CERTIFIED ECOFORESTRY IN BRITISH COLUMBIA:

CREATING A SMALL-SCALE SYSTEM

by

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It is currently possible to create a viable, small-scale certified ecoforestry system (SCES) in British Columbia. The creation of a SCES has the potential to act as a catalyst for its own replication on a broader scale, and to strongly articulate ecoforestry as a sustainable and viable alternative to industrial forestry. A SCES is a viable, small-scale certified ecoforestry system that includes the movement of wood from forest to buyer, and which embodies the social, economic and ecological principles of ecoforestry. This thesis identifies and examines four necessary elements for creating a SCES: demand for certified ecoforestry, access to the forest, a credible, third-party certification program, and a viable and effective system. Via the discussion of these four elements, this thesis articulates the most promising plan for creating a SCES in BC.

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TABLE OF CONTENTS

CHAPTER I

INTRODUCTION

It is currently possible to create a viable, small-scale certified ecoforestry system (SCES) in British Columbia. The creation of a SCES has the potential to act as a catalyst for its own replication on a broader scale, and to strongly articulate ecoforestry as a sustainable and viable alternative to industrial forestry. A SCES is a viable, small-scale certified ecoforestry system that includes the movement of wood from forest to buyer, and which embodies the social, economic and ecological principles of ecoforestry. This thesis identifies and examines four necessary elements for creating a SCES: demand for certified ecoforestry, access to the forest, a credible, third-party certification program, and a viable and effective system. Via the discussion of these four elements, this thesis articulates the most promising plan for creating a SCES in BC.

This thesis begins with a discussion of the role of certified ecoforestry, including the definition of ecoforestry, and the eco-philosophical underpinnings that help inform its social and economic perspectives. It then argues the need for ecoforestry in BC, including a discussion of the systemic problems with industrial forestry, and the failure of legislative reforms. This section also explains what certification is, and concludes by outlining the catalytic role that a SCES can play.

The main body of this thesis is a discussion of the four elements necessary for the creation of a SCES, and an articulation of the best way to foster these elements in BC. First of all, this section outlines the broad based demand that is pushing for ecoforestry, as well as the market demand that is pulling for certified wood products. The discussion then focuses on forest access, including the constraints of BC's tenure system, and the most promising avenues for ecoforestry access to the forest. The third element, a credible certification program, is discussed in terms of the third-party certification initiatives in BC. Competing schemes are examined, as are the significant threats to certification posed by multilateral trade agreements. Finally, overall viability and effectiveness of the system are discussed as the final elements necessary for creating a SCES. This includes the existence of ecoforesters and an infrastructure for processing and distributing certified wood. This section discusses the need to evaluate a SCES in light of non-monetary benefits from ecoforestry, but also looks at the purely financial costs and benefits of a SCES. The importance of community / stakeholder support and participation is discussed, as are two significant threats to certified ecoforestry.

Thesis Goals and Research Outline

There are two goals for this thesis. The first is a scholarly investigation that seeks to discover what it would require to foster ecoforestry in BC. The second goal is

an activist one that searches for a way to actually implement ecoforestry on a broad scale. These two goals have been interconnected throughout the conceptualizing, researching, and writing stages. The activist goal helped me to re-frame the scholarly goal into a specific research question that would, in turn, help inform a pragmatic activist approach.

Specifically, the activist goal of finding a way to implement ecoforestry on a broad scale, led to the idea that by creating a viable small-scale certified ecoforesty system, it could serve as a model for replication elsewhere. That is, if a viable certified ecoforestry system is working in one place, it provides tangible proof that certified ecoforestry can work, and activists can therefore point to it as an argument against the need for industrial forestry. With this activist perspective in mind, I re-formulated the scholarly question into "what are the elements necessary for creating a SCES?" and also, "do they exist in BC?".

The next task then became one of defining what a SCES is. Generally a SCES is a viable, small-scale certified ecoforestry system that includes the movement of wood from forest to buyer, and which embodies the social, economic and ecological principles of ecoforestry. From this definition, the obvious starting point was with ecoforestry. Therefore, I devoted a significant amount of time to defining ecoforestry, and to understanding the eco-philosophical underpinnings and ramifications of ecoforestry. After I had a definition of ecoforestry, I was then able to work through the various elements involved in creating a SCES, and was able to ensure they all fit within the

context of ecoforestry.

In terms of identifying the elements necessary for creating a SCES, I have employed a process of organizing the various issues and barriers facing certified ecoforestry. Alan Dregson's (1997) model for building community economic systems based upon ecoforestry was somewhat useful in this regard. Dregson's model provides a sketch of how various actors within an ecoforestry-based community can support each other to create a sustainable, economic system for producing and distributing ecoforestry products. Through a review of ecoforestry, certification, and BC forestry literature, it became clear that four central elements would be necessary to create a SCES. First, demand for a SCES must develop. This includes both a demand from ecosystems and human communities pushing for ecoforestry, and a market demand pulling for certified wood products. Second, there needs to be access to forest land. Third, there needs to be a credible certification program. Fourth, the whole system needs to be viable and effective.

It is important to note that throughout my work I have been aware of a fundamental contradiction with certified ecoforestry. This contradiction is that while ecoforestry embodies a fundamental challenge to the dominant political economic structures that have created industrial forestry, certification is a market mechanism that is firmly located within this same dominant structure. Certification, therefore, needs to understood as a temporary vehicle for fostering ecoforestry on a broader scale, and must be viewed as only one tool, among many, that is available to activists. Certification is

neither a panacea nor a goal unto itself.

My research methodology began with a thorough literature review related to: ecoforestry, BC's tenure system, industrial forestry in BC, BC forest practices legislation, certification programs and markets, ecological philosophies, multilateral trade agreements, processing stages for wood products, community economic development, political organizing, and models of participation. This literature included academic sources, government documents, market research studies, activist material, promotional material, certification manuals, and trade journals. I then had telephone and in-person conversations with various academics, certifiers, environmental activists, ecoforesters, and dealers of certified wood products.

After the first draft of this thesis was written, I secured a six-month contract position conducting market research for the Silva Forest Foundation. Through this work, I have been able to have more informal discussions with certifiers, ecoforesters, value-added manufacturers, and environmental activists. Many of these people provided extremely valuable insights into issues surrounding ecoforestry, however their names must remain anonymous and consequently do not appear in the list of personal communications.

CHAPTER II

THE ROLE OF CERTIFIED ECOFORESTRY

What is Ecoforestry?

Ecoforestry is a process of timber management that embodies essentially the opposite values of industrial forestry. While industrial forestry sees the forest as a source of lumber and fiber, ecoforestry sees the forest as an ecosystem. While industrial forestry focuses on what to take, ecoforestry focuses on what to leave behind. While industrial forestry reduces diversity, ecoforestry works to protect diversity. While industrial forestry is driven by a narrow definition of short-term economic profit, ecoforestry is driven by a broad definition of long-term profits for both human and non-human nature. While industrial forestry accrues dividends to a select few, ecoforestry provides returns to as many participants as possible. While industrial forestry externalizes social and environmental costs, ecoforestry internalizes and seeks to reduce these costs. While industrial forestry makes decisions without input from affected communities or stakeholders, ecoforestry seeks to involve and empower communities and stakeholders in all relevant decisions.

In general, the goal of ecoforesty is "to maintain and restore full functioning, natural forest ecosystems in perpetuity, while harvesting forest goods on a sustainable basis" (Camp 1997, 35). It has been described as "...attempting to manage land according to the basic ecological principles of balance and diversity" (Raphael 1994, 83). The term "manage" has raised concerns because of its anthropocentric perspective, and its implications about human control over natural systems. In light of such concerns, many analysts are now approaching ecoforesty in a way that "...identifies the issue not as *forest* management but as *forestry* management, that is, not managing forests for economic functions, but designing human institutions to operate within the limits of ecosystem sustainability" (M'Gonigle 1997, 19). While such general principles enjoy broad acceptance from environmentalists, academia, and ecoforestry practitioners, it is the specifics of translating general principles into "on the ground" activities that is the focus of ongoing debate and evolution. Although ecoforestry is still evolving, it is possible here to discuss some guiding principles. In terms of timber management and logging practices:

> ...the practice of *ecoforestry* involves cutting approaches and methods which allow for the sustainable extraction of forest products while maintaining biodiversity, the forest structure and all of its components, and the full functioning of the forest ecosystem (Burda et al 1997, 9).

Ecoforestry consultant Herb Hammond outlines the primary standards as follows:

> All plans and activities must protect, maintain, and restore (where necessary) a fully functioning forest ecosystem at all temporal and spatial scales. Forest composition, structures, and functioning must be maintained, from the largest landscape to the smallest forest community, in both short and long terms (1997a, 205).

Ecoforestry does more than just maintain healthy forests. It also maintains, and aims to foster, healthy human communities, and provides a viable long-term economic foundation for the people involved with ecoforestry. In other words, ecoforestry provides an alternative to more than just the ecological destruction of industrial forestry – it also provides an alternative to its negative social and economic impacts. Ecoforestry researchers Alan Drengson and Duncan Taylor say: "we believe that there is a win-win solution. This solution is predicated on the recognition that sustainable communities and economies are subsystems of healthy biophysical systems, not the other way around" (1997, 18).

Ecoforestry provides an alternative to the notion that carving out nature preserves and parks is enough to counter the damaging effects of industrial forestry. Instead of creating a deep chasm between preserved wilderness on the one hand, and areas of industrial forestry on the other, ecoforestry attempts to "incorporate ecological values with commodity (timber) production" (Agee 1997, 114). This is what William Cronon (1995, 85) refers to as the "middle ground" of human relations with nature:

> ...we need an environmental ethic that will teach us as much about *using* nature as about *not* using it. The wilderness dualism tends to cast any use as *ab*-use, and thereby denies us a middle ground in which use and non-use might attain some kind of balanced, sustainable relationship. My own belief is that only by exploring this middle ground will we learn ways of imagining a better world for all of us...a world better for humanity in all its diversity and for the rest of nature too.

Ecosystem-based planning, a process that provides a foundation for ecoforestry, is predicated on community involvement:

> Unlike conventional planning, in which land use decisions are often made in a technocratic manner after discharging any legal obligation for perfunctory public involvement, the ecosystem approach actively seeks to involve the widest range of stakeholders effectively and openly in the planning process (Gibson, Alexander and Tomalty 1997, 31).

The central role of community and stakeholder involvement is based on an important feature of ecoforestry – that it addresses social and economic goals as essential elements:

> Sustaining workers, their families, and forest-interdependent communities by working with all forest goods…and by employing these for their highest uses. Ecoforestry addresses the ecological/economic transition from industrial forestry and its short-term profit orientation to a decentralized, community-forestry from the local to the global scale. Ecoforestry recognizes that sustainable forestry practices are more labor-intensive, thereby creating the potential for job growth, if the wealth form the forests is shared equitably, circulated locally, and traded regionally and globally (Thom 1997, 246).

Eco-Philosophical Underpinnings

Ecoforestry has its eco-philosophical roots in the rich body of environmental and ecological philosophy that emphasizes the interconnection between the health of ecosystems and the health of human society. This eco-philosophical tradition, which has been referred to as "radical ecology" (Merchant 1992), sees environmental problems as manifestations of a more fundamental social crisis. As such, it challenges what it sees as

the roots of social problems in order to effectively address environmental problems. The specific eco-philosophies that help inform ecoforestry includes ecofeminism, Rudolf Bahro's humanist perspective, and social ecology. Of these, it is social ecology that best provides a substantial philosophical rationale for ecoforestry, and is most able to offer guidance at difficult junctures during the evolution of ecoforestry. In this section, these three eco-philosophies are examined in terms of their connections to ecoforestry.

Before examining the relevant eco-philosophies, it is important to understand that the reality of translating philosophical ideas into practical movements is often not a linear process from one philosophy into one movement. Instead, activists trying to build a movement, such as ecoforestry, often seek inspiration from various eco-philosophies, and in many cases are less concerned with the specific eco-philosophy that their work most closely represents than they are with the success of their movement. With this in mind, ecoforestry should not be pegged as a manifestation of only one eco-philosophy. Rather ecoforestry should be understood as a dynamic movement of people seeking a viable alternative to industrial forestry that is ecologically rooted, community-based, long-term in perspective, socially just, participatory, and fulfilling to those involved. Nevertheless, the eco-philosophical perspectives examined here do offer significant guidance to the ecoforestry movement, and social ecology in particular, provides a solid philosophical argument for the necessity of ecoforestry.

Ecofeminist thinkers have long argued that patriarchy creates a global hierarchy, and a "system of social structures, and practices in which men dominate, oppress and

exploit women" (Walby 1989, 214). Patriarchal thought is predicated on false dichotomies between male and female, that have been maliciously constructed in order to maintain gender hierarchy (Merchant 1980). As ecofeminists point out, however, patriarchy goes beyond this duality and creates an entire culture that has become the dominant one. It is this culture, in fact, that has fostered industrial forestry – an approach that can be correctly interpreted as a manifestation of patriarchal values. Therefore, the way to address the problems of industrial forestry is to challenge and remove the patriarchal system that created it. In that ecoforestry provides a viable alternative to the values inherent in industrial forestry, it is part of an effective challenge to patriarchy.

Rudolf Bahro (1994) argued, from a humanist perspective, that ecological destruction must be traced back through various causal layers. He said that each layer is caused by the one below, and to ultimately understand the root of ecological destruction, we need to dig through the layers:

> As in the case of geological formations, it is a thrust from below which builds them up. Each higher stratum is an expression, a modulation, a specialisation, a result of transformation, of the ones below. Collectively they are the machinery of the spiral of death... (1994, 82)

Bahro argued that we must look beyond the industrial system, beyond the underlying dynamics of capitalism, beyond the European cosmology that gave rise to capitalism, beyond the destructive force of our patriarchy, to the underlying human condition that ultimately gives rise to all these various destructive manifestations. He pointed out that

these layers together create the logic of ecological destruction and of "self-extermination" (1994). From Bahro's analysis, the way to avoid ecological destruction is by changing the underlying human condition. By doing so, the manifestations of a self-destructive psyche will disappear, and an ecological society will emerge. While ecoforestry is not explicitly directed at changing the underlying human condition, it is part of that same process. Ecoforestry can help to create an environment in which the underlying human condition is provided an ecological context for development.

Murray Bookchin (1993, 104), the most prominent spokesperson for the philosophy of social ecology, also holds the position that ecological problems stem from social problems. Specifically, Bookchin argues that ecological problems result from domination in society: "...the idea of dominating nature stems from human domination, initially in hierarchical forms as feminists so clearly understand, and later in class and statist forms." In offering an alternative to domination of first nature, Bookchin does not suggest that humanity subsumes itself into first nature – as Deep Ecologists might. Instead, he argues that:

> From an evolutionary viewpoint, humanity has been *constituted* to intervene actively, consciously, and purposively into first nature... To denigrate this capacity is to deny the thrust of natural evolution itself toward organic complexity and subjectivity... (1995, 31).

This does not mean that humanity is superior to first nature – only that it is unique. Therefore, humanity should no more shun its potential to become more ethical – "to act to intelligently foster organic evolution" (1995, 32) – than it should dominate or exploit

first nature.

The question then becomes, how do we know what is ethical when attempting to "foster organic evolution"? To answer this, Bookchin has developed the theory of "dialectical naturalism", based on the Greek tradition of dialectical reasoning which takes "a view of reality as developmental – of *Being* as an ever-unfolding *Becoming*" (1995, 6). Applied to humanity, dialectical naturalism provides an objective framework for making ethical judgements. This is possible by determining whether an act or endeavor "...has fulfilled its potentialities for rationality and morality" (1995, 24). Applying this theory to forestry practices, it is clear that ecoforestry is closer to humanity's potentiality to be moral and rational, than industrial forestry is. The creation of a certified ecoforestry system in British Columbia would be a small step in nudging society towards actualizing what Bookchin calls "humanity's very *real* potentialities for freedom, self-consciousness, and cooperation" (1995, 158).

Bookchin argues that humanity's potentiality is one without hierarchies or domination. His vision is rooted in the anarchist tradition of Peter Kropotkin – one of mutualism and cooperation, rather than competition and predation. Clearly, the importance that ecoforestry places on community involvement and participation, finds strong support from social ecology. As Bookchin (1987, 59) explains:

> The ecological principle of unity in diversity grades into a richly mediated social principle, hence my use of the term *social ecology*. Society, in turn, attains its "truth", its self-actualization, in the form of richly articulated, mutualistic networks of people based on community, roundedness of personality, diversity of stimuli and activities, an increasing wealth of experience, and a variety of tasks.

Ecoforestry is an attempt to articulate mutualism and cooperation as an ecological "truth" in the way humanity interacts with nature. It is a vision of sustainability and equity for humanity and social relations, just as much as a vision for ecological sustainability. In the words of Jerry Mander, ecoforestry is "... above all a moral and spiritual undertaking and commitment at the highest level" (1997, 12).

Why Ecoforestry is Needed in British Columbia

Ecoforestry is needed in BC to provide an alternative to the current high-volume, low-value, export-oriented industrial forestry system, which is destroying forest ecosystems, continually reducing employment, and systematically disenfranchising resource-dependent communities. More specifically, a solution is needed to the many systemic problems associated with BC's system of industrial forestry – and ecoforestry articulates a coherent solution to these problems.

This section outlines a number of systemic problems associated with BC's system of industrial forestry. These problems include widespread clearcutting of old

growth forests, a lack of secondary or value-added manufacturing,[1] a focus on export production, systematic job losses, a volatile economic climate throughout the industry, centralized control over policy and discourse, a small number of large industrial forestry companies, a corporate system of values that precludes more sustainable alternatives, and a provincial government dependent upon the status quo. This section also touches briefly on various legislative reforms of recent years. These reforms have attempted to mitigate the symptoms, but have failed to address underlying problems, and have suffered from lack of enforcement

In order to put the current issues facing industrial forestry in BC into an appropriate context, a brief discussion of land ownership and control is necessary. Fully 95 per cent of forest land in British Columbia is publicly owned (Marchak 1995, 87). Through the tenure system,[2] the government allocates logging rights, to private companies, to cut the trees on Crown land. This logging on Crown land accounts for about 87 per cent of the total provincial cut (MOF 1996a). Since most of the forest is public land, there is little incentive for private companies to invest in long-term stewardship. On the other hand, privatization of forests could lead to less public control

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[1] "Value-added" manufacturing refers to secondary manufacturing processes that add significant value to the wood inputs. This would include, for example, the making of cabinets, stair components, violins, or mouldings. It would not include activities that add minimal value, such as wrapping wood in plastic, or drilling holes in 2x4s.

[2] See discussion in section in Chapter III entitled "Constraints of Tenure System."

over forest practices and individual owners could exploit the land for short-term profit. This paradox has been frequently pointed out in BC's forest sector (Raphael 1994, 235; Banighen 1997, 221), leading some analysts to propose land-stewardship trusts (Banighen 1997) or alternative tenure arrangements (M'Gongigle 1996b) as possible solutions.

Although the Crown asserts control over public land, essentially the entire province of British Columbia is unceded First Nations territory.[3] Journalist Holly Nathan (1993, 137) asserts that:

> ...ownership of virtually the entire province has been under dispute for 120 years. Until agreements are reached with BC's aboriginal First Nations asserting their title to land, the question of who has control over BC's key forest sector will continue to overshadow everything to do with its management.

In December of 1997, the Supreme Court of Canada ruled on a case brought before them by the Gitksan and Wet'suwet'en peoples of British Columbia. In this ruling, known as *Delgamuukw*, the Court concluded that "Aboriginal title is a right in land which includes the right to exclusive use and occupation of the land" (Pape & Salter 1998). In order to establish such title, "...the aboriginal group asserting the claim must establish that it

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[3] British Columbia and Canada have not negotiated treaty settlements with First Nations in BC, except: Treaty 8 (1899) dealing with certain northeastern parts of the province (Curran and M'Gonigle 1997, 5); the Douglas Treaties (1850-1854) related to southern Vancouver Island, Nanaimo, and Port Hardy (Curran and M'Gonigle 1997, 5); and the unratified (at the time of writing) Nisga'a treaty agreed to in July of 1998 (Matas 1998).

occupied the lands in question at the time at which the Crown asserted sovereignty over the land subject to the title" (Pape & Salter 1998). The *Delgamuukw* decision has profound implications for land and forest use in BC, since First Nation land claims cover the entire province.[4]

Specifically, *Delgamuukw* ruled that aboriginal title is "a legal interest in land...[that] can compete with other types of proprietary interests" (Pape & Salter 1998). Aboriginal title is a legal burden on the Crown's title, but neither the Crown nor Aboriginal title holders have full or clear title to the land. Instead, a fiduciary relationship has been established between the Crown and Aboriginal peoples. Vancouver-based law firm Pape & Salter (1998) summarize this relationship as follows:

> The content of the Crown's fiduciary duty in particular cases will reflect the nature of Aboriginal title. Because of the fiduciary relationship, when government authorizes the infringement of the aspect of aboriginal title which encompasses exclusive use and occupation, (e.g., by itself granting third party rights) government must be able to demonstrate that both the *process* of allocating the resource, *and the allocation itself*, reflect the prior interest of the Aboriginal people with title.

Only recently has the provincial government agreed to address the issue of First Nations land title, by establishing the BC Treaty Commission in 1993. The Commission is negotiating dozens of treaties, and in July of 1998 the first treaty in BC this century

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[4] An important aspect of *Delgamuukw* is the acceptance of oral histories as evidence on equal footing with documentary evidence. As treaty negotiations continue, the use of oral histories may be critical in establishing historic occupancy of an area.

was agreed upon. Under this treaty, the Nisga'a people regained title to 1,930 square kilometers of land in the Nass Valley of northwestern BC (Matas 1998). Central to the agreement is Nisga's control over natural resources – something that provides a precedent for future treaties, and which fundamentally challenges the legitimacy of current decision-making structures in the BC forest industry.

Systemic Problems with Industrial Forestry

Against this backdrop of forest land ownership and control operates an industrial timber industry predicated on a high volume of trees logged each year, and on the creation of low-value wood products. The structure of the BC forest products industry has been characterized as follows:

> The industry consists of a small number of oligarchically organized corporations that depend on a centralised, provincial administrative structure to issue licenses to ensure continued access to forests and fibre. The industry requires large volumes of fibre to produce generally low- to medium-value added products, a high percentage of which flow to export markets in the United States, Europe and Japan. The BC government, in turn, depends on the industry for revenue generation and employment (Gale 1996, 5).

What happens "on the ground" in the forests of BC can be simply summarized as the clearcutting of old-growth forests. Approximately 90 per cent of the logging done each year in BC is clearcutting (H. Hammond 1991; SLDF 1996; MOF 1996a), and 95

per cent of logging takes place in old-growth forests (Greenpeace 1997, 2). In recent years, various legislation has been introduced to limit clearcut size,[5] to mitigate the negative effects of clearcutting, and to protect ecosystems. However, assessment studies on the relevant legislation illustrate that rules are either too weak, or are not being enforced, and that the legislation has been ostensibly ineffective in changing actual forest practices (SLDF 1996; Greenpeace 1997; M'Gonigle 1997). In terms of the reliance on old-growth timber, both industry and the Ministry of Forests (MOF), fully expect this to continue until old-growth forests have been replaced with second-growth ones (Dellert 1991; Cartwright 1994). Coupled with an unsustainably-high cut level (H. Hammond 1991; M'Gonigle and Parfitt 1994; Burda et al 1997), the dominant practice of clearcutting old-growth forests continues to destroy ecosystems and preclude opportunities for alternatives.

Ironically, the practice of cutting large amounts of publicly-owned old-growth timber – generally the highest quality wood – has not led to either high employment or a strong economy. Rather than adding value to cut timber, or diversifying into various wood products, the industry depends upon cheap timber, the ability to cut large amounts of it, and upon exporting marginally-processed materials. The commercial forestry sector primarily sells three commodities: lumber, raw pulp, and newsprint. Dimensional

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[5] The *Forest Practices Code* of 1994, for instance, limits clearcuts to 40-60 hectares. See discussion in the section entitled "Inadequate Legislative Reforms."

lumber for residential construction is the most important product in terms of sales value (Schwindt and Heaps 1996, 18). However, in terms of wood volume, approximately 41 per cent of the total cut ends up, directly or indirectly, in pulp mills, and 34 per cent is made into dimensional lumber (Burda et al 1997, 14).

This focus on low-value commodities precludes higher-value, labor-intensive wood products that could instead be made from the same old growth wood. It also places BC's forest industry in direct global competition with tropical plantation forests that can grow low-value wood fiber much faster because of climatic advantages (Parfitt 1998, 21). In response to this competition, industry requires lower costs to remain competitive, including lower stumpage fees, greater mechanization, and easier access to timber.

A great deal of industry production is exported, thereby reducing the supply of timber for value-added manufacturers in the province. Over 90 per cent of BC's forest product exports are in the form of dimensional lumber, pulp, newsprint and paper (Burda et al 1997, ix). A great deal of the exports go to the United States, where an estimated 40 mills in Washington and Oregon rely almost entirely on raw lumber from BC (M'Gonigle and Parfitt 1994, 41). Restrictions have been in place since the 1980s on the volume of raw (entirely unprocessed) logs exported from BC. However, buckling under pressure from industry, the government announced in February of 1998 that it will permit increased amounts of raw-log exports out of the country (Hamilton 1998a) – a move that sacrifices employment and environmental sustainability for short-term

corporate cash flow.

As logging techniques have become more and more mechanized, the number of people directly employed in forestry has plummeted. Since the 1960s, the number of direct logging jobs per cubic meter of wood cut has dropped from two jobs to less than one.[6] Over the same period of time, the volume of wood harvested annually has more than doubled (M'Gonigle and Parfitt 1994, 21). Contrary to industry propaganda, job losses in BC's forestry sector are not due to environmental protection. As ecoforestry consultant Herb Hammond (1991, 164) points out: "The major threat to employment levels and community stability is not the environmental movement, but the timber industry itself." The reasons for employment reductions are embedded in the industrial model:

> Job losses in forestry reflect a number of conditions including: capital investment in high-technology automation, corporate relocation to lower-cost locations, past and present overcutting, and the industry's commodity-export orientation. Cut levels are often in excess of local mill capacity, with the difference being sent out of the region as unprocessed timber (Burda et al 1997, ix).

The result of this situation is that excess wood is cut and shipped out of the province, instead of reducing cut levels and creating more jobs from each tree cut down. This

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[6] BC's less than one logging job per thousand cubic meters of wood cut compares poorly to other jurisdictions: The Canadian average is about 1.5 jobs, the American average is 3.4 jobs, and the California rate is 5.2 (PPWC 1993). In Switzerland, an enviable 27 times more jobs are created per acre of productive forestland than in Canada (Jäggi and Sandberg 1997, 157).

leads to an industrial focus on a high-volume of low-value wood products.

The forest industry is laying off thousands of people, and closing mills. In January 1998, industry giant MacMillan Bloedel cut 2,700 jobs from a workforce of 13,000 (Hunter 1998a, 38) – a move indicative of job losses in a desperate industry. During 1997, the industry lost about $350 million, and Price Waterhouse predicts that 1998 sales will drop by $1 billion from 1997 levels (Hamilton 1998b). A Vancouver-based forestry analyst sums up industry woes simply: "This is the worst I've seen it in over 20 years" (quoted in Hunter 1997). In short, the BC economy is feeling the hangover of decades of reckless exploitation of its abundant natural wealth, not only in the forest industry, but in other resource-based industries as well:

> A fundamental shift is happening in British Columbia. It is finally meeting the limits of its traditional economic base, known by economists as a "rentier economy", which is largely based on collecting rents of natural resources – such as trees, zinc, and gold. The problem, of course, is that those are all finite commodities and, generally speaking, the point has been reached where most of the easy-to-reach trees and ore deposits were exploited long ago (Cernetig 1998).

Critical to understanding industrial forestry in BC is the fact that a small number of companies control timber rights to the majority of forest land. Province-wide, over 86 per cent of Crown forest land is held under tenure by only 20 corporations (Burda et al 1997, 2). On the coast, where the most productive forests are, a mere five corporations control 70 per cent of these timber rights (M'Gonigle and Parfitt 1994, 76). Concentrating control further, these large corporate tenure holders also own most of the private forest land (Schwindt and Heaps 1996, 30). Through complex and ever-

changing webs of ownership and conglomeration, the concentration of control has been shown to be even greater than outright ownership records might reveal. For instance, Patricia Marchak, of the University of British Columbia's Department of Geography, concluded that "four interlinked groups of companies controlled 93 per cent of allocated public forest cut and 84 per cent of the total provincial timber cut in BC" (Marchak 1995, 89). The concentration of control is not only excessive, but it has been increasing over the last few decades. The share of "committed harvesting right" held by BC's 10 largest companies has risen from 37 per cent in 1954 to 69 per cent by 1990 (M'Gonigle and Parfitt 1994, 44). As this concentration increases, the distance between decision-makers and the affected forests and forest communities also increases.

Great distance between decision-makers and the effects of their decisions, characterizes forestry in British Columbia on many levels. This includes corporate decision-makers that "are geographically removed from the resource and the community", and for whom "long-term responsibility to local communities is not required..." (Burda et al 1997, 13). It includes corporate shareholders of BC forest companies, of whom only about 30 per cent actually live in the province (Travers 1993, 216), let alone reside in an affected timber community. And it includes MOF officials that make all major decisions in Victoria. As Ken Drushka has pointed out: "It is simply not possible to decide from an office in Victoria how to manage every hectare of forest land in BC, yet that is essentially how the system works" (1993, 15). Concomitant with the distance between decision-makers and the affects of their decisions, is a low level of

accountability. As Herb Hammond (1991, 190) points out: "Under current forest management policies in British Columbia, problems of accountability are frequent and severe".

Beyond even the physical centralization of decision-making power, is the intellectual centralization of thought. That is, the acceptable range of possibilities contemplated by decision makers is determined by an institutional stranglehold on forestry-related education and discussion. The timber industry has been able to control the discourse around forest use, and create what Michel Foucault (1984) referred to as "rituals of truth." The overwhelming timber industry influence has been able to frame the questions related to forest use in their own terms, and has dictated the parameters within which debate has been couched. Herb Hammond (1991, 141) outlines the breadth of this influence:

> This influence has resulted in the timber industry's domination of all aspects of forest use in British Columbia, including forestry education and research, the Association of British Columbia Professional Foresters, and the Ministry of Forests' policies, programs, and administration.

Concomitant with centralized decision-making, is what Andre Gunder Frank termed the "metropolis-satellite relation" (1966), manifested in BC forestry with large centralized institutions (major timber companies, the MOF) controlling the one-way flow of resources out of rural areas. This flow of resources includes not only timber and wood products, but also economic benefits, and political control. This dynamic in British Columbia has also been called "ecological centralism":

> Geographically, our central institutions are supported by resource flows from the hinterland to the heartland, from the periphery to the core, from rural to urban. Politically, our social decision-making is dominated by an integrated hierarchical structure of power... Economically, these central-hierarchical structures are fuelled by energy and economic flows of materials, flows of wealth that are *linear*... (M'Gonigle 1996a, 9)

As resources flow out of forests and timber communities, they leave behind fragmented ecosystems, vulnerable economies, and politically disenfranchised communities.

Corporate decision makers are not only removed from the effects of their decisions, but they are also blinded to these effects by a system of laws and structural rules inherent in the corporate model (Mander 1997, 10). They act in accordance with an internal logic that sees forestry as a mechanistic system whose goal is to efficiently accumulate profit for the shareholders,[7] and that sees all social or environmental impacts of this system as "externalities" that can be conveniently overlooked. While it is likely that many forest industry managers sincerely believe that single-mindedly pursuing industrial profit-taking is for the greater good of society (H. Hammond 1991, 168), the danger of such myopic thinking has been clearly pointed out: "The folly of intelligent people, clear-headed and narrow visioned, has precipitated many catastrophes" (Alfred North Whitehead, quoted in Travers 1993, 171). In the case of industrial forestry, a mechanistic, corporate perspective has led to many destructive assumptions about forests, including: everything is a resource; resources are unlimited; economic growth is

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[7] In fact, under the *Corporations Act*, all publicly-traded corporations are legally required to maintain or increase profits (Burda et al 1997).

necessary; mass production is most efficient; and the future is less valuable than the present (Wittbecker 1997).

A final important feature is that the provincial government has become dependent upon the status quo of industrial forestry for tax revenues (Gale 1996). [8] Ironically, however, in order keep these tax revenues flowing, the MOF sells off its timber at below market rates. The province sells cutting rights to tenure holders in return for stumpage fees – the volume-based fee paid by logging companies for cutting publicly-owned trees. These stumpage fees are politically established by the MOF,[9] and although they have increased substantially in recent years, they are still below market rates. A great deal of literature has been devoted to establishing that stumpage fees are undercharged (Travers 1993; M'Gonigle and Parfitt 1994; Schwindt and Heaps 1996). [10]

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[8] Price Waterhouse calculated that in 1994, the forest products industry contributed $2.8 billion in direct taxes to all levels of government, as well as $1.7 billion in income taxes and other deductions. Of the total $4.5 billion, $3.8 billion went to the BC government (Gale 1996, 5).

[9] Stumpage rates vary according to location (coastal or interior), deemed value of timber, and estimated operating costs (MOF 1996c). They also reflect political objectives (e.g.: BC Premier Glen Clark lowered stumpage fees in January of 1998 because of pressure from the industrial timber lobby).

[10] Richard Schwindt and Terry Heaps, for example, point to three strong arguments supporting the position that stumpage fees are too low: First, comparison to stumpage fees in other jurisdictions (such as the US Pacific Northwest) reveals that BC has significantly lower rates. Second, competitive bids result in higher stumpage fees. Third, when harvesting licenses are privately traded, they command significant prices. If the Crown was extracting all rent (as well as a reasonable profit), then the licenses would have no value.

Nevertheless, the major forest companies argue that stumpage fees are too high (Hunter 1998), and were successful in convincing Premier Glen Clark to lower them in early 1998. Responding to industry pressure, Clark's government lowered coastal stumpage rates from an average of $34 a cubic meter, down to about $25, and BC interior rates, averaging $29 were reduced also to about $25 (Hamilton 1998c). By keeping stumpage rates low, the province limits the MOF's direct revenue, and perpetuates a high-volume, low-value, export-oriented forest economy. This policy also weds provincial fortunes further to the highly volatile industrial timber industry, and precludes the stability offered by a diverse forest economy based on value-added industries.

Inadequate Legislative Reforms

In response to criticism, attempts have been made over the last few years to promote more ecologically-appropriate forest practices. However, all such attempts have been reformist in nature (i.e.: changes have been made within the existing tenure system, rather than in an attempt to challenge the existing paradigm of forest practices). For example, the *Forest Practices Code (FPC)* of 1994, is the most recent legislation

setting out the framework for conduct in forestry.[11] The Sierra Legal Defence Fund examined over 10,000 cutblocks that have approved by the MOF since the *FPC* became law. The results of this study show clearly that little has changed: clearcutting is the approved logging method in more than 90 per cent of cutblocks; clearcuts larger than 100 hectares still occur (even though the FPC restricts clearcuts to 40-60 hectares); clearcutting is taking place on slopes with "a high likelihood of landslides"; riparian zones on most small streams are cut "right to the bank"; none of the required audits have taken place; and none of the purported "wildlife" or "landscape" units have been established (SLDF 1996). Weakening the FPC further, in April of 1998 the BC government rolled back many Code provisions in an attempt to cut costs for industry.

The provincial government's *Protected Areas Strategy* (PAS), implemented in 1993, has a goal of designating 12 per cent of BC's land base, by the year 2000, as "Protected Areas". However, of the currently protected area (about 9.4 per cent of BC's land-base), over 60 per cent is classified as "alpine/subalpine terrain" – meaning rock and ice (Greenpeace 1997), while only six per cent of the protected areas are "biologically rich forest areas" (Burda et al 1997, 25). In the "Special Management Zones", over 92 per cent of the cutting permits issued so far have called for "conventional logging" (rather than any attempt at ecoforestry), and the phase-in period outlined under PAS, has triggered intensified logging in these zones (Burda et al 1997,

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[11] The *Forest Practices Code* increased environmental guidelines for logging, and added substantial penalties for violation.

26). Furthermore, when parkland or protected areas are designated, the total provincial cut volume (the Annual Allowable Cut, or AAC) is generally not reduced (M'Gonigle 1997, 19), and therefore the pressure on unprotected forest land is increased.

The *Forest Renewal Act* of 1994 raised stumpage fees and directed the funds towards job creation, community stability, and the enhancement of environmental values of forest land. The process is run through a new grant-providing body called Forest Renewal BC (FRBC). However, almost all of the money goes to government and industry, with communities receiving only five per cent, and environmental groups about two per cent (Burda et al 1997, 21). As researchers at the University of Victoria explain:

> The purpose of FRBC is not to facilitate the transition towards an ecosystem-based economy...[The] FRBC is generally a mitigative approach to forest renewal, redirecting funds collected from timber companies both to partially restore ecosystems damaged by timber production, and to reinvest in continued high-volume industrial timber production by means of intensive silviculture (Burda et al 1997, 21)

The *Jobs and Timber Accord* (Accord), signed in June of 1997, sets a target of increasing the number of forest industry jobs by 37,800 by the year 2001 (Province of BC 1997). A central component to the Accord is increasing the cut: "Job creation will come from...increasing major licensee harvest volumes towards AAC by 3 million m^3 by 1999/2000" (Province of BC 1997). The Accord goes further by making available certain incentives for job creation, many of which translate into increased cut levels. Central to discussion of protective legislation's ability to foster more ecologically sound forestry, is the issue of enforcement. For example, the FPC establishes $1 million fines

for violations, and yet no court charges have ever been laid (SLDF 1996). In a similar vein, the *Forest Act* includes a clause making it possible to cancel or suspend a tenure due to offences or mismanagement. However, this has never been done (H. Hammond 1991, 52). As with any legislation, without proper enforcement, even solid laws become meaningless.

What is Certification?

Certification has been described as "the process of assessing the degree to which a company's practices conform to a pre-identified set of performance or management standards" (Gale and Burda 1996, 1). Applied to ecoforestry, certification fills three central roles. First, from the perspective of wood and forestry product purchasers, certification offers a level of assurance that ecoforestry has been practiced. This assurance is becoming increasingly necessary in the face of many unsubstantiated claims in the marketplace. For example, the World Wildlife Fund investigated the "sustainability" claims applied to wood products by more than 600 companies in the UK. Of these claims, only three were able and willing to substantiate their claim (Cabarle et al 1995, 14). Certification offers consumers a solution to this problem.

Second, from the perspective of ecoforestry practitioners, certification provides a minimum standard of practice, and provides an incentive to meet or surpass that

standard. It provides ecoforesters with a benchmark for improvement, and with the ability to compare practices with other ecoforesters. As one analyst puts it: "Certification is designed to allow participants to measure their forest management practices against standards and to demonstrate compliance with those standards" (Baharuddin 1994). As well, certification provides an incentive, through market access, to attain high standards of ecoforestry:

> ...certification is a market strategy to link forest goods and products that come from forests where an ecocentric approach to forest use and restoration is practised with environmentally conscious consumers willing to purchase these goods and products, even at a premium price (Barnes and Jacobsen 1997, 216).

Third, certification rewards those ecoforestry operations, whose practitioners have been able to apply their art and science in a consistent and objectively verifiable manner. By bearing witness to excellence in ecoforestry, a group of third-party experts is able to acknowledge and validate the achievements of certification laureates. Through formal recognition, ecoforesters are provided with external support, and given encouragement for their critical work.

According to the *Forest Certification Handbook* (Upton and Bass 1995, *xviii*), certification of forest products has four key parameters:

I. Certification has the twin objectives of (a) working as a market incentive to improve forest management; and (b) improving market access and share for the products of such management.
II. Certification is conceived as an economic, market-based instrument and as such participation in certification programmes should be, and currently is, voluntary.
III. Certification takes place by assessing the effect of forest activities

against standards previously agreed as significant and acceptable to stakeholders.

IV. Certification is undertaken by third party organizations which have no self interest in a specific forest activity; which are not stakeholders in the forests being certified; and which can assure the public of independent and professional judgement.

In practice, certification is partly an auditing function that operates generically as follows: A set of standards are first developed and adopted by a certification body. The certification body then monitors a particular forestry operation in order to determine whether that particular operation meets the pre-determined standards. If the standards are met, the operation is granted certification. If the forest products are to be sold as "certified", a chain-of-custody[12] audit must also be conducted in order to assure the end product labeled as "certified" did, in fact, originate from the certified forestry operation.

There are three types of certification. First-party certification is essentially self-certification, whereby the company being certified both sets the standards, and also determines whether those standards have been met (Gale and Burda 1996, 1). Second-party certification takes place when the government sets guidelines, criteria and processes for evaluation. The government also supports the certifying agencies, and substantial input from industry is typical (Gale and Burda 1996, 1). Third-party certification is certification by an independent body. Third-party certification offers the greatest political and economic distance between certifier and ecoforester. Thus far,

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[12] Chain of custody refers to the system that tracks wood from the forest, through the various stages of processing, transportation, and distribution, to its final use.

third-party schemes have also developed the most ecologically-grounded and stringent standards (Gale and Burda 1996, 2). Since third-party certifiers offer the greatest level of independence, as well as the highest standards for ecological, social, and economic criteria, it is third-party certification that is applicable to the creation of a SCES.

Certification programs can also be classified according to what they aim to certify. Performance standards, also known as "product standards", are used in eco-labeling schemes, and deal with actual forest practices and the associated impacts. System standards, on the other hand, simply verify that a company follows its intended plan of action, but does not guarantee any ecological or social level of performance has been met. The International Organization for Standardization (ISO) uses system standards to certify companies, as does the Canadian Standards Association (CSA).[13] Since these standards do not offer any verification of ecological, social, or economic performance, they are not considered acceptable for the purposes of this paper.

The global movement towards third-party, performance-based certification began in 1989 when Friends of the Earth-UK (FoE) and the Oxford Forest Institute put forward a joint proposal to the International Tropical Timber Organisation (ITTO) for the initiation of eco-labeling of forest products (Gale and Burda 1996, 2). Frustrated by the lack of action on the proposal, the Woodworkers Alliance for Rainforest Protection (WARP) formed a consultative group. This group held a series of public consultations

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[13] See the section in Chapter III entitled "Competing Schemes."

in 1990, that included formal hearings in Malaysia, Sweden, Peru, the United States and six other countries, as well as gathered hundreds of responses to a questionnaire that was sent out globally (Cabarle and de Freitas 1994). Out of this consultative group, the Forest Stewardship Council (FSC) formed in Toronto in October of 1993 (Gale and Burda 1996, 2). The FSC is an independent, non-profit, non-governmental membership organization, with a subsequently established headquarters in Oaxaca, Mexico. The Founding Assembly was attended by 130 participants from 25 countries (Upton and Bass 1995, 186).

The FSC membership consists of environmental organizations, representatives from the timber trade, professional foresters, indigenous peoples' organizations, community forestry groups, and certification bodies from 25 countries (Upton and Bass 1995, 131). The FSC's role is to set international standards for ecoforestry (see Appendix A), and to "certify the certifiers." That is, the FSC accredits certification bodies with the authority to certify forestry operations according to FSC standards. There are currently five certification bodies worldwide that have been accredited as such.[14] As of mid-October 1997, the FSC had certified 3.8 million hectares (9.3 million acres) of forestland worldwide (Wilson and Malin 1997). In British Columbia, the Silva

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[14] As of February 1998, the following are FSC accredited certification bodies: The Rainforest Alliance Smart Wood program (USA); Scientific Certification Systems Forest Conservation Program (USA); Société Générale de Surveillance Forestry QUALIFOR Programme (UK); The Soil Association Woodmark scheme (UK); and SKAL (the Netherlands) (FSC 1998).

Forest Foundation is currently going through the FSC accreditation process.

The FSC structure consists of the General Assembly, and the Board of Directors. The General Assembly, the highest authority in the FSC, is comprised of three chambers – members with economic interests, members with social interests, and members with environmental interests – with each chamber having equal voting power. The international Board of Directors meets quarterly (Upton and Bass 1995, 186), and consists of nine members, each with three year terms. In all the work it does, the FSC operates on the basis of consultation and consensus (Lamport 1995). For instance, in the accreditation process, a public consultation, as well as endorsement by "an independent multisectoral group" is required (Ervin and Elliott 1996, 39).

In Canada, the national FSC office, located in Toronto, opened in November of 1996, and has since registered as a not-for-profit organization. According to FSC-Canada's National Coordinator, Marcelo Levy (1998), the role of the national office is to coordinate the work of the various Canadian regional initiatives, all of which are in various stages of developing regional standards. These regional FSC initiatives include Acadia, the Great Lakes/St. Lawrence region (Ontario), the Quebec/St. Lawrence region, the Boreal Forest, and British Columbia. While the national office is attempting to ensure "harmonization" of the level of standards, each region is developing specific standards that are applicable to its particular political and geographical conditions. FSC Canada is structurally similar to the international body, except that Canada has a fourth chamber, for First Nations members, in the General Assembly (Levy 1998).

The potential benefits of certification under the FSC scheme are numerous. Nancy Vallejo (1996), a Swiss environmental lawyer, has listed the following benefits: better information provided in order to make management and environmental decisions; improved public image of companies; improved market access; possible green premium; improved forest management; social benefits; improved rights for indigenous people; increased use of local processing facilities; local participation; maintenance and/or improvement of ecological integrity of forests; increased protected areas; reduced intermediaries between producer and consumer due to chain of custody requirements and therefore lower prices; increased revenue and royalties to government; increased availability of financial resources from lending institutions. Other benefits noted elsewhere include higher staff morale (McNulty and Cashwell 1995; von Mirbach 1997), lower insurance costs (von Mirbach 1997), greater internalization of all externalities (Elliott 1996), improved transparency, (Elliott 1996), and the assurance of continual improvement (Upton and Bass 1995).

In spite of the many potential benefits of certification, there are a number of concerns surrounding it. Some analysts feel that certification could be seen as disguised environmental protectionism (Kiekens 1994). The fear is that "[c]ertification schemes in major timber importing countries could lead to discrimination against foreign producers, particularly those in developing countries" (Elliott and Viana 1996, 139). This argument is premised on the idea that most certified forests will be in the developed world, and that simple import substitution will take place (Kiekens 1994). This argument does not

stand up, however, because a great deal of certified forests are in the Majority World.[15] As well, the tree species logged in tropical countries are quite different from temperate climates, making simple import substitution impossible. As the certification movement continues to evolve, it is important to have mechanisms in place to ensure that any price premiums from ecoforestry products make their way back to producers in Majority World nations (Elliott and Viana 1996, 141). It is also critical that the FSC's principles on social issues, land rights, and local participation are upheld in Majority World countries where equal participation with timber traders from developed nations may be difficult (Jackson 1996).

Another important issue concerns the marketplace reaction to certified forest products. Some analysts have pointed out that the existence of certified wood products may indirectly highlight the existence of "bad" wood products, and therefore promote the use of wood substitutes (such as steel, plastic, or aluminum) which may, or may not, lead to environmental benefits (Vallejo 1996). At a more fundamental level, activists have pointed out the danger of removing emphasis on reducing consumption in general. If certification is successful, consumers may feel that they no longer have to worry about reducing their consumption of forest products, or participating in recycling programs. Greenpeace's Anna Fanzeres says: "The search for sustainable sources of wood has to be encouraged but without losing the perspective that it is necessary to intensify the discussion on consumption" (quoted in Viana et al 1996, 183).

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[15] The Majority World is also referred to as the Third World.

Since the FSC is a global scheme, it is critical that its principles are followed in all situations, and are adapted properly to local conditions. Any deviance from principles could lead to criticism that could jeopardize the entire program. This vulnerability encourages high standards and strict enforcement, but it also contains the seed of developing a climate of unwillingness to criticize. Once ecoforesters, NGOs, and certification bodies have bought into a certification program, they may be reluctant to criticize that program, even if they feel standards are being compromised. However, the layers of independent bodies within the FSC contributes greatly to mitigating this danger, and to building internal checks and balances. For instance, the fact that the FSC itself does not do any certification, but rather certifies the certifiers, adds substantial credibility to the program.

Certification fits easily into the existing socioeconomic market system (Viana et al 1996, 188). While this is advantageous in many regards, it also highlights the inability of certification to address some of the root causes of forest ecosystem degradation – capitalism, free trade, excess consumption. In short, while certification has an important role to play, it cannot be seen as a panacea. To be effective, certification must be part of an overall strategy to address ecosystem damage, social inequities, and economic change. Certification's part in this overall strategy is outlined in the next section.

A Catalytic Role

> Our tragedy lies in the richness of the available alternatives, and in the fact that so few of them are ever seriously explored. It lies in the rigidity of war machines, the legacies of colonialism, the inflexibilities of the industrial tradition, the solaces of consumerism, the cynicism born of long disappointment, and the habits of power. No wonder, given all this, that our age seems not merely tragic but tragic in the classical sense, that despite all possibility, we seem trapped in just the remorseless "working of things" that the Greeks saw as the core of tragedy.
>
> – Tom Athanasiou (1996, 307)

Ecoforestry offers a clear alternative to the current industrial practices in the woods of British Columbia. It offers an alternative that protects ecosystems, strengthens communities, and provides sustainable employment. The problem, as Tom Athanasiou pointed out, is not in the weakness of such alternatives, but rather that we are collectively stuck in the "working of things". Stuck in the "working of things", forestry in BC is moving along a linear path towards more ecological destruction, greater social disruption, and increasing economic hardship for timber workers and communities. Stuck in the "working of things", BC forestry policy-makers see only a myopic view of the possibilities. Indian physicist and philosopher Vandana Shiva (1993, 5) calls this the "TINA (there is no alternative) syndrome" – a syndrome that occurs when: "Alternatives exist, but are excluded." The alternative of ecoforestry exists in BC, but it is not seen.

Breaking out of the "working of things" to explore available alternatives is equally critical and difficult. It is critical because in the face of numerous crises –

ecological, social, and economic – there is a need to challenge the institutions and perspectives that perpetuate the crises. As Albert Einstein said "We cannot solve the problems we have created with the same thinking that created them" (quoted in Dowie 1995, 205). By creating a small-scale, certified ecoforestry system (SCES), a different way of thinking is validated. In the immediate term, a SCES will have positive effects for those involved – for ecosystems, for communities, and for ecoforesters. Over the longer term, a SCES can serve as a compass for moving BC forestry out of the "working of things" and towards an ecological future.

At the same time, it is difficult because there are powerful vested interests that benefit from the "working of things", and will therefore resist change. Michael M'Gonigle, Eco-Research Chair of Environmental Law and Policy at the University of Victoria, states with regards to BC forestry:

> ...any attempt to challenge the deep-seated assumptions embedded in our economic and political institutions risks dismissal for a multitude of reasons, not least of which is the threat which it poses to the existing configuration of production and authority. This is the post-modern condition – existing power determines acceptable knowledge. This is also the true challenge of sustainability (1996a, 1).

Breaking forestry in BC out of the "working of things" and into a realm of true sustainability through ecoforestry is a formidable task. It is, however, a task that is achievable through the creation of a small-scale, certified ecoforestry system. In essence, a SCES can act as a model for the future of forestry on a broader scale. It is important to note that a SCES can be replicated on a broader scale, but not a larger scale.

That is, a SCES is a model that can spread and be duplicated in different locations, but it is not a model for larger-scale operations, or for a province-wide duplication of the current centralized system with an ecological hue. The potential of a SCES is in showing skeptics that an alternative to the current centralized, industrial system is viable. One analyst has said that: "Perhaps the most valuable contribution of eco-forestry certification is to describe and validate an alternative paradigm to the industrial model..." (von Mirbach 1997, 14). By validating an alternative, British Columbia will be nudged towards adopting ecoforestry on a broad scale.

The creation of a SCES is only one political "tool" among many, and its utility in challenging the industrial forestry paradigm depends to a great extent upon the complimentary work of other activists. The certification of forest products cannot address all the issues related to forestry, but that it can act as a catalyst for change (Upton and Bass 1995, 52; Vallejo 1996, 231; Viana 1996). Rather than focusing energy entirely on changing the "system" – on creating a province-wide political-economic environment within which ecoforestry can foster – the creation of a SCES *within* the current system, effectively subverts the control of the current political-economic structure. Instead of directly pushing for legislative, political, or economic changes, the creation of a SCES challenges the powerful institutional forces that actively resist ecoforestry, defies the core institutional community's stranglehold on forest policy, and simultaneously creates a very real, and tangible alternative.

In order for a SCES to effectively assist in transforming the BC forestry

paradigm into an ecological one, two important characteristics must exist. First, the SCES needs to be effective on its own terms. This thesis outlines the various components necessary for the creation of a viable, small-scale, certified ecoforestry system in British Columbia. However, even if these components are put into place, the efficacy of a SCES in achieving the ecological, social, and economic goals inherent in ecoforestry, will depend to a great extent upon the dedication of those involved. Throughout this thesis, various threats to the ability of a SCES to achieve these goals are discussed. It is inevitable that choices will be necessary between remaining true to the principles of ecoforestry, and compromising somewhat in the face of pragmatic realities. If a SCES is put into place, but no longer embodies the ecological and social values that initially inspired it, the struggle will have been for naught. On the other hand, some aspects of ecoforestry will take time to develop, and may not be initially at their optimum level. For instance, community support is a critical component of ecoforestry, but particular forest-dependent communities may be strongly divided initially with some community members in strong opposition to ecoforestry. This does not mean that a SCES would have failed, but rather that continual work is necessary to garner support and to create mutually supported SCES models for each community. The vision of a SCES is not a rigid one – it is a dynamic, and evolutionary one that grows and improves. Remaining true to the values of ecoforestry, but understanding that continual improvement is essential, will ensure that a SCES can be effective on its own terms.

Second, the SCES must compliment the work of other activists working towards

the same ultimate goal. Since the creation of a SCES is only one arrow in the quiver of activists, it is important that it is harmonious and compatible with other work being done to the same end. As activists continue to expose the destructive impacts of industrial forestry, a SCES must be positioned as a viable alternative. As the case for tenure reform is made, a SCES needs to fit with an alternative model of tenure. As current forestry legislation is challenged, a SCES needs to provide a model for the goals of future legislation. As local, value-added production facilities, and community economic development strategies are supported and nurtured, a SCES needs to be integrated. As national and international markets are alerted as to the destruction inherent in BC's industrial forest products, certified forest products from a SCES must be highlighted as an alternative. Over the longer term, even if a SCES becomes operational, the implementation of ecoforestry on a broad, provincial scale would still require substantial legislative, political, and economic changes (Hammond 1991; M'Gonigle and Parfitt 1994; Burda et al 1997).

A final and important word of caution about certification: it is not a panacea. Ecoforestry is fundamentally different than the industrial timber industry, and ecoforestry is representative of what Bookchin (1980) calls "an ecological society" – but certification is not. Certification is a tool, a market mechanism, used within the current political economic structure. Ecoforestry, on the other hand, is challenging that very structure. Ultimately, as ecoforestry gains hold, certification needs to be abandoned. Further, as a tool for bringing about ecoforestry, certification is useful, but as one analyst

points out: "this is not to say that certification can replace the need for legislation, regulations, policy and controls" (Vallejo 1996, 230). The goal of replicating a SCES on a broader scale is predicated on ecoforestry eventually becoming standard practice, and certification no longer being necessary. The tool of certification has utility over the medium-term, but eventually regulations and society itself must change.

CHAPTER III

NECESSARY ELEMENTS

Demand for Certified Ecoforestry

Demand for certified ecoforestry, in the broadest sense, is both the beginning and the end of the chain of interconnected elements necessary for the creation of a SCES. At the beginning of this chain is a broad-based demand for a change in the way human society interacts with nature. At the end of the chain is a market demand for certified ecoforestry products. This section examines both the broad-based demand that is pushing for ecoforestry, and the market demand that is pulling certified ecoforestry into prominence. This section shows that the broad-based demand backing ecoforestry includes: demand from the planet itself; demand from the imperative for creating an ecological society; demand from disenfranchised forestry workers and timber communities; and demand from the environmental community.

In terms of market demand that is pulling for certified ecoforestry, this section shows that there is a solid market for certified forest products that would come from a SCES in BC. The demand, globally, currently exceeds supply and is likely to remain as

such for the foreseeable future. This demand is highest for visible, value-added wood products such as floors, cabinets, furniture, and architectural details. Market studies reveal that those closest to the consumer in the forest products chain of custody are most supportive of certification, and that a small price premium may be available for certified wood. The stated willingness to pay a price premium, however, does not necessarily translate into actual payment of a premium, and it remains questionable whether a price premium can be relied upon over the longer term. The demand for certified BC forest products is strongly supported by numerous "buyers groups" of companies pledging to purchase only certified wood by a specified date. Rather than competing with clearcut-derived industrial wood, certified BC wood should be promoted for high-quality uses, suitable for value-added production.

Broad-Based Demand

> Human society has reached a critical threshold in its relation to its environment. The destruction of the planet, in the sense of making it unusable for human purposes, has grown to such an extent that it now threatens the continuation of much of nature, as well as the survival and development of society itself. The litany of ecological complaints plaguing the world today encompasses a long list of urgent problems... destruction of the ozone layer, global warming, extinction of species, loss of genetic diversity, acid rain, nuclear contamination, tropical deforestation, the elimination of climax forests, wetland destruction, soil erosion, desertification, floods, famine, the despoliation of lakes, streams, and rivers, the drawing down and contamination of ground water, the pollution of coastal waters and estuaries, the destruction of coral reefs, oil spills, overfishing, expanding landfills, toxic wastes, the poisonous

> effects of pesticides and herbicides, exposure to hazards on the job, urban congestion, and the depletion of nonrenewable resources (Foster 1994, 11)

The most fundamental demand for the creation of a SCES comes from the planet itself. As John Foster so clearly sums up, the natural environment is reeling from relentless decades of damaging human activities. In British Columbia, the forests are under attack by an industrial forestry paradigm that is systematically razing the remaining unprotected old-growth forests in the province, at the expense of intact ecosystems, long-term timber jobs and sustainable hinterland communities.

A simplistic and reactionary call to just "stop" all human intervention into nature is not only unrealistic, but grossly unjust.[16] Workers and human communities the world over depend upon a sustainable utilization of natural resources. An attempt to simply "set-aside" or "preserve" nature at their expense is often a despotic and lazy reaction from privileged sectors of society that results in short-cutting the need to develop truly sustainable and equitable human / nature relations. Instead of merely "setting-aside" pockets of untouched nature, there is an increasing demand for an ecological society – one that recognizes both our need to maintain intact ecosystems, as well as the concomitant necessity of dismantling social structures of domination. As Murray Bookchin (1995, 120) explains:

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[16] For a detailed discussion of this argument, see, for example, the work of Vandana Shiva (1988), George Sessions (1991), Nancy Pulido (1993), Murray Bookchin (1995), and William Cronon (1995).

> ...the ecological crisis that beleaguers us stems from a social crisis, a crisis that the crude biologism of "deep ecology" generally ignores...the resolution of this social crisis can only be achieved by reorganizing society along rational lines, imbued with an ecological philosophy and sensibility.

This reality demands an equitable and sustainable relationship between human activities, and the natural ecosystems of which they are a part.

Over the past thirty years, BC's timber cut has doubled, while over the same period the number of direct jobs per cubic meter cut has dropped by half (Travers 1993, 206).[17] Thousands of timber workers have lost their jobs, and the social impacts have been devastating:

> As some workers lose their jobs, those who still have them angrily reject changes proposed from the outside.. Young people leaving high school see no future in town and move out, leaving a town that is increasingly without children. Unemployed families lose their houses, default on loans and stop buying from local businesses. Alcohol and drug abuse rise, domestic violence and crime become endemic and a sense of despair takes over. (M'Gonigle and Parfitt 1994, 26)

Disenfranchised timber workers and resource communities demand an approach to forestry that offers a sustainable future.

Activists attempting to reconcile the needs of fragmented ecosystems with those of disenfranchised resource communities have demanded an ecological solution. Community economic development organizations, searching for a recipe for sustainable

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[17] The reason that cut levels have doubled while the number of jobs per cubic meter has dropped in half is that logging has become increasingly mechanized.

timber communities have demanded a pragmatic alternative that can offer real hope. Environmental NGOs, fighting an exhausting battle to save the rainforests of BC, demand a clear model that can articulate a truly sustainable future. In all these cases, ecoforestry holds promise. It is the demands of ecosystems, of disenfranchised timber communities, and of dedicated activists, that have placed the spark under the movement towards certified ecoforestry. It is here that the demand for a SCES really begins.

Market Demand

There currently exists a solid market, both in North America and Europe, for certified forest products coming from a SCES. It has been pointed out, in fact, that the demand for certified wood products is likely to exceed supply for the foreseeable future (Drescher 1997; Vallejo 1996; Upton and Bass 1995). Demand is highest for visible, higher-quality wood products, which bodes well for the creation of a SCES because price-based competition with low-value, clearcut-derived dimensional lumber would be difficult. There are currently more than enough buyers for all the potentially-certifiable wood coming from a SCES in BC. While a price premium should not be relied upon over the longer term, the current excess of demand over supply should help with the initial costs of developing a SCES.

A number of market studies have been conducted in order to discover whether or

not a substantial market exists for certified forest products. These studies, many of which are discussed in more detail below, support some general conclusions. First, those closest to consumers in the forest products chain of custody (retailers, architects, value-added manufacturers) tend to be the most supportive of certification (Stevens, Ahmad, and Ruddell 1998; Gale and Burda 1996; World Forest Institute 1993). The demand is clearly originating with consumers, but primary producers are reluctant to cater to this demand until monetary benefits can be guaranteed. Second, demand is greatest for certified wood to be used in visible items such as floors, cabinets, furniture, and architectural details (Stevens, Ahmad, and Ruddell 1998; Donovan 1997; Mater, Rogers and Metz 1995). While secondary manufacturers involved in producing such items may be supportive of certification, wood quality is generally still their over-riding concern (Mater, Rogers and Metz 1995; Dickey 1997) . Third, a niche market definitely exists for certified wood and wood products, but a price premium should not be relied upon. Stated willingness to pay a premium does not necessarily translate into actual behavior, and great variances in even stated willingness to pay a premium does not support a general conclusion that higher prices can be consistently relied upon.

The demand for certified BC forest products is strongly supported by numerous "buyers groups" of companies pledging to purchase only certified wood by a specified date. The European market is creating the strongest demand, but the North American market is growing quickly. The Silva Forest Foundation regularly receives requests for certified wood, many of whom express a willingness to pay a premium price, and some

of whom are flexible in terms of species. While certified wood cannot directly compete in terms of price with clearcut-derived dimensional lumber, this should not be seen as a hurdle for the establishment of a SCES. Rather than attempting to compete directly in this market, certified BC wood should be promoted as high-quality wood, suitable for value-added production.

Review of Market Surveys

In 1993 the World Forest Institute, in Portland, Oregon, conducted a feasibility study regarding the implementation of a certification program in the Pacific Northwest. They found that those closest to consumers (retailers, home-builders, and architects) had the most positive response to certification (World Forest Institute 1993, 12). Producers, on the other hand, felt that certified wood products may not command a price premium in the market, and were critical of the perceived increased cost in production (World Forest Institute 1993, 2). Overall, participants felt that the greatest market for certified forest products would be primarily in Europe (World Forest Institute 1993, 6), but also with commercial construction for companies wishing to improve their image (World Forest Institute 1993, 6).

The Western Wood Products Association conducted a study, in 1994, of retailers, wholesalers, builders, architects, engineers and specifiers. They concluded that the

greatest interest in certification was with architects and specifiers, while builders showed the least interest (Gale and Burda 1996, 5). Although 70 per cent of those surveyed indicated an interest in third-party certified wood, only six per cent felt their clients would be willing to pay a premium (Gale and Burda 1996, 5).

In the same year, Dawn Winterhalter and Daniel Cassens, of Purdue University, did a study of affluent (with household incomes in excess of $50,000), well-educated consumers in the US. They found that 93 per cent said they would like to know that their furniture "originated from a sustainably managed forest" (Winterhalter and Cassens 1994, 8), and that 68 per cent said they "would be willing to pay more for furniture whose construction materials originated from a sustainably managed North American forest" (Winterhalter and Cassens 1994, 9). Their study concluded that "[r]easonable cost increases (of up to 6-10%) could be economically feasible for wood-related industries marketing in the environmental arena" (Winterhalter and Cassens 1994, 2).

The Institute for Sustainable Forestry commissioned Mater Engineering to survey over 300 people in small and mid-size forest product industry firms in Washington, Oregon and California, during 1995. Findings were similar to the World Forest Institute study in the sense that awareness and willingness to be involved with certification increased with movement towards the retail level (Mater, Rogers and Metz 1995, A-1). In their survey of secondary manufacturers, it was found that, under that assumption that a premium can be passed along, 59 per cent of respondents indicated a willingness to pay a five per cent premium; 46 per cent indicated a willingness to pay a

ten per cent premium; and 30 per cent indicated a willingness to pay a 15 per cent premium (Mater, Rogers and Metz 1995, Final 9). Furniture-makers and cabinet-makers dominated as the groups most interested in certified wood: 80% of furniture-makers indicated a willingness to pay a premium, as did 60% of cabinet-makers (Mater, Rogers and Metz 1995, Final 11). It should be noted, however, that quality was found to be the over-riding issue for secondary manufacturers, but that relatively high labor and overhead costs translate into relatively low increases in overall price when using certified materials, especially with high-end markets (Mater, Rogers and Metz 1995, 5). The survey of "Do-it-yourself" (DIY) centers, indicates an immediate demand for certified wood products, with over 50 per cent of respondents willing to pay a premium (Mater, Rogers and Metz 1995, A-4). The greatest opportunities for certified wood products appear to be with hardwood flooring, hardwood trim, shelving, dimensioned and random length/width lumber. Feasibility for a premium on these products was found to be in the 5% to 10% range (Mater, Rogers and Metz 1995, A-4).

Lucie K. Ozanne and Paul Smith, of Pennsylvania State University, conducted a study in 1995 of 1,410 US homeowners (representing 51 million US single-family homeowners). When asked if they would seek out environmentally certified wood products, 50 per cent of respondents said they would, and only 16 per cent said they would not (Ozanne and Smith 1995, 5). In terms of paying a premium, 34 per cent said they would, and 27 per cent said they would not (Ozanne and Smith 1995). The researchers concluded that "[a] segment of consumers...seems willing to seek out and

pay more for certified wood, although we are reluctant to draw strong conclusions about individual behavior based on stated attitudes" (Ozanne and Smith 1995, 5). They identified six socio-economic clusters of respondents, one of which was the "eco-certification cluster" (18 per cent of the sample, representing about 25 million Americans) that would be interested in the development of a market for eco-certified forest products. These individuals can be described as "politically liberal, democratic, female, an environmental organization member, and moderately educated" (Ozanne and Smith, quoted in Gale and Burda 1996, 10).

Also in 1995, the US Forest Service prepared a market assessment based on interviews of over 300 people from the forest products industry. They found that 40 per cent of retailers were willing to pay a 10 per cent premium for certified wood products (Donovan 1997). They also found strong support from furniture manufacturers, 80 per cent of whom indicated a desire to buy certified wood, and 50-60 per cent of whom stated a willingness to pay a premium for it (Donovan 1997).

The Silva Forest Foundation conducted a survey in 1996 of British Columbia wood product producers and manufacturers. While the response rate was quite low, the general findings seem to mirror results from previous studies, in the sense that those closer to the end of the chain of custody, tend to be more supportive of certification (Gale and Burda 1996, 11). Interest in certification was found to be mainly from small and medium-sized producers and value-added manufacturers, but the general lack of interest from primary manufacturers was highlighted as a major obstacle (Gale and

Burda 1996, 11).

Fred Gale and Cheri Burda, of the Eco-Research Chair of Environmental Law and Policy at the University of Victoria, conducted a 1996 survey of primary and secondary manufacturers, and retailers in BC. The study found that 19 per cent of retailers felt their clients would be willing to pay a premium, while none of the primary manufacturers felt this way (Gale and Burda 1996, 15). In terms of willingness to pay a premium themselves, 22 per cent of retailers said yes, while only three per cent of primary manufacturers did (Gale and Burda 1996, 16). In terms of barriers to buying and selling certified forest products, 58 per cent cited "lack of market", 43 per cent felt there was an "uncertainty of supply", 43 per cent pointed to an "inability to separate", and 38 per cent cited uncertain consistency in quality and grade. When asked for other barriers, respondents mentioned "lack of capital to purchase equipment", "too high a cost" and "too low a volume" (Gale and Burda 1996, 18). The authors concluded that the forest products industry perceives the demand for certified forest products as small – at best, a niche market of about 10 per cent of their client base (Gale and Burda 1996, 19). In line with previous studies, perception of certification appears to depend upon the respondent's place in the chain of custody, with those closest to the consumer showing the greatest support for certification (Gale and Burda 1996, 19).

James Stevens, Mubariq Ahmad, and Steven Ruddell (1998) of Michigan State University, conducted a survey during 1996 and 1997. The survey sampled a number of US companies that sell certified wood products, as well as some similar companies that

do not. Of the companies not selling certified wood products, the most important reason given for not doing so was that customers don't demand it (Stevens, Ahmad and Ruddell 1998, 46). The largest motivating factor that would convince them to start selling certified wood products would be increased market share (Stevens, Ahmad and Ruddell 1998, 46). Of the companies that are selling FSC-certified wood products, all respondents said they would be able to increase sales if there was a greater supply of certified wood (Stevens, Ahmad and Ruddell 1998, 47). The west coast was found to be the primary area from which customers request certified wood products (Stevens, Ahmad and Ruddell 1998, 47). The average price premium paid for certified wood was 6.6 per cent, while the average price premium charged is 4.7 per cent. However, since the final selling price is far greater than the cost of raw materials, "output price premiums are roughly covering additional input costs" (Stevens, Ahmad and Ruddell 1998, 48). Architects and secondary manufacturers have the highest willingness to pay a premium, and the certified wood products in greatest demand were reported to be: flooring materials, furniture (especially garden and patio furniture), architectural molding, and architectural panels with decorative veneers (Stevens, Ahmad and Ruddell 1998, 48). In line with other studies, the interest in certified wood products was found to be highest closer to retail markets (Stevens, Ahmad and Ruddell 1998, 48).

Demand for Certified BC Forest Products

The formation of about a dozen (Wilson and Malin 1997) certified wood "buyers groups" – forest product manufacturers, wholesalers, and retailers that have pledged to buy only FSC-certified wood by a specific date – has significantly increased global demand. Of the various buyers groups in existence, the UK group, with over 80 member companies, is the most advanced (Stark 1998). One member of the UK buyers group is B&Q, Britain's largest home-improvement retailer, with annual sales of $1.5 billion (UNEP 1994, 31). In November of 1997, B&Q informed MacMillan Bloedel (a BC industrial timber company) that it will no longer purchase hemlock from them, and is instead switching to wood from a FSC-certified source (Matas 1997). B&Q cited their commitment to FSC standards as the reason for the switch.[18] The Certified Forest Products Council, the North American buyers group that includes the Ted Turner group of companies, as well as pledges to use certified wood from retailers such as the Gap and Starbucks (Boucher 1997), came together in the fall of 1997.

A large part of the demand for BC certified forest products is coming from Europe. Part of this demand is coming directly from European buyers groups, both in the form of direct requests for certified wood products, and in the form of cancelled

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[18] As well as B&Q, some of the other major companies that have cancelled contracts with BC industrial logging companies include Sainsbury's, Homebase, Do It All, BBC Worldwide Publishing and Magnet (Greenpeace 1998).

contracts with industrial logging companies that have only uncertified forest products. The combined pressure of activists informing European buyers of the destruction caused by industrial forestry in BC, and the commitment of buyers groups to switch to certified wood by 1999, is creating a significant European demand for certified BC wood.

Part of the demand from Europe also comes indirectly via Canadian manufacturers that are faced with demands from European customers for the use of certified wood. FSC's Canadian national office, for instance, receives numerous requests from Canadian companies supplying products to European members of buyers groups (Levy 1998). If this wood is not available in Canada, then Canadian manufacturers will be forced to look elsewhere for a share of the limited global supply of certified wood. Indicative of this, SmartWood and SCS have both conducted chain-of-custody audits in Canada for Canadian companies that are buying FSC-certified wood from the USA (Certified Forest Products Council 1998).

The demand for certified wood clearly exists, however the volume requested by European buyers groups is far greater than what potentially certifiable woodlots in BC can supply (Stark 1998). This is not unique to BC, as many analysts predict that the demand for certified forest products, on a global scale, will exceed supply for the foreseeable future (Drescher 1997; Vallejo 1996; Upton and Bass 1995). In terms of the dominant species requested, such as hemlock, they are not likely to be available in the near future from certified BC forests (Stark 1998). In an attempt to address this issue, SFF has been sending buyers samples of the types of wood likely to be certified (S.

Hammond 1998). In many cases, although not all, buyers are flexible and will accept a reasonable substitute (Kepkay 1998) – once again indicating the strength of the demand.

Lara Beckett, who is coordinating FSC's regional initiative in BC, feels that demand from US buyers, is also likely to increase quickly as the Certified Forest Products Council gains momentum (Beckett 1998). Although there are already a number of certified ecoforestry operations in the US,[19] and this amount is expected to increase dramatically in the near future (Wilson and Malin 1997), there appears to be substantial room in the US marketplace for certified BC wood products. EcoTimber International[20] attempted unsuccessfully in 1995 to buy certified wood from a BC ecoforestry operation, and is currently interested in purchasing certified BC wood as soon as it is available (Dickey 1997). The American market for certified wood is growing quickly, with EcoTimber International reporting a fourfold increase in sales over the past year (Donovan 1997), and Collins Pine[21] attributing sales increases of 25 per cent to retailers, and 22 per cent to furniture manufacturers, directly to certification

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[19] As of March 1998, Scientific Certification Systems had certified six forests in the United States (SCS 1998), and SmartWood had certified 18 (SmartWood 1998).

[20] EcoTimber International is a large wholesaler/retailer of certified domestic and imported FSC-certified lumber, located in Berkeley, California. They supply certified lumber to many other retailers in North America, and are members of the FSC.

[21] The Collins Pine Company, with its subsidiary Kane Hardwood, has two certified forestry operations in the US, and produces a number of certified forest products.

(Viana et al 1996, 222). Wal-Mart built an "eco-mart" prototype store, in Kansas, from 800,000 board feet of certified Douglas fir plywood and southern yellow pine (Polson 1996, 43), Home Depot carries a line of SCS-certified shelving from Collins Pine (Polson 1996, 43), and Colonial Craft is attempting to have all its production certified within five years (Sugal 1996). Some high-profile products have also helped promote certified forest products, including Jay Leno's desk on the Tonight Show, which is made from certified wood (Donovan 1997), and a new line of SmartWood guitars from Gibson Musical Instruments (Donovan 1997).

While the demand for certified wood, from both Europe and North America, is strong and growing, it is important to be realistic about the market positioning for certified BC wood. Too much wood is being cut in BC, and the province can no longer depend upon a high-volume, low-value forest industry. The low prices of clearcut-derived, dimensional lumber sold by the industrial logging companies, are based on the short-term liquidation of accessible timber supplies – something that cannot last, and something that the current economic crisis in the BC forest industry is highlighting. Therefore, certified forest products cannot, and should not, compete directly with such low-cost industrial sources of timber. Cheri Burda points out that BC should be emphasizing the quality of wood available from BC forests, and that while some certified wood could be made into dimensional lumber, it needs to be done within a framework of ecological sustainability (Burda 1998). Greenpeace's Tamara Stark argues that BC has some of the best quality wood in the world, and that it needs to be

promoted as such and made into value-added products whenever possible (Stark 1998).

Encouragingly, the surveys outlined above seem to indicate the greatest interest in certified wood coming from buyers that intend to create higher-value end products. For instance, furniture makers and cabinet makers tend to be the most interested in buying certified wood (Stevens, Ahmad, and Ruddell 1998; Donovan 1997; Mater, Rogers and Metz 1995), and consumers seem interested in purchasing furniture made from sustainable sources (Winterhalter and Cassens 1994). EcoTimber International also reports demand for certified wood for highly-visible uses such as flooring for the lobby of organizations wishing to improve their image (Dickey 1997). The Environmental Home Center[22] reports similar demands, and points to a market for the restoration of older buildings where certified wood can be used for floors, baseboards, doors, and other visible, higher-value items (Omenn 1998). Analyst Jean Mater agrees, saying that a green premium is most likely in "furniture, visible building products, and do-it-yourself projects" (Mater 1997, 201). On the other hand, a significant portion of what is likely to come from certified forest operations in BC will not initially be clear, top-quality wood (Kepkay 1998). In this regard, it is good to have the option of producing some dimensional lumber from certified wood, as well as higher-quality products (Kepkay 1998).

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[22] The Environmental Home Center, located in Seattle, Washington, is a wholesaler/retailer of certified domestic and imported FSC-certified lumber, urban-salvaged lumber, furniture built from certified lumber, and environmental home products.

A central issue in the discussion of demand for certified forest products, is whether a "green premium" exists. According to the market surveys outlined above, there is an increase in stated willingness to pay a premium as one moves along the chain of custody from producers to retailers. As well, the existence of a premium seems to be greatest among secondary manufacturers that are producing higher-value products such as furniture and cabinets. It is important to note, however, that stated and actual willingness to pay are often not the same. Further, a willingness to pay a premium may be simply a function of greater demand than supply, especially from newly formed buyers groups. This situation is therefore something that could help certified ecoforesters initially, but should not be counted on over the long term.

While there is some evidence of a "green premium", it is not clear that it can be counted on, nor that it exists in all situations. Eugene Dickey of EcoTimber International points out that there is a large differential in wood prices and that while certification will ensure the wood will be in the upper range of prices, speaking of a five to ten per cent price premium is misleading (Dickey 1997). Secondary manufacturers are faced with high labor and overhead costs (Mater, Rogers and Metz 1995, 5), something that may translate into an ability to absorb relatively small fluctuations in wood prices, but again, such value-added manufacturers tend to emphasize their over-riding concern with quality. Eugene Dickey echoed this sentiment, by pointing out that customers at EcoTimber International are mainly concerned with competitive prices, good service, and high-quality wood (Dickey 1997).

This market situation may be only temporary, and as the demand for certified wood products increases, an FSC mark of approval may become a more prominent criteria in terms of quality. BC ecoforester Mervyn Wilkinson points out that his wood products, while currently uncertified, still sell very readily because of the standard of forestry (Wilkinson 1998) – an indication that forestry practices are being considered an important part of the "quality" equation. With this in mind, promoting certified wood as a higher-quality product, rather than simply a more expensive niche-market one, is likely to increase the viability of a SCES. Over the long-term, reliance on securing a "green premium" may force certified wood into a limited niche-market situation, something that is contrary to the goal of having a SCES adopted on a broader scale. As well, the existence of a substantial "green premium" could have regressive impacts upon lower-income consumers (Elliott and Viana 1996, 141) – an unintended effect that directly contradicts the goals of ecoforestry.

In order for a SCES to be an effective model for wide-spread replication in BC, it should be as competitive with non-certified wood products as possible. Doing so will not only increase market penetration, but will increase the credibility of a SCES as more than a niche-market provider. Jason Omenn, of the Environmental Home Center, says that such competitive pricing is often possible. He points out that the Environmental Home Center's certified hardwood prices are competitive, and sometimes lower, than the non-certified prices of competitors (Omenn 1998). On the other hand, the certified dimensional lumber sold at the Environmental Home Center, cannot compete on price

with the non-certified competition (Omenn 1998). This situation is in line with the inability of certified wood to compete directly with low-value, clearcut-derived, industrial lumber.

As the market for certified wood grows, and the pressure on industrial forestry increases, it is likely that a negative market niche will develop. That is, only ecologically responsible forest products will be accepted into the major marketplace. George White of Sainsbury's explains (1996, 210):

> We believe that in the future, the part of the market that isn't certified may be the negative market niche. Once a critical mass of certified products exists, and the importance of certification is communicated to consumers, their cynicism may well be transferred to the implications of not being certified.

Russel Johnson of IKEA adds that although a price premium is uncertain, "...I am sure that in a few years many customers will not pay anything at all for uncertified wood" (quoted in Viana et al 1996, 206). Mark Eisen, Director of Environmental Marketing for Home Depot says: "In the long run, I firmly believe that those in the industry with real vision will find certification the biggest financial boon ever" (quoted in Donovan 1997).

Access to the Forest

The most obvious element necessary to create a SCES is access to a forest. Unfortunately, this most obvious element is also the most elusive, as there is very

limited access to forest land in British Columbia for those wishing to practice ecoforestry. Fully 95 per cent of BC's forest land is publicly owned, and the BC Government has allocated it, through the tenure system, overwhelmingly to a small number of industrial forestry operations. The tenure system essentially precludes ecoforestry on most of the forest land in BC not only because it provides forest access mainly to industrial timber companies, but also because: it has an overwhelmingly "productionist" orientation; it is predicated on unsustainably high cut levels; tenure stipulations do not permit less wood to be cut than what is dictated by the Ministry of Forests; and deviations from prescribed logging methods – which call for clearcutting 90 per cent of the time – are not permitted. There is – in spite of overwhelming industrial control and substantial tenure system impediments – sufficient opportunity for forest access to create a SCES. Access is possible, and should be pursued, through the Woodlot Licence Program (WLP), some privately-owned forest land, and through community and First Nations forestry initiatives. The Small Business Forest Enterprise Program (SBFEP) has provided forest access to ecoforestry in the past, but faces serious impediments in doing so again.

Constraints of Tenure System

The tenure system in British Columbia is the "system of legal rights and

responsibilities that allocates access to areas of forested land under stipulated conditions" (Burda et al 1997, 1). In short, the tenure system provides private companies with the rights to cut trees on Crown land. The current tenure system must be understood as the legacy of provincial economic development goals dating back over one hundred years. As researchers at the University of Victoria explain:

> In the late 1800s, the BC government determined that the liquidation of the forests provided a resource on which to build the economy... Private loggers who could not afford to purchase forested land outright were allotted timber leases, which granted rights to timber while retaining Crown ownership of the land... There were no limits on the number of licences a company could hold, nor on the length of time for which they could be held... Policies were predicated on the assumption that forests were unlimited (Burda et al 1997, 31).

To this day, all existing forms of tenure share a "productionist orientation" (M'Gonigle 1996b, 2) predicated on the assumption that rapidly cutting down Crown forests is good for the provincial economy. This orientation is clear also in the *Forest Act* – the legislation from which the tenure system derives its power. Under the *Forest Act*, the MOF is directed to "encourage maximum productivity of forest and range resources" and to "encourage a vigorous, efficient, and world competitive timber processing industry" (quoted in H. Hammond 1991, 48). In effect, the *Forest Act* views Crown forests primarily as timber sources that are to be utilized efficiently and competitively. According to a former Assistant Deputy Minister of the Forest Service: "Provincial forests have been designated as areas in which the primary purpose is for the cropping and managing of trees...other uses are secondary to that use" (quoted in H.

Hammond 1991, 50).

The *Forest Act* defines the types of tenure, as well as the associated rights and responsibilities. The *Forest Act* gives exclusive jurisdiction over Crown forests to the Ministry of Forests, and legislates the Forest Service as the body responsible for carrying out MOF policy. As well, the *Forest Act* charges the Chief Forester with the task of determining an Annual Allowable Cut (AAC), which is the total volume of wood to be cut each year. The AAC is determined every five years, and is allocated to all tenures.

The tenure system is complex, and consists of many forms of tenure, but two primary forms dominate: Tree Farm Licences (TFLs) and Forest Licences (FLs). TFLs, which account for about 24 per cent of the AAC (Burda et al 1997), are area-based tenures, granted for 25-year replaceable terms.[23] In return for stumpage fees,[24] the tenure holder is given a "secure, non-competitive supply of timber from a defined area" (Burda et al 1997, 33). The tenure holder is responsible for road-building, reforestation, inventory, and must usually contract-out 50 per cent of the actual logging operations. Forest Licences, accounting for about 52 per cent of the AAC (Burda et al 1997), are

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[23] TFLs can be issued as non-replaceable, however this has never happened (H. Hammond 1991, 51).

[24] Stumpage fees are the payments made by forestry operations to the government for the cutting and selling of publicly-owned trees. They are calculated according to the volume of wood harvested, and are expressed in terms of dollars per cubic meter.

volume-based tenures, granted for 15 or 20-year replaceable terms. In BC, the majority of Crown forest land is contained in Timber Supply Areas (TSAs) which are managed by the province, and which supply timber for all volume-based tenures.[25] FL tenures permit the licensee to cut a certain volume of timber from a specific TSA, in return for stumpage fees and a small rental charge.

The underpinning of the tenure system is the Sustained Yield Forest Management (SYFM) model. This model provides a theoretical framework for developing a Long Term Harvest Level (LTHL), which is then translated into an annual cut level. Theoretically, this cut level guarantees a continual supply of fiber. However, the SYFM model focuses only on sustaining timber extraction, and not on sustaining whole forests. Herb Hammond (1991, 47) explains:

> By forcing ecosystems to produce a single commodity, timber managers are foreclosing on many forest uses and altering the natural processes that sustain whole forests. In many cases, sustained yield practices are degrading the capacity of the forest to sustain even timber supplies... With the loss of key structures and functions, the forest loses its ability to provide constant, undiminished levels of wood and other values.

Applied BC's diverse-age old growth forests, the SYFM model simply results in "the liquidation of old growth forests and their replacement with faster-growing plantations" (Burda et al 1997, 2). This replacement of old growth forests with single-aged plantations – as opposed to practicing ecoforestry or reducing cut levels – is precisely

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[25] Volume-based tenures include Forest Licences, Tree Farm Licences , and Pulpwood Agreements.

what industrial foresters and the MOF anticipate (Cartwright 1994, 16). Continued logging of old growth will inevitably lead to the "falldown effect" – a term meaning the loss of old-growth forest, the switch to second-growth, and the resultant reduction in timber volume. Although the "falldown effect" could be impetus for change, harvesting schedules simply incorporate the "falldown effect" as an unavoidable fact.

Moreover, the current AAC is above what the MOF itself believes to be sustainable (Greenpeace 1997). According to Ministry of Forests personnel, AAC currently exceeds the LTHL by nearly 30 million cubic meters (Burda et al 1997, 22). In spite of the MOF's acknowledgement of the excessive cut levels, the most recent five-year review of timber supply (conducted in December of 1996), has set the AAC for the period 1997-2002 at almost 71 million cubic meters – a reduction of less than one per cent from the previous period (MOF 1997).

Critical to an understanding of the tenure system import, is the fact that terms of tenure are legal obligations, and any deviation from license terms may result in penalties. With respect to cut levels, this has been called the "use it or lose it" rule (M'Gonigle 1996a, 4). Simply put, tenure holders must cut the assigned amount of timber, or lose the tenure – they are not permitted to cut less wood. This may be an acceptable situation for industrial foresters, but for any tenure holder wishing to practice ecoforestry, the stipulated high AAC makes it nearly impossible to follow ecological guidelines.

Exacerbating further the pressure to cut excessive amounts of timber, is a feature

of TFL and FL tenures known as the "appurtenance clause." This clause requires the operation of a high-volume mill as a condition of tenure (Burda et al 1997, 35). This situation forces companies to continue cutting at high-rates in order to feed the mills that they are required to keep operational. Originally, the appurtenance clause was intended to create community employment, but that employment is now predicated on unsustainable levels of logging. Currently, not only does AAC exceed the MOF's own estimates of LTHL, but mill capacity in BC exceeds AAC by an additional 20 per cent (Burda et al 1997, 37). As well, large capital investments in modern, integrated mills has led to companies becoming heavily leveraged. This, in turn, has increased the need for high volumes of fiber continually running through mills in order to generate the economies of scale necessary for profitability (Gale 1996, 9).

In terms of logging methods, the legal obligations of tenure require that the prescribed methods be adhered to, and that standard industrial forest practices be followed. The Ministry of Forests has an elaborate system which allows foresters to classify BC forests according to many criteria, including soil type, tree species and age, slope, terrain, and moisture levels (H. Hammond 1991). After classification, theoretically, a site-specific logging method can be prescribed. However, clearcutting is the prescribed method in over 90 per cent of the AAC (SLDF 1996). In fact, applications to do otherwise have historically been denied.

Ecoforestry Opportunities for Access

In spite of the overwhelming industrial control over forest access in BC, there remain some opportunities for ecoforestry. These include the Woodlot Licence Program (WLP), some privately-owned land, and community and First Nations initiatives. The Small Business Forest Enterprise Program (SBFEP) has provided forest access to ecoforestry in the past, but faces serious impediments in doing so again.

The Small Business Forest Enterprise Program

The Small Business Forest Enterprise Program (SBFEP), established in 1981, was made possible through the "takeback" clause of major tenures. This clause stipulates that when a tenure is sold or transferred, five per cent of the AAC reverts back to Crown control, thus freeing up some logging rights which can then be allocated to the SBFEP (currently accounting for about 13 per cent of the AAC). SBFEP licenses are auctioned off for a minimum price, plus an "upset price" intended to cover the Crown costs of road building, silviculture, and administration (Burda et al 1997, 65). Successful bidders receive a volume-based tenure, usually for less than two years (with a ten year maximum). Applicants must register under the SBFEP in one of two categories. Category I is for applicants without milling facilities, and Category II is for

those with such facilities.

A major advantage of the SBFEP is that it has no cut control – it is free from AAC requirements. Partly because of this freedom, alternative logging systems have been experimented with through the SBFEP in a number of forest districts (Burda et al 1997, 67). The most successful of these experiments took place in the Vernon Forest District,[26] which actively promoted selection logging systems through the SBFEP. Under this program, the district itself became the licensee, and it in turn contracted out the logging to the lowest bidder (Burda et al 1997, 67). The logging operation had to be registered under the SBFEP, and the District dictated the rate and method of cutting. The timber was then auctioned off through a competitive log yard. The higher prices received through the competitive log yard effectively replaced the bonus bid normally received under the SBFEP (Burda et al 1997). Through the log market, the MOF received $50 per cubic meter profit,[27] as opposed to the $11 the MOF would have received for stumpage (Burda et al 1997, 68). Anyone is free to bid on wood sold at the auction, however over 70 per cent of the wood sold has so far gone to industrial timber companies (Burda et al 1997, 67), which can afford to pay more per cubic meter because they offset it against their vast sources of cheap timber.

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[26] The Vernon Forest District is located in south-central BC.

[27] The $50 received is calculated by the total amount the wood was auctioned off for – an average of about $98 per cubic meter (Greenpeace 1995, 7) – less the cost of logging, road building, tree planting and running the log yard (SFF 1996b).

It was through the Vernon Forest District, that, in 1995, Canada's first certified ecoforestry operation became a reality. In collaboration with Greenpeace, SFF reviewed a number of cut blocks that were part of the competitive log yard program. These cut blocks were logged, using ecoforestry techniques under the direction of the Vernon Forest District. After a series of examinations, one cut block was certified, and the logs were sold through the competitive bidding process. The result of the certification was more than simply the availability of certified wood. Susan Hammond, Executive Director of the Silva Forest Foundation, points out that the people working in the Vernon log yard were very excited about their jobs, were proud of what they were doing, and logyard manager Tom Milne "walked about three inches off the ground" (S. Hammond 1998). In spite of the certified cut block being very small, only 29 hectares (S. Hammond 1995), and in spite of most of the wood ending up in the large mills, the certification has provided inspiration to BC's fledgling certification movement.

However, the MOF fought strongly against the entire process, and has repeatedly tried to shut down the log market. Tamara Stark, of Greenpeace, who was directly involved in making the certification happen, points out that although the SBFEP staff were excited about the Vernon program, the MOF bureaucrats in Victoria tried hard to stifle it (Stark 1998). Susan Hammond echoes this view, and explains that the MOF analyzed the project by treating certain benefits (such as jobs created) as negatives, and wanted to make sure the project did not make "much more" profit than other SBFEP operations (S. Hammond 1998). In fact, the reason the Vernon project came to fruition,

was because Jim Smith, the person in charge of the Vernon Forest District, was able to apply his "renegade" views on forestry – something that Mark Kepkay of SFF, calls a "very subversive accomplishment" (Kepkay 1998). Smith has a strong belief in ecoforestry, and wanted to bring theory to life on Crown land. It is unlikely that this accomplishment will be repeated, because Jim Smith has since quit the Forest Service, and his successor is not interested in certification (S. Hammond 1998).

As well as the lessons learned from the Vernon experience, there are a number of other constraints to the SBFEP in terms of providing forest access for ecoforesters. Primary among these constraints are the short duration of SBFEP licenses, and the volume-based allocation of logging rights. The extremely short duration of the license – often only two years – creates a strong incentive for quick, low-cost logging, and precludes any semblance of ecological stewardship. Further, since the SBFEP is a volume-based tenure, licensees are unable to plan ecologically over the whole forest area, or to control logging practices that are concurrently taking place in the same forest.

There are other concerns with the SBFEP as well. First, the Category I licensees simply end up selling their wood to the major mills, where it is mixed with all other timber sources (Burda et al 1997, 66). Secondly, it is common for major timber companies to practice "surrogate bidding" by having eligible small businesses bid on their behalf, and in this way further lock up timber supplies to their large mills (M'Gonigle and Parfitt 1994, 77). Outspoken ecoforester, Mervyn Wilkinson, points out that the SBFEP has resulted in a number of tenures being "flipped" (Wilkinson 1998).

That is, many business people – with no intention in practicing forestry – put in a bid for a tenure under the SBFEP, and then simply sell the tenure rights to large industrial companies. Third, the lack of a residency requirement allows distant firms to bid on the timber sales, providing no direct linkage with community sustainability (Burda et al 1997, 66). Fourth, because the cutting rights originate from large tenure "takeback", the timber available is usually low-quality, again providing an incentive for low-cost logging.

Overall, the SBFEP does not currently provide much opportunity for forest access in terms of creating a SCES. Although innovative forestry is currently being attempted with the SBFEP in a few forest districts, the experience in Vernon serves as a warning with regards to the MOF's resistance to certification, ecoforestry, or competitive bidding arrangements that offer timber on an open market. As ecoforestry researcher Cheri Burda, at the University of Victoria, has pointed out, the ability of the SBFEP to provide forest access to ecoforestry, depends on whether another Jim Smith comes along (Burda 1998). Without such internal support, and without major reforms, the SBFEP does not currently provide much forest access for creating a SCES.

The Woodlot Licence Program

The WLP, established in 1979, currently consists of about 500 licenses (MOF

1996b), and accounts for about one per cent of BC's AAC (Burda et al 1997). The WLP is an area-based tenure, similar to a TFL, except the maximum size is between 400-600 hectares, and is accompanied by an adjacent piece of private forest land. The licensee contributes private land, agrees to pay stumpage fees for the Crown portion of the cut, and in return gains exclusive access to a parcel of public forest land for a 15-year, replaceable term.

In contrast with the structure of the SBFEP, the WLP offers two significant characteristics necessary for ecoforestry: it is area-based, and it provides long-term tenure rights. As such, licensees are able to manage their forestry operations in a given area, over a significant period of time. Residency requirement embedded in the WLP further encourage stewardship and long-term sustainability. In fact, the WLP has allowed a number of licensees in the province to practice ecoforestry, and some of them are currently being looked at by SFF for certification.

There are, however, some constraints with the WLP. Primary among these, is the requisite AAC, stipulated by the MOF, of which at least 90 per cent must be met over a five year period (MOF 1996b). As well, the WLP extends MOF policy onto private land so that the entire WLP forest (both public and private portions) must be managed according to MOF rules. WLP licensees, therefore, face much the same pressure to cut as do TFL and FL tenure holders (Drushka 1993). Further, the bureaucracy involved with the WLP has also limited its potential:

> The demand for woodlots is high, but the over-regulation has stifled the process and created a bottleneck. Although these woodlots are small and the license is held by a single individual, the same requirements apply as to the

> large industrial tenure holder, and the MOF needs to go through the same process of approval (M'Gonigle 1996b, 9)

Mervyn Wilkinson argues that recently-announced MOF plans to increase the number of WLP licensees, will be unachievable because of excessive bureaucratic requirements (Wilkinson 1998). Wilkinson also points out that the WLP's high AAC is needed to cover the high program costs – both of which could be slashed dramatically with reduced bureaucratic requirements (Wilkinson 1998).

In spite of these constraints, the WLP can still provide forest access to ecoforestry operations. There are WLP licensees currently practicing ecoforestry, and the AAC requirements of the WLP doesn't preclude licensees from doing their best within those constraints (Kepkay 1998). SFF takes the approach that if licensees are able to practice ecoforestry based on a reasonable AAC, if they are continually negotiating to lower that AAC, and if they are able to meet baseline requirements upon which improvement can be made, then certification is possible (Kepkay 1998). Cheri Burda agrees with the importance of certifying licensees that are demonstrating ecoforestry is possible under the WLP, but emphasizes the importance of pushing for freedom from centralized structures that dictate high AACs and destructive logging methods (Burda 1998). The SFF certification program embodies the importance of high baseline standards, and sees the process as a developmental one in which continual improvement is important. Clearly, if strong ecological criteria can be currently met by WLP licensees, then the certification process can begin, and ecoforestry in BC will only

continue to improve.

In summary, the WLP offers promise for ecoforesters because it is area-based, because it has long-term tenure rights, and because it is locally-held. As long as licensees continually negotiate to lower their AAC, and follow an ecosystem-based management plan,[28] the WLP offers some of the requisite forest access for creating a SCES.

Private Forest Land

There are approximately 21,000 private woodlots in BC, which together account for about 11 per cent of BC's annual cut (MOF 1996a). The majority of this volume, however, comes from a handful of large corporate lands on Vancouver Island (M'Gonigle 1996b, 7). Private lands are both free from the AAC, and are unregulated by the FPC. This situation can lead to "the worst – and the best – of practices" (M'Gonigle 1996b, 7) because private land-owners are free to practice ecoforestry, but are also free to ignore all ecological criteria. Before discussing the obvious

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[28] A management plan is the written plan used to guide logging operations, and is required by FSC Principle #7 (See Appendix "A"). The SFF defines "ecosystem-based" as "giving top priority to the protection, maintenance, and, where necessary, restoration of fully functioning forests in both the short and long terms" (SFF 1998c, Part 3.4).

opportunities for ecoforestry on private lands, it is important to note the distinction between "managed" and "unmanaged" private land. A "managed" forest land is used for commercial timber production, and receives a lower tax rate under the *Assessment Act*. To be eligible for the tax break the owners must submit a management plan "for the production and harvest of timber" (M'Gonigle 1996b, 7). As well, tax status may be rejected if "a landowner's management plan does not adhere to timber production rates because other values in addition to timber are being fostered" (Burda et al 1997, 60).

About two thirds of private forest land is "unmanaged". The freedom from regulations can lead to ecologically disastrous forestry, but it can also provide an opportunity for practicing ecoforestry. It is on these lands that some of BC's best examples of ecoforestry are taking place. For example, Mervyn Wilkinson, a well-known ecoforester on Vancouver Island, practices his trade on private "unmanaged" land. Wilkinson has been logging his 136-acre forest, called "Wildwood", for over 50 years, cutting wood "periodically for specialized products and on a regular basis for lumber" (Loomis and Wilkinson 1991, 115). He has taken out more wood than what was originally standing in 1938, and yet the forest inventory is the same as it was when he started, and full biological integrity has been maintained (Daucey 1993). The work done by Wilkinson is widely-recognized as a model of ecoforestry, and the SFF is currently undertaking a certification assessment of Wildwood.

A number of private landowners are interested in practicing ecoforestry, especially on Vancouver Island (Burda 1998). Mervyn Wilkinson, for example,

manages three nearby properties besides his own, and cites several other ecoforesters, including horse loggers,[29] that are doing work for private land-owners (Wilkinson 1998). The limiting factor, however, is not interest or freedom to practice ecoforestry. Instead, the biggest constraint is lack of suitable land. Most private forest lands are small, and often contain poor quality forests that have been so badly managed in the past that decades of restoration work is necessary (Wilkinson 1998).

Since there is relatively little non-industrial private forest land in BC, it will not be the primary vehicle for wide-spread forest access over the long term. Over the shorter term, however, private forest land owned by individuals interested in ecoforestry, will provide some of the requisite forest access for creating a SCES.

Community and First Nations Forestry

Community and First Nations forestry differs from other types on forest tenure or ownership not because of the structure of ownership (i.e.: TFL, WLP, private land, etc), but rather because a community controls forest use, instead of an individual or a

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[29] "Horse logging" involves using horses to "skid", or drag, logs to "landings" where they can be loaded onto trucks. There are many benefits to horse logging, including: "soil protection, water protection, improved timber quality, better wildlife habitat, and job creation" (H. Hammond 1991, 215). Carried out in an ecologically responsible manner, horse logging can be ecoforestry.

corporation. Community forests are characterized by local control, the retention of local benefits, and the maintenance of forest ecosystems through local stewardship (Burda et al 1997, 49). As local communities – defined broadly to include human and ecological communities, as well as past, present and future generations – maintain control over forest land, they are able to enjoy the benefits, as well as the burdens of long-term ecological stewardship. There are a number of communities in BC that are in various stages of developing community forestry proposals (Burda et al 1997, 50),[30] some of which plan on seeking SFF certification (Kepkay 1998).

Most community forests, however, face constraints in terms of ecoforestry. Many are simply TFLs, held by communities rather than corporations (M'Gonigle 1996b, 11). As such, they face many of the constraints inherent in the TFL tenure structure: commercial orientation, high AAC, and reliance on clearcutting. However, if these constraints could be removed, a community-controlled TFL could potentially offer an ideal situation for ecoforestry because it is area-based, it is a long-term tenure, and because it often covers a large area, thereby permitting landscape-level ecosystem-based planning (Kepkay 1998). A few community forests are on municipal land, which provides the freedom from high cut levels, or prescribed clearcutting. The municipality, however, must adopt an ecosystem-based plan. The North Cowichan Municipal Forest is an example of a community forest that is owned outright by the municipality, and yet clearcutting is the primary logging method (M'Gonigle 1996b, 11).

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[30] See section entitled "Community-based Ecoforestry Initiatives."

For those communities that are dedicated to ecoforestry, the process of obtaining forest access has been often curtailed by reluctant MOF officials (Wilkinson 1998). For example, residents of the Slocan Valley – an area characterized as "home to the longest-running, and most sophisticated, ecoforestry movement in probably the entire industrialized world" (M'Gonigle 1996b, 17) – submitted a plan for ecosystem-based forest use (SFF 1996b). The plan was drafted by the Silva Forest Foundation, and was supported by a vociferous local movement (M'Gonigle 1996b, 17). The plan, however, was rejected because, according to Minister of Forests Dave Zirnhelt, it "would require fundamental changes to legislation, tenure and decision-making roles of the provincial and local governments" (quoted in Burda et al 1997, 95). Instead, the MOF issued cutting permits to a large industrial timber company (M'Gonigle 1996b, 17).

In response to criticism, and in reaction to many BC communities wishing to gain control of their forest resources, the MOF has initiated a "Community Forest Pilot Project" (MOF 1998). While this pilot project aims to offer communities area-based, long-term tenures that "convey stewardship rights and responsibilities beyond timber management" (MOF 1998), there are extreme limitations to the project's efficacy. First, it is only a pilot project, rather than substantial tenure reform. Second the project is guided primarily by advisory committee members that have an industrial timber perspective (Stark 1998). Third, the forest land to be allocated to the project comes from the same five per cent "take back" that also provides forest land to the WLP, the SBFEP, and First Nations' initiatives. Not only does this mean that the already small "take

back" allocation must be split up further, but also that those communities not adjacent to "take back" forest land have no hope in pursuing a community tenure (Burda 1998).

First Nations forestry initiatives have won substantial legal support with the *Delgamuukw* decision, and the Nisga'a treaty.[31] While current tenure arrangements make it as just as difficult for First Nations communities to practice ecoforestry as for other communities (Curran and M'Gonigle 1997), these legal decisions change this dramatically. As other treaty settlements move forward, and as the rights enshrined by the *Delgamuukw* decision are exercised, substantial possibilities could unfold for First Nations communities wishing to practice ecoforestry.

There are a number of joint venture forestry operations in BC, in which corporations and First Nations act as partners. In most cases, these joint ventures have been conducted according to the industrial forestry model, and have operated under the constraints of the tenure system (Curran and M'Gonigle 1997, 20). However, a unique joint venture is unfolding between MacMillan Bloedel (MB) and the Nuu-chah-nulth people of Clayoquot Sound. This joint venture, under the name of Iisaack Forest Resources, is controlled 51 per cent by Ma-Mook Development Corporation (owned by the Nuu-chah-nulth) and 49 per cent by MB. As the planning process unfolds, Iisaack will control all of TFL 44 (Clayoquot Sound), and will therefore be able to develop a forest management plan for a very large landscape. As well, the planning committee

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[31] See section entitled "Why Ecoforestry is Needed in British Columbia."

responsible for developing this plan has been mandated to conduct timber management practices according to the goals of the Scientific Panel,[32] and to create value locally with the wood that is cut. There is also a strong likelihood that SFF will be able to certify the Iisaack project (Kepkay 1998).

Community and First Nations forestry operations present great possibility for forest access for a SCES. By definition they embody some of the community participation goals of ecoforestry, and they frequently represent large forest landscapes. While there are no community or First Nations forestry operations ready for certification at the time of writing, those that are developing ecoforestry plans will be able to provide some of the requisite forest access for creating a SCES.

Certification Program

The existence of a credible third-party certification program is a cornerstone for developing a SCES in BC. This section examines the third-party certification program in BC, and then looks at threats to this system from both competing schemes and from

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[32] In the wake of 1993 protests over MB clearcutting in Clayoquot Sound, the "Scientific Panel for Sustainable Forest Practices in Clayoquot Sound" was commissioned by the BC government to investigate the best way for logging to proceed in the Sound. Their report, released in 1995, is "not only a scathing critique of industrial forestry, but it is also a major endorsement of ecologically-based forms of forestry" (Drengson and Taylor 1997, 29).

multilateral trade agreements. A credible third-party certification program exists in BC with the Silva Forest Foundation's program, which is currently going through the FSC accreditation process. SFF has developed certification standards that are applicable to the unique ecological, social and economic situation in BC. As well, FSC regional standards are being developed for BC, and the FSC continues to have a high level of credibility both in BC and elsewhere.

In terms of threats to certification in BC, the Canadian Standards Association (CSA) initiative, which is a second-party systems standard, seems to be losing its import. Widespread criticism from activists appears to have been effective, and industry's interest in the CSA seems to be waning. However, the various of multilateral trade agreements to which Canada is a signatory, do present serious threats to the long-term efficacy of a SCES. If the BC government was to promote ecoforestry through actions such as providing incentives to ecoforesters, or by enshrining ecoforestry practices in legislation, they could be challenged under World Trade Organization (WTO) rules. As well, the currently being negotiated Multilateral Agreement on Investment (MAI) prohibits the government from enacting legislation that would promote community involvement or that would require a minimum amount of employment; empowers foreign-owned logging companies with the ability to sue for compensation for any ecoforestry laws; and forces the provincial government to rollback any laws that limit a foreign-owned logging company from conducting operations as they please.

In summary, the necessary credible third-party certification program does exist in BC, and the creation of a SCES should be pursued through the SFF, and within the FSC process. However, a serious long-term threat to both the certification program and to the goal of replicating a SCES on a broader scale is inherent in various multilateral trade agreements. The regressive effects of these trade agreements severely constrains the BC government from assisting with any wide-spread replication of a SCES. Without government support, a greater burden is placed on activists, communities and ecoforesters working to expand ecoforestry. As well, the struggle against multilateral trade agreements should be seen as central to the long-term viability of ecoforestry.

The Forest Stewardship Council in British Columbia

In 1993, five non-profit members of the FSC joined together under the banner of the Pacific Certification Council (PCC) to promote ecoforestry in the Cascadia bioregion. These five organizations,[33] all located in the Pacific Northwest region from northern California through British Columbia, worked together to develop draft principles for ecoforestry that at least met FSC standards, while simultaneously being

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[33] The five members of the PCC are: The Institute for Sustainable Forestry in California; The Ecoforestry Institute in Oregon; the Rogue Institute for Ecology and Economy in Oregon; the Ecoforestry Institute Society in British Columbia; and the Silva Forest Foundation in British Columbia.

specific to their particular eco-zone (von Mirbach 1997). However, the differences in political realities between Canada and the United States made developing specific standards unrealistic (Kepkay 1998). Today, the PCC still exists as an informal body for exchanging ideas, but is no longer actively developing standards. The American members of the PCC have joined the SmartWood program, which serves their certification purposes (S. Hammond 1998).

One of the BC members of the PCC, the Ecoforestry Institute Society (EIS), was originally conceived as an advocacy organization involved in promoting changes in forestry practices, and in training ecoforesters. The EIS has been active in commenting on certification standards, but has never had the requisite foresters or ecologists capable of actually conducting certification (Burda 1998). Instead, the EIS has developed demonstration forests, and is currently involved with commenting on FSC standards (Burda 1998).

The Silva Forest Foundation (SFF), the other BC member of the PCC, has been active in conducting certifications in the past, and is currently the only certifier in British Columbia. SFF, is "a nonprofit charitable organization based in the West Kootenay of British Columbia...The board and staff of SFF are scientists and activists with decades of experience in working with rural communities to develop diverse forest uses which protect, maintain and restore forests" (SFF 1998a). In conjunction with its for-profit consulting arm, SFF is able to access all the necessary fields of expertise in order to conduct thorough certification audits that include ecological, social, and economic

criteria. SFF is currently undergoing FSC accreditation, and once successfully completed, will be the first FSC-accredited certifier in Canada.

SFF has developed a set of "Standards for Ecologically Responsible Timber Management" (see Appendix "B"), that are used in evaluating ecoforestry operations for certification. These standards go beyond the FSC Principles and Criteria, and have a specific focus on the BC region. Central to the SFF vision of certification is the concept of improvement over time (Kepkay 1998). SFF's certification coordinator, Mark Kepkay, explains that SFF has entry-level minimums that are equivalent to the general standards of other certification programs, but that these minimums are predicated on a vision of improvement (Kepkay 1998). Instead of compromising during the development of standards, SFF has opted for standards that define an ultimate situation – something that may never be fully attainable. Then, during the certification audit, SFF applies an "evaluation scoring checklist" that assists in interpreting the standards for a specific situation by weighting various factors appropriate to conditions (Kepkay 1998). For instance, SFF is planning to conduct a certification audit for Mervyn Wilkinson's ecoforestry operation at Wildwood. Wilkinson's forest practices are widely-recognized as a model for ecoforestry, and yet he does not use a management plan – something required by certification standards. Using a weighting system, SFF will be able to accommodate the unique situation presented at Wildwood, without compromising the essence of ecoforestry certification (S. Hammond 1998).

The flexibility of SFF's approach is appropriate in light of the many constraints

facing ecoforesters in British Columbia. By making exceptions during the initial certification, based on a commitment to be demonstrably striving towards improvement, ecoforesters are placed in a realistic framework. For instance, ecoforesters can be negotiating with the MOF for a lower AAC, while simultaneously being rewarded for the work they are doing. Kepkay points out that having high standards that define a vision, provides both ecoforesters and SFF with a clear picture of what ecoforestry should be moving towards (Kepkay 1998). Under the SFF system, once ecoforesters meet the entry level minimum, they are given certain conditions of certification that are incorporated into a legally-binding agreement that defines necessary levels of future improvement (Kepkay 1998).

Critical to the implementation of the FSC's Principles and Guidelines, is the development of Regional Standards. These Standards are a political/bioregional specific interpretation of FSC Principles and Guidelines, that are to be used for a certain geographic area. Once established, Regional Standards are used to guide all FSC-accredited certifiers in that area, although specific certifiers are free to exceed those standards. Currently the FSC Regional Standards for British Columbia are being developed, and when completed will act as a minimum for any FSC-accredited certifier operating in BC (including SFF). Lara Beckett, who is coordinating the development of FSC Regional Standards for British Columbia, points out the difficulties in trying to obtain feedback from a wide perspective of stakeholders, while still being able to move the process forward (Beckett 1998). Beckett notes that industrial forestry

representatives attend meetings, but only to observe the proceedings and not to participate.

The most contentious issue relating to FSC standards for BC, is Principle nine (Stark 1998), which deals with primary forests.[34] Lara Beckett explains that the latest draft of the Standards supports not allowing cutting in old-growth, untouched, road-free, primary forests (Beckett 1998), but it is difficult to predict how the debate over Principle nine will unfold. It is critical, for the validity of a SCES, and especially for its replication on a broader scale, that the FSC Regional Standards be rigorous and fully supported by the environmental, labor, First Nations, and community interests.

There is a concern that FSC-accredited certifiers in another part of the world will certify poor forestry practices, and criticism of such careless certification will reflect badly on the BC initiative. There have been a number of FSC-accredited certifications, in various parts of the world, that have received criticism. While it is true that such criticism keeps the scheme under scrutiny and therefore constantly under pressure to improve, the content of such criticism raises concern. One example, that drew significant publicity in the Netherlands, was the SmartWood-certified Flor y Fauna teak

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[34] See Appendix "A".

plantation (Centeno 1996).[35] Others, particularly in Scandinavian forests, have drawn criticism, something that creates an internal dilemma for supporters of certification in BC. Clearly a unified, global certification movement has greater ability to access resources, provide a stronger voice to certification, and lend greater credibility and effectiveness than separate regional factions would have. At the same time, credible certification in BC can be greatly damaged by inadequate standards elsewhere. Currently, however, the FSC continues to enjoy high-levels of credibility.

The support from the environmental community adds a great deal of credibility to FSC certification, and to the work of SFF. It has been pointed out that this support is critical because of the high level of credibility the public places with environmental NGOs (Donovan 1996). Another source of credibility for FSC certification is the process by which certifiers are accredited (Upton and Bass 1995, 61). Since the FSC does not actually perform certifications, but rather accredits the certifier, they fill the role of a professional standards body, similar to accounting or legal professional bodies.

In fact, it has been pointed out that certification has much in common with accounting: "Both depend on the accreditation rules, code of conduct and professionalism of the individuals involved. As with accountancy, the credibility of the

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[35] Julio Centeno (1996) explains: "A public controversy has been developing in The Netherlands involving a teak plantation project certified...by the Rainforest Alliance in April of 1995. The...FSC openly endorsed the certificate issued to the project, even before the Rainforest Alliance was accredited as a certifier, and before the FSC principle on plantations had been approved."

certification process lies in the production of independent audit results" (Upton and Bass 1995, 56). However, with certification, the judgements necessary require a great deal of local interpretation and site-specific application of standards. Certifiers make many judgements, and need to look at various temporal and physical scales, and in various ecological, economic, and social categories. Doing so requires access to many resources, and expertise in a number of fields. The Silva Forest Foundation does have access to appropriate expertise:

> SFF includes among its directors, advisors, and associates people with extensive experience in ecology, biology, logging, forestry, and land use planning. These people have been pioneers in developing the philosophy and practice of ecosystem-based or ecologically responsible forest use (SFF 1998b).

Further, the SFF appears able to secure enough financial resources to conduct certifications until such time that their certification program becomes self-funding (S. Hammond 1998).

Competing Schemes

The development of the Forest Stewardship council has been generally viewed by government and industry as threatening (Gale and Burda 1996, 2). In response, many national governments have developed their own programs. By 1996, Austria, Brazil, Canada, Finland, Germany, Indonesia, the Netherlands, Sweden and Switzerland were

all in the process of developing their own eco-certification schemes for forest products (Gale and Burda 1996, 2). In Canada, the Canadian Standards Association (CSA), with start-up funding from the Canadian Pulp and Paper Association (von Mirbach 1997, 12), has developed a set of standards for "sustainable forest management" (von Mirbach 1997, 12). The CSA initiative is consistent with the International Organization for Standardization (ISO) 14000 series of Environmental Management Systems standards, as it focuses on the forest management planning process, rather than "on-the-ground" performance (von Mirbach 1997, 12).

The distinction between system standards and performance standards is critical to an understanding of the CSA as opposed to the FSC:

> Performance-based standards are intended to be used to evaluate how well a forest manager performs or follows the best management practices...Nearly all forest management standards include ecological, social, and economic issues (Ervin and Elliott 1996, 34).
>
> System-based standards are based on the assumption that if a company or forest manager has an adequate system in place for dealing with the environmental impacts of its activities, this will provide a sound basis for minimizing negative environmental impacts... [it]does not guarantee that certain levels of performance are achieved, however (Ervin and Elliott 1996, 34).

The CSA scheme is a system standard, that applies only to the management systems involved, and not to the product that results. In fact, the labeling of products as "CSA standard" is strictly forbidden (Wilson and Malin 1997). In line with ISO, the CSA initiative cannot verify that forest products have been produced in a sustainable manner, only that a management system is in place to deal with environmental impacts. To

illustrate that terrible products can be produced by a company meeting ISO management standards, one critic pointed out that ISO will "...certify a manufacturer that makes life jackets from concrete, as long as those jackets are made according to documented procedures, and the company provides next of kin with instructions on how to complain about defects" (Richard Buetow quoted in Nelson 1995, 9). The FSC, in contrast, is primarily a performance-based standard.

The ostensible goal of the CSA scheme is to maintain the current structure of tenure and forest practices, but to superimpose certification onto it (Burda 1998). In short: "The CSA scheme is much less demanding [than the FSC], enabling companies to maintain high flows of fibre to meet the needs of commodity export markets" (Gale and Burda 1996, 20). Environmental lawyer Steven Shrybman (1997, 21) points to some major criticisms of the CSA initiative:

> It will certify management systems, without requiring actual environmental protection performance standards; it will not require a chain of custody to ensure that products actually come from certified forests; and it was developed in a flawed, industry-dominated process.

The director of media relations for the Canadian Pulp and Paper Association has said: "We need standards that are accessible by everyone for international certification" (quoted in Nelson 1995, 14). Unfortunately this is precisely what makes certification standards meaningless. Without high standards that require change, there is no meaning to certification. Nevertheless, major timber companies, motivated by a desire to mitigate a poor environmental image, will simply opt for a process that provides a "green" image

without the need for substantial changes (Upton and Bass 1995, 47).

The CSA initiative has received widespread criticism from the activist community. In April of 1995, over 50 environmental, First Nations and union organizations signed onto a letter protesting the CSA initiative (Lamport 1995). Criticism by environmental activists has focused on the broad scope the CSA gives to forest managers to determine performance requirements; the lack of chain of custody tracking; its "system certification" framework; and its orientation that favors large companies over smaller ones (von Mirbach 1997, 14).

MacMillan Bloedel is planning on having some of their operations on Vancouver Island CSA-approved this year (Stark 1998). As well, the CSA, with support from the BC Forest Alliance,[36] has been lobbying hard with European buyers to have CSA-registered wood accepted by the various buyers groups (Beckett 1998). Nevertheless, the loud criticism from activists is working, and industry's support for the CSA program seems to be waning. Lara Beckett points out that those industrial companies that have done pilot projects with the CSA, say they became frustrated with the bureaucracy (Beckett 1998). Mark Kepkay (1998) says that close analysts of the CSA feel it is losing credibility, and industry is backing out of it. Part of the problem, from industry's perspective, is that they cannot put a logo on their forest products that will allow

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[36] The BC Forest Alliance is an industry-funded public-relations front group, conceived by Burson-Marsteller, and designed to convince the public that industrial forestry in BC is ecologically responsible (Rowell 1996).

additional market access. Ultimately, unless they can achieve greater market access it is not in their interest to participate.

Trade Agreements

The various multilateral trade agreements to which Canada is a signatory[37] represent potential limitations to the widespread implementation of a SCES model in British Columbia, and to the forest product certification movement in general. Given the relative newness of these trade agreements,[38] and the fact that many details and disputes are left to be ruled upon by trade-dispute panels, there is a certain amount of ambiguity surrounding the impact of trade agreements. As well, many of the restrictions that multilateral trade agreements place on ecoforestry are not directly relevant in the short-term creation of a SCES. They are, however, very relevant to the replication of a SCES on a broader scale, and to the long-term movement towards ecoforestry as a new forestry paradigm for British Columbia. Since broader scale replication is the long-term goal of

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[37] Relevant trade agreements include the Canada-US Free Trade Agreement (FTA), the North American Free Trade Agreement (NAFTA), the General Agreement on Tariffs and Trade (GATT) as part of the World Trade Organization (WTO), and the currently being negotiated Multilateral Agreement on Investment (MAI).

[38] NAFTA came into effect in 1994; the WTO was established in 1995; and the MAI is still being negotiated in August of 1998.

creating a SCES, discussion of these impacts is relevant, and a SCES should be developed with an awareness as to its eventual trade-agreement repercussions.

An immediate concern is the impact that trade agreements have on certification and labeling. As long as certification remains voluntary, trade agreements will likely not apply. However, any mandatory laws promoting certification of wood products may contravene trade agreements. With the broader scale replication of a SCES in BC, a number of trade-related issues arise. These include increased international competition, restrictions of subsidies to ecoforestry, constraints on domestic legislation, and the psychological effects of "a global economy". While all of these issues raise concerns, and possible barriers that will strongly reinforce the current industrial forestry paradigm, the creation of a SCES is still possible. In fact, the existence of various draconian trade rules serves to further emphasize the need for an articulation of an alternative paradigm – something the creation of a SCES is intended to do.

There has been significant debate as to whether certification standards constitute a barrier to trade. The current struggle between CSA and FSC certification standards, as discussed in the previous section, is influenced by ISO's relationship with GATT. The ISO has developed systems to ensure that its standards are in conformity with WTO rules (Elliott and Viana 1996, 138). As such, a CSA certification standard (which would

also be an ISO certification standard) has the advantage of being "GATT legal"[39] – a situation that is not surprising given the industrial forestry perspective of both GATT and ISO. FSC certification standards, on the other hand, have not been developed explicitly to be "GATT-legal". The WTO's *Agreement on Technical Barriers to Trade* (ATBT) states that a standardizing body (such as the FSC) "shall ensure that standards are not prepared, adopted or applied with a view to, or with the effect of, creating obstacles to international trade" (quoted in Gale 1996, 28). Environmental trade analyst, Fred P. Gale at the University of Victoria, argues that a strong case exists for the FSC initiative not being contrary to these WTO rules because "...FSC certification is voluntary, not mandatory...the intention is environmental protection, not trade discrimination or restriction... and that FSC eco-certified and uncertified products are not "like products" and can be distinguished" (1996, 28). However, the Canadian government is actively trying to bring WTO-jurisdiction to the FSC initiative:

> At the WTO Committee on Trade and Environment , which studies policy issues including eco-labelling, the Canadian government representatives have promoted a view that voluntary non-governmental eco-labelling schemes, such as the Forest Stewardship Council, should be subject to the GATT rules. Because trade rules prohibit measures that would discriminate against "like" products, many aspects of the FSC would likely contravene WTO rules (Shrybman 1997, 21)

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[39] In 1995, the CSA tried to have its approach adopted by the ISO as an international standard, but strong environmental opposition curtailed this attempt (Shrybman 1997, 21).

As the FSC initiative currently stands, it is a purely voluntary process, an element that is critical in keeping it outside the scope of WTO rules (Elliott and Viana 1996; Shrybman 1997; von Mirbach 1997). A study by Dutch lawyers supports this position by concluding that "timber certification would not be "GATT-illegal" as long as it remains voluntary (quoted in Elliott and Viana 1996, 138). In the long run, it is important to note that if the BC government was to adopt or promote the FSC standard, then the process could be construed as trade restrictive and discriminatory (Gale 1996, 27).

If a SCES is successfully implemented, its adoption on a broader scale may result in certain conflicts with international trade rules. The first issue is one of competition from unsustainably logged forest products from outside of British Columbia. Trade agreements are designed to facilitate the free flow of goods across international borders by forcing member nations to treat all goods equally, regardless of their origin. To this end, the WTO has three critical tenets (Shrybman 1997). The first is the "Most-Favoured Nation Treatment" rule, which means that all products from one country must be treated equally to "like" products from another country. The second is the "National Treatment" rule, which means that "like" products from all GATT member countries must be treated equally to domestic products. The third is the "Elimination of Quantitative Restrictions", which prohibits the use of import limits, such as quotas or bans.

Even if the MOF was to enshrine ecoforestry as the only permissible way to cut trees in British Columbia, the certified forest products from BC would still have to

compete directly with industrial forest products from outside of BC. Since these industrial forest products do not have to internalize environmental and social costs, they can be produced at lower cost. Ultimately, this situation poses a grave threat to the economic viability of ecoforestry everywhere in the world. In an attempt to fight this, environmentalists have argued that the importation of goods from states with lower environmental standards is "ecological dumping",[40] and that under Article VI of GATT, dumping is "condemned" (Shrybman 1997, 35). GATT officials, however, have been completely unreceptive to this argument (Shrybman 1997, 35).

Central to this discussion, is the definition of "like" and "unlike" products, something that has been the subject of great debate, speculation, and uncertainty. Some analysts point out that WTO rules have "been interpreted as preventing the use of trade measures that discriminate among similar products on the basis of the method of production" (Elliott and Viana 1996, 138). In trade terminology, this distinction has to do with "production and process methods" (PPMs), and trade bureaucrats have been steadfast in their attempts to prevent governments from having control over PPMs beyond their national borders (Shrybman 1997). The trade rules surrounding PPMs:

> ...force us to ignore the great differences that often exist between the environmental impacts associated with producing goods that may be quite indistinguishable in all other respects. Thus lumber from a liquidation cut of old growth forest, and lumber from a selective cut of a managed second growth forest, must be treated in precisely the same way under WTO rules (Shrybman 1997, 12).

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[40] "Dumping" is placing exports on global markets, at a price that is below the full cost of production.

This being the case, any attempt to stem the flow of clearcut-derived forest products into BC would be WTO illegal. On the other hand, a recent GATT Auto Panel ruling moved beyond a narrow interpretation of "like products" by ruling that fuel-efficient cars are "unlike" fuel-inefficient cars (Gale 1996, 17). In this case, "...the GATT Panel accepted the rationale adopted by the US authorities, that an important distinction existed between fuel efficient and fuel inefficient cars, enabling them to be treated as unlike products, notwithstanding the fact that both certainly serve the same end-uses" (Gale 1996, 17). This case opens the door slightly for an argument of differentiating between "unlike" products on the basis of environmental attributes. However, the WTO bias around PPMs remains unchanged. Ultimately, a final WTO panel decision, regarding industrial forest products and ecoforestry products as "unlike", is difficult to predict.

A second issue facing the broad-scale application of a SCES model concerns subsidies, which includes any government financial incentives that would provide benefits to ecoforesters. Included in this category would be reduced stumpage fees for ecoforestry (or increased stumpage fees for other forestry operations), grants or low-interest loans, direct funding or support, or any other subsidy or incentive that promotes ecoforestry. WTO trade dispute panels have broadly interpreted what constitutes a subsidy to include even limitations on raw log exports (Shrybman 1997, 35). Unfortunately, attempts by environmentalists to argue that the absence of environmental regulations constitutes an unfair subsidy has been consistently resisted by WTO trade

panels (Shrybman 1997, 35).

NAFTA does not discuss subsidies directly (Gale 1996, 22), however if the United States wanted to challenge a BC eco-subsidy, the US Commerce Department could launch an action that would be heard under a NAFTA binational review panel (Gale 1996, 23). As well, there is a softwood lumber agreement between Canada and the US that gives power to the US to impose a countervailing duty, or to go to arbitration (Ouston 1998). Threats to this effect arose in January of 1998 when BC Premier Glen Clark announced a plan to cut BC stumpage rates across the board – something the US sees as an unfair subsidy (Ouston 1998). Given the volatility surrounding the Canada-US softwood lumber agreement, it seems likely that the US "could and would launch countervailing duty action" (Gale 1996, 22) if a BC subsidy to ecoforestry was seen as a threat.

A third area in which multilateral trade agreements create barriers for the widespread implementation of a SCES is with regards to domestic legislation. Many environmental protection laws have been placed in great jeopardy by multilateral trade agreements. The WTO, in essence, supersedes any member state's domestic environmental laws (Nader and Wallach 1996). The WTO's Agreement on Technical Barriers to Trade (TBT) allows countries to adopt environmental regulations in line with international standards. What is seen as the "international standard" for domestic environmental legislation, however, is subject to continual challenges by GATT member states in a process of "mutual deregulation" (Goldsmith 1996, 272), which serves only to

reduce standards. As well, even when an international standard exists, nations must still show that their environmental regulation is necessary, and meets the international standard in the "least trade restrictive" way. Satisfying these requirements, in the eyes of trade dispute panels, has "become so onerous that no environmental initiative has ever survived the challenge" (Shrybman 1997, 36).

Although the Multilateral Agreement on Investment (MAI) is, at the time of writing, still being negotiated, it represents a direct threat to any regulatory measures designed to foster ecoforestry in BC.[41] It does so by enshrining "private corporate ownership and trade as a sovereign order which overrides national, regional and municipal jurisdictions and laws" (McMurty 1997). A core tenet of the MAI is that foreign companies operating in Canada must be given "national treatment", which means that foreign companies must be treated at least as well as Canadian companies, but can actually be treated better (Clarke and Barlow 1997). This tenet has great applicability to the MAI's restrictions on performance requirements. Under the MAI, governments are not permitted to "impose, enforce or maintain" requirements to "achieve a given level or value of production, investment, sales, employment" or "to achieve a minimum level of local equity participation" (MAI 1997, section III). As a

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[41] The MAI deals mainly with the rights of foreign investors. Since a large number of BC forest companies are foreign owned, the MAI has great applicability. It is important to note as well, that although the exact details of how the MAI applies to sub-national governments, it is clear throughout the text that the important rules are to be followed by all levels of government (Clarke 1997).

result, if the BC government was to enact legislation requiring community involvement in forestry operations, or requiring a minimum level of jobs, these rules would not apply to foreign companies operating in BC – even if they applied to Canadian companies.

The MAI further limits Canada's ability to constrain foreign-owned operations by stating that: "A Contracting Party shall not impair…the operation, management, maintenance, use, enjoyment or disposal of investments in its territory of investors of another Contracting Party" (MAI 1997, 41). This clause provides not only protection of the property owned by foreign investors (such as tenure rights), but it also provides a safe haven for transnational investment and profitability, and it entrenches the political power of foreign investors (Clarke 1997). The result is that foreign-owned logging companies have legal grounds with which to challenge any ecoforestry legislation introduced in BC that might impair their ability to make profits or conduct operations as they see fit. The MAI has another mechanism that enforces this situation: "standstill" and "rollback" clauses. The "standstill" clause limits governments from introducing any new non-conforming laws, policies or programs. The "rollback" clauses commits governments to eliminating, or "sunsetting", any existing non-conforming laws, policies or programs. In terms of legislation related to ecoforestry, limits on exports of unprocessed wood, "green" government procurement policies, and "green" loan requirements could all be targeted (McCloskey 1998). If a foreign company feels that its

rights, under the MAI, have been violated, the company can directly sue governments.[42] This power, embodied in the MAI's expropriation provisions, is similar to US "takings" law (Vallianatos 1997), in that any lost profits from an existing (or even a planned) investment are grounds in a suit for compensation (Clarke 1997).

The final area, and perhaps the most threatening area, in which trade agreements can constrain the widespread replication of a SCES model in BC, is the psychological effect that trade agreements have on domestic policy-makers. Simply because international trade agreements exist, and are often high-profile initiatives involving numerous participating states, a climate is created in which all domestic policies must be formulated in light of these trade agreements. More generally, the notion of the "global economy" being inevitable, and preparing for competitive participation in it being necessary, creates a timid perspective on what is domestically possible. Environmental lawyer Steve Shrybman points out that the mere perception of trade constraints has often become a "convenient excuse for not tabling environmental initiatives at all" (Shrybman 1997, 36). Germany, the Netherlands, and the United Kingdom, for instance, were all in the process of developing trade laws that required imported tropical timber to be certified or sustainably produced. However, due to concerns around restrictions under GATT, these initiatives have all been scrapped (Wainright 1995, 7). These laws, assumedly conceived in support of the concerns of their respective electorates, were

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[42] Unlike NAFTA, or the WTO, where only member countries can file disputes, the MAI permits corporations to directly take action.

never even challenged by international trade panels. The simple existence of trade agreements, and of the "global economy" was enough to curtail the tabling of these laws. A thorough discussion of this phenomenon is beyond the scope of this paper, however it is clear that the atmosphere of globalization is a powerful force that the wide-spread replication of a SCES in BC will be faced with.

The previous discussion raises some serious concerns about the long-term implementation of ecoforestry on a broad scale in BC. In summary, if the BC government was to adopt or promote ecoforestry – either by adopting FSC standards, limiting the importation of industrial forest products, providing incentives of any kind to ecoforesters, or by enshrining ecoforestry practices in legislation – such action could be viewed as trade restrictive and challenged under WTO rules. As well, the currently being negotiated MAI prohibits the government from enacting legislation that would promote community involvement or that would require a minimum amount of employment; empowers foreign-owned logging companies with the ability to sue for compensation for any ecoforestry laws; and forces the provincial government to rollback any laws that limit a foreign-owned logging company from conducting operations as they please. The regressive effects of multilateral trade agreements severely constrains the BC government from assisting with any wide-spread replication of a SCES. Without government support, a greater burden is placed on activists, communities and ecoforesters working to expand ecoforestry. As well, the struggle against multilateral trade agreements becomes central to the long-term viability of ecoforestry.

Viable and Effective System

A viable and effective SCES requires the many components and characteristics examined in this section. First of all it requires competent ecoforesters. Next it requires an infrastructure to process and distribute certified wood. It must also be viable, both in a strictly financial sense, and in an ecologically-inclusive sense. And finally, community / stakeholder support and participation is critical. All these factors are examined in this section, as well as a discussion of two salient threats to certified ecoforestry in BC – the negative effects of strong market demand, and the possibilities of industrial co-option.

In terms of competent ecoforesters, there is currently a limited number in BC. However, there is simultaneously very limited forest access, and so this is not a major concern. For a SCES to be replicated on a broader scale, this issue needs to be addressed, and to this end there are a number of ecoforestry training facilities in existence with efforts underway to create new ones. The infrastructure necessary to process and distribute certified wood includes milling facilities, drying operations, and distribution networks. Work is underway to coordinate the use of portable saw mills, and small kilns in proximity to potentially-certifiable ecoforestry operations, and a system for pooling wood is being experimented with in one part of the province. Overall, the necessary infrastructure to process and distribute certified wood is being addressed. Facilities for milling and drying certified wood are available on an ad-hoc

basis, but ongoing work needs to be done to improve this system. In all likelihood, arrangements for milling and drying will be established as ecoforestry operations become certified. For a SCES to be replicated on a broader scale, a system for pooling wood will have to be more securely put into place.

The viability of a SCES cannot be evaluated solely on the basis of conventional economic perspectives. If a decision-making model, rooted in neo-classical economic theory, was applied to ecoforestry, decisions would result that contradict the goals of ecoforestry. Instead, a more inclusive system of evaluating costs and benefits must be utilized. The system that articulates such a vision is ecological economics, which incorporates the non-monetary values of ecoforestry, such as clean water, clean air, healthy ecosystems, and strong communities. From a purely financial perspective, the costs of certification include direct costs (i.e.: the costs of having a certifier come and conduct a certification) and indirect costs (i.e.: the costs of changing so that an ecoforestry operation will meet certification criteria). The purely financial benefits include higher yields over the long-run, improved efficiency, and increased protection of non-timber resources. Direct certification costs will be initially subsidized by SFF, and some financing programs are available to help with financial costs of certification.

Engendering community / stakeholder support and participation is perhaps the biggest challenge in creating a SCES. It represents a completely different approach to forest-use decision-making than does the corporate industrial model which currently dominates the politics of BC forests. Creating the "space" for support and participation

is essential in terms of encouraging a SCES to be replicated, and is critical in terms of remaining true to ecoforestry. As well, developing broad-based support for a SCES is important, from an activist perspective, in terms of "movement building" and developing coalitions necessary to increase political strength. Some of the specific reasons why support and participation is necessary include: empowering communities to have a stronger voice for input into forest use policy; the creation of stability in previously volatile timber communities; achieving the benefits of local control; customizing forest-use decisions to the particular needs of each community; increased accountability from those using the forest; increased understanding of the ecoforestry concept; and the fostering of cooperative social models designed for long-term survival. Particular stakeholder groups whose support and participation is critical include labor, environmentalists, and First Nations.

There are two general threats to certified ecoforestry in BC. The first stems from the potentially negative effects of strong market demand for certified wood products. These effects include high prices for local value-added manufacturers, an increase in for-profit certifiers, and a shift in focus from the needs of forests to the needs of markets. The second threat, is one of industrial forestry co-opting the certification process. Beyond the development of self-certification schemes as discussed earlier, the response to FSC certification by two industrial forest companies in BC – MacMillan Bloedel and Western Forest Products – illustrate industry's unwillingness to watch idly as certification gains prominence. While neither of these threats preclude the development

of a SCES, they both do represent areas of serious concern for certification in BC.

Ecoforesters

A primary element in the creation of a SCES is an available body of ecoforesters. Currently, there is a shortage of competent ecoforesters (Drescher 1997, 237). However, in BC there is simultaneously so little forest access, that there are more qualified ecoforesters than there is available forest land (Burda 1998). As more land becomes available, and as a SCES is put into place, the limited number of ecoforesters needs to be addressed.

There are currently a number of ecoforestry training facilities, and efforts are underway to create new ones. The Ecoforestry School in the Maritimes offers a certificate program (Drescher 1997, 237), the Ecoforestry Institute in Oregon offers courses and has been talking with Oregon State University about ecoforestry course offerings, and the University of Toronto is planning a Masters Program related to ecoforestry (Beckett 1998). Mervyn Wilkinson has been involved with teaching ecoforestry courses in both Oregon and Nova Scotia, and currently teaches students the practical aspects at Wildwood (Wilkinson 1998). The Silva Forest Foundation offers comprehensive courses on ecoforestry, and is also attempting to coordinate those courses with post-secondary institutions in British Columbia (S. Hammond 1998).

Chain of Custody Infrastructure

Chain of custody infrastructure is the processing and distributing system required to move wood from the forest to the buyer of certified wood. This includes milling facilities, drying operations, and distribution networks. Certified wood needs to be kept separate from non-certified wood throughout this whole process so that the wood used in the final product can be verified as having originated from a certified source (Groves, Miller and Donovan 1996). This verification process, called "chain of custody auditing", is a major component in the certification process for final wood products:

> Chain of custody can be defined as "an unbroken trail of accountability that ensures the physical security of samples, data and records." Chain of custody is a critical element of any certification system since it provides the ultimate link between the "consumer" and the "producer" (Groves, Miller and Donovan 1996, 68)

In light of the need to keep certified wood separate from non-certified wood, this section examines a SCES' infrastructural needs for milling, drying, and distributing certified wood.

It is a maxim of ecoforestry that as much primary wood processing, especially milling, as possible be carried out by the ecoforestry operation (Drescher 1997, 236). Doing so greatly increases the value of wood sold by the ecoforester, and retains

economic profits locally. A major constraint of the Woodlot Licence Program,[43] however, is that licensees cannot own "controlling interest in a sawmill or other timber processing facility" (MOF 1996b). This creates a substantial limitation on licensees, and has been denounced by proponents of ecoforestry (Burda et al 1997, 129). In response to criticism of this prohibition, Forest Minister Dave Zirnhelt has written to certain woodlot licensees, entertaining the possibility that this regulation will be removed from legislation. Until this happens, woodlot licensees must either register portable saw mills in the names of friends, or must send logs off-site for cutting.

In terms of creating a SCES, most of the mills in the province are owned by the major timber companies, most of whom are either reluctant or unable to process certified logs separately. Therefore, ecoforesters need access to a smaller milling system, often available in the form of portable mills. The Silva Forest Foundation is attempting to coordinate the use of portable saw mills in close proximity to potentially-certifiable ecoforestry operations (Kepkay 1998). On Vancouver Island, for instance, there are also a number of woodlots in close proximity to each other, that could feed into a small milling operation. Mervyn Wilkinson, on Vancouver Island, runs a small mill on his private land that serves a number of small woodlots. His operation, which is back-ordered eight months at a time, provides wood locally to furniture makers, a shipwright, an instrument maker, a contractor that uses the wood for framing material, and another that uses it for making moldings (Wilkinson 1998).

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[43] See discussion in section entitled "Ecoforestry Opportunities for Access."

In terms of drying certified wood, a similar arrangement whereby a number of ecoforesters share facilities seems most promising. Mervyn Wilkinson dries most of his wood at a nearby kiln, but points out that some of the contractors simply order wood in advance and air-dry it (Wilkinson 1998). Air drying has limited application, however, because all lumber exported from the country must be kiln dried in order to meet export regulations (Stark 1998), and because kiln drying is often necessary prior to selling wood to value-added manufacturers. The Silva Forest Foundation is attempting to coordinate small, local kilns in proximity to potentially-certifiable ecoforestry operations (Kepkay 1998). In areas where a number of ecoforesters are in relative proximity, a shared drying facility seems feasible. Moreover, a number of local milling and drying operations, rather than large centralized facilities, will help retain benefits in the local community, and is more in line with the values of ecoforestry. Once dried, the wood can be directly sent to buyers who can then further process it according to their needs.

It has been pointed out that greater vertical integration helps absorb some of the costs of certification (Elliott and Viana 1996, 141). Vertical integration does not need to be limited to corporate conglomerates, but rather can include cooperative ventures whereby many small ecoforestry operations share milling and drying facilities, and also pool certified wood for distribution. Pooling of wood through cooperative distribution systems will not only help reduce costs, but is also critical to facilitating the demand for large-volume orders (Mater, Rogers and Metz 1995). Such a pooling could be in the form of a brokerage, a wholesaler, or an electronic distribution system where the actual

physical pooling of wood is unnecessary. A fledgling system, called "Wood BC" is currently under creation in the Cariboo region of BC. Wood BC is an electronic log market in which bidders could then go directly to the woodlot owner and the wood would be delivered straight to the purchaser. Systems such as Wood BC can help meet demand from outside the province where buyers are unfamiliar with specific ecoforesters. As well, a pooling of wood could help smooth out variances from individual ecoforestry operations, and create an overall more consistent supply. While Wood BC is a promising start, it would likely have to be expanded or replicated in other parts of the province for certified ecoforestry to be effectively implemented on a broader scale.

Susan Hammond points out that value-added manufacturers already have relationships with both suppliers of wood, and buyers of finished products, and that they are reluctant to alter these relationships in favor of ones based on the fledgling availability of certified forest products (S. Hammond 1998). As a result, the onus is on promoters of ecoforestry to create consistent supplies of wood, and a solid market for value-added products. In terms of fostering value-added production within BC, a pooling of certified wood could add substantial credibility to a SCES. There is a clear need for a linkage between ecoforesters and value-added manufacturers (Burda 1998), and there is a need to ensure the reliability of a SCES.

An important lesson in this regard comes from Seattle's Environmental Home Center, which prematurely promoted their supplies of certified wood. By promoting the

availability of certified wood before they could consistently offer variety, volume, and quality, they created the erroneous impression among potential buyers that a supply of certified wood cannot be relied upon (Omenn 1998). It has taken time for the Environmental Home Center to regain confidence among value-added manufacturers, and it is important that a SCES does not make this same mistake. A SCES needs to be viewed by buyers as reliable, so that solid, long-term relationships can be built.

Overall, the necessary infrastructure to process and distribute certified wood is being addressed. Facilities for milling and drying certified wood are available on an ad-hoc basis, but ongoing work needs to be done to improve this system. In all likelihood, arrangements for milling and drying will be established as ecoforestry operations become certified. For a SCES to be replicated on a broader scale, a system for pooling wood will likely have to be in place.

Economic Viability

Ecoforestry cannot be evaluated solely on the basis of conventional economic terms because ecoforestry includes a comprehensive definition of profit that is "...expanded to include benefits broadly shared: clean air and water, meaningful work, stable communities, and a legacy of healthy forests to pass on to our children" (H. Hammond 1991, 241). Conventional economics are one component of viability, but do

not provide the whole picture of ecoforestry. Therefore, the viability of a SCES must be evaluated in light of all the benefits of ecoforestry, not just those that are purely financial. There is a school of economics, called "ecological economics", that incorporates non-monetary costs and benefits that traditionally fall outside the realm of economic analysis. This discipline is described as follows:

> *Ecological economics* is a new *transdisciplinary* field of study that addresses the relationships between ecosystems and economic systems in the broadest sense. These relationships are central to many of humanity's current problems and to building a sustainable future but are not well covered by any existing scientific discipline...*ecological economics* goes beyond our normal conceptions of scientific disciplines and tries to integrate and synthesize many different disciplinary perspectives (Costanza, Daly, and Bartholomew 1991, 3).

In short, ecological economics articulates an inclusive definition of costs and benefits that includes "clean air and water, meaningful work, stable communities, and a legacy of healthy forests to pass on to our children."

Ecological economics arose from an understanding that the practical manifestation of neo-classical economic theory – free market capitalism – is essentially at odds with ecological sustainability. James O'Connor (1990), Professor of Sociology and Economics at the University of California, Santa Cruz, has pointed to the "Second

contradiction of capitalism"[44] caused by "...capitalism's self-destructive appropriation and use of laborpower, space, and external nature or environment" (1990, 4). O'Connor argues that capitalism uses the natural environment as a free commodity – both as source of resources, and as a sink to dump waste – but will eventually run up against the limits to such appropriation. As this process unfolds, the result is destruction of the environment, recessions, and capital relocation (O'Connor 1990, 6).

In order to appreciate the need for ecological economics when evaluating ecoforestry, it is useful to touch on some salient contradictions between neo-classical economics[45] and ecoforestry. If a decision-making model, rooted in neo-classical economic theory, was applied to ecoforestry, decisions would be made that contradict

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[44] The "first" contradiction of capitalism, pointed out by Karl Marx, takes place when: "...individual capitals lower costs [by reducing wages] with the aim of defending or restoring profits, the unintended effect is to reduce total market demand for commodities, and lower profits" (O'Connor 1990, 4). This occurs because workers, who have just had their wages reduced, are also the consumers who are now left with less disposable income.

[45] Neo-classical economics is predicated on the notion that selling price is the only measure of value, and that as the supply of a commodity increases, its value starts to decrease. As Arturo Escobar (1995, 64) explains: "According to this theory, the free play of forces of supply and demand would tend to establish, under competitive conditions, an equilibrium pattern in the prices of commodities in such a way that all markets would be "cleared"." Neo-classical theory is based on an mechanistic and clinically rational view of the world, devoid of politics, history or power, and supported in the abstract by extensive mathematical models.

the goals of ecoforestry. These contradictions are clearly apparent when applying the neo-classical economic concepts of: "the forest defined as an investment"; "decisions made at the margin"; and "costs externalized".

Neo-classical economics views the forest strictly as an investment. According to this view, the forest provides a return on investment that equals its growth rate. Therefore, when the forest slows its growth rate below the available rate of return with other investments, neo-classical economic theory states that the forest should be liquidated and the money invested elsewhere (Deacon 1985). David Suzuki (1995, 20) explains this concept as it relates to BC's forests:

> British Columbia's temperate rain forests...grow at the rate of 2 to 3 per cent per year. It doesn't take much intelligence to know that by cutting less that 3 per cent per year, the forests could be retained forever. But it is economic nonsense to make only 2 to 3 per cent a year on the forest when, by clear-cutting it and putting the money in the bank, one can make 7 or 8 per cent.

Also in terms of viewing the forest as an investment, neo-classical economics discounts costs and benefits under the assumption that future benefits are worth less than current benefits. As a result, conclusions derived from analyzing the costs and benefits of a certified ecoforestry operation depend to a great extent on the discount rate (Cabarle

et al 1995).[46] Since the financial costs and benefits of ecoforestry must be evaluated over long time-horizons (Simula 1996, 129), the discount rate can have a substantial impact on decisions. This fact alone makes purely financial evaluations risky and highly dependent upon subjective predictions concerning appropriate discount rates.

Neo-classical economists make decisions in aggregate and at the margin. That is, if total revenues exceed total financial costs, then an operation is profitable and therefore seen as beneficial to society.[47] This reductionist thinking ignores the implications that individuals or communities may suffer the externalities or uncosted impacts of environmental degradation, and ignores the distribution of benefits and burdens. For instance, it is extraneous to neo-classical economists if the financial benefits of logging accrue mainly to a few distant shareholders, while the costs (including social costs, ecological costs, and the financial implications stemming from them) are borne by many people living in the affected forest-dependent community. Instead, neo-classical economics is only concerned with the quantifiable totals involved, and whether the balance is positive or negative. Such a decision-making model only

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[46] The "discount rate" is essentially an interest rate working in reverse. It is the percentage rate at which amounts of money to be received in the future are "discounted" back to what they would be worth today. The theoretical underpinning of discount rates is the notion that something in the future is worth less than the same thing would be worth today.

[47] The assumption that if a company makes a financial profit, it must be good for society as a whole, underpins neo-classical economic thought. This notion equates individual gain with group gain, and financial profit with societal benefit.

serves to perpetuate the marginalization of forest-dependent communities, and is at odds with the goals of ecoforestry.

Further, this decision-making model is unable to include non-monetary costs and benefits, such as clean water, healthy ecosystems, or quality of life. The inability to include such items in neo-classical economic modeling is a specific form of "market failure" termed "externality" (Randall 1993, 145). Such omissions are called externalities because they are external to the decision making model, and are therefore ignored. Ecoforestry, however, is premised on emphasizing the value of these very benefits. Once again, neo-classical economics provides an inadequate model for evaluating the viability of a SCES. The magnitude of neo-classical economics' inability to value ecoforestry, or to support a SCES should not be understated. In the words of David Suzuki (1995, 19):

> ...the kind of economics that has now enmeshed all countries on the planet makes absolutely no biological sense because it is fundamentally disconnected from the real world.

For the reasons outlined above, neo-classical economic theory must be discarded both for evaluating the viability of a SCES, and for modeling an economic framework for ecoforestry. Instead, a more inclusive system of evaluation and modeling must be used. The emerging discipline of ecological economics is helpful in this regard. Instead of appropriating the natural environment, ecological economics "...begins with the premise that the economy is a subsystem of the ecosphere and that the maintenance of biodiversity is an essential prerequisite to sustainability" (Green 1997, 39). Building

on this premise, ecoforestry can be evaluated positively for the contribution it makes towards maintaining biodiversity. Ecological economics also goes beyond biodiversity maintenance, and addresses issues such as inequities between people, the fulfillment of human needs, recognition of unpaid work, strengthening of local economies, and the excessive power of transnational corporations (Green 1997, 40).

Two ecological economists, Ted Halstead and Clifford Cobb (1996), have proposed a system of accounting for non-monetary costs and benefits. Their model, called a Genuine Progress Indicator, includes factors such as: resource depletion, pollution, long-term environmental damage, non-market transactions, changes in leisure time, unemployment and underemployment, income distribution, and sustainable investments. This inclusive model is more useful in evaluating the viability, from an ecological perspective, of ecoforestry operations and of a SCES. For instance, this approach would include, as benefits, increases in employment satisfaction felt by ecoforesters, the intergenerational maintenance of healthy forests, and any increased local retention of economic benefits.

While ecological economics provides a useful theoretical basis for evaluating the various benefits associated with a SCES, the ultimate evaluation needs to be tailored to the specific benefits provided by ecoforestry. In short, the viability and efficacy of a SCES needs to be evaluated according to its own terms, and against the goals of ecoforestry. Provision of local community control over resources, increased local retention of economic benefits, greater accountability to all stakeholders, maintenance of

forests, additional value added to forest products, increased employment per unit of wood cut – these are all benefits that a SCES is designed to provide, and are therefore integral to an inclusive evaluation of the viability and efficacy of a SCES.

Financial Costs and Benefits

Although the viability of a SCES must be evaluated in light of the non-monetary benefits associated with ecoforestry, the purely financial costs and benefits need to be considered also. Financial realities need to be addressed because ecoforesters are also businesses that must be financially viable in order to survive. However, the benefits of ecoforestry should be evaluated over a sufficiently long time-frame, and ecoforestry operations that are beneficial from an ecological perspective, but are experiencing financial difficulties, need to be supported.

Analysts have delineated at least two types of costs involved with certifying an ecoforestry operation (Baharuddin 1994; Upton and Bass 1995; Simula 1996). The first is the direct cost which refers to the actual cost of having a certifier come and certify an operation. The direct costs of certification are likely to vary widely depending on size, type and location of the forest, as well as the experience and abilities of both the ecoforester and the certifier. Estimates from previous certification efforts in other countries vary considerably, primarily according to the forest size. For a 5,000 hectare

forest, cost estimates are around US$1.30 per hectare, but with a 100,000 hectare forest it drops to US$0.24 per hectare, and with a forest that is several million hectares in size, the cost is only about US$0.01 per hectare (Simula 1996, 132). Clearly such large sizes do not apply to a SCES in BC, however the underlying point is relevant: that economies of scale are important to direct certification costs (Upton and Bass 1995; Cabarle et al 1995). In terms of initial certification costs, versus annual audit costs, it is likely that initial costs will be about five times higher than subsequent annual fees (Wilson and Malin 1997).

The second type of costs are the indirect ones associated with making changes so that operations will meet certification criteria. It has been pointed out that there are considerable up-front costs in establishing an ecoforestry woodlot (Drescher 1997, 237). This is not so much a cost of certification, per se, but rather a function of how much change is necessary to move from current forest practices to acceptable ecoforestry. With some operations, little if any change will likely be necessary, while others may require substantial changes from past industrial forestry practices.

Economies of scale are also important with indirect costs of certification (Upton and Bass 1995; Cabarle et al 1995). Clearly, smaller forestry operations are at a disadvantage in their ability to absorb the costs of certification (Elliott and Viana 1996, 141). In terms of creating a SCES in BC, the heavy reliance upon predominantly small woodlot owners and WLP licensees amplifies the relevant cost issues involved. Economies of scale work against small operations, and even beyond cost issues, the

burden of paperwork alone can be daunting (Kepkay 1998). SFF is addressing these issues by assisting with bureaucratic requirements, and subsidizing those ecoforesters with limited financial means (Kepkay 1998). By "jump-starting" the process, it is hoped that solid connections with buyers can be made, and an increased incentive will be created for other ecoforesters to become certified. In the longer term, an association of certified foresters could be created in order to help fund the expansion of certification.

For a SCES, a third group of costs exists, which is the cost of monitoring the "chain of custody" from the forest to consumer (Cabarle et al 1995; Vallejo 1996). The costs of chain of custody tracking varies, depending upon systems already in place, the complexity of the network of buyers and sellers, and the end-use (Simula 1996). Storage areas might need to be increased, transport costs could rise, and existing mills may not be set-up for parallel production (Simula 1996). As mentioned above, however, certification may have the indirect effect of improving the efficiency of supplying wood products from the forest to the final consumer (Upton and Bass 1995, 53). Specifically, the chain of custody requirements make the whole supply chain transparent, and may therefore reduce the number of links. This could increase the percentage of final sale price that returns to the ecoforester, and could reduce the final consumer cost.

A proposed way of making certification more affordable is by certifying ecoforestry practitioners, rather than individual ecoforestry operations. This is called "resource manager" certification, something the FSC has agreed to develop for situations in which one certification license would be issued for several woodlots (Levy

1998).[48] Doing so would, theoretically, spread costs among numerous small operations, thereby capturing certain economies of scale. Such certification raises concerns, however, about verification of actual "on the ground" performance (Stark 1998), and it is clear that the forest itself would need to meet certification criteria, and not just the person managing it (Burda 1998). As well, resource manager certification may be limited to places with a large number of contiguous, private land-holdings, in a relatively confined geographical area (S. Hammond 1998).

In order to have a complete picture of financial viability, it is important to look at the financial benefits of certified ecoforestry. Of course, many of the benefits of ecoforestry are non-monetary, and are discussed in greater detail in other sections of this thesis. Some of the purely financial benefits include higher yield in the long-run, improved efficiency, and possible elimination of trade intermediaries (Simula 1996, 134). It has been argued that attainment of certified status may also help forestry operations receive access to financing (Upton and Bass 1995, 57). In terms of reduced timber output, these costs can be recovered through better planning, the maintenance of supply over the long term, and the increased protection of non-timber resources (Cabarle et al 1995, 13). A discussion of non-timber resources is beyond the scope of this paper, but it has been shown to have potential as a supplemental cash flow to ecoforesters

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[48] SmartWood estimates the initial cost for resource manager certification to be between $US 5,000 and $US 15,000, as well as an annual one-day audit costing about $US 1,000. (Wilson and Malin 1997). It is unclear how relevant these cost estimates are to the situation in British Columbia.

(Freed 1997). The SmartWood-certified Haliburton Forest in Ontario provides a Canadian example of a certified ecoforestry operation that earns substantial income with non-timber activities, including an outdoor education program (through contracts with schools), numerous wilderness trails, a wildlife refuge, and a wolf research center (Levy 1998).

Financial support for ecoforestry operations and for creating a SCES may be necessary in terms of credit provision. Kirk Johnson (1993), of the Northwest Policy Center at the University of Washington, argues the need for "green investments" to help build sustainable communities. The work of environmentally-oriented community lending institutions, such as Shore Bank Pacific in Oregon, and the Cascadia Revolving Fund in Washington, can serve as models for the role credit provision can play in assisting with community economic development and building value-added capacity. The potential role of credit provision in supporting the requisite infrastructure for a SCES is important in a province where the marginalization of timber-dependent communities includes a glaring lack of support from lending institutions. The exodus of investment capital from such communities goes along with exodus of raw logs to centralized mills and overseas (M'Gonigle and Parfitt 1994, 79). To address this situation, there are a few promising initiatives taking shape in the province.

Virginia Weiler (1998), of Ecotrust Canada, points out her organization's involvement with the value-added aspects of ecoforestry. Specifically, Ecotrust has an mandate in terms of credit provision and marketing consulting for value-added

businesses interested in using wood from ecoforestry operations (Weiler 1998). VanCity Credit Union's Regional Development Corporation is working under a community economic development framework for supporting environmentally-appropriate businesses (Weiler 1998). As well, the many credit unions in BC, currently lacking investment opportunities in timber communities (M'Gonigle and Parfitt 1994, 79), are also a possible source of financing for supporting the infrastructural needs of a SCES.

Community / Stakeholder Support and Participation

Perhaps the biggest challenge in creating a SCES is engendering community / stakeholder support and participation. It is challenging because involving communities and stakeholders, and seeking their support and participation is a fundamentally different approach than what has historically been done with forest-use decision-making in BC. This participatory approach is central to ecoforestry's role in articulating an alternative to the corporate industrial forestry model.

It was pointed out earlier that many forest-dependent communities in BC have suffered as a result of distant corporate or government decision makers. Nevertheless, this is still the model that communities are used to, and the process of self-empowerment through involvement in decision making processes requires learning and persistence. As

such, developing community support should be better understood as an ongoing process. Not all members of a given community may be initially supportive of a SCES, however this support can develop over time – especially if the SCES is rewarding for those involved, and if "space" is made for meaningful participation by all community members and stakeholders.

This developmental aspect of community support is critical in terms encouraging a SCES to be replicated. In fact, building community / stakeholder support is essentially "movement building", based on the "hundredth monkey" concept (Keyes 1982).[49] Applied to a SCES, the idea is that through encouraging participation and involvement, support for ecoforestry will grow until a sufficiently large number of people, from diverse perspectives, support ecoforestry and it becomes broadly accepted. Analyst of the environmental movement, Brian Tokar (1991, 191), argues that:

> A major hope for Greens everywhere lies in the development of new community-based institutions and experiments in local democracy. Such efforts could begin to create a genuine counter-power to the influence of established institutions. If a few communities in a few regions can begin mapping out a more independent course for themselves, they can help others discover how to break the web of dependencies that keep people believing in the present system.

The importance, from an activist perspective, of developing broad-based support has

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[49] The "hundredth monkey" concept means that: "...when only a limited number of people know a new way, it may remain the consciousness property of these people. But there is a point at which if only one more person tunes-in to a new awareness, a field is strengthened so that this awareness reaches almost everyone" (Keyes 1982, 17).

been frequently pointed out.[50] Commenting on the future of environmental movements, analysts Pratap Chatterjee and Matthias Finger (1994, 173) conclude: "...we have no choice but to focus on the local, its people and its communities". Also from an activist perspective, the importance of developing broad-based support stems from the political strategy of building coalitions to confront powerful vested interests that perpetuate the status quo. In the case of ecoforestry, strong multi-sector support for developing a SCES increases the political ability to gain necessary concessions from government and industry. Ultimately, a broadly supported movement is politically stronger than one made up only of specific interest groups.

By emphasizing community / stakeholder involvement, a SCES articulates an alternative to the top-down corporate approach of industrial forestry. Doing so empowers communities by giving them a stronger voice regarding input into government policy, which can translate into increased forest access and regulatory changes that may be necessary for a SCES' success. Through coalition-building and development of networks between various stakeholder groups, the overall movement towards ecoforestry can gain important political strength. As well, community involvement creates stability in forest-dependent communities that have historically

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[50] For example, Jeremy Brecher and Tim Costello (1994) propose the "Lilliput Strategy" for linking various social justice causes; Mark Dowie (1995) has outlined the importance of a broad-based environmental movement that he terms "the fourth wave"; and Roy Morrison (1995) argues for an ecological democracy in which community involvement is crucial.

been divided by conflict. This increased stability creates a positive environment for ecoforestry, and offers greater chances for long-term sustainability.

In this section, ecoforestry's need for community support is outlined, followed by a discussion related to the specific stakeholder groups of labor, environmental and First Nations. Finally, a brief outline of community forestry initiatives in BC is presented.

Need for Community Support

As mentioned earlier, ecoforestry is rooted in a vision of sustainability and equity for communities and social relations, just as much as in a vision for ecological sustainability. The University of Victoria's Eco-Research Chair of Environmental Law & Policy, describes the relevant fundamental principle underlying ecoforestry: "Informed community-based control and devolution of management to local bodies is necessary, with decision-making embodying ecological and democratic principles" (Burda et al 1997, 9). In the words of Herb Hammond (1997b, 4), "...community-based decision-making about forest use is critical to ecoforestry".

A significant reason why community support and participation is necessary stems from the benefits associated with local control of resources. Ecoforestry articulates a solution to the many problems associated with industrial forestry, including

a solution to the problem of great distance between decision makers and the affected forests and timber-dependent communities. The solution to this problem is precisely its opposite: local community control over resources. There are a number of benefits to local control of forests, including reduced vulnerability to external markets through diversified and participatory local resource use (Dregson and Taylor 1997, 31); retention of surplus revenues in the local community (Dregson and Taylor 1997, 31); increased flexibility in response to changing local conditions and community needs (Burda et al 1997, 89); more accessible channels for communication with logging operations (McAllister 1993, 23); utilization of local knowledge (Lynch and Talbott 1995); and empowerment of previously disenfranchised communities (H. Hammond 1991, 232).

Community participation is also necessary for the same reason that, in ecoforestry, decisions regarding which trees to cut are made on a site-specific basis – because each situation is different. Each community is unique, and therefore requires a unique approach to ecoforestry that is sensitive to the needs and history of that specific place. It has been pointed out that industrial forestry "takes the variegated and makes it simple" (Forman 1997, 44) by replacing a diverse forest ecosystem with a monoculture. Vandana Shiva (1993) has shown that monocultures, and homogeneity in general, create weakness in both natural and human communities. Ecoforestry is predicated on the opposite of homogeneity – it requires the contextualized and diverse solutions to forest use questions that are derived from community control and participation. Without these site-specific adaptations of the general model of ecoforestry, the creation of a SCES will

necessarily be weaker. As Herb Hammond (1991, 233) points out:

> Community control offers access to solutions which are often missed by distant decision-makers and centralized systems. Communities are the places where *doing things* occurs. Where the "deciding" and the "doing" happen in the same place, constructive change is much easier to achieve... A community combines place, diversity, and responsibility to protect all the people in the community *and* all the parts of the forest.

A stated goal of ecoforestry is to bring accountability to those using the forest (H. Hammond 1991). This is especially relevant in BC, where most of the forest land is publicly held, and where there are many problems stemming from great distances between forest use decision makers and the effects of their decisions.[51] In response, ecoforestry demands accountability from decision makers, and is based on the notion that benefits, burdens and authority should lie with the same group of people. This notion of local control and accountability also gains support from the wide body of literature examining sustainable communities. As David Morris (1996, 437), of the Institute for Local Self-Reliance, asserts: "Authority, responsibility, capacity – these are the cornerstones of sustainable communities."

The fact that ecoforestry is not yet well understood, is a substantial barrier for developing ecoforestry operations (Drescher 1997, 237). In light of this, community involvement and participation becomes an important vehicle for broadening understanding of ecoforestry, and for gaining acceptance of the goals of a SCES. Part of

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[51] See section entitled "Why Ecoforestry is Needed in British Columbia".

this process is providing information to various community members and stakeholders (Upton and Bass 1995, 15). By involving community members, the benefits of ecoforestry can be better understood and resistance to the creation of a SCES can be somewhat reduced.

The importance of social ecology in providing an eco-philosophical underpinning for ecoforestry was outlined earlier. Social ecology also provides ecoforestry with a strong rationale for embodying co-operation and participation as guiding and necessary principles. As Murray Bookchin (1987, 25) says, "Social ecology is largely a philosophy of participation in the broadest sense of the word." The notion of co-operation as critical to survival in human society has its roots in the writings of Peter Kropotkin, but has been contemporaneously expanded upon by many ecological thinkers (Bookchin 1980; Morrison 1995; Sale 1996). In contrast to the Darwinian justification for competition, social ecologists draw on the importance of co-operation in nature, summarized as follows:

> The conflict in nature between different kinds of organisms has been popularly express in phrases like the "struggle for existence" and survival of the fittest". Yet few people realized that mutual cooperation between organisms – symbiosis – is just as important, and that the "fittest" may be the one that helps another to survive (Trager 1970, vii)

Based on such observations in nature, social ecology emphasizes co-operative social models , and consequently rejects hierarchies and forms of domination. As Murray Bookchin (1993, 101) emphatically states: "I cannot emphasize too strongly that

hierarchy in society is an *institutional* phenomenon, not a biological one." Bookchin (1995, 93) argues further that:

> No ecological ethics of freedom can be divorced from a politics of participation, a politics that fosters self-empowerment rather than state empowerment. Such a politics must become a truly peopled politics in the sense that political participation is literally peopled by assemblies and by face-to-face discussion.

It is in this spirit of self-empowerment and community participation, that ecoforestry involves communities and stakeholders. Without mechanisms for such involvement, a SCES would not be ecoforesty.

Stakeholders

The efficacy of a SCES without community support and participation would be greatly diminished because historically divided timber communities would remain divided, thereby precluding opportunities for proactive community development in all areas of forest use planning or timber resource utilization. The recent political history of forestry in British Columbia, as in the US Pacific Northwest, has been one marred by industry's success in framing the debate in terms of "jobs versus the environment." The BC Forest Alliance, a forest-industry funded brainchild of public relations firm Burson-Marsteller, has worked hard at "characterizing the environmental movement as a big-city threat to small town jobs" (Nelson 1993, 58). As Andrew Rowell (1996, 21), an

analyst of the backlash against environmentalism explains:

> People are told that the environmental movement is out to close down their industry, take away their property rights and their livelihood and life. The polarization process does two important things. First it drives a wedge between workers and environmentalists; second, it instills fear into the community which means that workers are increasingly vulnerable to corporate and right-wing manipulation.

Within this context, ecoforestry faces greater overall resistance, and a SCES faces greater chances of being thwarted by opposition. Some BC ecoforesters are concerned that seeking certification may result in being boycotted by their current industrial buyers in their community.[52] The perception that cleavage between community members is great enough to threaten the economic viability of a SCES simply underscores the importance of garnering community support and building lines of communication between sides. The importance of such an approach has been explained by Kirk Johnson (1993, 1) of the University of Washington's Northwest Policy Center:

> A growing number of rural community residents and environmentalists are working together to try to reconcile the desires for economic vitality and environmental quality... The most promising of these efforts do not seek a mythical "balance" between economy and environment that leaves habitats half protected, rural economies weakened, and personal principles bargained away. Instead, they look to create synergies: ways that economic activity can promote a healthy environment, and that healthy ecosystems can enrich their inhabitants, economically and otherwise...

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[52] This fear of being boycotted is amplified by uncertainty surrounding the market for certified wood, something that has been noted among timber management operations elsewhere (Stevens, Ahmad, and Ruddell 1998, 47).

In the labor / environment context of BC, a SCES's relationship with labor is key to its viability. It is especially critical since ecoforestry results in much lower timber extraction than industrial forestry, and takes on a longer-term perspective for benefits from forestry. While industrial forestry is able to achieve high cut levels through mechanization rather than high employment, there are still a large number of people whose personal livelihood is tied directly to continued industrial forestry. The fact that these jobs are disappearing quickly as the industry runs out of accessible timber, and downsizes operations, does not automatically translate into labor's unconditional support for ecoforestry.

Central to a SCES's relationship with labor is the number of sustainable jobs that ecoforestry can offer. Single-tree selection logging, according to forestry consultant Jim Smith, is "the most labour-intensive, both in terms of doing the layout and in terms of doing the harvesting" (quoted in Greenpeace 1995, 6). Some statistics can be sighted here to provide some perspective. The number of jobs per volume of wood cut depends on the type of forest, and upon the various growth rates. Mervyn Wilkinson calculates that 320 acres of his type of forest (in the coastal rainforest of Vancouver Island) can employ two people full-time. However, he points out that in other parts of BC those two people would require 800-900 acres to earn a full-time living as ecoforesters (Wilkinson 1998). Herb Hammond points out that horse logging provides five to ten times as many jobs per given area than conventional machine logging does (H. Hammond 1991, 215).

In Switzerland,[53] using sustainable forestry practices, 83 jobs per 1,000 hectares of productive forestland are created (Jäggi and Sandberg 1997, 157). In Canada, the comparative number is three jobs. (Jäggi and Sandberg 1997, 157). While the exact numbers vary, it is clear that ecoforestry is able to produce far more jobs per volume of wood cut than industrial forestry does. This is simply because industrial forestry uses machines that rapidly cut forests in an indiscriminate manner, while ecoforestry uses single-tree selection methods that are labor-intensive in both planning and cutting. However, labor support for ecoforestry is not based only on the number of jobs per tree cut, it is more directly based on the total number of jobs provided. Since ecoforestry embodies a significant reduction in the volume of wood cut – somewhere in the range of a 50-80 per cent reduction (M'Gonigle and Parfitt 1994, 32; Green 1997 42) – the total employment picture will be greatly affected.

The net effect on employment of reduced cut levels, offset by increased employment per unit of wood cut, is the subject of much speculation. A rough calculation, however, can shed some light on this. Using Wilkinson's estimates of between 320 and 900 acres (approximately 130 to 360 hectares) of forest land necessary to employ two people, the 22.6 million hectares of "presently productive, available and

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[53] Swiss forestry practices are generally characterized by: decentralized ownership; local public participation; priority given to non-timber values of forests; sustainable harvesting levels; preservation of biodiversity; prohibition of pesticides and fertilizers; selective logging; local processing and value-added industries; high level of forestry education (Jäggi and Sandberg 1997).

suitable" forest land in BC (H. Hammond 1991)[54] could employ between 32,000 and 87,000 people directly as ecoforesters (not including the wood processing and value-added jobs). In comparison, estimates of the actual number of people currently employed as loggers in BC range from 18,000 to 26,000 (Schwindt and Heaps 1996, 66).[55] Based on this rough calculation, ecoforestry can offer significantly more jobs in than industrial logging does, even though the volume of wood cut would be greatly reduced.

The direct jobs created in actually felling trees, however, is only part of the SCES employment picture. Milling and drying wood also creates employment, but it is value-added manufacturing that offers a significant number of jobs. Sawmills create about one job per MBF (thousand board feet) while the value-added average is about 4.55 jobs per MBF (M'Gonigle and Parfitt 1994, 84). Herb Hammond (1991, 242) argues that "Without even including labor-intensive employment, *we could easily triple or quadruple our employment from each tree cut through value added manufacturing.*"

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[54] "Presently productive available and suitable" forest land is calculated by taking the total forest land area in BC, and subtracting parkland, environmentally sensitive forests, inoperable or "problem" forest types, and areas previously logged that have not satisfactorily regenerated (H. Hammond 1991, 54). The resultant figure reflects industrial objectives, and may significantly understate the actual area of forest land that could be utilized for ecoforestry. As such, employment estimates based on this figure are very conservative.

[55] The entire BC commercial forest sector employs approximately 75,000 people (Schwindt and Heaps 1996, 51), of which only 25 per cent are directly involved with logging (Schwindt and Heaps 1996, 54).

The type of secondary manufacturing dictates the amount of employment as well, with higher-value items generally creating greater employment per volume of wood. With 30 board feet of wood,[56] one person could be employed for about one minute milling boards, one or two weeks making cabinets, or one year making violins (H. Hammond 1991, 242). Cheri Burda points out that ecoforestry cannot match the gross revenues generated from industrial forestry. However, by factoring in long-term revenue, employment stability, and the potential for increased revenue through value-added manufacturing and certification, ecoforestry becomes quite beneficial for communities (Burda 1998).

Union support for ecoforestry is currently varied. The Pulp, Paper and Woodworkers of Canada (PPWC) is quite supportive of ecoforestry. In a 1993 booklet, the PPWC said "We don't have to choose between jobs and trees. If our forest industry was managed properly, we would have plenty of both" (1993, 3). In line with this sentiment, the PPWC is supportive of the FSC initiative (Burda 1998). In contrast, the larger, and more powerful, International Woodworkers of America (IWA) does not support the FSC, and is instead working with industry on the CSA. The official response of the IWA does not mean that individual members are unsupportive, and in fact some of the smaller locals of the IWA have shown interest in supporting the FSC (Burda 1998).

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[56] A board foot is one inch thick, 12 inches wide, and 12 inches long.

Support from the environmental community has been important in moving the certification initiative forward, and continues to be important in terms of enhancing credibility (Donovan 1996, 99) and sustaining market demand for certified wood products. The idea of certification came from the environmental community (Hammond and Hammond 1997, 196), a number of ENGOs have provided consistent international support for the FSC, and ENGOs have been instrumental in creating strong market demand for certified wood products (Donovan 1996, 104). For a SCES to be viable, continued support from the environmental community is necessary.

In BC, the FSC initiative has enjoyed solid support from the environmental community, however a couple of issues threaten to erode this support. First of all, FSC Principle #9 – which deals with the maintenance of natural forests – is the most contentious issue being dealt with by the FSC BC Regional Steering Committee (Stark 1998), and it threatens to be divisive in terms of ENGO support.[57] Second, SGS, a UK-based FSC-accredited certifier, has entered into a certification contract with Western Forest Products, an industrial timber company involved with clearcutting old growth forests on the BC coast. This situation is examined in more detail in the next section, in light of the fact that ENGO support for the FSC could be substantially withdrawn if Western's current logging practices are certified.

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[57] The dispute over FSC Principle #9 revolves around logging in old growth forests.

As outlined earlier, ecoforestry and the development of a SCES is part of a larger struggle for social justice, of which environmental goals and the environmental community is only a part. Vandana Shiva points out the importance of marrying environmental activism with other forms of social justice activism:

> If environmental activists try and act alone, without connecting up with movements for justice, movements for human rights, movements for democracy, they can be contained very easily, not just by backlash, but also by polarisation, by constantly making it look like the environmental interest is a secondary interest, whereas jobs and the survival interest are the primary interest. This will be exacerbated by people refusing to recognise the environmental base is also a livelihood base, and environmental issues are tied very closely to economic survival. I think what is needed now very rapidly is broad-basing of our environmental work. Building into trying to create large citizens' alliances... (quoted in Rowell, 1996: 374).

Through community support and participation, ecoforestry can help bring the goals of various social justice causes together, including ecological, labor, community empowerment, and First Nations rights efforts.

The involvement and support of First Nations is inherent in the concept of ecoforestry (H. Hammond 1991), and central to the concept of certified ecoforestry (Donovan 1996, 96). FSC Principle #3, for example, states that "The legal and customary rights of indigenous peoples to own, use and manage their lands, territories, and resources shall be recognized and respected" (FSC 1996). The *Summary of SFF Standards for Ecologically Responsible Timber Management* states that "...First Nations' aboriginal rights and title, experience, knowledge, practices and insights must be fairly and fully considered and accommodated in the planning and practices of all

applicants [for certification]" (SFF 1998b). Since most of BC is unceded First Nations' territory, and in light of the *Delgamuukw* decision,[58] the support of First Nations is absolutely necessary. As more land title is settled, and as First Nations are increasingly able to exercise their rights, many certified ecoforesty operations will be First Nations ecoforestry operations run by First Nations on their land.

Community-Based Ecoforestry Initiatives

The importance of community and stakeholder support and involvement in ecoforestry, and therefore in developing a SCES, has been translated into comprehensive models for community forestry. Herb Hammond (1991) proposes consensus-based Community Forest Boards (CFBs) which would be "responsible for planning and management of *all* forest uses within logical watershed based areas." Researchers at the University of Victoria's Eco-Research Chair propose a Community Forest Trust Act (Burda et al, 1997) that would create the legislative "space" for community forestry to happen in BC. Alan Drengson (1997) has proposed a "whole community ecoforestry system" that represents a "...democratization of forest economics" (1997, 241). What all these proposal share is an ecologically-oriented emphasis on empowering local communities through involvement and shared decision-making.

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[58] See discussion in the "Why is Ecoforestry Needed in BC" section.

Beyond theoretical models, there are a number of BC communities in various stages of developing ecoforestry plans. These include the Slocan Valley; the West Chilcotin Community Resource Association in the Anahim region; the Dunster Community Association in the Robson Valley; the Cortes Island Forest Committee on Cortes Island; the Yalakom Community Council northeast of Lillooet; the Harrop-Procter Watershed Protection Society east of Nelson; the Council of Haida Nations on Haida Gwaii (Queen Charlotte Islands); and the Gitxsan Nation in northwest BC. Herb Hammond (1991, 232), who has been directly involved with many of these initiatives, sums up a common theme among those involved: "People across B.C. have found that establishing local control over forest use is an empowering, dignifying process that brings communities together."

The litmus test, however, seems to be the integrity of the process and the extent to which people feel "ownership" or involvement with decision-making. Without meaningful avenues for stakeholder participation, community polarization will continue and opportunities for community-based forest-use planning are precluded. An example of the disastrous outcome that can ensue when community / stakeholder support is ignored, comes from the provincial government's "Clayoquot Compromise", announced in April of 1993. Clayoquot Sound, on the west coast of Vancouver Island, was the site of sustained environmental protests during the early 1990s, including the largest single mass arrest in the history of BC. The community and stakeholders involved with Clayoquot Sound were divided clearly into two camps with extremely polarized views

that led to a classic "jobs versus the environment" framing of the issue in which all stakeholders remained unsatisfied (Drengson and Taylor 1997, 17). The greatest period of conflict between industrial logging interests and environmentalists, was preceded by the provincial government's "Clayoquot Compromise" – an attempt to decree an agreeable settlement between sides – that "...left no one satisfied, neither the loggers, environmentalists, natives and other local residents, nor the forest industry" (McAndrew 1993). The scale and passion of protests that ensued, from both loggers and environmentalists, showed clearly that simply dictating a top-down solution to such conflicts is unlikely to result in a sustainable solution. Involving communities and stakeholders can help avoid such volatile situations.

Threats to Certified Ecoforestry in British Columbia

In this section two general threats to certified ecoforestry in BC are examined. The first stems from the potentially negative effects of strong market demand for certified wood products. These effects include high prices for local value-added manufacturers, an increase in for-profit certifiers, and a shift in focus from the needs of forests to the needs of markets. The second general threat, is one of industrial forestry co-opting the certification process. Beyond the development of self-certification

schemes,[59] this section examines the response to FSC certification by two industrial forest companies in BC: MacMillan Bloedel and Western Forest Products.

Before examining these two general threats, it is worth reiterating the threat to certification in BC that is embodied in the structure of the FSC. It was pointed out earlier that the credibility of FSC certification in BC is linked closely to the credibility of FSC globally. This linkage works positively for certification in BC so long as the perception of standards remains high globally. However, if questionable certifications are approved in other parts of the world, or if ENGOs become critical of FSC activities anywhere, it will likely translate into reduced credibility for certification in BC. Of course, this relationship is reciprocal in that criticism of FSC activities in BC could result in lower support for the FSC elsewhere. This dynamic relationship of mutual responsibility and mutual vulnerability, inherent in the FSC structure, can act as a system of checks and balances, but also contains a seed of destruction for the entire FSC initiative.

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[59] See the discussion of the CSA initiative in the section entitled "Competing Schemes"

Negative Effects of Strong Market Demand

The market demand for certified wood products is far in excess of supply, and will likely remain as such for the foreseeable future (Drescher 1997; Vallejo 1996; Upton and Bass 1995). While this fact is generally encouraging for developing a SCES, there are some negative effects that should be seen as threats to the efficacy of a SCES. First of all, with demand in excess of supply, it is reasonable that certified wood may cost more than uncertified. In fact, a recent survey in the US found that certified wood inputs cost manufacturers 6.6 per cent more than non-certified wood (Stevens, Ahmad, and Ruddell 1998). The threat for a SCES is that local value-added manufacturers will not be able to afford certified wood. While this possibility should be understood by those involved in creating a SCES, it will likely not be a major threat, for two reasons. First, the ease of selling certified wood to local buyers may be enough of an incentive for ecoforesters to accept a slightly lower price. Second, there is a significant range in wood prices (Dickey 1997), and therefore a relatively small price premium will not preclude buying certified wood, especially if the premium can be roughly covered by an increased selling price for finished goods (Stevens, Ahmad, and Ruddell 1998). As well, with many value-added manufacturers, especially cabinet and furniture makers, the cost of wood inputs is relatively small compared to overhead and labor costs (Mater, Rogers and Metz 1995, 5), thereby allowing them to absorb higher prices.

A second, and more salient, threat arising from large market demand for certified

wood products, is the potential for a proliferation of for-profit certifiers. According to FSC-Canada Coordinator Marcelo Levy (1998), there are currently three for-profit consultants in Canada that are interested in conducting FSC certifications. There are already two for-profit FSC-accredited certifiers globally,[60] and excessive demand for certified wood creates pressure for more to be accredited. The issue here is that for-profit certifiers may be more concerned with making money from certification than they are with promoting ecoforestry. Third-party certification by FSC-accredited certifiers is predicated on the independence and neutrality of certifiers. It has been pointed out (Kiker and Putz 1997, 47) that:

> The relationship between consumers and certifying organizations are in many way 'de facto' principal/agent relationships…If consumers do not have faith in the authenticity of the product, the advantage of certification is lost in the market place. The certifying organizations must operate in ways that maintain the confidence of consumers

By allowing for-profit certifiers, the FSC has already potentially compromised the confidence that consumers have in certifying organizations. If more for-profit certifiers become accredited, this consumer confidence will be further threatened. The degree to which the profit motive taints a specific certification is almost secondary to the public perception of the tainting. Potential exists for the FSC's neutrality being questioned if for-profit certifiers are seen as being more concerned with making money from certifications than they are with ensuring high levels of ecological responsibility.

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[60] The two for-profit certifiers are SCS and SGS.

A third threat stemming from the high demand for certified wood products, is that certification's focus will shift from the needs of the forest to the needs of the market, and that doing so will compromise the ecological value of certification. This threat is closely tied to the second, whereby for-profit certifiers become increasingly involved with certification, and focus more on the monetary gains of certifying forests than on the promotion of ecoforestry. Beyond the purely financial motivations of for-profit certifiers is the desire of all those involved with certification for it to be successful – a desire that can also lead to a damaging focus on market demand. For instance, certifiers that conduct chain of custody audits, are then put in a position where they must supply certified wood to these manufacturers. This translates into pressure to certify enough ecoforestry operations that sufficient certified wood is available. Clearly the profit motive exacerbates this pressure, but a focus on market demand and program expansion could jeopardize the ecological judgement of any certifier.

Beyond the motivations of individual certifiers, is the concern that the entire FSC program becomes unduly focused on meeting market demand. In the January 1998 meeting of the FSC's International Strategic Planning Committee, whose mandate is to "articulate the direction and vision of the organization" (FSC-US 1998), an agreed upon goal was that the FSC should: "Grow to meet the needs of continued exponential growth in certification" (FSC-US 1998). This focus on growth threatens to overshadow the primacy of fostering ecoforestry.

Possible Industrial Co-Option

A significant threat to certified ecoforestry, is the possibility of co-option by industrial timber companies. In this section, the reactions of two industrial timber companies – MacMillan Bloedel and Western Forest Products – to certification are examined, as examples that shed light on possibilities of industrial co-option of the certification process.

MacMillan Bloedel (MB), a large industrial timber company with control over the largest individual share of AAC in the province (Schwindt and Heaps 1996, 30), has reacted proactively to certification-related market pressures, but its actions must be understood in the context of the economic motivations that inspired them. The company has faced significant national and international criticism for clearcutting in Clayoquot Sound during the early 1990s,[61] has faced high-profile contract cancellations in favor of FSC-certified wood,[62] lost $368 million dollars in 1997 (MacMillan Bloedel 1998c), and went through significant restructuring during early 1998 that resulted in laying-off 2,700

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[61] Protests over MacMillan Blodel's clearcutting in Clayoquot Sound included the largest single mass arrest in BC history (Drengson and Taylor 1997, 17), a total of over 800 arrestees during the summer of 1993, and a successful international campaign that led to a January 1997 shut-down of MB operations in Clayoquot Sound.

[62] In November of 1997, for example, B&Q of Britain announced their intention to discontinue the purchase of hemlock from MacMillan Blodel, and their plans for switching to FSC-certified wood (Matas 1997).

employees (Hamilton 1998d). Out of this history of conflict, MB announced in June of 1998 that they will "phase out clearcut harvesting in all of its BC operations" (MacMillan Bloedel 1998b). Their stated intent is to: "increase conservation of old growth forest" and "replace clearcutting with a more ecologically driven approach through the adoption of a system of stewardship zones, and the introduction of variable retention harvesting" (MacMillan Bloedel 1998a). Their press release (MacMillan Bloedel 1998b) explained that the reason behind the move was to "...enhance shareholder value through improved market access...", and that the changes would "...enable the company to be certified under any of the private systems currently emerging for forest certification."

MB's announcement raises concerns about industrial co-option of third-party certification because close examination of what MB is proposing reveals both a lack of commitment to ecoforestry, as well as an explicit focus on market share retention via their high-profit public relations campaign. These concerns are raised for three reasons. First, MB's proposed system of "stewardship zones" and "variable retention" does not clearly translate into ecoforestry. Under MB's plan, their AAC over the next ten years will be approximately 5.7 million cubic meters. This is exactly the level it was in 1996 (MacMillan Bloedel 1998d), and as journalist Ben Parfitt points out, is actually a 300,000 cubic meter increase over 1997 levels (Parfitt 1998, 19). Logging the same volume of wood as was logged using clearcuts simply translates into impacts from logging over a larger part of the forest. As Parfitt (1998, 20) explains:

> If you switch from clearcutting to some form of modified logging where smaller areas of forest are cut and patches of trees are left standing, you have to log over a larger area if you still plan on taking the same volume of wood out.

One of the premises of ecoforestry is reducing the AAC (H. Hammond 1991; Burda et al 1997, 127), something that MB has no intention of doing.

Coupled with the retention of a high AAC, is the increased pressure on second-growth forests (Parfitt 1998) , and the implementation of variations on clearcutting, such as "shelterwood" (MacMillan Bloedel 1998b).[63] As MB implements their plan, and avoids clearcutting, it is impossible to guarantee that ecoforestry will be practiced – which leads to the second concern.

Without third-party verification, MB is free to describe their logging activities in whatever way they please. Their proposed "variable retention"[64] is meaningless until substantiated by third-party verification, and until the ecological "on the ground" impacts of logging have been assessed. MB, however, has not asked for third-party

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[63] "Shelterwood" is essentially clearcutting in two stages: the first cut removes most of the valuable trees, but leaves enough standing to allow regeneration. Once regeneration is established, the trees that were left standing during the first cut are removed.

[64] The term "variable retention" was used by used by the Scientific Panel for Sustainable Forest Practices in Clayoquot Sound, in their recommendations for ecosystem management in Clayoquot Sound (Drengson and Taylor 1997).

certification, but is promoting CSA and ISO initiatives as credible alternatives to third-party certification.[65]

The third concern about MB's announcement is the most threatening in terms of co-opting third party certification. Specifically, the economic motivations for MB's announcement underscore the potentially ephemeral nature of their commitment. In the words of MB CEO Tom Stephens: "It reflects what our customers are telling us about the need for certified products..." (MacMillan Bloedel 1998b). If MB can convince their customers that MB wood is ecologically responsible, then customer demand for certification could be appeased. The changes are to be phased in over five years (MacMillan Bloedel 1998b), during which time clearcutting will continue, and MB can assess market response. If certification is pursued, MB could opt for the CSA initiative, or could have only some of its operations certified, so that market share can be retained.

A second example of industry's response to market demands for FSC-certified wood, relates to Western Forest Products – another large industrial timber company, currently involved in clearcutting old growth forests along BC's mid-coast. In June of 1998, Western announced that it was seeking FSC certification through SGS in the UK. This announcement, however, also does not necessarily translate into ecoforestry. In fact, Western chief forester Bill Dumont said "We do not expect in any way to have to make significant changes to our operations" (quoted in Hogben 1998). Without making

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[65] On their website, (http://www.mbltd.com), MB lists ISO, CSA and FSC as the certification bodies of interest to MB customers.

significant changes, Western's logging practices remain a great distance from ecoforestry, and the question then becomes "why are they asking for certification?". The most obvious answer to retain market share, since environmentalists have been urging a boycott of Western's products (Hogben 1998). However, without dramatically changing current logging practices, Western cannot technically receive FSC certification.[66]

However, by applying for FSC certification, Western is able to publicize this fact, and is therefore given a market advantage for the period of time during which the certification process drags on – a process that could take a significant period of time. Beyond this initial market and publicity advantage, the Western application for certification points to two other important weaknesses with the FSC program. First, SGS is a for-profit organization, and therefore embodies all the weaknesses and threats to certification that were outlined above with regard to for-profit certifiers.

The second issue raised by Western's application, is the ability of international certifiers to come into a region and essentially overshadow regionally-based certification initiatives. In the case of BC, an FSC Regional initiative is in the process of developing standards specific to BC, but the process is not yet complete. Further, the Silva Forest Foundation has developed detailed Standards for BC, and has applied for FSC

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[66] Western's practice of clearcutting old growth forests, directly contravenes FSC Principle six ("Environmental Impact") and Principle nine ("Maintenance of Natural Forests"). See Appendix "A" for details of FSC Principles and Criteria.

accreditation. In spite of these regional initiatives, SGS has entered a contractual agreement with Western without prior consultation with either the FSC Regional Steering Committee, nor with SFF. Although discussions have subsequently taken place between the various parties, the end result is still that a for-profit certifier, based outside of BC, is evaluating a BC industrial timber company for certification. As well, if the certification is granted, without Western making drastic changes to current practices, there is great potential for withdrawal of ENGO support for the FSC – something that could dramatically undermine the FSC's credibility.

CHAPTER IV

CONCLUSIONS

It is currently possible to create a small-scale certified ecoforestry system in BC. Such a SCES includes the necessary elements of a demand for certified ecoforestry, access to the forest, a credible, third-party certification program, and a viable and effective system. This thesis articulated a general plan for creating a SCES in BC, and this plan is summarized here as a more detailed conclusion.

Prior to summarizing the most promising route for creating a SCES in BC, it is worth providing an overview of the demand for certified ecoforestry – the first element necessary for creating a SCES. This includes the broad-based demand that is pushing for ecoforestry: demand from the planet itself; demand from the imperative for creating an ecological society; demand from disenfranchised forestry workers and timber communities; and demand from the environmental community. It also includes the market demand that is pulling along the development of certified wood products. This market demand currently exceeds supply, is likely to remain as such for the foreseeable future, and is strongly supported by numerous "buyers groups" of companies pledging to purchase only certified wood by a specified date. Market demand is highest for visible, value-added wood products such as floors, cabinets, furniture, and architectural details.

Studies reveal that those closest to the consumer in the forest products chain of custody are most supportive of certification. In terms of strategizing markets for certified wood, products from a SCES should be promoted for high-quality uses, suitable for value-added production.

This demand, both pushing for ecoforestry, and pulling the process along via market forces, results in a strong incentive for creating a SCES in BC. The second element necessary to create a SCES is access to forest land. Although the tenure system severely limits forest access to all but industrial timber companies, access for creating a SCES is possible through the Woodlot Licence Program, through private forest lands, and through community and First Nations forestry. All three of these avenues for access should be pursued, and the combined total access will provide sufficient forest access for creating a SCES.

The third necessary element – a credible, third-party certification program – exists in BC with the Silva Forest Foundation's program. SFF is going through the FSC accreditation process, and has developed certification standards that are applicable to the unique ecological, social and economic situation in BC. As well, FSC regional standards are being developed for BC, and the FSC continues to have a high level of credibility both in BC and elsewhere. Therefore, the creation of a SCES in BC should be predicated on SFF's certification program, and should be couched with FSC's regional BC initiative.

A serious long-term threat to both the certification program and to the goal of

replicating a SCES on a broader scale, comes from the various of multilateral trade agreements to which Canada is a signatory. If the BC government was to promote ecoforestry through actions such as providing incentives to ecoforesters, adopting the FSC standards, or by enshrining ecoforestry practices in legislation, they could be challenged under World Trade Organization (WTO) rules. As well, the currently being negotiated Multilateral Agreement on Investment (MAI) prohibits the government from enacting legislation that would promote community involvement or that would require a minimum amount of employment; empowers foreign-owned logging companies with the ability to sue for compensation for any ecoforestry laws; and forces the provincial government to rollback any laws that limit a foreign-owned logging company from conducting operations as they please. The regressive effects of these trade agreements severely constrain the BC government from assisting with any wide-spread replication of a SCES. This does not mean that certification should be abandoned, nor that a SCES cannot be implemented. It does, however, mean that activists must see the struggle against multilateral trade agreements as central to the long-term viability of ecoforestry.

The final element – a viable and effective system – includes a number of components. The first is a supply of competent ecoforesters, something that is currently limited, but is in proportion to the availability of forest land. Those working to create a SCES need to support the various ecoforestry training facilities that are coming into existence. In terms of the necessary infrastructure, facilities for milling and drying certified wood are available on an ad-hoc basis, and can be coordinated as ecoforestry

operations become certified. For a SCES to be replicated on a broader scale, a system for pooling wood needs to be more securely put into place.

The viability of a SCES cannot be evaluated solely on the basis of conventional economic perspectives. Instead, a more inclusive system of evaluating costs and benefits must be utilized. The system that articulates such a vision is ecological economics, which incorporates the non-monetary values of ecoforestry, such as clean water, clean air, healthy ecosystems, and strong communities. Therefore, viability needs to be evaluated according to the principles of ecological economics. In terms of purely financial viability, the direct and indirect costs of certification should be balanced out against increased market share, higher yields over the long-run, improved efficiency, and increased protection of non-timber resources. Direct certification costs will be initially subsidized by SFF, and some financing programs are available to help with the financial costs of certification.

A central, and perhaps the most challenging task in creating a SCES is engendering community / stakeholder support and participation. Doing so is critical in terms of remaining true to ecoforestry, and essential in terms of encouraging a SCES to be replicated. As well, developing broad-based support for a SCES is important in terms of "movement building" and developing coalitions necessary to increase political strength. Some of the more specific reasons why support and participation is necessary include: empowering communities to have a stronger voice for input into forest use policy; the creation of stability in previously volatile timber communities; achieving the

benefits of local control; customizing forest-use decisions to the particular needs of each community; increased accountability from those using the forest; increased understanding of the ecoforestry concept; and the fostering of cooperative social models designed for long-term survival. A SCES must specifically seek support and participation from the stakeholder groups of labor, environmentalists, and First Nations.

Conclusions surrounding each of the four necessary elements – demand, forest access, a certification program, and a viable and effective system – are based on what is the most promising route for creating a SCES in BC. Together, they articulate an overall plan for creating a SCES. There are, however, two general threats to certified ecoforestry that activists creating a SCES need to be aware of. The first stems from the potentially negative effects of strong market demand for certified wood products. These effects include high prices for local value-added manufacturers, an increase in for-profit certifiers, and a shift in focus from the needs of forests to the needs of markets. The second threat, is one of industrial forestry co-opting the certification process. Beyond the development of self-certification schemes, the response to FSC certification by two industrial forest companies in BC – MacMillan Bloedel and Western Forest Products – illustrate industry's unwillingness to watch idly as certification gains prominence. While neither of these threats preclude the development of a SCES, they both do represent areas of serious concern for those working to create a SCES in BC.

The general plan outlined here, and the detailed discussion of necessary elements throughout this thesis, illustrate that it is currently possible to create a SCES in BC. The

task, however, will not be easy nor straightforward. As certified ecoforestry gains prominence, it is likely that industrial resistance will increase. Ultimately, the success of a SCES rests with the many dedicated activists working throughout the province to create a truly equitable and sustainable future for our communities, our ecosystems, and our planet.

APPENDIX A

LIST OF ACRONYMS

LIST OF ACRONYMS

AAC – Annual Allowable Cut
BC – British Columbia
CFB – Community Forest Board
CSA – Canadian Standards Association
EIS – Ecoforestry Institute Society
ENGO – environmental non-governmental organization
FL – Forest License
FPC – Forest Practices Code
FRBC – Forest Renewal British Columbia
FSC – Forest Stewardship Council
FTA – Canada-US Free Trade Agreement
GATT – General Agreement on Tariffs and Trade
ISO – International Organisation for Standardisation
IWA – International Woodworkers of America
LTHL – Long Term Harvest Level
MAI – Multilateral Agreement on Investment
MB – MacMillan Bloedel
MBF – thousand board feet
MOF –Ministry of Forests (British Columbia)
NAFTA – North American Free Trade Agreement
PAS – Protected Areas Strategy
PCC – Pacific Certification Council
PPM – production and process methods
PPWC – Pulp, Paper and Woodworkers of Canada
SBFEP – Small Business Forest Enterprise Program
SCES – small-scale certified ecoforestry system
SCS – Scientific Certification Systems
SFF – Silva Forest Foundation
SGS – Société Générale de Surveillance
SYFM – Sustained Yield Forest Management
TFL – Tree Farm Licence
TSA – Timber Supply Area
WLP – Woodlot Licence Program
WTO – World Trade Organization

APPENDIX B

FOREST STEWARDSHIP COUNCIL PRINCIPLES AND CRITERIA

PRINCIPLES AND CRITERIA FOR FOREST STEWARDSHIP
Revised March 1996, edited October 1996

FOREST STEWARDSHIP COUNCIL, A.C.

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Document 1.2
INTRODUCTION
It is widely accepted that forest resources and associated lands should be managed to meet the social, economic, ecological, cultural and spiritual needs of present and future generations. Furthermore, growing public awareness of forest destruction and degradation has led consumers to demand that their purchases of wood and other forest products will not contribute to this destruction but rather help to secure forest resources for the future. In response to these demands, certification and self-certification programs of wood products have proliferated in the marketplace.

The Forest Stewardship Council (FSC) is an international body which accredits certification organizations in order to guarantee the authenticity of their claims. In all cases the process of certification will be initiated voluntarily by forest owners and managers who request the services of a certification organization. The goal of FSC is to promote environmentally responsible, socially beneficial and economically viable management of the world's forests, by establishing a worldwide standard of recognized and respected Principles of Forest Stewardship.

The FSC's Principles and Criteria (P&C) apply to all tropical, temperate and boreal forests, as addressed in Principle #9 and the accompanying glossary. Many of these P&C apply also to plantations and partially replanted forests. More detailed standards for these and other vegetation types may be prepared at national and local levels. The P&C are to be incorporated into the evaluation systems and standards of all certification organizations seeking accreditation by FSC. While the P&C are mainly designed for forests managed for the production of wood products, they are also relevant, to varying degrees, to forests managed for non-timber products and other services. The P&C are a complete package to be considered as a whole, and their sequence does not represent an ordering of priority. This document shall be used in conjunction with the FSC's Statutes, Procedures for Accreditation and Guidelines for Certifiers.

FSC and FSC-accredited certification organizations will not insist on perfection in satisfying the P&C. However, major failures in any individual Principles will normally disqualify a candidate from certification, or will lead to decertification. These decisions will be taken by individual certifiers, and guided by the extent to which each Criterion is satisfied, and by the importance and consequences of failures. Some flexibility will be allowed to cope with local circumstances.

The scale and intensity of forest management operations, the uniqueness of the affected resources, and the relative ecological fragility of the forest will be considered in all certification assessments. Differences and difficulties of interpretation of the P&C will be addressed in national and local forest stewardship standards. These standards are to be developed in each country or region involved, and will be evaluated for purposes of certification, by certifiers and other involved and affected parties on a case by case basis. If necessary, FSC dispute resolution mechanisms may also be called upon during the course of assessment. More information and guidance about the certification and accreditation process is included in the FSC Statutes, Accreditation Procedures, and Guidelines for Certifiers.

The FSC P&C should be used in conjunction with national and international laws and regulations. FSC intends to complement, not supplant, other initiatives that support responsible forest management worldwide.

The FSC will conduct educational activities to increase public awareness of the importance of the following:
improving forest management;
incorporating the full costs of management and production into the price of forest products;
promoting the highest and best use of forest resources;
reducing damage and waste; and
avoiding over-consumption and over-harvesting.

FSC will also provide guidance to policy makers on these issues, including improving forest management legislation and policies.

PRINCIPLE #1: COMPLIANCE WITH LAWS AND FSC PRINCIPLES

Forest management shall respect all applicable laws of the country in which they occur, and international treaties and agreements to which the country is a signatory, and comply with all FSC Principles and Criteria.

1.1 Forest management shall respect all national and local laws and administrative requirements.

1.2 All applicable and legally prescribed fees, royalties, taxes and other charges shall be paid.

1.3 In signatory countries, the provisions of all binding international agreements such as CITES, ILO Conventions, ITTA, and Convention on Biological Diversity, shall be respected.

1.4 Conflicts between laws, regulations and the FSC Principles and Criteria shall be evaluated for the purposes of certification, on a case by case basis, by the certifiers and the involved or affected parties.

1.5 Forest management areas should be protected from illegal harvesting, settlement and other unauthorized activities.

1.6 Forest managers shall demonstrate a long-term commitment to adhere to the FSC Principles and Criteria.

PRINCIPLE #2: TENURE AND USE RIGHTS AND RESPONSIBILITIES

Long-term tenure and use rights to the land and forest resources shall be clearly defined, documented and legally established.

2.1 Clear evidence of long-term forest use rights to the land (e.g. land title, customary rights, or lease agreements) shall be demonstrated.

2.2 Local communities with legal or customary tenure or use rights shall maintain control, to the extent necessary to protect their rights or resources, over forest operations unless they delegate control with free and informed consent to other agencies.

2.3 Appropriate mechanisms shall be employed to resolve disputes over tenure claims and use rights. The circumstances and status of any outstanding disputes will be explicitly considered in the certification evaluation. Disputes of substantial magnitude involving a significant number of interests will normally disqualify an operation from being certified.

PRINCIPLE #3: INDIGENOUS PEOPLES' RIGHTS

The legal and customary rights of indigenous peoples to own, use and manage their lands, territories, and resources shall be recognized and respected.

3.1 Indigenous peoples shall control forest management on their lands and territories unless they delegate control with free and informed consent to other agencies.

3.2 Forest management shall not threaten or diminish, either directly or indirectly, the resources or tenure rights of indigenous peoples.

3.3 Sites of special cultural, ecological, economic or religious significance to indigenous peoples shall be clearly identified in cooperation with such peoples, and recognized and protected by forest managers.

3.4 Indigenous peoples shall be compensated for the application of their traditional knowledge regarding the use of forest species or management systems in forest operations. This compensation shall be formally agreed upon with their free and informed consent before forest operations commence.

PRINCIPLE #4: COMMUNITY RELATIONS AND WORKER'S RIGHTS

Forest management operations shall maintain or enhance the long-term social and economic well-being of forest workers and local communities.

4.1 The communities within, or adjacent to, the forest management area should be given opportunities for employment, training, and other services.

4.2 Forest management should meet or exceed all applicable laws and/or regulations covering health and safety of employees and their families.

4.3 The rights of workers to organize and voluntarily negotiate with their employers shall be guaranteed as outlined in Conventions 87 and 98 of the International Labour Organisation (ILO).

4.4 Management planning and operations shall incorporate the results of evaluations of social impact. Consultations shall be maintained with people and groups directly affected by management operations.

4.5 Appropriate mechanisms shall be employed for resolving grievances and for providing fair compensation in the case of loss or damage affecting the legal or customary rights, property, resources, or livelihoods of local peoples. Measures shall be taken to avoid such loss or damage.

PRINCIPLE # 5: BENEFITS FROM THE FOREST

Forest management operations shall encourage the efficient use of the forest's multiple products and services to ensure economic viability and a wide range of environmental and social benefits.

5.1 Forest management should strive toward economic viability, while taking into account the full environmental, social, and operational costs of production, and ensuring the investments necessary to maintain the ecological productivity of the forest.

5.2 Forest management and marketing operations should encourage the optimal use and local processing of the forest's diversity of products.

5.3 Forest management should minimize waste associated with harvesting and on-site processing operations and avoid damage to other forest resources.

5.4 Forest management should strive to strengthen and diversify the local economy, avoiding dependence on a single forest product.

5.5 Forest management operations shall recognize, maintain, and, where appropriate, enhance the value of forest services and resources such as watersheds and fisheries.

5.6 The rate of harvest of forest products shall not exceed levels which can be permanently sustained.

PRINCIPLE #6: ENVIRONMENTAL IMPACT

Forest management shall conserve biological diversity and its associated values, water resources, soils, and unique and fragile ecosystems and landscapes, and, by so doing, maintain the ecological functions and the integrity of the forest.

6.1 Assessment of environmental impacts shall be completed – appropriate to the scale, intensity of forest management and the uniqueness of the affected resources -- and adequately integrated into management systems. Assessments shall include landscape level considerations as well as the impacts of on-site processing facilities. Environmental impacts shall be assessed prior to commencement of site-disturbing operations.

6.2 Safeguards shall exist which protect rare, threatened and endangered species and their habitats (e.g., nesting and feeding areas). Conservation zones and protection areas shall be established, appropriate to the scale and intensity of forest management and the uniqueness of the affected resources. Inappropriate hunting, fishing, trapping and collecting shall be controlled.

6.3 Ecological functions and values shall be maintained intact, enhanced, or restored, including:

a) Forest regeneration and succession.
b) Genetic, species, and ecosystem diversity.
c) Natural cycles that affect the productivity of the forest ecosystem.

6.4 Representative samples of existing ecosystems within the landscape shall be protected in their natural state and recorded on maps, appropriate to the scale and intensity of operations and the uniqueness of the affected resources.

6.5 Written guidelines shall be prepared and implemented to: control erosion; minimize forest damage during harvesting, road construction, and all other mechanical disturbances; and protect water resources.

6.6 Management systems shall promote the development and adoption of environmentally friendly non-chemical methods of pest management and strive to avoid the use of chemical pesticides. World Health Organization Type 1A and 1B and chlorinated hydrocarbon pesticides; pesticides that are persistent, toxic or whose derivatives remain biologically active and accumulate in the food chain beyond their intended use; as well as any pesticides banned by international agreement, shall be prohibited. If chemicals are used, proper equipment and training shall be provided to minimize health and environmental risks.

6.7 Chemicals, containers, liquid and solid non-organic wastes including fuel and oil shall be disposed of in an environmentally appropriate manner at off-site locations.

6.8 Use of biological control agents shall be documented, minimized, monitored and strictly controlled in accordance with national laws and internationally accepted scientific protocols. Use of genetically modified organisms shall be prohibited.

6.9 The use of exotic species shall be carefully controlled and actively monitored to avoid adverse ecological impacts.

PRINCIPLE #7: MANAGEMENT PLAN

A management plan -- appropriate to the scale and intensity of the operations -- shall be written, implemented, and kept up to date. The long term objectives of management, and the means of achieving them, shall be clearly stated.

7.1 The management plan and supporting documents shall provide:
a) Management objectives.
b) Description of the forest resources to be managed, environmental limitations, land use and ownership status, socio-economic conditions, and a profile of adjacent lands.
c) Description of silvicultural and/or other management system, based on the ecology of the forest in question and information gathered through resource inventories.
d) Rationale for rate of annual harvest and species selection.
e) Provisions for monitoring of forest growth and dynamics.
f) Environmental safeguards based on environmental assessments.
g) Plans for the identification and protection of rare, threatened and endangered species.
h) Maps describing the forest resource base including protected areas, planned management activities and land ownership.
i) Description and justification of harvesting techniques and equipment to be used.

7.2 The management plan shall be periodically revised to incorporate the results of monitoring or new scientific and technical information, as well as to respond to changing environmental, social and economic circumstances.

7.3 Forest workers shall receive adequate training and supervision to ensure proper implementation of the management plan.

7.4 While respecting the confidentiality of information, forest managers shall make publicly available a summary of the primary elements of the management plan, including those listed in Criterion 7.1.

PRINCIPLE #8: MONITORING AND ASSESSMENT

Monitoring shall be conducted -- appropriate to the scale and intensity of forest management -- to assess the condition of the forest, yields of forest products, chain of custody, management activities and their social and environmental impacts.

8.1 The frequency and intensity of monitoring should be determined by the scale and intensity of forest management operations as well as the relative complexity and fragility of the affected environment. Monitoring procedures should be consistent and replicable over time to allow comparison of results and assessment of change.

8.2 Forest management should include the research and data collection needed to monitor, at a minimum, the following indicators:

a) Yield of all forest products harvested.
b) Growth rates, regeneration and condition of the forest.
c) Composition and observed changes in the flora and fauna.
d) Environmental and social impacts of harvesting and other operations.
e) Costs, productivity, and efficiency of forest management.

8.3 Documentation shall be provided by the forest manager to enable monitoring and certifying organizations to trace each forest product from its origin, a process known as the "chain of custody."

8.4 The results of monitoring shall be incorporated into the implementation and revision of the management plan.

8.5 While respecting the confidentiality of information, forest managers shall make publicly available a summary of the results of monitoring indicators, including those listed in Criterion 8.2.

PRINCIPLE # 9: MAINTENANCE OF NATURAL FORESTS

Primary forests, well-developed secondary forests and sites of major environmental, social or cultural significance shall be conserved. Such areas shall not be replaced by tree plantations or other land uses.

9.1 Trees planted in natural forests may supplement natural regeneration, fill gaps or contribute to the conservation of genetic resources. Such plantings shall not replace or significantly alter the natural ecosystem.

9.2 The use of replanting as a technique for regenerating stands of certain natural forest types may be appropriate under certain circumstances. Guidelines on the acceptable intensity and spatial extent of tree planting will be addressed in national and regional forest stewardship standards to be approved by FSC. In the absence of such national or regional standards, guidelines developed by the certifier and approved by FSC will prevail.

PRINCIPLE # 10: PLANTATIONS

Plantations shall be planned and managed in accordance with Principles and Criteria 1 - 9, and Principle 10 and its Criteria. While plantations can provide an array of social and economic benefits, and can contribute to satisfying the world's needs for forest products, they should complement the management of, reduce pressures on, and promote the restoration and conservation of natural forests.

10.1 The management objectives of the plantation, including natural forest conservation and restoration objectives, shall be explicitly stated in the management plan, and clearly demonstrated in the implementation of the plan.

10.2 The design and layout of plantations should promote the protection, restoration and conservation of natural forests, and not increase pressures on natural forests. Wildlife corridors, streamside zones and a mosaic of stands of different ages and rotation periods, shall be used in the layout of the plantation, consistent with the scale of the operation. The scale and layout of plantation blocks shall be consistent with the patterns of forest stands found within the natural landscape.

10.3 Diversity in the composition of plantations is preferred, so as to enhance economic, ecological and social stability. Such diversity may include the size and spatial distribution of management units within the landscape, number and genetic composition of species, age classes and structures.

10.4 The selection of species for planting shall be based on their overall suitability for the site and their appropriateness to the management objectives. In order to enhance the conservation of biological diversity, native species are preferred over exotic species in the establishment of plantations and the restoration of degraded ecosystems. Exotic species, which shall be used only when their performance is greater than that of native species, shall be carefully monitored to detect unusual mortality, disease, or insect outbreaks and adverse ecological impacts.

10.5 A proportion of the overall forest management area, appropriate to the scale of the plantation and to be determined in regional standards, shall be managed so as to restore the site to a natural forest cover.

10.6 Measures shall be taken to maintain or improve soil structure, fertility, and biological activity. The techniques and rate of harvesting, road and trail construction and maintenance, and the choice of species shall not result in long term soil degradation or adverse impacts on water quality, quantity or substantial deviation from stream course drainage patterns.

10.7 Measures shall be taken to prevent and minimize outbreaks of pests, diseases, fire and invasive plant introductions. Integrated pest management shall form an essential part of the management plan, with primary reliance on prevention and biological control methods rather than chemical pesticides and fertilizers. Plantation management should make every effort to move away from chemical pesticides and fertilizers, including their use in nurseries. The use of chemicals is also covered in Criteria 6.6 and 6.7.

10.8 Appropriate to the scale and diversity of the operation, monitoring of plantations shall include regular assessment of potential on-site and off-site ecological and social impacts, (e.g. natural regeneration, effects on water resources and soil fertility, and impacts on local welfare and social well-being), in addition to those elements addressed in principles 8, 6 and 4. No species should be planted on a large scale until local trials and/or experience have shown that they are ecologically well-adapted to the site, are not invasive, and do not have significant negative ecological impacts on other ecosystems. Special attention will be paid to social issues of land acquisition for plantations, especially the protection of local rights of ownership, use or access.

Principles 1-9 were ratified by the FSC Founding Members and Board of Directors in September 1994. Principle 10 was ratified by the FSC Members and Board of Directors in February 1996.

APPENDIX C

SUMMARY OF SILVA FOREST FOUNDATION STANDARDS FOR ECOLOGICALLY RESPONSIBLE TIMBER MANAGEMENT

SUMMARY
of
Silva Forest Foundation Standards for Ecologically Responsible Timber Management

July 1998

I. THE SILVA FOREST FOUNDATION AND ECOSYSTEM-BASED CERTIFICATION

The Silva Forest Foundation (SFF)'s involvement in forest certification began in 1992 when, in co-operation with the Ecoforestry Institute Society (Canada), we researched and wrote a report on the status of forest certification throughout the world. In October 1993 we were founding members of the Forest Stewardship Council (FSC) at its initial meeting in Toronto.

In 1994 we published our first set of standards for ecologically responsible forest use and timber management. These standards guided our first certification in late 1995 of a portion of the Ministry of Forests' Small Business Forest Enterprise Program in Vernon, British Columbia.

We have been working on standards writing in a variety of circumstances since 1993. In 1994 the Silva Forest Foundation became part of the Pacific Certification Council (PCC), a network of certifiers in northern California, Oregon, and British Columbia. On behalf of the PCC, we drafted a detailed set of standards to guide certifications throughout the region. These draft standards were sent out for extensive stakeholder review in both the United States and Canada. In 1997 the PCC was unable to obtain funding to continue its activities and a number of PCC network members from the United States joined the Smart Wood Network.

The Silva Forest Foundation has spent considerable time incorporating reviews of the PCC draft standards and revising those standards. The *SFF Standards for Ecologically Responsible Timber Management (SFF Standards)* document is the result of these efforts. We have now submitted that document to the Forest Stewardship Council as part of our application for FSC accreditation.

The *SFF Standards* represent a significant change from conventional timber management standards. Therefore, we are preparing a scientific rationale document that supports our standards. If you would like a copy of the rationale document, please let us know.

The Board of Directors of the Silva Forest Foundation wishes to express its sincere appreciation to fellow director Herb Hammond and to SFF's Certification Program Manager, Mark Kepkay, for the incredible amount of work that has gone into the current proof of the standards. Thank

you also to the many people who provided thoughtful and critical feedback to previous versions of the standards.

SFF's certification standards will be a work in progress for the foreseeable future as we monitor certified forest operations over time and learn more. If you have suggestions for improvement to the standards, please let us hear from you.

Who Is The Silva Forest Foundation (SFF)?
The Silva Forest Foundation is a non-profit society actively involved in promoting and carrying out ecologically responsible forest use.

SFF includes among its directors, advisors, and associates people with extensive experience in ecology, biology, logging, forestry, and land use planning. These people have been pioneers in developing the philosophy and practice of ecosystem-based or ecologically responsible forest use. This diversity of complementary skills has enabled us to develop practical standards for forest use that can be expected to protect not only forest ecosystems but also the local human communities that are sustained by forests.

Members of SFF are committed to frequent evaluation of our activities and the activities that we certify to determine whether these activities comply with SFF Elements and Standards of ecologically responsible forest use and timber management summarised in this document.

SFF Values and Vision

High levels of social and economic health are maintained by protecting ecosystems and natural capital, which are the foundation for societies and economies. SFF believes that the primary concern of forest use must be the protection, maintenance, and, where necessary, restoration of fully functioning forests for the welfare of all beings and the whole forest. Ecosystem character (how a natural forest functions) and condition (how human use has impacted forest functioning) form the context within which social and economic criteria are designed and adjusted.

SFF does not value human life less than that of other species, but we do recognise that human social and economic welfare in forest ecosystems, like the welfare of all forest organisms, *depends* on the welfare of the forest ecosystem as a whole. Fully-functioning forests provide, for example, the clean water and air, building materials, food, clothing, and spiritual grounding that are essential to human physical and spiritual health. Other human or natural resources available on Earth cannot build systems that adequately replace these and other natural forest functions with human-designed production. The human animal, like other species, has adapted to the earth's design, and our survival depends on the continued integrity of that design.

Within the context of the protection, maintenance, and restoration of fully functioning forests, the unique issues of human communities and their economic activities must, of course, be addressed. Unstable communities produce human suffering and ecosystem degradation. Therefore, the *SFF Standards* include social and economic standards.

II. THE PURPOSE OF THIS SUMMARY DOCUMENT

This document is a summary of the *SFF Standards*, and provides an introduction to the general requirements for certification. A thorough presentation of *SFF Standards* is not provided in this summary.

The *SFF Standards* arise from a set of values that are fundamentally different from those that guide conventional timber management. The *SFF Standards* describe an ecosystem-based approach to timber management which is guided by the Elements Of Ecologically Responsible Forest Use:

Elements Of Ecologically Responsible Forest Use

1. Focus on what to leave, not on what to take.
2. Apply the precautionary principle to all plans and activities.
3. Protect the forest functioning by planning at all scales of time and space.
4. Respect the forest's ecological limits to human disturbance.
5. Ensure that all plans and activities protect, maintain, and, where necessary, restore natural biological diversity (i.e. genetic, species, and community diversity).
6. Protect, maintain, and, where necessary, restore natural composition, structures, and functioning at both the landscape and the stand levels.
7. Protect, maintain, and, where necessary, restore forest ecosystem connectivity at all scales of time and space during planning and implementation of forest activities.
8. Apply the concept of landscape to the forest organism or process under consideration.
9. Plan and carry out diverse activities to encourage ecological, social, and economic well-being.
10. Ensure that all forest use activities respect, protect, and provide for the independent maintenance and evolution of First Nation cultures, both traditional and current.
11. Evaluate the success of all forest use activities in meeting the requirements and goals of ecological responsibility.

The *SFF Standards* outline a vision, or a goal, for timber management activities. For initial certification, perfect compliance with *SFF Standards* is not required. However, certain entry-

level minimum requirements must be met. As well, in order to maintain certification, once awarded, certified operations must demonstrate constant efforts to improve performance relative to the *SFF Standards*.

In reading through this Summary, keep in mind that the *SFF Standard* are applied in a flexible manner, in order to provide local, site-specific interpretations. Exceptions to particular standards may be permitted, if based on sound assessments of ecological, social, or economic impacts. This flexibility is provided by the Evaluation Scoring Checklist (Checklist), which is used by SFF to evaluate applicants for certification. In many cases, a low score on a particular point in the Checklist can be offset by a high score on another point. For a detailed understanding of how the scoring system works, see the SFF Evaluation Scoring Checklist.

While flexibility is important, to be certified ecoforesters must also err on the side of protecting, maintaining, and/or restoring ecosystem functioning at all scales through time.

Operations wishing to apply for certification fall into two categories:

1. *Whole-forest managers* – these are, generally, enterprises that have control over at least 1,000 hectares of forest.
2. *Small-holders* – enterprises that have control over less than 1,000 hectares of forest.

Whole-forest managers seeking certification are responsible for standards summarised in this document under the heading "Whole-Forest Applicants", as well as for those described under "All Applicants". Small-holders are only responsible for the standards described under "All Applicants". While the certification requirements for each category of operation are different, the end result of certification is the same: full SFF endorsement.

III. SUMMARY OF STANDARDS FOR ECOLOGICALLY RESPONSIBLE TIMBER MANAGEMENT

1. CHARACTER AND CONDITION OF LANDSCAPE AND STAND

All Applicants:

The first step in ecologically responsible timber management is taking a good look at the forest. Before developing a timber-management plan, applicants must complete an assessment of the forest. At the stand level, this assessment includes a description of stand "character" – how the natural forest would be expected to look over time. This description includes the variety of live and dead plants and animals ("forest composition"), the way these plants and animals are arranged ("forest structures"), and the roles played by various parts of the forest ("forest functioning"). Basically, the stand character description explains how the forest works in the absence of industrial activities.

Once completed, the description of stand character is used as a benchmark for describing current forest functioning. This assessment results in a description of stand "condition" – the cumulative impacts to natural forest composition, structures, and functioning from human exploitation or modification.

Based upon stand character and condition, the stand-level assessment also includes a description of rare, threatened and endangered genetic strains, species and/or ecosystems within the stand, and an assessment of the needs for restoration and protection of specific forest composition, structures, and functioning.

Whole-Forest Applicants:

Whole-forest applicants must also complete a landscape-level assessment, including an analysis of landscape character and condition; an assessment of ecological limits to human use in each ecosystem within the landscape; an assessment of whether old growth may be cut without significant ecological degradation; and identification of rare, threatened and endangered genetic strains, species and/or ecosystem types within the landscape.

2. THE STAND AND LANDSCAPE PLANS

All Applicants:

After the assessments of forest character and condition have been completed, applicants

are in the position to produce a plan for ecologically responsible timber management activities. All applicants must produce a stand-level plan that describes and accounts for all the potential effects of timber management activities, over both the short and long term.

All plans must accommodate the aboriginal rights and title of First Nations.

In addition to documenting the information gathered during the assessment process, the stand-level plan also must include:

- evidence of legal rights and obligations
- a vision statement and list of related goals
- objectives related to natural disturbances (such as fire or wind); soil; hydrological functions (the movement of water); unique/sensitive ecosystems; healthy human communities; and the operation's economic viability
- maps and descriptions of all management activities and measures for protecting forest composition, structures and functioning
- estimates of ecologically sustainable levels of timber extraction
- planned annual rate and species for timber cutting
- maps, descriptions and reasons for extraction methods, silvicultural practices, felling guidelines, and deactivation procedures
- a summary of the social and economic needs of local communities
- training programs for staff
- a description of research plans
- provisions for plan review and revision
- identification of indicators (both "early-warning" and long-term) of success in meeting the plan's objectives

Whole-Forest Applicants:

Whole-forest applicants must, prior to creating their stand-level plan, prepare a landscape-level plan. When completed, this landscape-level plan forms the context for stand-level planning and activities. The landscape-level plan addresses many of the same issues as the stand-level plan, but does so from a landscape perspective. Usually a landscape plan encompasses the entire holding under consideration.

The landscape-level plan needs to include:

- maps and descriptions of:
    - ⇒ landscape character and condition
    - ⇒ ecological limits
    - ⇒ rare, threatened, or endangered genetic strains, species, or ecosystem types
    - ⇒ protected landscape networks (as described below) and other protective measures

⇒ ecologically responsible forest use zones
⇒ any large reserves
⇒ proposed access roads and infrastructure

- a description of objectives related to the various ecosystem types found within the landscape; natural disturbances; soil; hydrological functions; unique/sensitive ecosystems; healthy human communities; and the operation's economic viability
- an estimate of ecologically sustainable levels of timber extraction

3. STAND-LEVEL STANDARDS

All Applicants:

Protected Stand Network

The protected stand network is a system of small reserve areas designed to protect and, where necessary, restore the full range of ecosystem composition, structure, and functioning found in natural, or unmodified, stands. With this in mind, the protected stand network includes:

- *riparian ecosystems (areas surrounding creeks, rivers, lakes and wetlands)*
- *ecologically sensitive areas (including places with steep or broken slopes, high elevation, very dry or wet conditions, shallow soils, or that are dominated by snow)*
- *old growth trees or patches of old growth*
- *uncommon wildlife habitat niches or small ecosystem types*
- *ecological resources needed by genetic strains or species that are rare, endangered or threatened at the local landscape or regional level*
- *small-scale connectivity that provides for the movement of native plants and animals at all life stages*

Stand Composition and Structures to be Permanently Reserved from Cutting

Applicants must permanently reserve at least 25 percent of the dominant trees from cutting (although an entry-level minimum of ten percent is acceptable). As well, three large snags, or standing dead trees, per hectare (with an entry-level minimum of one per hectare), and six large fallen trees per hectare (or the original count, whichever is lower) are also preserved.

Protection of Soil and Water

Applicants need to ensure that soil and water composition, structures and functioning are protected and maintained within their natural range of variability.

Pesticides, Fertilisers, and Other Chemicals

Pesticides, synthetic fertilisers, and other chemicals must not be used, except for ecologically justified restoration purposes.

Roads and Other Constructed Features

All constructed features must be located and built so as to minimise ecosystem degradation, and to maintain full forest functioning. In support of this general goal, design and construction needs to be carried out in a way that prevents or minimises soil compaction, soil erosion, soil displacement, water siltation and pollution, and the concentration of water. Specific requirements include:

- *mechanical disturbance of soil must be less than seven percent of the cutting area*
- *the right-of-way for roads must generally be less than 12 metres*
- *roads must be designed to maintain near-natural drainage patterns*
- *riparian ecosystem crossings must be designed to minimise impact*
- *roads must be designed as permanent fixtures*
- *road use must only occur when seasonal and weather conditions permit travel without ecological damage*
- *road maintenance must be ongoing*

Logging Systems

Applicants are permitted to use ground-based logging systems in areas where slopes do not exceed 30 percent. If the slope is between 30 and 45 percent, and well-spaced slope breaks exist, ground-based logging may still be appropriate. Otherwise, cable yarding and/or aerial yarding must be used. If the slope is between 45 and 60 percent, only cable yarding and/or aerial yarding is appropriate. If the slope exceeds 60 percent, logging generally must not occur. When ground-based systems are used, soil disturbance must be limited to seven percent of the cutting unit. With cable/aerial systems, only five percent disturbance is permitted.

Pollution and Waste Control

Applicants must maintain equipment and constructed features so that air, water and soil pollution is minimised. As well, any toxic or inorganic waste needs to be properly disposed of.

Ecologically Responsible Cutting Rates and Patterns

Ecologically responsible cutting rates and patterns are determined within the context of landscape character and condition, of maintaining permanent tree composition and structure, of protected stand networks, and of the natural disturbance and successional patterns (the natural process of change after trees die).

There are two general forms of ecologically responsible cutting patterns: Uniform Partial Cut, and Small Patch Cuts with Canopy Retention Areas. However, variations on these and other patterns may be acceptable, depending on the character and condition of the specific stand and landscape in question.

Regardless of cutting pattern employed:

- the frequency of entry must be lower where volume per cut is higher
- each cut must maintain, or if necessary, restore, the natural range of variability in tree species, tree size, tree age, and spatial distribution of trees

- the cutting rate over any ten year period must not exceed 75 percent of the total growth during that period
- whole tree logging (the removal of the entire tree, including branches and crown, from the forest) must not occur
- extraction methods must limit the damage to trees left standing

Generally, cutting must not remove more than 10-20 percent of the merchantable trees in any one entry.

Tree Age and Tree Selection

When choosing which trees to cut, emphasis must be placed more on successional patterns and forest history, than simply on tree age. The selection of trees to be cut needs to maintain or, where necessary, restore the natural range of variability in tree species, tree ages, and tree spatial distribution.

High-grading must not occur.

In stands where natural disturbance has been suppressed (such as fire suppression), the relatively young trees may be removed. As well, thinning and pruning may occur, either to develop sources of high-quality wood, or to restore natural composition, structure and functioning. In all cases, cutting in mature stands only occurs when such cutting will not degrade overall forest functioning, and when the trees have good economic value.

Tree Regeneration

Natural regeneration offers the most effective means of maintaining genetic and species diversity. The natural and successional processes needs to be respected and maintained during regeneration.

Tree planting generally may be used only in certain situations, for example where natural regeneration is ecologically inadequate. When planting does occur, stock must be suited to the site conditions. Site preparation (such as burning) needs to be justified from a site-specific, ecosystem-based perspective. In all cases, non-native (exotic) or genetically-engineered species must not be introduced or encouraged to spread.

Planning and Managing for Non-Timber Species and Natural Disturbances

Applicants must demonstrate a good understanding of the ecological functions and values of what are commonly called "pests" (e.g. diseases, insects, and mammals) and "non-commercial" tree species. Populations and influences of "pests" and "non-commercial species" must be maintained within ranges of natural variability for the ecosystem type. Expectation of human benefits from the forest needs to be consistent with "pest" activity, with "non-commercial species" needs, and with relatively predictable natural disturbances.

Salvage operations must protect and maintain natural ranges of variability in composition, structures, and functioning. Live trees need to be left standing during salvage operations. No

more than 50 percent of the standing and fallen dead trees – well distributed spatially by size and by species – may be extracted after a large-scale disturbance.

4. LANDSCAPE-LEVEL STANDARDS

Whole-Forest Applicants:

In addition to the stand-level standards, whole-forest applicants must also meet the following landscape-level standards:

Protected Landscape Network
This is a system of reserves designed to protect the full range of ecosystem composition, structure, and functioning found in a landscape. The Protected Landscape Network is similar in parts and purpose to the Protected Stand Network (above), but at a larger scale.

Included in this protected network are:

- riparian ecosystems
- ecologically sensitive sites
- old growth nodes
- a representative range of all ecosystem types
- adequate additional reserves for the protection of rare, threatened, or endangered genetic strains, species, or ecosystem types
- cross-valley corridors or landscape linkages

In landscapes of 20,000 hectares or more, the Protected Landscape Network also includes whole protected watersheds.

Ecologically Responsible Forest Use Zones
Once the protected landscape network has been established, ecologically responsible forest use zones must be located – generally in areas between the parts of the protected network (like holes in Swiss cheese). Within these zones, a diversity of forest uses must be encouraged, without degrading forest functioning, in order to benefit as many interests as possible.

As well as timber management, ecologically responsible forest uses may include:

- cultural and spiritual uses
- watershed protection
- wildcrafting (harvesting non-timber forest products such as berries or herbs)
- tourism
- some conversion zones (areas converted to non-forest uses such as agriculture or settlement)

Access Systems

Applicants must plan the landscape's overall road and access system to minimise soil, water, and ecosystem degradation. Planning must prevent or avoid soil compaction, soil erosion, soil displacement, water siltation and pollution, and concentration of water.

Large Landscape Reserves

Timber management enterprises responsible for landscapes in excess of 100,000 hectares, must permanently protect large landscape reserves which represent at least 20 percent of the landscape. These reserves incorporate entire watersheds (preferably as unmodified as possible), and aim to represent the full range of ecosystem types found naturally in the greater landscape or region.

5. RESTORATION STANDARDS

All Applicants:

If assessment of the landscape and stand condition reveals that restoration is necessary, the focus should be on assisting, rather than fixing, natural forest processes. Within this context, restoration activities need to be carried out at all possible scales, and must strive to re-establish forest functioning by re-introducing natural composition and structure.

Restoration approximates both the spatial and time aspects of natural succession and disturbances. Restoration activities that alter natural forest composition or structures generally must not be carried out. Exotic species need to be avoided, unless these are the only means for moving the landscape and stand closer to a natural condition.

Previously clearcut young stands may be certified only if there is an active restoration program in place that complies with applicable SFF Restoration Standards.

6. SOCIAL STANDARDS

All Applicants:

All certified timber management activities must be socially, as well as ecologically, responsible. Socially responsible timber management provides for the balanced use of forests, and accommodates the diverse needs of humans and non-humans. The standards for social responsibility include the following:

Compliance with Laws and with *SFF Standards*
Applicants must comply with all applicable laws and regulations. As well, applicants must demonstrate a long-term commitment to following *SFF Standards* for Ecologically Responsible Timber Management.

First Nations
British Columbia and Canada have not negotiated treaties with most First Nations in British Columbia. Therefore, the province is largely unceded First Nations land. In other parts of Canada, treaties exist or are in various stages of negotiation. First Nations have special rights, and a special relationship with the forests and other ecosystems comprising the lands and waters of their territories. With this situation in mind, First Nations' aboriginal rights and title, experience, knowledge, practices and insights must be fairly and fully considered and accommodated in the planning and practices of all applicants.

Local Communities
Local communities, including First Nations, must be given fair opportunity to participate in decision-making, and in the equitable distribution of timber and non-timber benefits. Communities with legal or customary tenure rights must maintain control over timber management activities, unless such control is delegated in a free and informed manner.

Applicants need to establish and maintain consultation with people affected by management activities. As well, recreational, educational, and subsistence uses of the forest must be allowed whenever possible; and timber management must be designed to provide long-term local employment and to promote long-term community stability.

Workers' Rights
All employees need to be provided with:

- fair compensation and benefit packages
- high standards for employee health and safety
- freedom from discriminatory employment practices
- freedom to organise
- opportunity to participate in, and give feedback on, management decisions and policies

7. ECONOMIC STANDARDS

All Applicants:

Applicants need to account for the full ecological, social, and financial costs and benefits of operations. Applicants must also secure enough human and financial resources to implement ecologically responsible landscape-level and stand-level plans. As well, all timber that is cut should be utilised as fully as possible. Local value-added production should be maximised; wastage must be kept to a minimum; and markets for under-utilised species should be actively pursued.

8. MONITORING STANDARDS

All Applicants:

All applicants must monitor and evaluate the ecological, social, and economic impacts of activities, at least once a year. Monitoring needs to include indicators such as:

- volumes of forest products
- tree growth rates
- changes in forest composition
- costs of timber management
- protection of reserved areas

The results of monitoring must then be incorporated into revisions to landscape and stand-level plans.

IV. HOW TO FIND OUT MORE

For more information about the SFF Certification Program, contact Mark Kepkay or Susan Hammond at:

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REFERENCES

Personal Communications

Beckett, Lara. 1998. BC Regional Coordinator, Canadian Initiative, Forest Stewardship Council. Telephone conversation with author, 24 March.

Burda, Cheri. 1998. Researcher, Eco-Research Chair of Environmental Law and Policy, University of Victoria. Telephone conversation with author, 16 March.

Dickey, Eugene. 1997. Co-founder, EcoTimber International. Conversation with author, 16 December.

Hammond, Susan. 1998. Executive Director, Silva Forest Foundation. Telephone conversation with author, 10 March.

Kepkay, Mark. 1998. Certification Program Manager, Silva Forest Foundation. Telephone conversation with author, 11 March.

Levy, Marcelo. 1998. Coordinator, Canadian Initiative, Forest Stewardship Council. Telephone conversation with author, 19 March.

Omenn, Jason. 1998. Environmental Home Center. Conversation with author, 16 January.

Stark, Tamara. 1998. Forest Campaigner, Greenpeace Canada. Conversation with author, 11 March.

Weiler, Virginia. 1998. Economic Development Officer, EcoTrust Canada. Conversation with author, 30 March.

Wilkinson, Mervyn. 1998. Ecoforester. Telephone conversation with author, 18 March.

Printed Material

Agee, James. 1997. Fire in our future. Chap. 12 in *Ecoforestry: The Art and Science of Sustainable Forest Use,* edited by Alan Rike Drengson and Duncan MacDonald Taylor. Gabriola Island, BC: New Society Publishers.

Athanasiou, Tom. 1996. *Divided Planet: The Ecology of Rich and Poor.* Boston: Little, Brown and Company.

Baharuddin, Hj.G. 1994. Timber certification: an overview. [http://www.fao.org/WAICENT/faoinfo/forestry/unasylva/183/e/183-03e.htm]. Rome: Food and Agriculture Organization of the United Nations.

Bahro, Rudolf. 1994. *Avoiding Social and Ecological Disaster: The Politics of World Transformation.* Bath, UK: Gateway Books.

Banighen, Tyhson. 1997. An ecoforestry land stewardship trust model. Chap. 31 in *Ecoforestry: The Art and Science of Sustainable Forest Use,* edited by Alan Rike Drengson and Duncan MacDonald Taylor. Gabriola Island, BC: New Society Publishers.

Barnes, Mike and Twila Jacobsen. 1997. Certifying ecologically responsible forest use and restoration: future direction and the ecoforestry movement. Chap. 30 in *Ecoforestry: The Art and Science of Sustainable Forest Use,* edited by Alan Rike Drengson and Duncan MacDonald Taylor. Gabriola Island, BC: New Society Publishers.

Bookchin, Murray. 1980. *Toward and Ecological Society.* Montreal: Black Rose Books.

———. 1987. *The Modern Crisis.* Montreal: Black Rose Books.

———. 1993. What is social ecology? In *Radical Environmentalism: Philosophy and Tactics*, edited by Peter C. List. Belmont, CA: Wadsworth Publishing.

———. 1995. *The Philosophy of Social Ecology: Essays on Dialectical Naturalism.* Montreal: Black Rose Books.

Boucher, Norman. How to have your wood and your forest too. *National Wildlife* 35, no. 5 (August-September): 24-28.

Brecher, Jeremy and Tim Costello. 1994. *Global Village or Global Pillage: Economic Restructuring from the Bottom Up.* Boston: South End Press.

Burda, Cheri, Deborah Curran, Fred Gale, and Michael M'Gonigle. 1997. *Forests in Trust: Reforming British Columbia's Forest Tenure System for Ecosystem and Community Health*, Report R97-2. Victoria, BC: Eco-Research Chair of Environmental Law and Policy, University of Victoria.

Cabarle B. and A. Ramos de Freitas. 1994. Timber certification and the pursuit of credible claims. [http://www.fao.org/WAICENT/faoinfo/forestry/unasylva/183/e/183-04e.htm]. Rome: Food and Agriculture Organization of the United Nations.

Cabarle, Bruce, Robert J. Hrubes, Chris Elliot, and Timothy Synnott. 1995. Certification and accreditation: the need for credible claims. *Journal of Forestry* 93, no. 4 (April): 12-16.

Camp, Orville. 1997. Critical elements of forest sustainability. Chap. 1 in *Ecoforestry: The Art and Science of Sustainable Forest Use,* edited by Alan Rike Drengson and Duncan MacDonald Taylor. Gabriola Island, BC: New Society Publishers.

Cartwright, David. 1994. *British Columbia Forest Products Industry: Production, Markets, Competition and Competitiveness*, a study prepared under the direction of the Working Group to the Opportunity Identification Program of the Canada-British Columbia Partnership Agreement on Forest Resource Development. Victoria, BC: Canada-British Columbia Partnership Agreement on Forest Resource Development.

Centeno, Julio Cesar. 1996. Forest certification as a tool for green washing. [http://www.cedar.univie.ac.at/archives/infoterra/msg00331.html].

Cernetig, Miro. 1998. BC's boom goes bust. *Toronto Globe and Mail*, 21 March.

Certified Forest Products Council. 1998. Good Wood directory: certified manufacturers. [http://www.goodwood.org/goodwood/goodwood_list/certmanu.html].

Chatterjee, Pratap and Matthias Finger. 1994. *The Earth Brokers: Power, Politics and World Development.* London: Routledge.

Clarke, Tony. 1997. MAI-Day! The Corporate Rule Treaty. [http://www.policyalternatives.ca/mai.html]. Ottawa: The Centre For Policy Alternatives.

Clarke, Tony and Maude Barlow. 1997. *MAI: The Multilateral Agreement on Investment and the Threat to Canadian Sovereignty.* Toronto: Stoddart Publishing.

Costanza, Robert, Herman E. Daly, and Joy A. Bartholomew. 1991. Goals, agenda and policy recommendations for ecological economics. Chap.1 in *Ecological Economics: The Science and Management of Sustainability*, edited by Robert Costanza. New York: Columbia University Press.

Cronon, William. 1995. The trouble with wilderness; or, getting back to the wrong nature. In *Uncommon Ground: Toward Reinventing Nature*, edited by William Cronon. New York: W.W. Norton & Company.

Curran, Deborah, and Michael M'Gonigle. 1997. *Aboriginal Forestry: Community Management as Opportunity, and Imperative*, Discussion Paper D97-7. Victoria, BC: Eco-Research Chair of Environmental Law and Policy, University of Victoria.

Daucey, Guy. 1993. Yes, it can be done. *Ecoforestry Report* 1 (spring).

Deacon, Robert T. 1985. The simple analytics of forest economics. Chap 11. In *Forestlands: Public and Private*, edited by Robert T. Deacon and M. Bruce Johnson. Cambridge, Mass.: Ballinger Publishing Company.

Dellert, Lois H.. 1991. What is British Columbia's timber supply forecast to the year 2050? In *Canada's Timber Resources*, edited by David G. Brand. Chalk River, Ont.: Forestry Canada.

Donovan, Richard Z. 1996. Role of NGOs. Chap. 8 in *Certification of Forest Products: Issues and Perspectives,* edited by Virgílio M. Viana, Jamison Ervin, Richard Z. Donovan, Chris Elliott, and Henry Gholz. Washington: Island Press.

———. 1997. Timber certification today: fact or fad? [http://id.mind.net/~roguinst/riee5.html]. Ashland, OR: Rogue Institute of Ecology and Economy.

Dowie, Mark. 1995. *Losing Ground: American Environmentalism at the Close of the Twentieth Century.* Cambridge: MIT Press.

Drengson, Alan. 1997. A model for community economic systems based on ecoforestry. Chap 33 in *Ecoforestry: The Art and Science of Sustainable Forest Use,* edited by Alan Rike Drengson and Duncan MacDonald Taylor. Gabriola Island, BC: New Society Publishers.

Drengson, Alan and Duncan Taylor. 1997. Introduction: an overview of ecoforestry. In *Ecoforestry: The Art and Science of Sustainable Forest Use,* edited by Alan Rike Drengson and Duncan MacDonald Taylor. Gabriola Island, BC: New Society Publishers.

Drescher, Jim. 1997. The economics of ecoforestry. Chap. 32 in *Ecoforestry: The Art and Science of Sustainable Forest Use,* edited by Alan Rike Drengson and Duncan MacDonald Taylor. Gabriola Island, BC: New Society Publishers.

Drushka, Ken. 1993. Forest tenure: forest ownership and the case for diversification. In *Touch Wood: BC Forests at the Crossroads.* Madeira Park, BC: Harbour Publishing.

Elliott, Chris. 1996. Certification as a policy instrument. Chap 7 in *Certification of Forest Products: Issues and Perspectives,* edited by Virgílio M. Viana, Jamison Ervin, Richard Z. Donovan, Chris Elliott, and Henry Gholz. Washington: Island Press.

Elliott, Chris and Virgílio M. Viana. 1996. Potential Inequalities and Unintended Effects of Certification. Chap. 11 in *Certification of Forest Products: Issues and Perspectives,* edited by Virgílio M. Viana, Jamison Ervin, Richard Z. Donovan, Chris Elliott, and Henry Gholz. Washington: Island Press.

Ervin, Jamison and Chris Elliott. 1996. The Development of Standards. Chap 3. in *Certification of Forest Products: Issues and Perspectives,* edited by Virgílio M. Viana, Jamison Ervin, Richard Z. Donovan, Chris Elliott, and Henry Gholz. Washington: Island Press.

Escobar, Arturo. 1995. *Encountering Development: The Making and Unmaking of the Third World.* Princeton: Princeton University Press.

Forman, Gideon. 1997. The forest for the trees. Review of *Ecoforestry: The Art and Science of Sustainable Forest Use,* edited by Alan Dregson and Duncan Taylor. *Canadian Forum* 76, no. 865 (December): 44-46.

Foster, John Belamy. 1994. *The Vulnerable Planet: A Short Economic History of the Environment.* New York: Monthly Review Press.

Foucault, Michel. 1984. *Discipline and Punish: The Birth of the Prison.* Harmondsworth, UK: Penguin Books.

Frank, Andre Gunder. 1966. The development of underdevelopment. In *Development Studies: A Reader*, edited by Stuart Corbridge. London: Edward Arnold. First published in *Monthly Review* (September 1966).

Freed, James. 1997. Special forest products: past, present, and future. Chap. 21 in *Ecoforestry: The Art and Science of Sustainable Forest Use,* edited by Alan Rike Drengson and Duncan MacDonald Taylor. Gabriola Island, BC: New Society Publishers.

FSC. 1996. *Principles and Criteria for Forest Stewardship*, document 1.2. Oaxaca, Mexico: The Forest Stewardship Council.

———. 1998. *FSC Accredited Certification Bodies*, document 5.3.1 (2.2). Oaxaca, Mexico: The Forest Stewardship Council.

FSC-US. 1998. FSC Coordination & Planning Underway. [http://www.fscus.org/fscusnl_V02_I0106.html]. Waterbury, VT: Forest Stewardship Council U.S.

Gale, Fred. 1996. *Ecoforestry Bound? How International Trade Agreements Could Constrain the Adoption of an Ecosystem-based Approach to Forestry in BC*, Discussion Paper D96-7. Victoria, BC: Eco-Research Chair of Environmental Law and Policy, University of Victoria.

Gale, Fred and Cheri Burda. 1996. *Attitudes Towards Eco-Certification in the BC Forest Products Industry,* Report R96-3. Victoria, BC: Eco-Research Chair of Environmental Law and Policy, University of Victoria.

Gibson, Robert M., Donald H.M. Alexander, and Ray Tomalty. 1997. Putting cities in their place: ecosystem-based planning for Canadian urban regions. Chap.3 in *Eco-City Dimensions: Healthy Communities, Healthy Planet,* edited by Mark Roseland. Gabriola Island, BC: New Society Publishers.

Goldsmith, Alexander. 1996. Seeds of exploitation: free trade zones in the global economy. Chap. 23 in *The Case Against the Global Economy,* edited by Jerry Mander and Edward Goldsmith. San Francisco: Sierra Club Books.

Green, Tom. 1997. Cloning planet earth: what can natural selection tell us about the economics of biodiversity? *Global Biodiversity* 7, no. 2 (Fall): 37-43.

Greenpeace. 1995. *Clearcut-free? Just Did It.* Vancouver: Greenpeace Canada.

———. 1997. *Broken Promises: The Truth About What's Happening to British Columbia's Forests.* Vancouver: Greenpeace Canada.

———. 1998. Major UK company cancels rainforest contract in response to Greenpeace action. Press Release, 26 March.

Groves, Michael, Frank Miller and Richard Z. Donovan. 1996. Chain of custody. Chap. 6 in *Certification of Forest Products: Issues and Perspectives,* edited by Virgílio M. Viana, Jamison Ervin, Richard Z. Donovan, Chris Elliott, and Henry Gholz. Washington: Island Press.

Halstead, Ted, and Clifford Cobb. 1996. The need for new measurements of progress. Chap. 17 in *The Case Against the Global Economy,* edited by Jerry Mander and Edward Goldsmith. San Francisco: Sierra Club Books.

Hamilton, Gordon. 1998a. Desperate BC boosts overseas log shipments. *Vancouver Sun*, 5 February.

———. 1998b. BC stands to lose $1 billion in predicted forestry slump. *Vancouver Sun*, 11 March.

———. 1998c. Forest industry settles stumpage rate cut split. *Vancouver Sun*, 23 March.

———. 1998d. 2,700 jobs disappearing as MB returns to basics. *Vancouver Sun*, 22 January.

Hammond, Herb. 1991. *Seeing the Forest Among the Trees: The Case for Wholistic Forest Use.* Vancouver: Polestar Press Ltd..

———. 1997a. Standards for ecologically responsible forest use. Chap. 28 in *Ecoforestry: The Art and Science of Sustainable Forest Use,* edited by Alan Rike Drengson and Duncan MacDonald Taylor. Gabriola Island, BC: New Society Publishers.

———. 1997b. What is ecoforestry? *Global Biodiversity* 7, no.2 (Fall): 3-7.

Hammond, Herb and Susan Hammond. 1997. What is certification? Chap. 26 in *Ecoforestry: The Art and Science of Sustainable Forest Use,* edited by Alan Rike Drengson and Duncan MacDonald Taylor. Gabriola Island, BC: New Society Publishers.

Hammond, Susan. 1995. Greenpeace and the Silva Forest Foundation announce Canada's first wood certification. *British Columbia Environmental Report* 6, no. 4 (winter): 31.

Hogben, David. 1998. Western seeks certification to satisfy European buyers. *Vancouver Sun,* 5 June.

Hunter, Jennifer. 1997. Worried in the woods. *Macleans* 110, no. 50 (December 15): 34-35.

———. 1998. Swinging the axe. *Macleans* 111, no. 7 (February 16): 38-40.

Jackson, Dorothy. 1996. Can the market save the forest? *Taiga News* 16 (February).

Jäggi, Monika and L. Anders Sandberg. 1997. Sustainable forestry at the crossroads: hard lessons for the world. Chap. 18 in *Ecoforestry: The Art and Science of Sustainable Forest Use,* edited by Alan Rike Drengson and Duncan MacDonald Taylor. Gabriola Island, BC: New Society Publishers.

Johnson, Kirk. 1993. *Beyond Polarization: Emerging Strategies for Reconciling Community and the Environment.* Seattle: Northwest Policy Center, University of Washington, Graduate School of Public Affairs.

Keyes, Ken Jr.. 1982. *The Hundredth Monkey.* Coos Bay, OR.: Vision Books.

Kiker, Clyde F., and Francis E. Putz. 1997. Ecological certification of forest products: economic challenges. *Ecological Economics* 20, no. 1 (January): 37-51.

Kiekens, J.-P.. 1994. Timber certification: a critique. [http://www.fao.org/WAICENT/faoinfo/forestry/unasylva/183/e/183-05e.htm]. Rome: Food and Agriculture Organization of the United Nations.

Lamport, Lara. 1995. The cast of certifiers: who are they? [http://id.mind.net/~castcert.htm].

Loomis, Ruth and Merv Wilkinson. 1991. Wildwood: a forest for the future. Chap. 16 in *Green Business: Hope or Hoax?*, edited by Christopher Plant and Judith Plant. Gabriola Island, BC: New Society Publishers.

Lynch, Owen and Kirk Talbott. 1995. *Balancing Acts: Community-based Forest Management and National Law in Asia and the Pacific.* Washington, DC: World Resources Institute.

M'Gonigle, Michael. 1997. Behind the green curtain. *Alternatives Journal* 23, no. 4 (fall): 16-20.

———. 1996a. *Structural Instruments and Sustainable Forests: A Political Ecology Approach*, Discussion Paper D96-3a. Victoria, BC: Eco-Research Chair of Environmental Law and Policy, University of Victoria.

———. 1996b. *Living Communities in a Living Forest: Towards an Alternative Structure of Local Tenure and Management,* Discussion Paper D96-3b. Victoria, BC: Eco-Research Chair of Environmental Law and Policy, University of Victoria.

M'Gonigle, Michael and Ben Parfitt. 1994. *Forestopia: A Practical Guide to the New Forest Economy.* Madeira Park, BC: Harbour Publishing.

MacMillan Bloedel. 1998a. Forest Project statement of intent. [http://www.mbltd.com/forestproject/intent.htm]. Vancouver: MacMillan Bloedel Ltd.

———. 1998b. Forest Project press release. [http://www.mbltd.com/forestproject/pr.htm]. Vancouver: MacMillan Bloedel Ltd.

———. 1998c. Investors corner five year comparison. [http://www.mbltd.com/invest/mb-ictn.html]. Vancouver: MacMillan Bloedel Ltd.

———. 1998d. Fast facts. [http://www.mbltd.com/facts/mb-ffemp.html]. Vancouver: MacMillan Bloedel Ltd.

MAI. 1997. Multilateral Agreement On Investment Consolidated Text And Commentary. Paris: Negotiating Group on the MAI, Organisation for Economic Co-operation and Development, October 6.

Mander, Jerry. 1997. Foreword. In *Ecoforestry: The Art and Science of Sustainable Forest Use,* edited by Alan Rike Drengson and Duncan MacDonald Taylor. Gabriola Island, BC: New Society Publishers.

Marchak, M. Patricia. 1995. *Logging The Globe.* Montreal: McGill-Queens University Press.

Matas, Robert. 1997. British company decides to boycott BC hemlock. *Toronto Globe and Mail*, 14 November.

———. 1998. BC and natives agree to historic treaty. *Toronto Globe and Mail*, 16 July.

Mater, Catherine, John Rogers, and Tim Metz. 1995. *Market Assessment of Certified Sustainably Harvested Forest Products.* Redway, CA: The Institute for Sustainable Forestry.

Mater, Jean. 1997. *Reinventing the Forest Industry.* Wilsonville, OR: Green Tree Press.

McAllister, Don. 1993. Forests are more than trees. *Earthkeeper* 3, no. 6 (August/September): 22-25.

McAndrew, Brian. 1993. Clayoquot: the battle to save our rain forest. *Toronto Star*, 25 July.

McCloskey, Michael. 1998. The environmental implications of the MAI. Speech presented at MAI Conference, 17 January, Dallas.

McMurty, John. 1997. The Multilateral Agreement on Investment: the plan to replace democratically responsible government. Paper presented at the Interdisciplinary Conference on the Evolution of World Order: Building a Foundation of Peace in the Third Millenium, 7 June, Toronto.

McNulty, John W., and John H. Cashwell. 1995. The land manager's perspective on certification. *Journal of Forestry* 93, no. 4 (April): 22-25.

Merchant, Carolyn. 1980. *The Death of Nature: Women, Ecology, and the Scientific Revolution*. San Francisco: Harper and Row.

———. 1992. *Radical Ecology: The Search for a Livable World.* London: Routledge.

MOF. 1996a. *Annual Report of the Ministry of Forests 1995/96.* Victoria, BC: Ministry of Forests.

———. 1996b. *The Woodlot Licence Program: An Operational Overview.* [http://www.for.gov.bc.ca/RTE/WOODLOT/OVERVIEW/W1-toc.htm]. Victoria, BC: Ministry of Forests.

———. 1996c. Stumpage: an information paper on timber pricing in British Columbia. [http://www.for.gov.bc.ca/revenue/timberp/stumpage.htm]. Victoria, BC: Ministry of Forests.

———. 1997. *Five-Year Forest And Range Resource Program: 1997-2002*. Victoria, BC: Ministry of Forests.

———. 1998. News Release: Committee Offers Initial Recommendations for Community Forest Tenure models. [http://www.for.gov.bc.ca/PAB/JOBS/News/nr199804.htm]. Victoria, BC: Ministry of Forests.

Morris, David. 1996. Communities: building authority, responsibility, and capacity. Chap. 37 in *The Case Against the Global Economy,* edited by Jerry Mander and Edward Goldsmith. San Francisco: Sierra Club Books.

Morrison, Roy. 1995. *Ecological Democracy.* Boston: South End Press.

Nader, Ralph and Lori Wallach. 1996. GATT, NAFTA, and the subversion of the democratic process. Chap. 8 in *The Case Against the Global Economy,* edited by Jerry Mander and Edward Goldsmith. San Francisco: Sierra Club Books.

Nathan, Holly. 1993. Aboriginal Forestry: The Role of First Nations. In *Touch Wood: BC Forests at the Crossroads,* edited by Ken Drushka, Bob Nixon and Ray Travers. Madeira Park, BC: Harbour Publishing.

Nelson, Joyce. 1993. Burson-Marsteller, Pax Trilateral, and the Bruntland gang vs. the environment. *Covert Action* 44 (spring): 26-58.

———. 1995. The new ante in global poker. *Georgia Straight* 29 (September 8-15): 13-17.

O'Connor, James. 1990. *The Second Contradiction of Capitalism: Causes and Consequences*. Paper given at the Conference on New Economic Analysis, Barcelona, Spain, November 30-December 2. Santa Cruz, CA: Capitalism, Nature, Socialism.

Ouston, Rick. 1998. Province to cut stumpage rates to boost ailing forest sector. *Vancouver Sun,* 26 January.

Ozanne, Lucie K. and Paul Smith. 1995. Measuring the market: an opening for certified forest products. *Understory* 5, no. 4 (fall): 1,5.

Pape & Salter. 1998. Delgamuukw: A summary of the Supreme Court of Canada decision. [http://www.cstc.bc.ca/treaty/delgmkwsmry.html]. Vancouver: Pape & Salter.

Parfitt, Ben. 1998. Forest Follies. *The Georgia Straight* 32, no.1596 (July 23-30): 15-21.

Polson, Sheila. 1996. Cutting with a conscience: sustainably harvested 'certified' wood is gaining popularity. *E Magazine* 7, no. 3 (May-June): 42-43.

PPWC. 1993. *Jobs, Trees and Us: The PPWC's Forest Policy.* Vancouver: The Pulp, Paper and Woodworkers of Canada.

Province of BC. 1997. *Jobs and Timber Accord.* Victoria: Province of British Columbia.

Pulido, Laura. 1993. Sustainable development at Ganados del Valle. Chap. 8 in *Confronting Environmental Racism: Voices from the Grassroots*, edited by Robert D. Bullard. Boston: South End Press.

Randall, Alan. 1993. The problem of market failure. Chap. 9 in *Economics and the Environment,* edited by Robert Dorfman and Nancy S. Dorfman. New York: W.W. Norton & Company.

Raphael, Ray. 1994. *More Tree Talk: The People, Politics and Economics of Timber.* Washington: Island Press.

Rowell, Andrew. 1996. *Green Backlash: Global Subversion of the Environmental Movement.* London: Routledge.

Sale, Kirkpatrick. 1996. Principles of bioregionalism. Chap. 40 in *The Case Against the Global Economy,* edited by Jerry Mander and Edward Goldsmith. San Francisco: Sierra Club Books.

Schwindt, Richard and Terry Heaps. 1996. *Chopping Up the Money Tree: Distributing the Wealth from British Columbia's Forests*, A Report to the David Suzuki Foundation. Vancouver: the David Suzuki Foundation.

SCS. 1998. Certified forests. [http://www.scs1.com/forestcert.html]. Oakland, CA.: Scientific Certification Systems.

Sessions, George. 1991. Ecocentrism and the anthropocentric detour. *ReVISION* 13, no. 3 (Winter): 109-115.

SFF. 1996a. *Standards for Ecologically Responsible Timber Management.* Slocan Park, BC: The Silva Forest Foundation.

———. 1996b. *Ecosystem-Based Landscape Plan for the Slocan River Watershed.* Slocan Park, BC: The Silva Forest Foundation.

———. 1998a. Who we are. [http://www.silvafor.org/who.htm]. Slocan Park, BC: The Silva Forest Foundation.

———. 1998b. *Summary of Silva Forest Foundation Standards for Ecologically Responsible Timber Management.* Slocan Park, BC: The Silva Forest Foundation.

———. 1998c. *SFF Certification Manual: April 1998 Proof.* Slocan Park, BC: The Silva Forest Foundation.

Shiva, Vandana. 1988. *Staying Alive.* London: Zed Books.

———. 1993. *Monocultures of the Mind: Perspectives on Biodiversity and Biotechnology.* London: Zed Books.

Shrybman, Steven. 1997. An environmental guide to the World Trade Organization. [http://www.sierraclub.org/canada/national/trade-environment/environment-guide-wto.html]. Ottawa: Common Front on the World Trade Organization, May.

Simula, Markku. 1996. Economics of Certification. Chap. 10 in *Certification of Forest Products: Issues and Perspectives,* edited by Virgílio M. Viana, Jamison Ervin, Richard Z. Donovan, Chris Elliott, and Henry Gholz. Washington: Island Press.

SLDF. 1996. *British Columbia's Clear Cut Code.* Vancouver: The Sierra Legal Defence Fund.

SmartWood. 1998. Forest management operations. [http://www.rainforest-alliance.org/swr1b.html]. New York: The Rainforest Alliance SmartWood Program.

Stevens, James, Mubariq Ahmad, and Steven Ruddell. 1998. Forest Products Certification: A Survey of Manufacturers. *Forest Products Journal* 48, no. 6 (June): 43-49.

Sugal, Cheri. 1996. Labeling wood. *World Watch* 9, no. 5 (September-October): 29-34.

Suzuki, David. 1995. Disconnected economics? *EcoDecision* 16 (Spring): 19-21.

Thom, Michelle. 1997. The movement to ecologically sustainable forestry. Chap. 34 in *Ecoforestry: The Art and Science of Sustainable Forest Use,* edited by Alan Rike Drengson and Duncan MacDonald Taylor. Gabriola Island, BC: New Society Publishers.

Tokar, Brian. 1991. Changing to green. In *The Green Reader*, edited by Andrew Dobson. San Francisco: Mercury House. First published in Brian Tokar. 1987. *The Green Alternative*. San Pedro, CA: R. and E. Miles, 137-147.

Trager, William. 1970. *Symbiosis.* New York: Van Nostrand Reinhold.

Travers, O.R.. 1993. Forest policy: rhetoric and reality. In *Touch Wood: BC Forests at the Crossroads.* Madeira Park, BC: Harbour Publishing.

UNEP. 1994. *Partnerships For Sustainable Development: The Role of Business and Industry.* London: The Prince of Wales Business Leaders Forum, United Nations Environment Programme.

Upton, Christopher and Stephen Bass. 1995. *The Forest Certification Handbook.* London: Earthscan Publications.

Vallejo, Nancy. 1996. Potential economic social and environmental impacts of certification. In *Proceedings: UBC-UPM Conference on the Ecological, Social and Political Issues of the Certification of Forest Management*, 13-16 May, at Universiti Pertanian Malaysia, Putrajaya, Selangor, Malaysia.

Vallianatos, Mark. 1997. Analysis of the draft Multilateral Agreement on Investment negotiated by OECD [http://www.foe.org/ga/analy.html]. Friends of the Earth, 10 March.

Viana, Virgílio M.. 1996. Certification as a catalyst for change in tropical forest management. Chap. 9 in *Certification of Forest Products: Issues and Perspectives,* edited by Virgílio M. Viana, Jamison Ervin, Richard Z. Donovan, Chris Elliott, and Henry Gholz. Washington: Island Press.

Viana, Virgílio M., Jamison Ervin, Richard Z. Donovan, Chris Elliott, and Henry Gholz, eds. 1996. Stakeholder Perspectives. Part III in *Certification of Forest Products: Issues and Perspectives,* edited by Virgílio M. Viana, Jamison Ervin, Richard Z. Donovan, Chris Elliott, and Henry Gholz. Washington: Island Press.

von Mirbach, Martin. 1997. Demanding good wood. *Alternatives Journal* 23, no. 3 (summer): 10-17.

Wainright, Amy R., ed. 1995. Forest certification: an SAF study group report. *Journal of Forestry* 93, no. 4 (April): 6-10.

Walby, Sylvia. 1989. Theorising Patriarchy. *Sociology* 23, no.2 (May): 213-234.

White, George. 1996. Sainsbury's marketing of sustainable forest products. *International Journal of Ecoforestry* 12, no. 2 (summer): 207-210.

Wilson, Alex and Nadav Malin. 1997. Wood products certification: a progress report. *Environmental Building News* 6, no. 10 (November): 1, 10-12.

Winterhalter, Dawn and Daniel Cassens. 1994. *Consumer Perceptions of Forest Sustainability and Willingness to Pay: Results of a National Survey.* Lafayette, Indiana: Purdue University Press.

Wittbecker, Alan E. 1997. Forest practices related to forest ecosystem productivity. Chap. 2 in *Ecoforestry: The Art and Science of Sustainable Forest Use,* edited by Alan Rike Drengson and Duncan MacDonald Taylor. Gabriola Island, BC: New Society Publishers.

World Forest Institute. 1993. *Feasibility Study Regarding Forest Product Certification in Oregon, Washington and British Columbia.* Portland: World Forest Institute.