

25 Perspectives on Forest Certification: a Survey Examining Differences Among the US Forest Sectors' Views of their Forest Certification Alternatives

Graeme Auld,¹ Benjamin Cashore² and Deanna Newsom³

¹University of British Columbia, Department of Forest Resources Management, Vancouver, British Columbia, Canada V6T 1Z4; ²Global Institute for Sustainable Forest Management, Yale School of Forestry and Environmental Studies, New Haven, CT 06511-2189, USA; ³TREES Program, Rainforest Alliance, Richmond, VT 05477, USA

Introduction

In the last 5 years the world's forest policy climate has been jolted by a startling new development: the emergence of an array of private non-governmental forest certification programmes designed to recognize companies that practice sustainable forest management (SFM). Social and biological scientists have been quick to address this new development, from describing the different types of programmes in the US and globally (Hansen and Juslin, 1999; Rickenbach *et al.*, 2000), to exploring the politics behind them (Elliott, 1999; Cashore, 2002), their intersection between public and private policy (Meidinger, 1997, 1998), and consumer support for such programmes and the products they promote (Forsyth, 1997; Ozanne and Smith, 1998; Forsyth *et al.*, 1999). Despite this increased attention, we are only just beginning to understand how certification programmes gain, or do not gain, support from an array of interests, including environmental, business, governmental and professional organizations, and the effects of this support on the long-term viability of certification programmes.

Why are companies considering or pursuing certification? What are the perceived advantages and disadvantages of certification? Do companies prefer more flexible industry initiated programmes such as the Sustainable Forestry Initiative (SFI), or more prescriptive environmental-group-supported programmes represented by the Forest Stewardship Council (FSC)? What are the conditions under which a company predisposed to one programme would consider another? This chapter is an effort to begin filling this gap by addressing two aspects of forest certification that have received surprisingly scant scholarly attention. First, it examines the attitudes of the key forest companies that will be required to implement forest certification's management rules. Second, it addresses the views of the broader (manufacturing) forest sector whose demands (or lack of demand) for certified wood products and their willingness to act as a link in product-tracking processes (chain of custody) will most certainly play a key role in the future direction of forest certification.

Exploring these questions permits us to perform two key tasks: (i) elucidate better exactly what the forest sector is thinking; and (ii) provide

useful information to certification programmes and policy makers about the kinds of issues they may need to address or change if they want to obtain support from the very businesses their programmes are designed to affect. The purpose of this chapter is to outline key findings; with future work developing and addressing theoretical issues regarding the influence the forest sector might have in the ongoing debate over forest certification rules.

This chapter proceeds in four parts. First, it briefly reviews existing research on this issue, putting this study in context. Second, it illuminates our methodological issues and challenges, explaining why we chose to study both large companies owning forestlands and the broader forest sector. Third, it reviews key findings, examining the level of knowledge of forest certification, the 'fit' of different certification programmes with company objectives, the perceived advantages and disadvantages that obtaining certification might bring, and the groups most actively requesting that companies pursue certification. The chapter concludes by analysing the implications of these data for the future of forest certification, and what existing programmes may need to do to address forest sectors' concerns. It specifically addresses what light these data shed on whether we can expect certification to become a dominant management paradigm, whether it will go the route of niche markets similar to organic labelling or whether it will die out.

Background

The increasing interest in forest certification as an innovative market mechanism to achieve SFM can be traced to the failure of the Earth Summit in 1993 to sign a global forest convention (Bernstein and Cashore, 1999, 2000). Environmental groups felt that they had spent a significant amount of effort and resources on state-sanctioned international venues with no discernible policy gains. As a result, in 1992, the Woodworkers Alliance for Rainforest Protection (WARP) proposed the development of the FSC (Viana *et al.*, 1996) with support from leading environmental groups such as the World Wide Fund for Nature (WWF)¹ (Elliott, 1999). This effort was perceived as a logical jump from the existing work of the Rainforest Alliances SmartWood programme since it facilitated expanding certification to address temperate

and boreal forests (Ozanne and Smith, 1998; Hansen and Juslin, 1999), reducing consumer confusion resulting from multiple certification programmes (Cabarle *et al.*, 1995), and sidestepping the quagmire of nationalistic interests that stifled progress among intergovernmental forest protection dialogues. Essentially, it expanded the traditional boycott campaign's stick approach by offering carrots as well.

The FSC conception of certification envisions new policy making structures where social, economic and environmental interests compete equally in the (private) policy making process (Cabarle *et al.*, 1995; Viana *et al.*, 1996; Meidinger, 1997, 1998). Procedures are developed with the view to eliminating business dominance and encouraging strict standards with limited discretion on the ground so as to mitigate inadequate implementation.

Concerned that FSC would produce strict rules administered by non-forestry professionals; domestic forest industry and landowner associations began to create their own 'competing' programmes (Lapointe, 1998). In the USA this trend witnessed the reorientation of the American Forest and Paper Association's SFI as a forest certification programme. The SFI takes a different approach to certification, it envisions continual improvement and discretionary, flexible policies. Such an approach is believed to foster innovation and avoid straitjacketing companies with costly wide-ranging rules that fail to capture specific circumstances. With this concept, procedural approaches are ends in themselves and individual firms retain ultimate authority over the kinds of objectives and goals they will pursue (American Lands Alliance, 2000). Importantly, governance, at least originally, was dominated by the industry, with other non-governmental organizations acting in advisory, consultative capacities. Following SFI, the American Tree Farm Programme also reinvented itself as a competitor to FSC as a certification programme for small landowners, and has developed a mutual recognition agreement with SFI (American Forest and Paper Association, 2000b). Another small landowner programme, Green Tag, also emerged as an additional forest certification policy choice.

Which programme will gain acceptability among different organizations and interests is a key question. Much research and attention has focused on the demand side, from the creation of buyers

groups (McAlexander and Hansen, 1998; Forest Trends, 2000) and consumer willingness-to-pay (Ozanne and Smith, 1998; Forsyth *et al.*, 1999) to announcements by Home Depot about their intention to purchase certified wood following rules that only FSC currently meets (Home Depot, 1999). (This announcement was made following 2 years of Rainforest Action Network direct action campaigns, and led to Lowe's, Centex and a number of other firms making similar commitments.) The purpose of this chapter is to expand on the work of Vlosky and Ozanne (1998) and Hayward and Vertinsky (1999) in the USA and Scrase (1999), Bruce (1998) and others internationally, with the hope of shedding light on the often-neglected supply side, where ultimate choices over certification implementation will be made.

Methods

Certification has direct implications for companies engaged in the management of forestlands. Standards typically assess the way in which forest management is planned and/or the actual substantive way in which it is carried out on the ground. Thus, forest sector companies that own forestlands are particularly prone to the effects of certification programmes; however, certification of forestlands alone has remained insufficient from a product-marketing perspective. In attempting to offer assurance to final consumers that a specific product comes from a well-managed forest, certain programmes have developed chain of custody certification, which involves the tracing of products from the stump to the end consumer. Effectively, these efforts have broadened the potential impacts of certification to companies that manufacture wood and pulp and paper products, but play no direct role in the management of forestlands. This necessarily meant researching the views of the broader sector who would be needed to manufacture and sell certified products.

Our approach entailed first identifying all US companies that own forestlands. Information was obtained from company websites and annual reports as well as industry directories, such as the Pulp and Paper North American Factbook (Miller Freeman, 1999). The resulting list included 146 companies estimated to own approximately 23.60 million ha of forestland (i.e. approximately 87% of

the 27.14 million ha industrial forestland base) (Smith *et al.*, 2001). Second, and separately, the broader forest sector was examined by obtaining a stratified random sample of 2000 companies whose operations fell in either the Standard Industrial Classification (SIC) codes 2400 or 2600.² In all, 1200 companies were sampled from SIC 2400 and 800 from SIC 2600. The information was obtained from Best Mailing Lists, a sales distributor of the Dun and Bradstreet's industry list, that contains company information, which is continuously updated by way of phone surveys conducted on a 90-day cycle.³ The sample included companies manufacturing paper and allied products, and lumber and wood products, excluding furniture.

We sent the questionnaire to top-level executives, who were asked to respond in a manner that reflected the interests of their company as a whole. Having the ultimate authority to set company policies on certification issues, the views of these individuals are central to understanding the views the sector has towards the various certification options. With the broad sector-wide sample (i.e. the SIC 2400 and SIC 2600 companies) and the separate group of landowning companies, we were able to assess differences in forest sector perceptions between companies involved with, and separated from, the management of forestlands.

Developing our questions involved adapting some questions from a study already carried out that assessed a similar group of Canadian companies (Takahashi, 1999) and generating others that specially addressed unique features of the US sector. Input was sought from a number of colleagues and some company officials on the specific wording of each question and the overall clarity and structure of the questionnaire.

Our mail-out included three separate contacts, which were tailored to balance the pursuit of a high response rate with cost considerations. In this regard we sought advice from a number of sources on mail-out procedures (Fox *et al.*, 1998; Jobber and O'Reilly, 1998; Dillman, 2000). The final sequence of contacts included pre- and post-survey postcards along with the actual survey mailing, which included a stamped, addressed return envelope, the survey, and a cover letter explaining the project. Postcards were sent 1 week before and after the questionnaire. All participants received the post-survey card, since our procedure for ensuring participant anonymity precluded a selective final mailing.

Results

This section outlines key findings from the survey. Our focus is on describing the characteristics of the different participants, exploring how familiar they are with the various domestic and international programmes, uncovering the advantages and disadvantages they perceive as likely outcomes if certification programmes gain broad acceptance, and determining the groups most involved in the direct promotion of certification programmes.

Characteristics of respondents

From the broad sector-wide sample of SIC 2400 and 2600 companies, 242 surveys were returned, of which 214 contained usable responses. Removing the 15 returned undeliverable mailings, we obtained a response rate of 11% (214/1985). Of these, 168 operated lumber and wood products manufacturing facilities, while 46 represented companies manufacturing paper and allied products (see Fig. 25.1). This translates into a 14% response rate for the SIC 2400 companies and a 6% response rate for the SIC 2600 companies. Grouped together, 35% of the companies operate in the South, 25% in the North-central, 21% in the West, and 19% in the Northeast.⁴

These companies had mean net annual sales of \$22.5 million, which dropped to \$18 million, with a range of \$5–175 million and a median of \$9 million, when we removed one responding

company that reported \$1 billion in net sales. Total per company employment ranged from as low as 10 to nearly 6000, with a mean of 139 and a median of 75; 35% of the responses came from company headquarters with the remaining 65% coming from companies operating in a single location. The median year of establishment was 1972.

The low response rate from the broad sector limits the inferences one can draw from the survey results. However, given the nascent nature of most certification programmes,⁵ the information available from those companies that did participate is key for directing future investigations into the issues these companies feel will surface as the adoption of forest certification continues.

From the 146 landowning companies, 72 usable questionnaires were returned, representing a 49% response rate (72/146). By our reckoning, the participants own 16.15 million ha of forestland, which is approximately 60% of the 27.14 million ha of industrial forestlands (Smith *et al.*, 2001). By region, 36% of their operations were in the West, 33% in the South, 21% in the Northeast and 10% in the North-central region. For those companies we were able to obtain information from, net sales ranged from \$5 million to over \$24 billion and total employment ranged between 40 and 80,000. The median year of establishment was 1953.

Reported level of knowledge

With the characteristics of these two groups in mind, we turn to exploring how they differ with

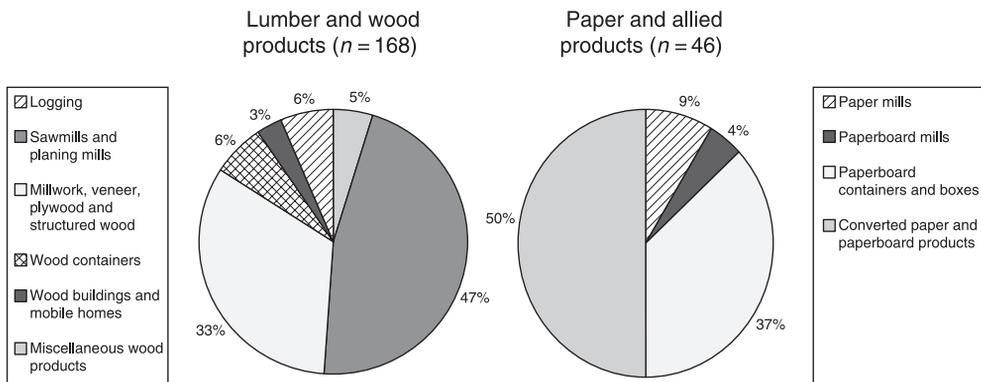


Fig. 25.1. The proportion of respondents whose primary operations involve lumber and wood products ($n = 168$), or paper and allied products ($n = 46$).

respect to their views and attitudes about forest certification. In terms of 'level of knowledge', respondents were asked to identify how familiar a list of certification programmes were. These included programmes existing in the USA and some that

are developing internationally (see Figs 25.2 and 25.3).

The most notable result is the separation between the owners and the broad forest sector. Two knowledge gaps are especially relevant. First,

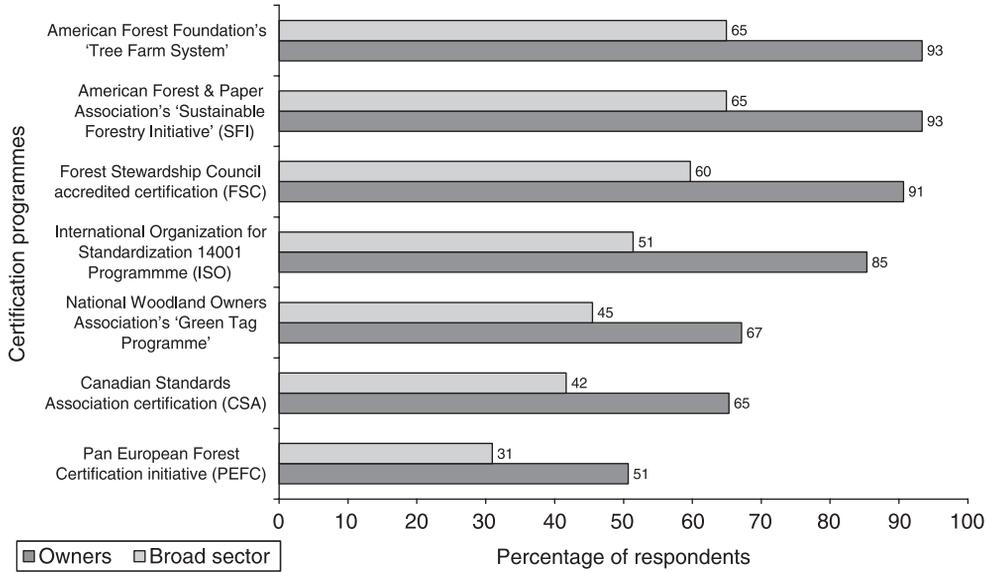


Fig. 25.2. The percentage of respondents indicating that they had some knowledge of the listed certification programmes.

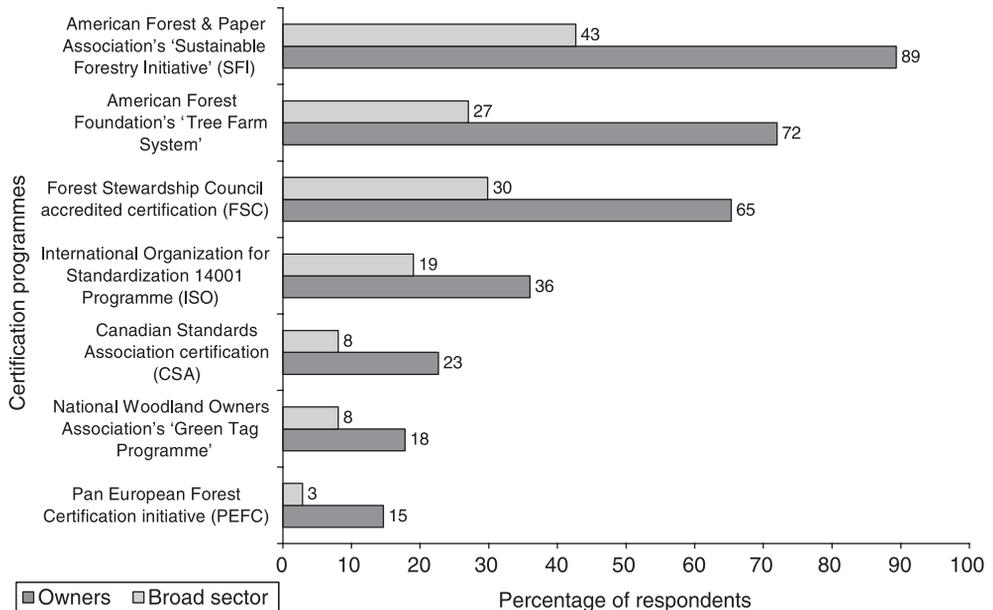


Fig. 25.3. The percentage of respondents indicating that they were quite familiar with the listed certification programmes. This includes respondents who answered 5, 6 or 7 on a scale of 1 (no knowledge) to 7 (extremely familiar).

both groups indicated low levels of familiarity with certification programmes developing outside the USA. This even applied to the Canadian Standards Association (CSA), with which only 1% of the owners indicated they were 'extremely familiar' and only 23% reported high levels of familiarity. Second, the owners reported notably higher levels of knowledge for all the programmes. For the SFI, 37% of the owners indicated that they were 'extremely familiar' with the programme, while only 9% of the broad sector marked this response.

Similar gaps existed for the other programmes. 21% and 6% of the owners and broad sector, respectively, reported they were 'extremely familiar' with the FSC, while 91% and 69% indicated at least some familiarity. Curiously, the International Organization for Standardization (ISO) 14001 programme received relatively low levels of reported knowledge from both groups. Only 9% of the owners reported that they were 'extremely familiar' with this programme. Likewise, only 51% of the broad sector reported some familiarity with ISO 14001.

In general, respondents indicated the highest familiarity with the FSC and SFI programmes, while international programmes and the recently developed Green Tag programme seemed poorly understood. Indeed, when asked, most respondents indicated that either the FSC or SFI programmes

best matched their company's needs (see Fig. 25.4). Specifically, 48% and 12% of the broad sector chose the SFI and FSC, respectively, and following suit, 66% and 10% of the owners made the same selections.

Anticipated advantages

Researchers and practitioners have asserted that there are social and economic advantages attached to certification (Cabarle *et al.*, 1995; Hayward and Vertinsky, 1999), but the extent to which the forest sector believes these claims is relatively unclear. Here companies were asked to indicate how likely they thought it was that certain advantages would occur. The responding official was asked to answer in a manner that reflected their company's needs and reflected the programme they had indicated best matched their company's objectives.

Both groups reported similar views on the anticipated advantages, while overall, the owners seemed more optimistic that benefits will be forthcoming (Fig. 25.5). What we see is a hierarchy of benefits with 'securing public confidence' and 'responding better to the pressures from environmental groups' topping the list, with no less than

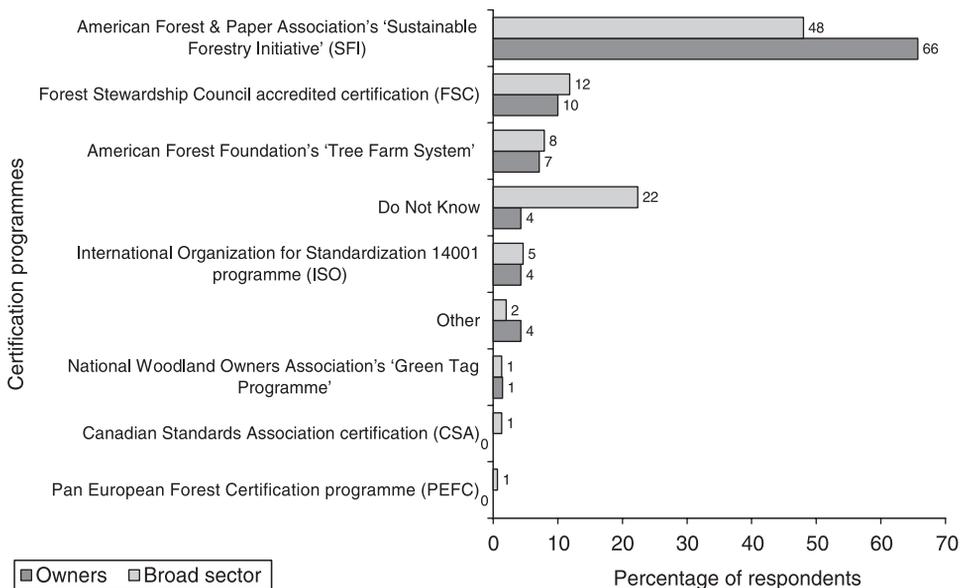


Fig. 25.4. The proportion of owners and the broad sector who chose a particular certification programme as best matching their company's needs.

61% of the respondents in either group indicating these as likely outcomes. This is further supported by the fact that 57 and 44% of the owners and broad sector, respectively, indicated that they either agreed or strongly agreed that ‘pursuing certification is a way for our company to act as a good corporate citizen’.

A split occurs when we move to the next perceived benefit, with 62% of owners indicating that the ability to secure markets is a likely outcome, but only 42% of the broad sector agreeing. As a result, in ranking terms, the broad sector attributes a greater likelihood to the environmental benefits than do the owners when compared to the potential of securing market access.

The other key advantage warranting attention is the potential for a price premium. Both groups are evidently sceptical that any premium will emerge, with only 19 and 30% of the owners and broad sector, respectively, reporting this as a likely outcome. Even when broken down by which programme was chosen as best matching the company’s needs (see Fig. 25.4), this perception persists. For the owners choosing the FSC ($n = 7$), four responded that they felt the programme was likely to help them obtain a price premium; however, those companies from the broad sector who chose

the FSC ($n = 18$) were even more sceptical – 48% indicated that the programme was not likely to help them gain a price premium. For those owners who selected the SFI ($n = 49$), 58% felt that a price premium was not a likely advantage of this programme. Likewise, for the broad sector, 56% of the companies choosing the SFI programme ($n = 72$) had the same belief.

In a less pronounced form, this view is also present in the 41 and 42% of the owner and broad sector participants who indicated that they either disagreed or strongly disagreed with the statement ‘In the future US consumers will provide a strong demand for “green” wood and paper products’. Also, when the same groups were asked whether they felt that ‘becoming certified would effectively differentiate our company from its competitors’, an almost equal number responded that they would agree or strongly agree versus disagree or strongly disagree (36 and 42% for the owners and 30 and 44% for the broad sector).

Overall, respondents gave securing public confidence and reducing environmental group pressures the most likelihood of occurring. The environmental benefits came out somewhat neutral, yet all companies seemed quite certain that fully implemented certification programmes

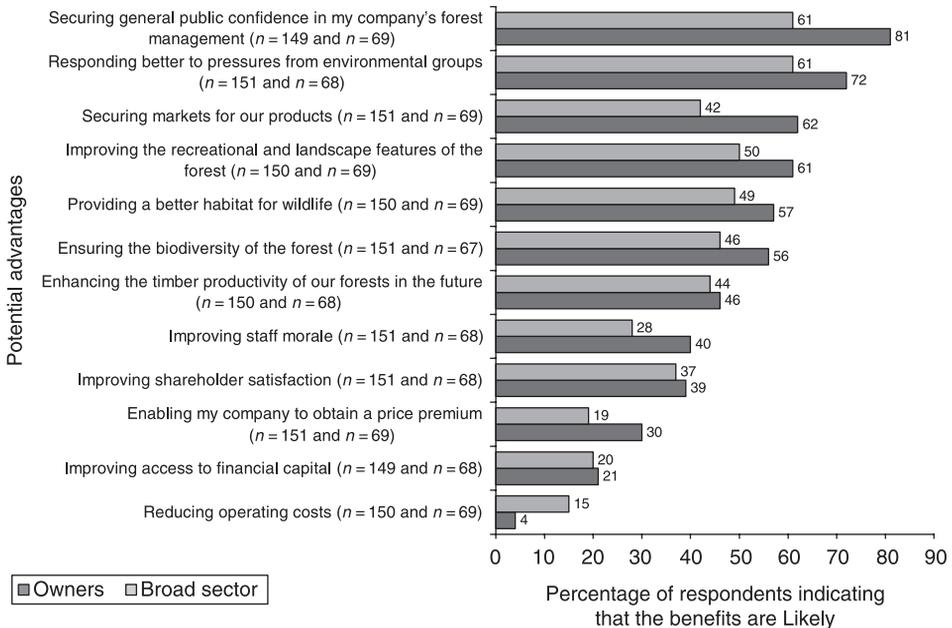


Fig. 25.5. The percentage of respondents from the broad sector and owners who reported that the listed advantages are likely to occur once certification is fully implemented.

would negatively impact operating costs. Only 15 and 9% of the broad sector and owners, respectively, felt that certification would help them reduce their costs. The issue of increased costs with no clear economic benefit is clarified when we look at anticipated disadvantages.

Anticipated disadvantages

For both groups, indirect and direct costs of certification were the top two disadvantages deemed likely to occur. In addition, 86 and 99% of the broad sector and owners anticipated that certification was likely to increase their administrative workload (see Fig. 25.6). Likewise, the direct cost of being certified was felt to be a likely disadvantage by 90 and 94% of the respective groups.

Autonomy also arose as an issue of concern. Both groups concurred that their operations will likely be inhibited by specific restrictions on their practices (83% of the broad sector and 79% of the owners). Also, they felt a loss of autonomy was inevitable due to requirements for stakeholder consultation (65% of the broad sector and 57% of the owners). Interestingly, the broad sector

reported that the little control they have over forest management is a likely disadvantage they will face (56%). These concerns were reflected in another question we asked, where 51% of the broad sector ($n = 213$) either agreed or strongly agreed with the statement, 'Forest management regulations should emphasize goals without regulating how they are achieved'. Moreover, 68% of the owners responded in the same way.

The responses of the owners and the broad sector demonstrate a common concern among the sector over the cost implications of certification given the absence of economic benefits. They also indicate no optimism for the future, with certification becoming more widely accepted. On the other hand, different opinions appear to exist over the issues of management control. While only 30% of the owners consider 'little control over the management of forests' as a likely problem, 56% of the broad sector reported this as a likely disadvantage. This might reflect concerns over sourcing certified wood from a diverse array of suppliers to which size might be an additional factor. A tendency for the owners to be large, vertically integrated firms may function to reduce the salience of this issue, as their fibre sources are more stable and secure. Conversely the smaller companies from the broad

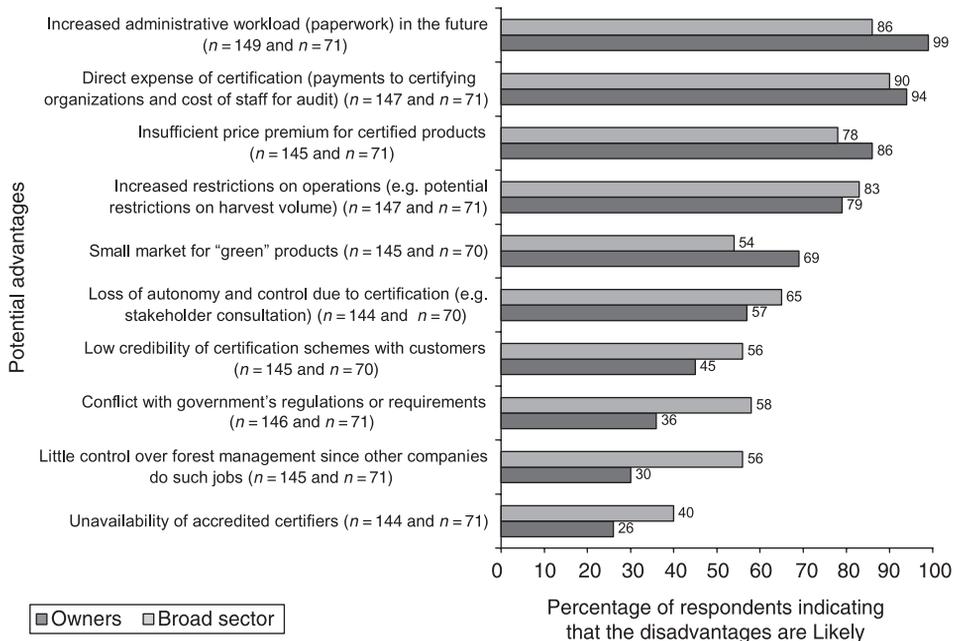


Fig. 25.6. The percentage of respondents from the broad sector and owners who reported that the listed disadvantages are likely to occur once certification is fully implemented.

sector lack this stability and security. Indeed, this makes the issue of chain of custody particularly problematic when multiple companies play a role in product inventory and distribution activities. Effectively, even though levels of familiarity of certification are lower among the broad sector companies there is still an awareness of the potential implications these programmes might have on their activities even though forest management is out of their control.

Pressures to become certified

The results seem to paint a gloomy picture of certification, one filled with increased costs, restrictions on operations, and loss of autonomy from outside interests, with no certain economic gains. Yet, companies are still taking part in these programmes. Generally the efforts of environmental groups in concert with the market are fingered as the key impetus for company participation in certification, yet the evidence shows that the programme promoted by markets, the FSC, has yet to gain broad support. Why, then are companies participating in certification?

We asked companies to indicate the groups who had asked them to pursue certification (see

Fig. 25.7). The result was a situation where both owners and the broad sector reported the AF&PA (61 and 29%, respectively). Surprisingly this exceeds the proportion of respondents reporting retailers; wholesalers, dealers and brokers, and even environmental groups. While seemingly in opposition to the understanding that the pressures are mostly coming from these groups, the high level reported for the AF&PA is most likely associated with its efforts to promote the SFI programme. Nevertheless, this indicates that the forces encouraging company participation in certification go beyond mere economic considerations or their strategic responses to direct retail or environmental pressures. Rather, the concerted effort of the AF&PA to raise a unified sector-wide voice has played a large role in defining how forest certification is developing in the USA.

Broader Implications of this Investigation

These preliminary findings provide a basis from which we can explore some of the emerging issues that are facing the forest sector, the certification programmes, and other groups interested and active in these emerging initiatives. While the

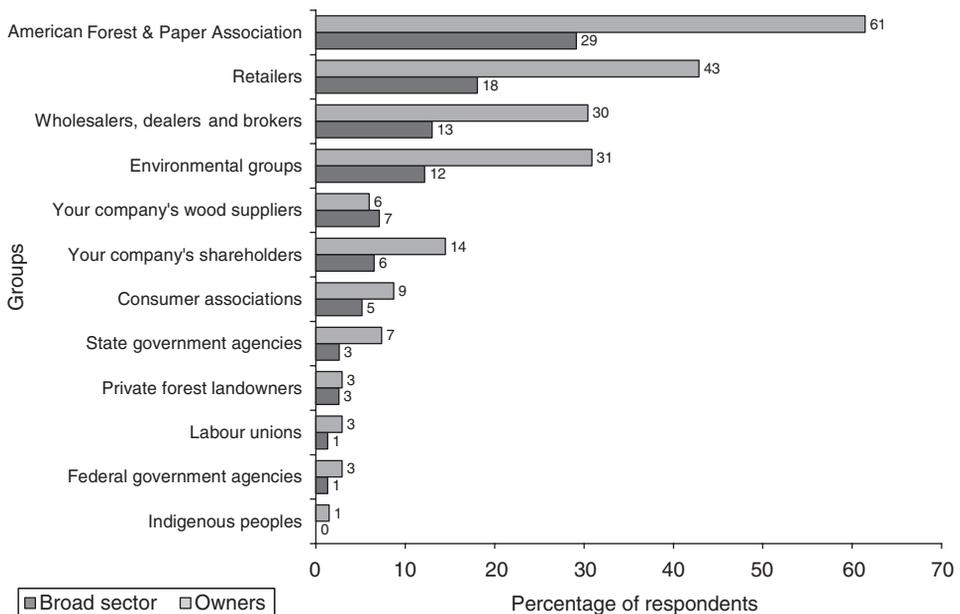


Fig. 25.7. The percentage of respondents who indicated one of the listed groups as having asked their company to pursue forest certification.

response rate for the broad sector-wide sample (i.e. SIC 2400 and SIC 2600 companies) limits the generality of our findings, the information generated can help to elucidate where further investigation would be fruitful. What caused such a low response rate? Do companies that are not involved with the management of forestlands feel immune to certification pressures? Are there barriers that are preventing certain companies from acquiring information on their certification options? Exploiting other research methodologies to uncover some of these issues would be extremely useful.

On the other hand, the relatively high level of participation among companies owning forestlands allows more concrete conclusions to be drawn about this segment of the US forest sector. With the responding companies representing 60% of the industrial forestland base, the views expressed by participating officials offer key insights into the future direction certification may follow in the years to come.

In this vein, one of the key findings is that the support for the SFI programme among the owners and the broad sector (i.e. 66 and 48%, respectively) is considerably higher than any of the other programmes, including the FSC. The lack of support for the latter is striking, given that growing international and domestic environmental group campaigns have resulted in lumber retailers and homebuilders promoting this programme. The situation in the USA also contrasts with the situation in Canada, where many forest companies have announced their intention to become FSC-certified. What explains the absence of industry support for the FSC in light of these pressures?

Three factors seem pivotal. First, the US forest sector relies much less on foreign exports than their Canadian competitors, insulating them somewhat from international pressures. Second, it appears that US anti-trust law may make domestic pressures to buy more certified wood less effective than international pressures. For instance, the US Certified Forest Products Council, an organization providing information and resources to companies wishing to purchase certified wood, has been an instrumental proponent of certification accredited by the FSC. However restrictions stemming from anti-trust laws (Grant, 1989) limit the organization's ability to mandate buying policies for its members (Simula, 1998; Certified Forest Products

Council, 2001). Third, the US forest sector has undertaken proactive strategic choices in efforts to speak as one voice, in its desire to define a common vision of SFM. This unprecedented level of unification has helped the SFI maintain its position as a viable alternative to the FSC.

Does this mean that SFI will become the dominant certification programme in the USA? Its origins as an industry initiative (Wallinger, 1995), alone, do not ensure that the SFI will be durable and, by itself, may not be enough to address public concern over forest management practices. Indeed, the initial 'flexibility, and discretionary approach' of the SFI, which appears to have won it so much support from the broad forest sector, seems to be becoming increasingly prescriptive as the SFI appeals to interest groups that are demanding measurable change in the way forests are managed. Likewise SFI's advisory panel has turned into the SFI Sustainable Forestry Board (American Forest and Paper Association, 2000a), and an SFI on-product label is scheduled for release this autumn. Indeed, there exists the very real potential that SFI could be weaned from the AF&PA.

The FSC, on the other hand, while having some forest sector supporters, is criticized for its chain of custody approach which is deemed too complicated and difficult for the fragmented US forest ownership structure. But, ironically, the same chain of custody appears to give the FSC increased salience to environmental groups and their supporters, who want proof that what consumers are being offered actually comes from a certified forest. How these seemingly contradictory levels of support for FSC and SFI interact remains an important question, since each programme has fundamentally different impacts on forest management (Ozinga, 2001).

What seems clear is that more analysis is needed, comparing these approaches for their ecological, social and economic benefits. In this regard the future looks promising. Sophisticated efforts are underway to compare these programmes on paper (Meridian Institute, 2001) and in the field (Mater *et al.*, 1999; Pinchot Institute for Conservation, 1999; Price, 2000), as well as broader evaluations of overall support (Cashore, 2000; Sasser, Chapter 22, this volume), which will help to shed light on this evolving process and its effects on the longer term goal of promoting 'good' forest management.

Conclusions

Two questions permeate an analysis of forest certification: (i) are programmes operationally designed to communicate sustainable forestry recognition to retailers, developers and end consumers; and (ii) do any of the programmes have measurable impacts on improving forest management across the broad landscape? With regard to the former, our findings indicate that a great number of forest sector officials believe that the SFI can improve their company's image with the general public. On the other hand, the forest sector is sceptical, about the ecological benefits these programmes are likely to offer. This highlights the need to conduct more research into demand and supply side support for certification, and the link between this support and the actual substantive improvements in SFM.

Acknowledgements

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Endnotes

¹ Although the acronym has not changed, The World Wide Fund for Nature changed its name from the World Wildlife Fund in 1995 but the Canadian and US sections opted to keep their original names.

² Information on SIC codes can be obtained from OSHA at their website: <http://www.osha.gov/oshstats/sicscr.html>

³ Information obtained from sales representative with Best Mailing List Inc.

⁴ The regions used are those of the US Census Bureau.

⁵ With the exception of the American Tree Farm system, the programmes examined in this study were all developed sometime in the 1990s (Coulombe and Brown, 1999; The Society of American Foresters Task Force on Forest Management Certification Programmes; The Society of American Foresters).

References

- American Forest and Paper Association (2000a) *Multi-Stakeholder Sustainable Forestry Board to Manage SFI Program*. American Forest and Paper Association's SFI Program, Washington, DC (<http://www.afandpa.org/news/news.html>)
- American Forest and Paper Association (2000b) *SFFSM AFF's American Tree Farm System[®] and AF&PA's Sustainable Forestry Initiative (SFI)SM Program Collaborate to Expand the Practice of Sustainable Forestry*. American Forest and Paper Association's SFI Program, Washington, DC (<http://www.afandpa.org/news/news.html>)
- American Lands Alliance (2000) *Perspectives on AF&PA's 'Sustainable Forestry Initiative' and Forest Certification*. American Lands Alliance, Portland, Oregon, 7 pp.
- Bernstein, S. and Cashore, B. (1999) World trends and Canadian forest policy: trade, international institutions, consumers and transnational environmentalism. *Forestry Chronicle* 75, 34–38.
- Bernstein, S. and Cashore, B. (2000) Globalization, four paths of internationalization and domestic policy change: the case of eco-forestry policy change in British Columbia, Canada. *Canadian Journal of Political Science* 33, 67–99.
- Bruce, R.A. (1998) The comparison of the FSC forest certification and ISO environmental management schemes and their impact on a small retail business. MBA, University of Edinburgh, UK.
- Cabarle, B., Hrubes, R.J., Elliott, C. and Synnott, T. (1995) Certification accreditation: the need for credible claims. *Journal of Forestry* 93, 12–16.
- Cashore, B. (2000) Legitimacy and the privatization of environmental governance: How non state market-driven (NSMD) Governance systems gain rule making authority. *Governance* 15(4), 503–529.
- Certified Forest Products Council (2001) *How the CFPC Operates*. Available at: <http://www.certifiedwood.org/>
- Coulombe, M. and Brown, M. (1999) *The Society of American Foresters Task Force on Forest Management Certification Programs*. The Society of American Foresters.

- Dillman, D.A. (2000) *Book Mail and Internet Surveys: The Tailored Design Method*, 2nd edn. John Wiley & Sons, New York, 464 pp.
- Elliott, C. (1999) Forest certification: analysis from a policy network perspective. PhD thesis, Ecole Polytechnique Federale de Lausanne, Lausanne, Switzerland.
- Forest Trends (2000) Spreading third-party certification programs underpin forest sustainability movement. In: *The Forest Trends Newsletter, Trendlines*, Vol. 1. Forest Trends, Washington, DC.
- Forsyth, K. (1997) *Customer Attitudes Towards Environmentally Sound Wood Products in Three British Columbia Home Improvement Markets*. University of British Columbia, Vancouver, Canada.
- Forsyth, K., Haley, D. and Kozak, R. (1999) Will consumers pay more for certified wood products? *Journal of Forestry* 97, 18–22.
- Fox, C.M., Robinson, K.L. and Boardly, D. (1998) Cost-effectiveness of follow-up strategies in improving the response rate of mail surveys. *Industrial Marketing Management* 27, 127–133.
- Grant, W. (1989) *Government and Industry: a Comparative Analysis of the U.S., Canada and the U.K.* Edward Elgar Publishing, Aldershot, UK, 303 pp.
- Hansen, E. and Juslin, H. (1999) *Geneva Timber and Forest Discussion Papers: the Status of Forest Certification in the ECE Region*. United Nations Economic Commission for Europe Food and Agriculture Organization of the United Nations, New York and Geneva.
- Hayward, J. and Vertinsky, I. (1999) What managers and owners think of certification. *Journal of Forestry* 97, 13–17.
- Home Depot (1999) *The Home Depot Launches Environmental Wood Purchasing Policy: Company Promises to Reduce Wood Sourced From Endangered Forests During Next Three Years*. Home Depot, Atlanta, Georgia.
- Jobber, D. and O'Reilly, D. (1998) Industrial mail surveys: a methodological update. *Industrial Marketing Management* 27, 95–107.
- Lapointe, G. (1998) Sustainable forest management certification: the Canadian programme. *Forestry Chronicle* 74, 227–230.
- Mater, C.M., Sample, V.A., Grace, J.R. and Rose, G.A. (1999) Third-party, performance-based certification: what public forestland managers should know. *Journal of Forestry* 97, 6–12.
- McAlexander, J. and Hansen, E. (1998) J. Sainsbury plc and Home Depot: Retailers' Impact on Sustainability. In: *The Business of Sustainable Forestry Case Studies: a Project of the Sustainable Forestry Working Group*. The John D. and Catherine T. MacArthur Foundation, Chicago, Illinois.
- Meidinger, E. (1997) Look who's making the rules: international environmental standard setting by non-Governmental organizations. *Human Ecology Review* 4, 52–54.
- Meidinger, E.E. (1998) 'Private' Environmental Regulation, Human Rights, and Community. [Online paper]. Available at: <http://www.law.buffalo.edu/homepage/eemeid/scholarship/hrec.pdf>
- Meridian Institute (2001) *FSC/SFI Comparative Analysis: Design and Facilitation of a Multi-Party Dialogue*. [Project information]. Available at: <http://web.mitretrek.org/meridian/home.nsf/projectareaall/BF4AEAB809C148B285256A0F006C1B92>
- Miller Freeman (1999) *Pulp and Paper North American Factbook*. Ola Jane Gow, San Francisco, California.
- Ozanne, L.K. and Smith, P.M. (1998) Segmenting the market for environmentally certified wood products. *Forest Science* 44, 379–388.
- Ozinga, S. (2001) *Behind the Logo, an Environmental and Social Assessment of Forest Certification Schemes*. Based on case studies by WWF France, Taiga Consulting, Taiga Rescue Network, Natural Resource Defense Council (NRDC), Fern, Finish Natural League, and Greenpeace, Moreton-in-Marsh, UK, 64 pp.
- Pinchot Institute for Conservation (1999) *Annual Report*. Pinchot Institute for Conservation, Washington DC, 27 pp.
- Price, W. (2000) *Forest Certification Pilot Projects Expanded on State and Tribal Lands*. Pinchot Institute for Conservation, Washington, DC.
- Rickenbach, M., Fletcher, R. and Hansen, E. (2000) *An Introduction to Forest Certification*. Oregon State University Extension Service, Corvallis, Oregon.
- Scrase, H. (1999) *Certification of Forest Products for Small Businesses: Improving Access – Issues and Options*. United Kingdom Department for International Development, and Renewable Natural Resources Knowledge Strategy, Llanidloes, UK, 61 pp.
- Simula, M. (1998) *Timber Certification: Progress and Issues* [Commissioned report]. Available at: http://www.itto.or.jp/inside/timber_certification/1.html
- Smith, B.W., Vissage, J.S., Darr, D.R. and Sheffield, R.M. (2001) *Forest Resources of the United States, 1997*. USDA Forest Service, North Central Research Station, St Paul, Minnesota. Available at: http://www.ncrs.fs.fed.us/pubs/gtr/gtr_nc219.pdf
- Takahashi, T. (1999) *Survey of Forest Certification in Canada*. The University of British Columbia, Vancouver, Canada.
- Viana, V.M., Ervin, J., Donovan, R.Z., Elliott, C. and Gholz, H. (eds) (1996) *Certification of Forest Products Issues and Perspectives*. Island Press, Washington, DC, 261 pp.
- Vlosky, R.P. and Ozanne, L.K. (1998) Environmental certification of wood products: the US manufacturers' perspective. *Forest Products Journal* 48, 21–26.
- Wallinger, S. (1995) AF&PA Sustainable forestry initiative: a commitment to the future. *Journal of Forestry* 48, 16–19.