the Committee's review of our Certification efforts. However, it is imperative that any report or communication regarding our management of the State Forest is valid and objective. We look forward to continued dialogue on this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "Richard J. Allan". The signature is written in a cursive, flowing style.

Richard J. Allan

Attachment 1

Specific Comments and Points-of-Clarification from DCNR on the Legislative Budget and Finance Committee's report on *The Costs and Benefits of FSC Certification of DCNR Forests*. November 9, 2012

1. Page S-2 – 3rd paragraph under Costs of FSC Certification – should read “State Forest Lands” not “State Game Lands”.¹
2. Page S-2 – 3rd paragraph under Costs of FSC Certification – The first sentence should be revised to read: “DCNR accepted the SCS assessment and followed-through by implementing DMAP on State Forest lands in an effort to reduce the impact of deer browsing in specific areas.” It should also be noted that the SCS audit was not the only source of information recommending to DCNR the need to address deer browsing impacts. BOF staff, other agency partners, conservation organizations, and the department’s advisory committees all contributed to the dialogue.¹
3. Page S-2 – 4th paragraph under Costs of FSC Certification – please refer to comments 12 through 17 below.
4. Page 6, second paragraph – DCNR does not “sell directly to timber companies.” Rather, timber sales are awarded to companies through a competitive bidding process. The highest bidder is awarded a contract which obligates them to harvest the timber.
5. Page 6, last bullet – This reference should not be misconstrued to suggest that forest certification in Pennsylvania could lead to forests being converted to other land uses. The article speculates that certification could restrict the ability of landowners to sell their timber. The reality is that landowners currently have access to many markets for their timber and certification is not a limiting factor in selling standing timber.
6. Page 7, first paragraph under “FSC Certification in Pennsylvania” – DCNR cannot confirm the statement: “Third, the certification process allowed the BoF to highlight major areas of concern in terms of forest management, particularly the impact of a large deer population on regeneration.” This was a statement made by a third party.¹
7. Page 8 – DCNR’s current contract with Smartwood expires December 31, 2012. DCNR is in the process of securing a new 5-year contract for 2013-2018 based on the results of a competitive bidding process.
8. Page 9, regarding the 2008 study conducted by the Rainforest Alliance – DCNR does not dispute the fact that FSC-certified sawmills paid more for BOF timber sales. However, the study did not

¹LB&FC Note: The final report was adjusted as a result of this comment.

decipher or ask why the companies paid a higher price. It is not clear that they paid more because they received a premium when selling their lumber or other products. Anecdotally, most companies report that they do not receive a premium, but that certified lumber gives them access to markets, particularly export markets in Europe. The higher prices could simply have resulted from the highly-competitive black cherry export market.

9. Page 12 – Study Objective Number 3 states: “The impact of certification on hunting in Pennsylvania, particularly deer hunting.” The title and content of this and remaining sections of the report focus too heavily on deer numbers and do not address the stated objective.
10. Page 13 – CAR reference in third paragraph is a restatement of the 2009 report not and a new CAR. This duplicate should be removed.²
11. Page 14, 2nd paragraph – “DCNR primarily relies on hunting to reduce the size of the deer herd.” This statement as it is written is true but is misleading. DCNR also uses fencing on regeneration harvests and opens gated, administrative roads to provide additional access to hunters to help reduce deer “impacts.”
12. Page 15, 2nd paragraph – The data presented in this paragraph represent harvest data for two hunting seasons: 2005 and 2006. Harvest data are available for subsequent years through 2010. DCNR questions why data are only presented for the 2005 and 2006 seasons. Additionally, it should be noted that the data presented include deer harvested on all lands; not specifically deer harvested on State Forest land. DCNR requests that the Committee include a complete, accurate, and objective summary of the DMAP program on State Forest lands. Reports and data are available on both PGC and DCNR websites. Otherwise, the data presented without any context do not contribute to addressing the question of Objective #3.³
13. Page 15, 4th paragraph – It should be noted that the regulatory change was only approved by the PGC commissioners for the 2010-2011 season and was not implemented for subsequent seasons.¹
14. Pages 15 and 16 – Data on the number of hunting licenses is presented along with extrapolating declines in the number of licensed hunters to a potential loss of economic activity. As stated in the last sentence in the report, it is overly simplistic and invalid to suggest that declines in deer numbers or the number of hunters are related to DCNR’s forest certification program. Therefore, this information is not relevant to the study and should be removed from the report. Hunting opportunities have increased on State Forest lands. DMAP provides additional tags to hunters and opening gated, administrative roads improves hunter access. Additionally, DCNR routinely conducts habitat improvement projects that help to increase hunting opportunities for many game species on State Forest lands.

² LB&FC Note: The same CAR was made in both the 2009 and 2010 audit, which is why we included it twice.

³ LB&FC Note: The information in this paragraph was only intended to be illustrative of the impact the DMAP program can have in a WMU. It was not intended to be comprehensive.

15. Page 16 – Only one 2011 report exists on hunting license trends. This report is based on a household survey conducted by the US Census Bureau which estimates numbers based on a survey. The survey is not an assessment of the actual number of licensed hunters. Estimates from the 2006 US Census Bureau report (an estimate) did not match the actual number of licensed hunters for Pennsylvania in 2006. Accordingly, it is reasonable to assume that the 2011 estimates will not match or correlate with the actual number of licensed hunters. Comparing actual numbers to estimates is misleading. Additionally, the report fails to discuss the main reasons for declines in hunting participation cited by hunters, which include poor health/age, no time/family or work obligations, and lack of access. Lack of game consistently ranked lower than the aforementioned reasons for why hunting participation is declining.⁴

16. Page 16 – The correlation of declining deer numbers to declining hunter numbers has been debated and previously refuted. Declining deer numbers do not relate to declining hunter numbers. An example reference is an article written by Dr. Chris Rosenberry in the December 2009 Pennsylvania Game News.

17. Page 16 – While DCNR does not believe it is relevant to the study objective, the reference to a potential loss of \$278 million in direct economic activity is also misleading and overestimated. This number is based on a household survey, and as such, only non-resident monies would potentially be lost. Presumably, Pennsylvania residents would have redirected this money to other expenditures.⁵

⁴ LB&FC Note: As noted in the report, state level data from the U.S. Census Bureau report will not be available until December 2012.

⁵ LB&FC Note: The \$278 million figure was corrected to \$285 million in the final report.