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Innovations in Forestry: Sustainable Forestry and Certification

INTRODUCTION

Approximately 351 million acres, 72% of the productive forest land in the United States, is privately held. Of that, 19% is owned by the forest products industry and 81% is individually held as non-industrial forest land. After World War II, domestic and international demand for wood products rose dramatically. During the period between 1955 and 1990, the average annual cut on public forest lands increased from 2 billion board feet to over 10 billion board feet. Similar increases occurred on private land, in Canada, and in the hardwood forests of the tropics.

By the mid-1970s, concerns about the long-term sustainability of these forestry practices were raised by environmental groups and, later, by the general public. These concerns found practical expression during the 1980s, particularly in Europe, as boycotts of tropical hardwoods. In 1989, in an attempt to recoup the economic losses caused by the European boycotts and in recognition of the need to establish standards for tropical forestry, the International Tropical Timber Organization (ITTO) hosted discussions aimed at identifying measurable indices of sustainable forestry. The ITTO effort was followed by the United Nations Conference on the Environment and Development (UNCED) in Rio de Janeiro in 1992. At this conference, 170 nations, including the United States, signed a non-binding agreement to

develop sustainable forestry practices. One result of these events is the consumer-oriented movement known as "certified forestry."

In the United States forests may be certified as sustainably managed; forest products may be certified as containing only wood from certified forests; and individuals may be certified as practitioners of sustainable forestry. Certification can be awarded by independent third-party evaluators, by a professional society, or by the forest products industry itself. Thus far, only non-federal forest land has been certified. Whether to extend certification to federally-managed land is currently a matter of debate.

CERTIFIED FORESTRY

Certification, usually indicated by a physical trademark stamped on the wood product, is designed to assure consumers that the forest products they purchase have been harvested according to measurable standards which assure a defined level of environmental, social and economic sustainability.

An effective certification system must be:

- Credible to consumers;
- Based on objective, measurable criteria;
- Cost-effective;
- Adaptable to local conditions; and
- Compatible with existing law.

MARKETING ADVANTAGE

Market research on the economic benefits of certification is fairly recent, and no long-term data are available. A market assessment conducted by the USDA Forest Service in 1995 projects that 50-60% of manufacturers and 40% of retailers would be willing to pay a premium of up to 10% for certified wood/wood products. While these projections have not yet been realized, the Certified Forest Products Council, a promotional organization for certified forest products, estimates that the demand for certified wood products currently outstrips the supply. This suggests that certification may provide companies with opportunities to access a new and growing market.

COSTS

Potential marketing advantages must, however, be considered in light of increased costs. In addition to the costs associated with any certification-mandated changes in forestry techniques and management practices, the direct cost of certification is estimated to be 16 to 50 cents per acre for initial certification plus 4 to 6 cents per acre for the required annual review. For a medium to large operation, this can represent an increase of about 3% in production cost. Whether such expenditures can be recouped in the marketplace is a matter for future research to determine.



THE FOREST STEWARDSHIP COUNCIL

The major independent certifiers in the United States are the SmartWood Network (SmartWood), with a nationwide group of affiliate organizations, and Scientific Certification Systems (SCS), based in Oakland, CA. Both groups certify under the aegis of the Forest Stewardship Council, an organization that accredits forest certifiers worldwide.

The Forest Stewardship Council (FSC) is an international non-profit organization founded in 1993. Its purpose is to assure consumers that the certification label appearing on wood products has a standard meaning. To this end, the FSC has established a set of Principles and Criteria that must be adhered to by its accredited certifiers. Specific evaluation standards may vary slightly depending on region and certifier. Such variations are, however, simply regionalized interpretations of the global FSC Principles and Criteria. To date, five certifying groups are accredited by the FSC, including the two in the United States: SmartWood and SCS.

Once certified, a company is entitled to use both the FSC logo and the certifier's seal on its products and to use their names in literature or advertising. A forestry operation maintains its certification through a system of annual on-site audits.

To date, a total of 3.6 million acres of forest land in the United States have been certified by FSC-accredited certifiers. This total represents approximately 0.75% of the productive forest land in the United States. In addition, 77 retailers, mills and manufacturers have been certified as supplying products milled or manufactured from FSC-certified wood.

The full text of the FSC Principles and of the associated Criteria are available at <http://www.fscus.org/fscus2a.html> or from the FSC at the address listed in the *Resource Notes*.

The FSC Principles

- " ... management shall respect all applicable laws ... and international treaties and agreements to which the country is a signatory"*
- " ... tenure and use rights to the land and forest resources shall be clearly defined"*
- " ... legal and customary rights of indigenous peoples to own, use and manage their lands ... shall be ... respected"*
- " ... maintain or enhance the long-term social and economic well-being of forest workers and local communities"*
- " ... encourage the efficient use of the forests' multiple products to ensure economic viability and ... environmental and social benefits"*
- " ... conserve biological diversity ... , water resources, soils, and unique and fragile ecosystems ... maintain the ecological functions and the integrity of the forest"*
- " ... plan, appropriate to the scale and intensity of the operations, shall be written, implemented, and kept up to date"*
- " ... monitoring ... to assess the condition of the forest, ... and environmental and social impacts"*
- " ... primary forests, well-developed secondary forests, sites of environmental, social or cultural significance shall be preserved . . . and not replaced by plantations or other land uses"*
- " ... plantations shall be planned and managed in accordance with [the above] principles"*



THE SMARTWOOD^{CM} NETWORK

SmartWood, a member of the Rainforest Alliance, coordinates the FSC-accredited certifications issued by a worldwide network of regional non-profit organizations. Forestry experts from these organizations apply regionally developed adaptations of the FSC guidelines to certify local forests; forest managers; and forest products industries, manufacturers and retailers. SmartWood-certified private forests range from the 20 acre Tree Shepherd Woods in Washington to the 235,000 acre Menominee Tribal Enter-

prises forest in Wisconsin. Forest consultants, who manage from 350 acres to 20,000 acres, have earned individual certification. Non-federal, public forests are also certified through SmartWood and range from 1,100 acres of city forest in California to 585,000 acres of county and state forests in Minnesota.

The certification process begins with a detailed application to one of the SmartWood affiliates, followed by the submission of an evaluation plan and budget by SmartWood. An evaluation team then makes one or more field visits to examine the entire operation for compliance with its guidelines. The team may also consult with local communities, environmental organizations and other interested parties.

Materials that must be available to the evaluation team include:

- An operating forestry system that includes provisions for planning, management and monitoring;
- A written forest management plan;
- Assurances of the long-term nature of the forestry operation;
- Evidence of maintenance of the forest's physical and biological environment;
- Evidence of sustained yield methods of forestry; and
- Evidence of cooperation with, and positive economic impact on, local communities.

The evaluation team prepares a written report, scoring the applicant on a variety of measurable indicators for each guideline. The draft of this report may be reviewed locally and revised. The final report is reviewed by an independent panel appointed by SmartWood. In order to maintain certification, an annual audit of the operation is required.

A down-loadable list of SmartWood procedures and guidelines is available at <http://www.smartwood.org/guidelines/index.html>.

The addresses of SmartWood and of its seven United States affiliates are listed in the *Resource Notes*.

... fish , wildlife, soil, recreation, diversity, beauty, glory, awe ... "Sustainability is measured not by board feet but by the whole forest."

Charles Wilkinson,
Crossing the Next Meridian.



SCIENTIFIC CERTIFICATION SYSTEMS

Helping you make the best informed environmental choices for personal and professional applications

SCIENTIFIC CERTIFICATION SYSTEMS

The Forest Conservation Program is the FSC-accredited forestry division of the environmental labeling company, Scientific Certification Systems (SCS). The company investigates and certifies environmental claims across many industries. SCS certifies both forests and forest products manufacturers, distributors and retailers. It utilizes a three-pronged evaluation system that focuses on resource sustainability, ecosystem maintenance and socio-economic viability. Each segment of the evaluation system is applied using a set of measurable indicators established in consultation with SCS's forestry and sociology experts. Among the SCS criteria for forest sustainability are:

- Stocking levels and growth conditions;
- Low-impact harvest techniques;
- Regulation of age/size class distribution;
- Pest management strategy;
- Harvest and product utilization efficiency; and
- Even distribution over time of harvest volumes.

The program requires such non-timber resources as water quality and wildlife

habitat to be explicitly addressed in the forest plan. SCS particularly requires evidence of:

- Maintenance of forest eco-community structure;
- Biological productivity;
- Wildlife management strategy;
- Watershed management;
- Natural reserves policy; and
- Judicious use of pesticides.

SCS also requires a demonstration of the financial viability of the operation and of positive efforts to enhance the economic position of the local community.

SCS evaluation teams verify documentation through field sampling techniques and interviews with interested parties. Each evaluation protocol is designed for the specific program being evaluated. Each evaluation team includes persons with local experience and expertise. As with SmartWood, SCS evaluations are peer reviewed before a final draft is prepared. Annual monitoring is required in order to maintain certification.

Detailed information on the SCS program may be found at <http://www.scs1.com/forests.html>.



OTHER APPROACHES TO CERTIFICATION



Growing Tomorrow's
Forests Today™

INDUSTRY APPROACH: SUSTAINABLE FORESTRY INITIATIVESM

The forest products industry in the United States has responded to public concerns about sustainable forestry with a mandatory code of conduct, the Sustainable Forestry Initiative (SFISM). SFI is sponsored by the American Forest & Paper Association (AF&PA), one of the largest trade organizations in the industry. SFI is a set of Principles and Guidelines that member companies are required to incorporate into their management programs. The SFI Principles include:

- Integration of sustainable harvesting with the conservation of non-product forest resources;
- Use and promotion of forestry practices that are economically and environmentally responsible;
- Protection of forests from wildfire, pests and disease; and
- Continuous improvement in the practice of sustainable forest management.

The SFI Principles are implemented by each member company, utilizing a set of Guidelines, each of which is accompanied by one or more performance measures. The SFI Principles and Guidelines may be found at <http://www.afandpa.org/Forestry>.

Unlike the FSC programs, SFI compliance is not a voluntary matter. Since 1996, all AF&PA member companies have been required to have an SFI compliance plan in place and to be taking active steps to comply with that plan. During that year, 15 corporate memberships were terminated for failure to demonstrate initial compliance with the program. Since that time an additional four memberships have been suspended pending renewed evidence of compliance. To date, 134 companies have reached some level of compliance with the SFI.

Compliance with SFI differs from the independent third-party certifications discussed above in several ways. First, even though the implementation guidelines for the program were developed in consultation with experts from outside the industry, they are essentially the industry's rules for its own conduct. Second, the guidelines are rather non-specific and leave much of the "on-the-ground" specification to the individual company. While a member company may set strict environmental performance rules for itself and its suppliers, the AF&PA may not impose those same standards industry-wide without running afoul of anti-trust laws.

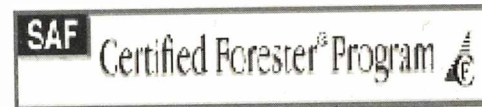
A third difference is in the method of evaluation. SFI relies heavily on each company's reports to document progress and compliance. These reports are reviewed by an outside panel of non-industry experts, and a sampling of companies are visited in order to verify the reports. A fourth—and fundamental—difference is that SFI compliance demonstrates that a company has policies and processes in place that are compatible with environmentally sound management. By contrast, FSC-based certification is prescriptive, evaluating actual performance.

A final difference is that FSC certification permits the use of a consumer-oriented logo for identification and advertising purposes. SFI certification is an internal requirement of trade association membership.

The SFI program reaches beyond the lands owned by AF&PA member companies. Most of the wood supplied to the industry comes from independent loggers and mills. The AF&PA has a goal that all wood supplied to its member companies shall be SFI-compliant by the year 2000. The 1997 SFI report indicates that three-quarters of all private woodlot owners harvest without a management plan and without the assistance of a professional forester. This suggests that if AF&PA reaches its year 2000 goal, it could mean a major change in private forestry practice because of the large number of operations it would affect.

Indicators of change (since 1995), according to the 1997 SFI report, are:

- 20% funding increase for forestry, wildlife and ecosystem management research;
- 250% increase in the number of independent loggers completing comprehensive SFI training;
- 16% reduction in the average size of clearcuts; and
- 20% of total industry land enrolled in wildlife and fisheries agreements.



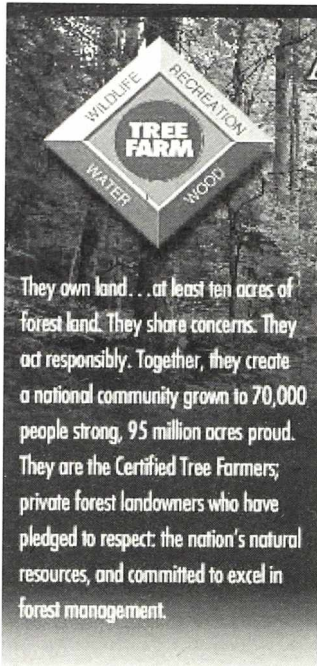
PROFESSIONAL APPROACH: CERTIFIED FORESTER[®] PROGRAM

Although a large fraction of private forest owners do not harvest with the assistance of a professional forester, such professionals do manage 275 million acres, better than half of the productive forest land in the United States. To help insure that these foresters are committed to the principles of sustainable forestry, the Society of American Foresters has established the Certified Foresters Program. This program sets out educational as well as professional and ethical standards of practice for professional foresters.

The program is similar to certification programs found in other trades and professions. The educational standards are rigorous and specify both the degree level and the subject matter areas required for forester certification. These areas encompass:

- Forest ecology and biology;
- Forest resource management;
- Forest policy, economics and administration; and
- Forest resources measurements.

Certified foresters are required to enroll in a minimum of 60 contact hours of continuing education every three years in order to maintain certification. Details of the program are available at <http://www.safnet.org/certified/CERTREQU.HTM>.



Tree Farm System certification is issued after the management plan is reviewed and the site inspected by one of a network of 9,000 volunteer professional foresters, usually coordinated by a state or county forest service. Properties are recertified every five years after a review inspection. Certified properties are entitled to publicly display the "Tree Farm - Water, Wildlife, Recreation, and Wood" sign.

The emphasis of the program has increasingly shifted from simply insuring a continuous flow of forest products to sustaining the full range of forest functions. The American Forest Foundation believes that a forestry program that takes the time and effort required to attend to the aesthetics of the harvest will also be more cognizant of non-harvest values, such as wildlife habitat, water quality and biodiversity.

Further information on the Tree Farm System may be found at <http://www.treefarmssystem.org>.

SHOULD FEDERAL LAND ALSO BE CERTIFIED?

The Forest Stewardship Council has recently initiated a discussion concerning the certification of federally-managed forest land in the United States. Several major issues are currently under discussion, among them:

- Is the certification of federal land redundant since federal law already mandates that forestry on federal lands be sustainable?
- Federal forest lands represent the only large reserves of relatively intact forest in the country. Should such lands be managed for harvest values at all?
- Could certification become a political device to justify increasing the harvesting levels on federal land?
- How can regionally developed certification standards apply to a forest subject to nationally-determined policies?

- Most certification programs require detailed, long-term management plans. How can certification be maintained when congressionally-mandated harvest levels are revised regularly?

The FSC discussion is on-going. For the present, FSC has requested that its members refrain from certifying any federal land until a position paper is published, tentatively in the late fall of 1998. To access the discussion, go to <http://www.digitalfrontier.com/publiclands> or write to the FSC, U.S. Initiative, at the address listed in the *Resource Notes*.

To date, the federal land management agencies have not taken a position on this issue. These agencies do, however, support the existing efforts, both independent and within the forest products industry, to certify non-federal forestry programs as sustainable.

Another approach to the issue of certification of public land is being implemented in Canada. In that country, 94% of productive forests are under the control of either federal or provincial governments. National standards for sustainable forestry have been established through the Canadian Standards Association (CSA). Concessionaires harvesting timber on Canadian federal or provincial land establish a forest management plan that addresses the general standards established by CSA for sustainable forest management. This plan must also include measurable performance criteria for the specific site to be harvested. The criteria are to be developed through a process of local public participation. After an on-site inspection by an accredited auditor, a concessionaire may be registered, i.e., certified, as compliant with CSA standards. Registration is maintained by periodic reviews. This program was implemented in 1996.

THE OLDEST PROGRAM: AMERICAN TREE FARM SYSTEM

Founded over 50 years ago, the American Tree Farm System is the oldest forestry certification organization in the United States. The program is operated by the American Forest Foundation, a non-profit organization funded by a variety of industries, professional organizations and conservation groups. The Tree Farm System has 72,000 members who own over 95 million acres of forest land and encompasses fully one-third of the private, non-industrial forest acreage in the United States. The program is available to property owners with over 10 acres of forest who operate under a management plan that takes into account:

- Water quality;
- Wildlife habitat;
- Soil conservation;
- Production of forest products; and
- Fire, pest, and disease control strategies.

The Sustainable Forestry Initiative recently announced that certification by the American Tree Farm System will constitute compliance with its year 2000 goal for non-industrial forestry programs.

RESOURCE NOTES

GENERAL BACKGROUND:

PUBLIC AND PRIVATE FORESTRY IN THE UNITED STATES:

Bruce, Robert T. and M. Bruce Johnson, *Forestlands: public and private*, Pacific Institute for Public Policy, San Francisco, 1985.

Wilkinson, Charles F., *Crossing the Next Meridian: Land, Water, and the Future of the West*, Island Press, Washington, DC, 1992.

CERTIFICATION:

Viana, Virgilio, et al., (eds.), *Certification of Forest Products: Issues and Perspectives*, Island Press, Washington, DC, 1996.

The Journal of Forestry, April 1995 and February 1999 (forthcoming). Available from the Society of American Foresters (see below).

Wood Products Certification: A Progress Report, reprinted from *Environmental Building News*, November 1997, <<http://www.certifiedwood.org/learning/ebn1197.htm>>



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<http://www.fs.fed.us/land/sustain_dev/>
<<http://www.fs.fed.us>>

Canada

Canadian Sustainable Forestry Certification Coalition
<<http://www.sfms.com/welcome.htm>>

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