



# THE PINCHOT LETTER

*News from the Pinchot Institute for Conservation*

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## Forest Certification and the National Forest System

*Sally J. Collins,<sup>1</sup> Denise Ingram,<sup>2</sup> and Hutch Brown<sup>3</sup>*

Wood is one of the finest and most versatile materials known. More energy-efficient than steel and other alternatives, wood use results in fewer greenhouse gases and other harmful emissions (Petersen and Solberg 2003). Moreover, wood is renewable and its use is compatible with management of forests for a variety of ecosystem services—but only if it originates in forests that are sustainably managed.

And there's the rub. In the 1990s, there was a worldwide net loss of forestland equivalent to the area of Italy and France combined (FAO 2005). Most of the loss was due to land use conversion to agriculture, but global markets for wood also contributed through unsustainable (and often illegal) logging. How do we know whether the wood we use is coming from sustainably managed forests?

That's where certification comes in. Certification identifies forestland that is managed according to well-recognized standards of sustainability. Products that originate from certified forests can be labeled for sale, giving buyers confidence that their purchases are environmentally responsible. Forest landowners benefit in turn from green-labeling market opportunities, and other forest stakeholders can also benefit: Under some certification schemes, forest users and forest-dependent communities have a seat at the table in assessing the quality of forest management, where formerly they might have felt left out.

Around the world, people have recognized the benefits, and certification has grown by leaps and bounds. From virtually zero in the early 1990s, certification has

grown to cover much of the private timberland in Western Europe and North America. However, only 7 percent of the world's forests are certified (Davis 2007), and many countries with forests that are not certified face threats from illegal logging, government corruption, or unsustainable forestry practices. A number of forest-product-consuming countries—including the United States—purchase products from overseas forests that might not be managed sustainably.

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Certification—an entirely voluntary market approach—can be a powerful tool in meeting such threats. The Forest Service has supported efforts in countries around the world to promote sustainable forestry practices, from reduced-impact logging to increased law enforcement. Certification has been introduced in such countries as Brazil, Indonesia, Madagascar, and Mexico to help sustain forests and reduce illegal logging. In 1997, to be fully credible in encouraging other countries to adopt forest certification, the Forest Service began exploring the possibility of forest certification for the lands it manages, the National Forest System.

In fact, national forest management might benefit from forest certification. A number of states, counties, and municipalities have found it to be useful, and about 14 million acres of state land in the United States are now certified. Certification programs have helped guide forest policy and management and improve communication with the public. Quite apart from global forestry considerations, certification for the National Forest System might be a good idea.

*Leadership in Forest Conservation Thought, Policy and Action*



EXECUTIVE OFFICE: 1616 P Street NW, Suite 100, Washington DC 20036 202/797-6580 FAX: 202/797-6583 WEB: [www.pinchot.org](http://www.pinchot.org)

GREY TOWERS NATIONAL HISTORIC SITE: P.O. Box 188, Milford, PA 18337 570/296-9630 FAX: 570/296-9675

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## ABOUT THE PINCHOT INSTITUTE

Recognized as a leader in forest conservation thought, policy and action, the Pinchot Institute for Conservation was dedicated in 1963 by President John F. Kennedy at Grey Towers National Historic Landmark (Milford, PA)—home of conservation leader Gifford Pinchot. The Institute is an independent nonprofit organization that works collaboratively with all Americans nationwide—from federal and state policymakers to citizens in rural communities—to strengthen forest conservation by advancing sustainable forest management, developing conservation leaders, and providing science-based solutions to emerging natural resource issues. Further information about the Pinchot Institute's programs and activities can be found at [www.pinchot.org](http://www.pinchot.org).

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To test its potential, the Forest Service asked the Pinchot Institute for Conservation to explore the application of certification systems on national forest land. The Institute worked with accredited auditors to investigate management practices on five units in the National Forest System using protocols developed by two leading forest certification systems—the Forest Stewardship Council and the Sustainable Forestry Initiative. The protocols reflect how well landowners meet their own management standards in addition to standards set by each system.

Completed in 2007, the assessments showed that all five study units met or exceeded most of the certification requirements under the two systems. The assessments also provided valuable insight into common challenges facing national forest managers, such as unmanaged off-highway vehicle use, road maintenance backlogs, and the need for more active forest management to minimize insect and disease problems and reduce hazardous fuels. Although the Forest Service is well aware of such issues, forest certification would likely require some thoughtful and deliberate management actions, some perhaps at the national level.

The Forest Service is carefully weighing the tradeoffs before making a decision. The United States already has the most comprehensive laws and regulations for forest management in the world, and the national forests and grasslands are already managed in a transparent public process. Certification would require the Forest Service to take a number of steps that might include adding new procedures to management systems that are already fairly process-heavy.

However, professional third-party assessments could be a valuable addition to Forest Service auditing procedures and quality control. They could also help the general public better understand and assess the policies and procedures used in managing the National Forest System. The small community enterprises that depend on material from national forests, especially in the West, would benefit from access to emerging markets for certified forest products. In addition, adopting certification for the National Forest System would set a powerful example for private landowners and other countries.




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decision, forest certification  
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The Forest Service is evaluating such considerations in deciding whether to adopt certification. The next step will be listening sessions with interested parties to promote a broader and deeper dialogue on the certification of federal lands. Whatever the agency's ultimate decision, forest certification is here to stay. Certification enjoys strong support from a range of stakeholders, including consumer groups, wood producers and retailers, and governments around the world. It holds promise for promoting sustainable forest management and building green markets on a global scale, with benefits for generations to come.

## Acknowledgments

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## Notes

1. Sally Collins is the Associate Chief of the U.S. Forest Service, Washington, DC.
2. Denise Ingram is a Policy Analyst for the U.S. Forest Service, Washington, DC.
3. Hutch Brown is a Policy Analyst for the U.S. Forest Service, Washington, DC.

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# National Forest Certification Study: Summary of Results

*V. Alaric Sample, Will Price, Jake Donnay and Catherine Mater*

Over the last two years the Forest Service has worked in partnership with the Pinchot Institute for Conservation to study the applicability of independent third-party certification for several national forests. This study evaluated the management of five national forest units using standards developed by the Forest Stewardship Council (FSC) and the Sustainable Forestry Initiative (SFI), two major forest certification programs currently operating in the United States. The Forest Service has considered the prospect of certification for many years, and supported and encouraged the growth of certification domestically and internationally. This study is the first comprehensive in-field evaluation of national forests using FSC and SFI standards.

## Certification Trends In The U.S.

The area of forests in the U.S. certified by FSC and SFI has increased from virtually none in 1998 to over 60 million acres today.<sup>1</sup> These standards were first applied on private forestlands to meet the increasing global demand for certified products. Benefits of certification to public landowners extend beyond providing certified wood to the marketplace. States such as North Carolina, Michigan, Maryland, Pennsylvania and Minnesota have achieved certification under both systems. These states have reported increased public engagement, improvements in administration and ongoing improvement in forest practices as a result of certifying their forest lands.<sup>2</sup> Over 14 million acres of public land has been certified in the U.S., most under both the FSC and SFI systems.

## Current Policy Setting

The Forest Service, U.S. Department of Agriculture, first considered testing certification in 1997, on the Lakeview Federal Stewardship Unit, a portion of the Fremont-Winema National Forests. At that time, FSC auditors had little experience on public lands, and SFI had not yet launched a third-party certification program. Based on the questions raised both inside and outside the agency on how certification could apply to the National Forest System, the Forest Service decided to institute a policy that no national forest would seek certification for the time being. However, the policy did allow for an outside organization to independently conduct an evaluation relative to certifi-

cation standards, with willing participation of a national forest.

The certification programs differ in how their policies regard the certification of national forests, and prior to this project there was little information on conflicts that may exist between the requirements of the standards, and the mandated mission of the Forest Service.

The SFI Program has no policy expressly prohibiting the application of SFI certification of federal lands—and has formally expressed willingness to certify a national forest should it be recommended based on an accredited SFI audit. The SFI Standard presently includes specific requirements for public land management organizations, which apply to any national forest.

The FSC US has a formalized Federal Lands Policy, which imposes three conditions that must be met before any federal lands can be offered certification. There first needs to be a willing landowner (1); then public consensus (2); and, finally a set of FSC standards developed specifically for the Forest Service (3). These conditions apply to any new type of federal land management agency. To date, FSC has approved federal land standards for only the U.S. Department of Defense and the U.S. Department of Energy<sup>3</sup>. The three pre-conditions that must be resolved before a national forest unit can seek certification have not yet been met.

## Study Objectives

The Pinchot Institute's decade of experience with certification study projects on public lands—many of them managed under laws, policies and land management planning processes similar to those used by the Forest Service—has helped guide the design of this case study which explores the potential applicability of certification on units of the National Forest System. The National Forest Certification Study is explicitly designed to:

1. Evaluate potential benefits and costs of third-party certification of national forests and grasslands;
2. Provide the Forest Service a better understanding of how national forest management practices align with SFI and FSC standards; and,







3. Study the lessons learned as a basis for determining what policy and management direction may be needed in the event forest certification were pursued in the future.

Actual certification by FSC or SFI *is outside* the scope of these evaluations and *was not* a possible outcome on any of the study units.

## Study Setting

The National Forest System (NFS) management units participating in the study were selected by the Forest Service. They considered willingness, readiness, geographic representation, and the representation of a variety of resource management issues, among other factors. Prior to the case study, the Institute performed a “crosswalk analysis” of the current management systems of six national forests, looking at the alignment of the FSC and SFI standards with statutory requirements, system-wide directives that guide operations, management planning, and other supporting documentation used by each forest. Four of the forests in the case study had participated in this initial review. The five case study forests that underwent FSC and SFI evaluations as part of this study were:

- *Allegheny National Forest* (ANF) in Pennsylvania;
- *Lakeview Federal Stewardship Unit* (LFSU) on the Fremont-Winema National Forests (LFSU) in Oregon;
- *Chequamegon-Nicolet National Forest* (CNNF) in northern Wisconsin;
- *Mt. Hood National Forest* (MHNF) in Oregon; and,
- *National Forests in Florida* (NFF), which include three national forest units managed under one forest plan. They are the Appalachian National Forest, the Ocala National Forest, and the Osceola National Forest.

## Study Design

The case study was designed to closely approximate the process that a forest would undergo were they actually seeking certification. To this end the selected firms and audit teams were required to use the same approach they would for an actual certification assessment, as accredited by the FSC and SFI certification programs. The format of the findings was also intended to emulate actual certification reports.

The SFI evaluations used the 2005–2009 Sustainable Forestry Initiative Standard (SFIS). The SFIS is being widely applied on both public and private lands and has requirements specific to public lands built into the standard. The five FSC evaluations for the case study employed the FSC Regional Standards for the appropriate region, the DoD/DoE National-Level Indicators, and a set of *Additional Considerations* developed specifically for this project. The regional standards used in the study included the:

- *FSC Pacific Coast (USA) Regional Forest Stewardship Standard, v9.0* - Mt. Hood NF & Lakeview Federal Stewardship Unit
- *FSC Appalachia (USA) Regional Forest Stewardship Standard, v4.6* - Allegheny NF
- *FSC Lake States-Central Hardwoods (USA) Regional*

*Forest Stewardship Standard, v3.0* - Chequamegon-Nicolet NF

- *FSC Southeast (USA) Regional Forest Stewardship Standard* - National Forests of Florida

Pursuant to the FSC Federal Lands Policy discussed above, the FSC national standards setting body (FSC-US) would need to develop and approve an additional set of standards specific to NFS management in order to reflect a broader set of management objectives than is typically found in private forestry enterprises. As part of the study, each audit team developed Additional Considerations to be used in concert with existing FSC standards. The three FSC audit firms taking part in this study developed these supplementary indicators through a peer review and public participation process prior to each field evaluation. Findings relative to the Additional Considerations will hopefully help inform the dialogue on what additional requirements would be considered for the National Forest System. However, it is important to note that FSC-US would undergo its own separate process to develop standards specific to federal ownerships if the Forest Service were to seek certification.

FSC and SFI audit firms for each forest in the case study were chosen through a competitive bid process. Two evaluations were conducted by a joint FSC/SFI team formed by SmartWood and PricewaterhouseCoopers. Two were conducted by another joint FSC/SFI team formed by Scientific Certification Systems and NSF International Strategic Registrations (NSF-ISR). The FSC/SFI evaluation for the National Forests of Florida was conducted by SGS Systems and Services Certification, Inc.

The audit teams on each forest included five to six qualified individuals, representing a broad range of expertise. The teams typically included a lead auditor, forester, wildlife biologist, forest ecologist, hydrologist, and a social scientist and/or economist. A portion of the team spent 2-3 days with the forest staff during an initial onsite preliminary review. Two to four months later the full team spent at least a week on the forest, conducting a broad-based management review.

A key value of this case study is the information they provide to the Forest Service, the certification programs, and other interested parties. The coordination teams for each national forest helped the Pinchot Institute better understand their experiences with the certification evaluations by completing a questionnaire and participating in follow-up interviews. The questions included an inquiry into their perspectives on the certification process, the value and scope of the audits, and type of value certification may offer national forests.



Staff of the Allegheny NF describing forest boundaries and management areas (photo credit, D. MacCleery).

Follow-up interviews were also conducted with each lead auditor from the five participating audit firms to gather feedback on their experience. These interviews helped capture their insights on the applicability of FSC and SFI standards on national forests and the most effective manner by which the Forest Service should undergo an assessment should they wish to become certified.

## Findings

During the course of their review, the auditors commended the case study national forests for meeting the requirements of the FSC and SFI standards in many areas such as:

- *Forest Planning and In-field Implementation.* Auditors noted the detailed planning processes and assessments employed on each forest.
- *Stakeholder Consultation.* The way in which local communities and other affected stakeholders are apprised (e.g., presentations, email, websites, broadcast and print media, etc.) of upcoming forest management activities was described as “extensive” and “exemplary” by auditors.
- *Coordination with First Nations.* The proactive communications with local tribes has facilitated the protection and management of culturally significant sites.
- *Protection of Threatened and Endangered Species.* Auditors commended the process used by the case study forests to identify rare species presence and sensitive habitat features and incorporate this information into all phases of management activities.
- *Control of Invasives and Exotics.* The procedures to



aggressively limit the introduction, impact and spread of invasive species was referred to as “outstanding” by some auditors during the certification evaluations.

Many of the non-conformances are based on the fact that the national forests are not actually seeking certification at this time and so are essentially not applicable in the context of this study. This being the case many of programmatic or “technical” requirements were not met. These technical gaps include requirements such as statements of commitment to the programs, formal reporting to FSC and SFI, and related issues.

Other reported non-conformances related to “non-technical” aspects of sustainable management. In many cases, these “substantive” non-conformances were well known to NFS staff. In fact, the attention to the particular issue was often partially driven by the staff’s own concerns expressed through the stakeholder consultation process and other phases of the project. Findings of non-conformance were also informed by the stakeholder consultation process, carried out through onsite meetings and one-on-one interviews. In total, close to 500 individuals, not including many of the NFS staff, provided input to the auditors through the course of the five evaluations. The input from external stakeholders constituted a substantial portion of the findings reported for the FSC evaluation process. Comments from stakeholders were referenced in numerous instances—cited as evidence on relations with stakeholders and as direction to resource management issues auditors pursued in the field.

Examples of non-conformances reported for more than one unit included:

- *Old-growth protection and management issues.* All five case study national forests addressed or exceeded the old-growth requirements under the SFI standard. The FSC regional standards addressing identification of, and/or entry into, old-growth forests posed conformance issues for some participating NFS units.
- *Forest health issues arising from backlogged forest management activities.* Consistent delays or backlogs in meeting treatment objectives led auditors to find most case study forests falling short of their stated economic, ecological, and social goals. FSC and SFI auditors suggested the backlog in harvest treatments and persistent lack of funding has exposed forests to increased risk of disease, insect outbreaks, stand-replacing wildfires, and in some cases, being unable to provide key habitat features for certain endangered species.

- *Monitoring of non-timber forest products.* The certification evaluations determined that the management of NTFPs on each case study national forest met the requirements of the SFI standard. FSC auditors, however, found needed improvements in NTFP permitting and monitoring of removals (all units except NFF).
- *The backlog of road maintenance and decommissioning.* The road maintenance backlog is noted as a potential problem under both SFI and FSC. On all units except the NFF and CNNF there are either some or, in other cases, numerous inadequately maintained roads, many of which are no longer needed for land management.
- *Monitoring compliance with contractor worker safety requirements and training.* The NFS outlines all USFS regulations and BMPs in all timber sale contracts. This fell short of both standards’ requirements as FSC and SFI auditors on all five certification evaluations failed to identify any evidence of a mechanism for evaluating and ensuring contractor training and education.

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#### *Feedback from Case Study Participants*

Most of the NFS study coordinators felt that the certification evaluations provided a comprehensive review, which looked at the many integrated management activities occurring on the forest. NFS study coordinators suggested that the difference between the agency’s internal audits focusing on a particular management function (e.g., timber sale program), and the more holistic integrated certification review was complementary, and could help identify potential issues needing consideration during their forest plan revision process.

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NFS study coordinators also provided feedback on the comprehensiveness of the standards and the degree to which the certification programs aid in communication with stakeholders. To this end, the study coordinators agreed on the following:

- Both FSC and SFI processes explored a wide range of issues substantially affecting the sustainability of management of the participating National Forests.
- The standards cover an appropriate balance between economic, environmental and social concerns.
- The programs provide a good test of staff ability to perform their responsibilities.
- The evaluations provided opportunities for interest groups to provide input regarding the agency’s commitment to sustainable forestry and identified the concerns of their stakeholders.

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Coordinators also reported that the FSC and SFI evaluations provided positive, independent reinforcement of their management activities while identifying those areas where improvements are needed. In many cases, these improvements could not occur without additional funding and/or staff resources. Also, while the coordinators felt the assessment process was valuable as an opportunity to strengthen integrated management functions, most also commented on the additional demands certification could add to full workloads. Overall, participating staff recognized the value of third-parties communicating publicly on the successes and difficulties of national forest management—especially difficulties arising from factors they feel are “beyond their control.”

## Conclusion

Forest management on the case study national forests met many of the requirements of existing FSC and SFI standards. Where non-conformances were identified, Corrective Action Requests addressing performance gaps between national forest management and the certification standards may be unattainable without fixes that are at least partially addressed by the agency’s Washington Office. Potential policy changes to address the auditors’ suggested improvements include:

1. Develop viable strategies, and secure the necessary resources, to substantially improve the condition of overstocked stands and meet desired forest conditions.
2. Develop a strategy for reconciling the differences between the old growth provisions of the Northwest Forest plan and the FSC Pacific Coast Regional Standard.
3. Complete forest roads analyses to determine necessary transportation networks essential for management needs while identifying surplus roads ready for decommissioning. Additionally, NFS units would need to pursue strategies to maintain the needed road system to accomplish management activities.
4. Develop programs to manage and monitor the abundance, regeneration, habitat conditions and yield of NTFPs that are harvested.
5. Require contractors to participate in training or certi-

fied logger programs to ensure harvesting operations are completed safely and with the requisite skill levels.

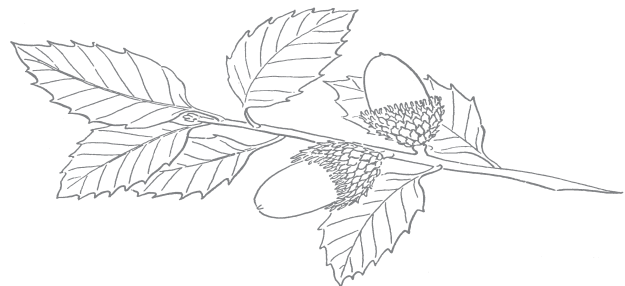
Independent, third party certification is one of the most significant developments in the field of forest management in the last two decades. Its use has expanded dramatically with increasing interest in practical ways to ensure sustainable management practices are being used in forests throughout the world. In the U.S. millions of acres of private and public (primarily state-managed) forests have been certified over the last decade.

Certifying national forests has been debated for many years. It is a sensitive and complex issue—perhaps more so for the National Forest System than any other type of ownership in the U.S. NFS planning is exceedingly complex and management practices and objectives are closely scrutinized by both the public and U.S. Courts. This study was designed to help the Forest Service assess the value and implications of certification. We encourage the Forest Service, and any external parties interested in the management of national forests, to use this information and engage in an active dialogue on whether certification should be a next step for the agency.

*For the full report and additional information, please go to [http://www.pinchot.org/current\\_projects/forest\\_cert/certification](http://www.pinchot.org/current_projects/forest_cert/certification).*

## Notes

1. Currently, 23.1 million acres have been certified to FSC standards in the U.S. and 53.7 million acres have been certified to SFI standards. About 14 million acres of public lands have been certified to both FSC and SFI standards. Much of the public land base certified by the two programs is owned and managed by state agencies. FSC website can be viewed at: [www.fscus.org](http://www.fscus.org). The SFI website is at: <http://www.sfi-program.org>.
2. Lister, J. 2007. *The Certification of U.S. State-Owned Forestland*. Institute for Resources, Environment & Sustainability. University of British Columbia. Vancouver, B.C. 111p.
3. Presently there are no Department of Energy lands that have sought FSC certification.





## PERSPECTIVES

## National Forest Management: How Are We Doing?

V. Alaric Sample

When he was serving as New York City's mayor, Ed Koch was known to occasionally take to the streets of Gotham, stopping citizens at random to ask, "How am I doing?" Two years ago when Forest Service leaders approached the Pinchot Institute about evaluating the management on five case study National Forests to the existing certification standards, they were essentially asking the same thing. As Forest Service Associate Chief Sally Collins notes in the accompanying article, the agency is increasingly aware that independent certification is becoming a fixture in forestry elsewhere in the world, a necessary step to reassure both citizens that their forests were being well managed. As Forest Service leaders made clear to Pinchot Institute researchers at the time, the agency had no plans to seek actual certification, or even to determine if a National Forest was potentially "certifiable." They wanted to know "how they were doing," compared to two widely accepted sets of standards for sustainable forest management.

Managers of public forestlands in the United States have had a tough couple of years—several decades, in fact. Once highly regarded by the general public as firefighting heroes and conservation leaders, managers of public forests starting taking heat themselves in the 1960s and 1970s over issues such as clearcutting, herbicide use, and wilderness protection. In the 1980s and 1990s, a string of lawsuits over impacts on endangered species and old-growth forests brought timber harvesting to a virtual standstill on many public forests in the US.

Some of the highest profile controversies focused on the National Forests, a century-old, 193 million acre system of federal forest reserves managed by the US Forest Service. Public trust in forest managers hit an all-time low, and there were few proposed timber harvests or other management activities that were not halted or delayed by administrative appeals and citizen lawsuits.

Meanwhile, worldwide concern over large-scale deforestation in the tropics prompted the development of programs for independent third-party certification of wood produced from sustainably managed forests. The objective was to enable consumers, especially in tropical wood-importing nations, to consciously choose wood products that would not contribute to further exploitation and unsustainable management of tropical forests. With cooperation from leaders in forest industry as well as conservation organizations, forest certification programs were developed to (1) create a list of criteria for sound forest management, (2) establish independent audit processes to

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determine in the field whether a given forest management enterprise is following these criteria, and (3) provide a mechanism for tracing products from a certified forest through manufacturing and distribution all the way to the consumer, so the consumer can be certain that that wood or paper product they are purchasing did indeed come from a sustainably managed forest.

This represented an important breakthrough in the contentious arena of forest conservation. No longer were forest industry and environmental activists simply locked in a legal and policy stalemate over *whether* timber harvesting could take place, but *how* it could take place while ensuring that it is ecologically sound, economically viable, and socially responsible. These developments also held out the promise of calming some of the public controversy around forest management, by providing citizens with credible assurances that the forests in question were not being over-exploited, and adequate protection was being provided for forest areas of exceptional importance for conservation values such as biodiversity, wildlife habitat or water quality.

In his best selling book *Collapse: How Societies Choose to Fail or Succeed*, Pulitzer Prize-winning author Jared Diamond writes that "the essence of [certification] is that consumers can believe it, because it is not an unsubstantiated boast by the company itself but the result of an examina-

tion, against internationally accepted standards of best practice, by trained and experienced auditors who don't hesitate to say no or to impose conditions."

In 1996, the Pinchot Institute embarked on a long-term research project to see whether certification programs—originally developed to guide forest management and timber harvesting by private companies—could also help improve forest management on public lands designated to protect a wider array of natural resource and environmental values. The first major project involved the independent audit of the entire 2.1 million acre state forest system in Pennsylvania. Based on this evaluation, some important corrective actions were needed, and the necessary actions were taken. Today, Pennsylvania's state forest lands are the world's largest single body of certified forest—more than 3,000 square miles (8,400 square kilometers). More importantly, it is widely acknowledged by conservation organizations, forest industry, and state forestry agency officials themselves that these public forests are being better managed now, and much of the past legal and policy controversy has subsided.

This report describes the results of independent audits of five units of the National Forest System ranging from 500,000 to 1.5 million acres in size. This case study is the culmination of what has become a ten-year research project that ultimately involved forest certification audits on state forestlands in seven states, 30 areas of Native Amer-

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*There now begins what  
we hope will be a  
positive, constructive  
and genuinely  
productive national  
dialogue on the potential  
value of forest  
certification on public  
forest lands.*

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ican tribal forestlands, and one national park. It should be noted that, in each case, the independent audits identified needs for corrective actions, and in each case these were successfully addressed by the agencies' forest managers. A general conclusion among the agencies themselves is that the reduction in costs associated with public controversy and legal challenges—not only on agency budgets but on the spirit and morale of their forest managers—more than offset the time and expense associated with the certification process.

Whether this will be true of the U.S. national forests, only time will tell. Decades of often bitter controversy are not easily forgotten or set aside. Nevertheless, there now begins what we hope will be a positive, constructive and genuinely productive national dialogue on the potential value of forest certification on public forest lands—for improving the protection and sustainable management of these lands for a variety of values and uses, and for making them models of sound forest management to guide and inspire managers of other types of forest throughout the country and around the world.

It is our hope that the results of this study and the analysis contained in the report will inform and enrich that national dialogue, and help lead to a stronger broad-based consensus on the conservation and sustainable management of America's public forests.



# Are We Underinvesting in the Nation's Forests?

*V. Alaric Sample*

The recent bridge collapse in Minneapolis is raising anew questions about how best to maintain and ensure the safety of the basic public infrastructure on which we all rely. This tragedy cost thirteen people their lives, but considering that an average of 200,000 people each day traversed this particular bridge, things could have turned out much, much worse. The immediate reaction of political leaders in cities and towns across the country was to ask their civil engineers, "Could it happen here?" Astonishingly, in *thousands* of cases, their answer was, "Yes." In and around the nation's capital itself, 25 bridges were found to be "structurally deficient," just as the I-35W bridge has been deemed years before its tragic collapse.

## Adequate public services with inadequate public investment?

The next question our political leaders ask is "How much will it cost to fix?" and the answer is truly staggering. "Where are we going to find that kind of money?" "How could we have let things deteriorate this badly?" Before the finger pointing begins, let's be honest. What happened at the I-35W bridge is symptomatic of the cherished tradition in American society to focus on the near-term, and let the long-term take care of itself. But the long term has a nasty habit of showing up when least expected, and when the bill comes due it puts politicians-and taxpayers- into serious sticker shock.

Our political leaders campaign on platforms to "put tax money back in your pocket, because you know better how to spend out money than the government." This sounds very appealing, and may get them elected. But it is a dereliction of public duty, an evasion of responsibility that borders on negligence. Every one of the 200,000 people who used the I-35W bridge on a daily basis needed it to be maintained and kept safe. Could they act as individuals to maintain this bridge? Of course not. They rely on the department of transportation to ensure their safety, and on their elected leaders to ensure that DOT has the resources to fulfill this responsibility. This is not an argument for big government or against lower taxes, but it is important to "right-size" government services so that our elected leaders and the agencies they oversee have the basic resources to ensure the quality and safety of the necessary public infra-

structure on which we depend, and which we take for granted until there is some major failure. Regrettably, highway bridges are only one small part of the problem.

What we may soon find out is that our systematic underinvestment in America's forests is an even greater threat to public health and well being, and its coming at us faster than we think.

## Forests' environmental services and the lessons of history

There are few things more basic to human needs than water, and there are few things more important to ensuring a reliable supply of usable water than forests. The rate at which we are losing forests in the US today, and the deteriorating conditions in many of the forests that remain, suggest that big problems lie ahead. And it's not just a matter of expense. We can spend money to repair our highway bridges. We can't manufacture water.

Most of the water consumed in the US today—for agriculture, industry, or municipal drinking water—begins as a raindrop falling in a forest. Forests do more than capture water. They store it in deep forest soils that recharge underground aquifers. They release their water gradually, not as destructive topsoil-laden floods, but as innumerable clear brooks and springs that feed reservoirs and rivers. Throughout history, the loss of forests has resulted first in floods, erosion of fertile soils, reduced productivity, followed in many parts of the world by increased poverty, population dislocations and civil strife.

Writing at the time of America's great westward expansion, US ambassador to Italy G.P. Marsh recognized that the dry, barren landscapes around the Mediterranean had not always been that way (Marsh 1864). The depletion and destruction of the region's forests—the cedars of Lebanon, the pines of Rome, and great forests of the Anatolian coast cleared to build Cleopatra's navy—fueled the development of classical civilization. By Marsh's time, however, these same lands were dry, dusty, deeply eroded and capable of supporting little more than nomadic herds of goats and sheep. There was a lesson in this, Marsh wrote, for his native country, which at the time was depleting its forest at an alarming and clearly unsustainable rate.

The lessons in Marsh's *Man and Nature* were not lost, but helped give birth to the nation's first conservation

*V. Alaric Sample is President, Pinchot Institute for Conservation, Washington, DC.*





movement, aimed largely at protecting the remaining large areas of forests as reserves to be held permanently in the public trust. Priority was given to protecting those forests from which or where sprang the headwaters of navigable streams and rivers, and those that provided water for irrigated agriculture.

Many of America's forests that were already in private hands continued to be depleted, however, often stripped of their trees and left abandoned. Subsequent floods and catastrophic fires prompted Congress to allow public forestry agencies to reacquire some of these cutover private lands, where they have gradually recovered. Today they form the mountainous backbone of public forests on the eastern half of the country.

Although many of these public forest reserves were established more than a century ago, we are only now beginning to recognize their full economic value to the nation as a whole—and how costly it would be to find a substitute for the critical role they play. The federal forest reserves now “national forests” were protected explicitly to protect watersheds and provide a sustainable supply of wood, but it was not long before Americans discovered they had other values as well—for wildlife habitat, outdoor recreation, even wilderness preservation. Conflicts amount these uses erupted into controversy in the mid-20<sup>th</sup> century, and disputes remain to this day over endangered species and the protection of the last remaining old-growth forests and wilderness areas.

### Forest carbon—unpriced but invaluable

Lately, though, certain mega-trends in human society and new developments at the global scale, are causing users to view forests in an entirely different light.

There is a growing consensus that the global climate is changing in ways that do not bode well for either humans or our fellow species, and that decisive action is needed to reduce human-induced “greenhouse gases” like carbon dioxide and methane. A few major carbon-emitting industries, notably those that use fossil fuels for generating electric power, voluntarily invested in planting forests, whose growth over time would absorb or sequester an amount of carbon dioxide roughly equivalent to the amount coming out of their smokestacks.

While very tangible, this direct connection was awkward and difficult, so markets such as that on the London

Stock Exchange soon developed to indirectly connect carbon emitters to carbon absorbers through a system of credits. As the need to reduce greenhouse gases becomes increasingly acute, it is expected that the value of a carbon credit will continue to rise. Currently the credit for sequestering a ton of carbon is just under US\$42.

US forests are estimated to have roughly 57.8 billion tons of carbon locked away in their woody biomass—trunks, limbs and roots. These forests are estimated to be adding carbon at a rate of 508 million tons annually through tree growth and planting. So hypothetically, the value of the carbon currently being stored by US forests is more than \$21 billion annually.

Forest burning is estimated to account for one-fifth of all human-induced greenhouse gas emissions. Actions taken to avoid wildfires, or deforestation for development or agriculture, can help ensure that the carbon already locked away in forests stays there, and that these forests will

continue to grow and absorb yet more carbon. How much of all this forest carbon is saleable will depend on how the rules get written in international agreements such as the Kyoto Protocol. Any way you look at it, though, in a warming climate and a carbon-constrained economy, forests are enormously valuable and will become more so.

### Water from the nation's forests—what is it worth?

If water is such a precious commodity, and forests play such an essential role in providing this commodity, then what kind of value might forests represent strictly in terms of watershed protection?

Americans use an enormous amount of water. Water consumption in the US for municipal, industrial and agricultural uses totals more than 408 billion gallons per day, or an average of more than 1400 gallons per person *per day*. As with energy use, Americans' per capita water consumption is among the highest in the world. And most of this water—more than two-thirds—comes from the nation's forests, both public and private.

For a closer look, let's consider the National Forests. The 193 million-acre National Forest System contains less than one-fifth of the nation's forest land. Nevertheless, it is the largest single system of protected forest in the country, and one of the largest in the world. On average, the National Forests provide about 14 percent of the nation's water, but in some regions of the country this proportion

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is much higher. In the states west of the Mississippi River, the average is 33 percent, and in California nearly 50 percent of the water comes from National Forests.

What is this worth? Using a conservative but widely agreed upon valuation of \$40 per acre-foot (an acre-foot of water is 325,851 gallons) the water the National Forests provide is worth roughly \$3.7 billion annually.

## Underinvesting in the nation's forests

But what does it *cost* to produce this? After all, protecting and managing 193 million acres of National Forest is not free—nor is it even cheap. Last year it cost taxpayers nearly \$2.4 billion to manage the National Forest System, not including another \$746 million spent on putting out wild-fires. Even so, this translates to an average of only about \$12 per acre—or \$16 per acre even when firefighting costs are included.

Just the \$3.7 billion per year in water values *alone* are worth more than the entire annual cost to taxpayers of conserving and sustainably managing the National Forests. Although they represent only one-fifth of the total area of US forests, the National Forests account for more than three-fifths of the net growth in US forests. If the carbon being sequestered by this forest growth were to be traded as carbon credits on the London Stock Exchange at today's prices, the value of carbon being sequestered by the National Forests would exceed \$13 billion annually. All the other values— the wildlife habitat, recreation, endangered species protection, carbon sequestration—come along as part of the package at no added charge.

This is a good deal for the American taxpayer. In fact, it may be too good. Wildfires burned some 9.8 million acres of National Forest in 2006, a modern record. More than 85 percent of the nearly \$760 million it cost to extinguish these fires was spent on protecting homes and other structures adjacent to the forest—not the forest itself. In spite of another \$6 million spent on seeding and restoration of burned areas it will be years before they will fully regain their ability to protect water quality. In a place like Colorado, where major wildfires on National Forest lands have severely damaged two of the major reservoirs sup-

plying drinking water to Denver and other Front Range communities, this is a serious shortcoming that absolutely must be addressed.

The Forest Service knows how to address the problem, but the hazardous fuels reduction treatments run \$500-700 per acre, and the agency estimates that at least 140 million acres are in need of treatment. How did it get this way? It didn't happen overnight. Unfunded treatments get deferred to the next year, then the next, until the price tag becomes so astronomical as to be almost meaningless.

Like the interstate highway bridges, the "long-term" has a nasty habit of coming around when it is least expected.

We are systematically underinvesting in America's critical infrastructure, whether it is the bridges traversed by a quarter-million commuters each day, or the forests that supply tens of millions of citizens with reliable supplies of clean drinking water. This is not about simply throwing more money at the problem in vague hope that it will go away. It is about taking a responsible approach to maintaining the investments a previous generation made for us, so that we don't dump it on our children so worn out and broken down that it no longer meets the essential needs for health, safety and economic sustainability.

Early conservationists like Gifford Pinchot, who a century ago, helped establish America's system of forest reserves, left us more of a legacy than even they themselves may have realized. Only in recent years have we recognized the importance of forests for protecting endangered species, or locking up atmospheric greenhouse gases. Yet the forest reserves were providing these important values all along. What other critical functions are these forests serving today, that we ourselves will not recognize or appreciate until perhaps decades from now? A higher level of public investment is necessary to sustain the basic productivity of the natural resources and the unseen but essential services they provide to even the most urban component of our growing population. It is a sound investment not just in the environment, but in the nation's future economic well being.

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*We are systematically underinvesting in America's critical infrastructure, whether it is the bridges traversed by a quarter-million commuters each day, or the forests that supply tens of millions of citizens with reliable supplies of clean drinking water.*

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## INSIDE THE INSTITUTE

### *Pinchot Institute projects and news*

## Mapping Sustainability for Forest Landowners

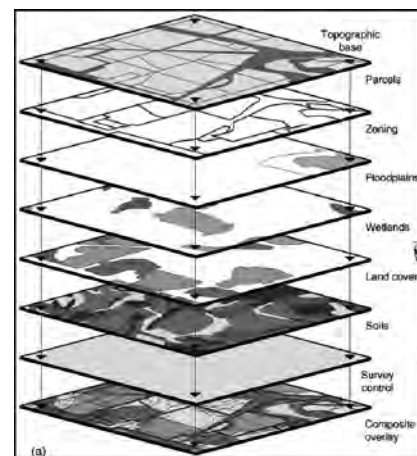
*The Spatial Land Registry allows private landowners to determine eligibility for incentive programs and ecosystem service markets.*

Through user-friendly technologies, the Spatial Land Registry (SLR) will help private landowners, using online mapping and analysis tools, to locate, register, map and assess their land. Since the mid-1980s, 100 acres of forest have been lost, primarily to development, in the Chesapeake Bay area each day; thus, the results of the SLR could ultimately decide the future health of the Chesapeake forest and the Bay itself.

Using online software, forests will be mapped, registered and calculated based on key characteristics of their land (such as forest type and stream frontage). The SLR will also calculate

a few regional-level ecosystem service values and help landowners package economic incentives that can help them maintain their land as forests, avoiding further residential development. With geographic programs, such as GIS, the calculations will be specific and precise in an effort to maintain proper levels of monitoring. The SLR will be able to store large amounts of GIS data, process data at high speeds, print maps of selected areas and interact seamlessly with other websites and databases.

As predictions for 2030 indicate that 40% of all privately owned forestland in the Bay will have experienced increased residential development, the Spatial Land Registry will be a great addition to future forest sustainability needs.



**GIS layers:** Large amounts of GIS data will come together to form one easy-to-use composite overlay.

## The Bay Bank Moves Forward

The Pinchot Institute for Conservation is pleased to announce that after receiving funding from the Chesapeake Bay Trust, the program is seeking to im-

prove the health of the Chesapeake Bay by connecting private landowners to regional ecosystem services markets through one easy-to-use online portal. While still in the development

phase, this funding will help answer questions concerning planning and the framework of future operations of the Bay Bank.

## Selling on eBay? Donate to the Pinchot Institute!

You can sell almost anything on eBay, and now you can make a charitable contribution to the Pinchot Institute as well. When you post an item for sale on eBay, you'll see a button that asks you whether you

would like to contribute a portion of your proceeds to charity. Clicking on this button allows you to search for the organization to which you want to make a donation. Specifying "Pinchot" in the keyword field will bring

you to the listing for the Pinchot Institute. Have fun, and thanks so much for supporting the conservation efforts of the Pinchot Institute in your next eBay sale!



## Pinchot Institute Excited about New Staff

### Tiffany Hodge serving as Financial and Administrative Assistant



In July, Tiffany Hodge joined the Pinchot Institute as the Financial and Administrative Assistant.

Tiffany is a recent graduate of Delaware State University in May 2007 with a Bachelor of Science de-

gree in Management, with concentrations in both Finance and Banking. Previous to joining the Institute, Tiffany was with Friedman, Billings, Ramsey Group, Inc., an investment banking firm based in Arlington, Virginia.

While completing her degree, Tiffany harmonized her academic studies with her service as a member of the Alpha Kappa Alpha sorority and an internship at FBR. A native of the Washington D.C. area, she hopes to

pursue further her studies in law and public policy.

New to the nonprofit field, Tiffany is excited about being a part of the Pinchot Institute for Conservation. Says Tiffany, "I hope to further my understanding of forest conservation while advancing my skills in financial management and administration. It's great to be able to contribute to the effectiveness of a public interest organization like the Pinchot Institute."

### Star Dodd to serve as Communications Coordinator



With a passion for environmental communication, Star Dodd joined the Pinchot Institute as the new Commu-

nica-tions Coordinator. The newest addition to the Institute's staff, Star is delighted to be a part of a team so dedicated to forest conservation and sustainability. In May 2004, she grad-

uated with her Bachelor of Science degree in Wildlife Science with a minor in Biology and then returned to complete her Master of Arts degree in Communication and Public Relations, both from Virginia Tech.

While at Virginia Tech, Star studied abroad in Belize and the Dominican Republic, worked as the Recreation Manager for Mountain Lake Resort, instructed two courses in Public Speaking and Public Relations and completed a public affairs internship with the Forest Service. Her master's degree focused on the methods and theories associated with mass and

public communication with emphasis placed on public advocacy, media studies, public affairs, campaigns and issue management. She hopes to utilize her skills to further expand the Pinchot Institute's education and outreach activities, especially in the area of electronic media.

"People are getting their information in entirely new ways," says Star, "We want to be sure that reliable information about conservation issues is reaching them through these new media channels."

## The Pinchot Institute—Wired!

### *The Pinchot Institute announces its first e-newsletter*

As people increasingly get their news in electronic format—not only on their laptops, but on their cell phones and Blackberrys, the Institute has been exploring ways to become both interactive and everyday. In an effort to reach out to a broader range of conservationists, the Pinchot Institute is now publishing an electronic newsletter.

So accurately named, *The Pinchot Wire* will provide a concise review of

recent news while also providing quick updates on the Institute's latest projects. It will allow readers to interact immediately with the information we provide. With easy navigation, it will allow readers to quickly zero in on topics of personal interest and provide feedback to us.

Although we will continue to regularly distribute the print version of *The Pinchot Letter*, *The Pinchot Wire* will also allow you to access an elec-

tronic version of *The Pinchot Letter*. If you would like to receive the Pinchot Wire, please email Star Dodd at [sdodd@pinchot.org](mailto:sdodd@pinchot.org) or sign up at [www.pinchot.org](http://www.pinchot.org).

We are very excited for this new endeavor and we hope it will aid you in gaining new understanding, insights, and ideas to advance conservation and sustainable forest management.



## Reducing Wildfire Risk in Critical Watersheds

**Y**ears of fire suppression policies and overcrowded, unhealthy forests have created conditions for uncharacteristically severe wildfires along Colorado's Front Range. These same stand-replacing fires pose significant threats to watersheds and the water delivery systems upon which Front Range communities rely.

Last fall, the Pinchot Institute—in collaboration with the Front Range Fuels Treatment Partnership (FRFTP)—set out to develop a politically viable strategy that has broad public support for reducing the potential hazards of catastrophic wildfire to watersheds and water supply infrastructure of the Front Range. As part of this effort, the Institute gathered information on the region's water supply infrastructure, wildfire hazard ratings, forest cover types and other related data to assess the magnitude of the potential wildfire and forest health problems and hazards to watersheds along the Front Range.

Recently, the Institute has made an initial assessment concerning the Front Range forest landscapes and the similarities between areas of high risk of



Colorado landscape a year after a severe wildfire.

catastrophic wildfires and areas where water supply infrastructures exist. These initial recommendations and possible projected costs were shared with Front Range water “providers” and others to gather their input and suggestions. In the coming months, the Pinchot Institute will evaluate the results and inputs from the water

providers and broadly distribute a final assessment which outlines a plan or roadmap for implementation at the federal, state, and regional levels.

For more information on the Critical Watersheds project or the complete initial assessment, please log on to [www.pinchot.org](http://www.pinchot.org).

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## Wood Bioenergy National Dialogue Focuses on Sustainability

**I**n September, the Pinchot Institute for Conservation convened a workshop to examine sustainability issues associated with the current rapid expansion of wood bioenergy to address national priorities for mitigating climate change and increasing energy security. The workshop examined the full range of wood bioenergy technologies and the new demands they are expected to place on the nation's public and private forests. Speakers

from a wide range of conservation organizations, public land management agencies, forest industry and the renewable energy industry addressed the potential impacts to biodiversity and other ecological values, but also potential impacts on sustainable community economic development. Workshop participants emerged with a commitment to determine how these recommendations for a national policy framework aimed at proactively

guiding wood bioenergy development to avoid these problems, rather than trying to mitigate them after the fact. This effort hosted by Rockefeller Brothers Fund has now launched a national dialogue with additional support from the Doris Duke Charitable Foundation, Ford Foundation, Henry P. Kendall Foundation, Merck Family Fund, Lyndhurst Foundation, and the USDA Forest Service.





## Edgar B. Brannon Jr. Honored as Fellow of the Forest History Society

Senior Fellow, Edgar B. Brannon Jr., former Director of Grey Towers National Historic Site in Milford, PA was named a Fellow of the Forest History Society at the Society's Annual Meeting held in September.



This award is the highest honor that can be given by the Forest History Society to an individual, and is

awarded for outstanding sustained contributions to research, writing, or teaching related to forest history, or for many years of outstanding sustained leadership in one or more core programs or major activities of the Forest History Society. Brannon served on the FHS Board of Directors from 1994-2004 chairing the Awards Committee in 1995-1999. He was responsible for bringing the Forest Service headquarters history collection to the Forest History Society and establishing a cooperative agreement between the organizations.

Mr. Brannon is considered one of the leading advocates for using the lessons of history to enrich the debate on current resource issues. He received a B.S. in Landscape Architecture and M.S. in Geography from Cook College, Rutgers University and a MPA from Harvard University, Kennedy School of Government.

## Ensuring Pennsylvania's Environment, Economy, and Quality of Life

Pennsylvania is one of the most heavily forested states in the nation and these forests play a major role in providing environmental quality and the quality of life enjoyed by its citizens. Yet, preliminary data collected by the US Forest Service suggests disturbing trends for Pennsylvania's forest, from loss of forest

cover to development, to the degradation on forests through poor management. The Pinchot Institute has initiated a study to look deeper into the conditions and trends in Pennsylvania's forests in cooperation with federal and state agencies, forest landowners, and local conservation organizations.

The study will identify policy and incentive options to respond to negative trends, and characterize the financial, legal, and policy conditions that would be required to implement them. The results of the study are expected in the summer of 2008. For more information, please contact Eric Sprague at [esprague@pinchot.org](mailto:esprague@pinchot.org).

## 101 Conservation Scholarship Applications due January 31, 2008

Each year the Pinchot Institute awards the 101 Conservation Scholarship to a student who is pursuing a graduate or undergraduate degree in natural resource management, and is the child of a current or retired USDA Forest Service employee. The Institute invites students meeting these criteria to apply for the 2008 scholarship by January 31, 2008. Ap-

plication information is available at [www.pinchot.org](http://www.pinchot.org).

For nearly two decades the 101 Scholarship has been funded entirely by contributions from Forest Service employees—it was named the 101 Scholarship to signify the way that Forest Service personnel have always given "101 percent" in everything

they do. Any Forest Service employees wishing to contribute to the scholarship fund may do so by mailing a donation to the Institute, or online at [www.pinchot.org](http://www.pinchot.org) (please specify that your donation is for the 101 Scholarship fund). Donations are fully tax deductible.

## GREY TOWERS NEWS & NOTES

*News from the USDA Forest Service at Grey Towers  
National Historic Site in Milford, Pennsylvania*

### Free Music, Unique Wood Crafts, Family Fun at Grey Towers Third Annual Festival of Wood

**C**rafts made from wood. Children's activities with wood. Films about wood. Music created with wood. It was a Festival of Wood and nearly 3,000 people helped celebrate our natural and cultural heritage of wood at Grey Towers National Historic Site in Milford, PA on August 11-12.



Craftsmen and artists from throughout the region exhibited, sold and demonstrated their crafts, all made from wood. Some examples included: wood furniture, pipe boxes, Shaker boxes, sawdust folk art, wooden snowflakes, wooden bowls, wood turning, fretwork and hand-carved sculpture. Co-sponsored by the Pocono Arts Council, the crafts component demonstrated how beautiful objects that we use in our everyday lives are created from wood.

Children's activities included games and toys using wood and other craft activities. The Gifford Pinchot Audubon Society hosted a bluebird box building activity. The weekend also included a visit from Smokey Bear and Woodsy Owl, films about wood and forestry, a variety of educational exhibits and informational handouts were distributed throughout the weekend. Participants enjoyed free music with wood instruments each day and all three floors of the historic Pinchot mansion were open for visitors both days.



The Festival of Wood is an annual event intended to educate people about sustainable forest management practices and to promote a stewardship ethic. For more information, contact Grey Towers at 570.296.9630.

### Ecosystem Restoration is Focus of Brannon Fellow Research

**G**regory Nowacki, Regional Ecologist for the US Forest Service, Region 9, was the Fall 2007 Edgar Brannon Conservation Fellow at Grey Towers.



Nowacki,  
responding to the

need to identify "presettlement" conditions that could serve as a reference for ecosystem restoration throughout the Eastern Region, spent several weeks at Grey Towers identifying, securing, reading and electronically cataloguing the large amount of literature that already exists on the subject.

His final seminar was to include an

ecological assessment documenting past and current conditions, land-use impacts and past-to-current trend analysis.

To learn more about Greg's research you can contact him at 414-297-1977 or at [gnowacki@fs.fed.us](mailto:gnowacki@fs.fed.us).



## Internships Available at Grey Towers

Applications currently are being accepted for a number of different internships at Grey Towers National Historic Site, Milford, PA. Students who are interested in gardening, forestry, museum services and recreational or visitor services, such as tour guides, are encouraged to apply.

Students can earn from \$65 per week subsistence allowance to \$2,500 for the 10-12 week season, depending on which internship they qualify for. Housing and uniforms are provided.

Below is a description of the 2008 internship opportunities:

- **Gardening/Horticulture:** The Elisabeth S. Mortimer Garden internship, created in 1994 by Elisabeth and Charles "Duke" Mortimer of Westfall Farms, Montague, N.J., and administered by the Pinchot Institute, is focused on gardening, one of Mrs. Mortimer's greatest passions. The internship provides a valuable, practical experience for a motivated undergraduate college student or recently graduated high school student. The internship provides hands-on experience to challenge and broaden the student's knowledge of practical applications of horticultural theory learned in the classroom. Past participants in this highly successful internship program have majored in such areas as ornamental horticulture, forestry, landscape architecture, and environmental disciplines. Students receive a \$2,500 stipend and housing at Grey Towers for the 12-week program. To apply, please send a resume and cover letter that indicate your field of study and expected graduation date to: Elizabeth Hawke, Horticulturist, Grey Towers National Historic Site, PO

Box 188, Milford, PA 18337, or fax to 570-296-9675 or email to [ehawke@fs.fed.us](mailto:ehawke@fs.fed.us). For more information call 570-296-6061 ext. 162. Deadline is April 2008.

- **Education/Interpretation/Visitor Services:** 10-12-week internships from May-October 2007 are available for students to deliver interpretive mansion tours and education programs and hone their visitor services skills. By living and working on the estate, students will be immersed in the history of forestry in America. The interpretive and education interns will have an opportunity to learn and improve skills in such areas as interpretation, public speaking, communication, research and related programs. Students of forestry, environmental, interpretive/recreation or museum studies programs are sought. Interns will assist USDA Forest Service staff with interpretive and education programs and visitor services. Students will develop and deliver interpretive tours, assist with education and other public programs, provide visitor services and complete one research/interpretive project. Students can earn a \$65 per week subsistence allowance. Grey Towers provides housing and
- **Museum Services:** Students have an opportunity to work with the Grey Towers Museum Specialist and learn about curatorial services, including research, filing and the cleaning and care of the historic artifacts, photos, furnishings and documents. Apply through the Student Conservation Association at [www.thesca.org](http://www.thesca.org). For information call Rebecca Philpot at 570-296-9679.
- **Horticulture Intern:** Students have an opportunity to learn practical horticulture and landscape techniques and skills by working with the Grey Towers horticulturist in the historic Grey Towers gardens. Apply through the Student Conservation Association at [www.thesca.org](http://www.thesca.org) or call Elizabeth Hawke at 570-296-6061, ext. 162.

For more information about any of these internship opportunities contact Grey Towers at 570-296-9630 or via email at [greytowers@fs.fed.us](mailto:greytowers@fs.fed.us). More information is available on the web at [www.fs.fed.us/gt](http://www.fs.fed.us/gt)





# CONTINUING THE PINCHOT LEGACY

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## GET INVOLVED TODAY

The support of people like you enables the Institute to do the independent, innovative research and analysis that's important to you. Your tax-deductible gift to the Institute allows us to carry out projects like:

- ✿ In depth studies of conservation issues affecting our public lands.
- ✿ Development of innovative new policy tools to help conserve forests and promote sustainable forest management.
- ✿ Public education and technical assistance, such as workshops to train citizens of rural, forest-dependent communities to engage more effectively with Congress and the federal policy process.
- ✿ Analysis of issues affecting the future of private forest lands, such as the recent study of the huge impeding intergenerational transfer of private forests and characteristics of the next generation of woodland owners.

These are just a few examples of the work that your contribution will make possible.

You can make a contribution to the Institute using the enclosed envelope, or on our website at [www.pinchot.org](http://www.pinchot.org). To offer further support, please consider checking whether your employer will match your gift.

The Institute is grateful to all its supporters for making possible our independent research on the most urgent issues facing our forests—today and tomorrow.

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