

Forest Summit

University of British Columbia

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Report



THE UNIVERSITY
OF BRITISH COLUMBIA

Faculty of Forestry

Authorship

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Vancouver, July 6th, 2020.



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There is a broad level of agreement that we want healthy and resilient forests, and that this is the fundamental building block upon which everything else must be based. Damaged ecosystems need to be restored, including ensuring the recovery of species at risk. We need to retain wild areas and old-growth forests through conservation, and this is an area in which we could become globally renowned. It also ties into increased revenue streams in the form of ecotourism, recreation, and the conservation economy. Related to this, there is agreement that the forests of British Columbia represent a very significant opportunity to address carbon management and climate mitigation policies and objectives. Not only do B.C. forests represent a massive store of carbon, the landscape-scale CO₂ removal potential of healthy and growing forests is unparalleled. This gives rise to the potential for carbon trading activity that could support financing many of the steps that will be necessary to achieve some of the goals identified during the Summit.

The importance of the forest industry to the economy of British Columbia was recognized by all. It provides revenues and jobs, and in the past was responsible for much of the Province's economic success. However, there is a desire to see a change in focus in management, away from one where timber dominates to one in which more values are taken into account. The Annual Allowable Cut in British Columbia needs to be related to the ecological capacity of the forests, with unsustainable cut levels being curtailed. Forest practices in British Columbia are good relative to some jurisdictions, but there is considerable room for improvement, particularly in the management of multiple values in the forest.

While the forest products industry in British Columbia has been experiencing significant problems, it was widely recognized that it is extremely good at what it does, namely the manufacture of dimensional lumber. At the same time, the very high cost of logs in BC compared to other jurisdictions needs to be addressed if a viable forest products industry is to be achieved. Markets are changing, and this may cause problems for manufacturers focused on a limited range of products and unwilling or unable to invest in new directions. The issues of waste and optimization came up many times: while it is accepted that tree harvesting will occur, there is a desire to ensure that the maximum possible value is extracted from any harvested tree.

The bioeconomy is presenting many opportunities, and in other parts of the world has become a reality. British Columbia has the potential to become a global leader in this area, but to do so, it will need to embrace innovation, new products, new markets and new business opportunities in the sector. There was some controversy around the extent to which 'value-added' products are already produced in British Columbia – this was caused by differing ideas on what constitutes a value-added product. The idea that British Columbia needs to diversify the range of forest products that is produced was repeated many times.

British Columbia has a huge potential advantage in its human resources. It has world-leading educational institutions, a highly skilled workforce and strong professional associations. It also



has many informed and engaged individuals working in civil society who are passionate about forests and the forestry sector as a whole. This has in the past created conflict, but British Columbia has seen the resolution of many conflicts in the forest, and has a history of finding solutions to contentious and divisive issues.

British Columbia is unusual in that most of its Indigenous population has never signed treaties with the governments of the day. With the Government of British Columbia having endorsed UNDRIP and the recommendations of the Truth and Reconciliation Commission, as well as enacting legislation to ensure that the principles of UNDRIP are woven into provincial legislation and policy (*Declaration on the Rights of Indigenous Peoples Act*), First Nations have a critical role to play in the future of British Columbia's forests. It was evident that many participants recognized that in future, there will be greater First Nations control of the landbase, including increased ownership, increased management rights and increased co-management. There is also a recognition of the need to see a greater proportion of the land managed according to the philosophy and principles of many First Nations, with greater attention being paid to holistic forms of management. The belief that First Nations knowledge could be better used in the management of British Columbia's forests was stated repeatedly.

Governance and policy received relatively little attention, as might be expected given that only one individual from the Provincial government attended. With the exception of suggestions for changes in the ownership structure of land and forests in relation to First Nations, the key concerns were related to ensuring that legislation and policy would not prevent a vision from being achieved, instead perpetuating the *status quo*. In addition, the need for cross-sectoral coordination, legislation and policy was identified, in particular to reduce the impacts of cumulative effects of development on British Columbia's forests and rangelands and to ensure that effective landscape-scale management can be undertaken.

Based on the ideas presented at the Summit, the Steering Committee agreed that the following vision and goals reflected the ideas and tone of the Summit:

Vision:

British Columbia has healthy and resilient forests that are the foundation for all forest-related activities.

Goals:

- *Damaged ecosystems are restored, and species at risk have recovered.*
- *Wild areas and old-growth forests are retained through conservation, and British Columbia is recognized globally for this.*
- *The forest is managed for multiple values, and cut levels are determined on ecological principles.*



- *First Nations are heavily involved in the management of forest lands, owning a significant portion of the forest estate and co-managing large parts of the remainder.*
- *British Columbia's forests are a massive store of carbon, and sequestration is enhancing this, and there is an active carbon trading market. As a result, the forests of British Columbia are making major contributions to the achievement of domestic and international carbon management and climate mitigation policies and objectives.*
- *Investment and revenue streams from ecotourism, recreation, carbon and the conservation economy are significantly enhanced.*
- *The forest products industry is a major employer, particularly in rural areas, and utilizes fibre obtained from forests in an optimal fashion.*
- *The forest products industry has secure, economically viable, timber supplies, is innovative and has diverse markets for its products.*
- *There is a diversity of manufacturing units producing a wide range of value-added products that satisfy the needs of the emerging bioeconomy, as well as more conventional products such as engineered wood products.*
- *Rural communities have become vibrant and dynamic.*
- *Supported by a range of world-class universities and training institutions, British Columbia is the foremost centre of expertise in conservation, forest management and advanced forest products processing, and has some of the best-trained and highly skilled forest-related people in the world. This expertise is sought all over the world.*

The next steps will involve ensuring that there is broad consensus on the vision, not only amongst participants in the Summit, but also amongst the many that were unable to attend. If we know the destination, then we have to figure out how we as a Province can reach it. The Steering Committee for the Summit has agreed that that an independent Strategic Planning Group should be established that should consist of senior figures able to determine how the vision might be achieved, *and* able to initiate steps to do this. As the vision is so broad-ranging, this will likely involve a wide range of individuals and institutions. Online consultations will be organized, and an online conference (or face to face in the unlikely event that that such meetings are permitted) will be held in the fall of 2020.



Background

Over the last few years, there has been growing concern about the ecological, economic, social and cultural state of forests in British Columbia. British Columbia's forests are influenced by a wide range of factors, some of which are internal whereas others are external. External factors include climate change and its consequences (increased pathogens, increased and more severe fires) and changes in markets for forest products (tariffs, changing demand). Internal factors include changes in the extent to which the rights of the traditional owners of the land are recognized, over-harvesting to meet local economic needs, problems associated with the very high costs associated with forestry in BC, increasing recognition of the non-timber values of BC's forests, and increasing demands from some sectors of the public for change.

While there is not a "war in the woods" in the sense that was seen in the 1980s and 1990s, there is increasing dissatisfaction in all quarters with the status quo. This has been dealt with in a piecemeal fashion by successive governments, referred to by some as "band-aid" solutions, rather than approaching the issues in a holistic fashion that would enable fundamental change to occur. There is still a sense of denial in some places that such change is even necessary. However, it is evident in many forms. From an economic perspective, it is evident in the flight of capital from the BC forest sector, particularly into the US Southeast, where security of timber supply is much more secure, log prices are lower and processing costs are cheaper. It is also evident in the closure of mills throughout the province¹. However it is also evident from more subtle issues, such as the fact that some logs factors are worth almost twice as much to overseas buyers as they are to domestic buyers.

From an environmental perspective, there are major concerns about the depletion of old-growth forests², the loss of forests due to major disturbances such as fire, mountain pine beetle and spruce beetle, the failure to restock many areas following these major disturbances, the numbers of species at risk, including the declines and population of losses of species such as the mountain caribou, and impacts on hydrology (especially the occurrence of devastating floods in places such as Grand Forks). In addition, as reflected in reports from the Forest Practices Board, increasing concerns are being expressed about the aesthetics of forestry operations, reflecting increases in non-consumptive use of British Columbia's forests.

From a policy perspective, there are also many issues. These include uncertainties over the precise composition of the forest resource, inaccuracies in growth and yield and modeling

¹ The number of large (>40 mbf per year) mills in British Columbia has dropped from 131 in 1990 to 67 in 2018 (a 49% reduction). Over the same period, output has dropped from 13.7 billion board feet (bbf) per year to 12.3 billion board feet (a 10% reduction). In 2019, unconfirmed reports indicate that 16 more mills closed, curtailing production by 2.5 bbf, and more have closed in 2020.

² A recent report suggests that only about 415,000 ha of remaining old growth matches peoples' vision of old growth



(especially in the light of climate change)³, numerous research gaps caused by inadequate investment in both government and non-government research, and inadequate forest management plans for the forest estate⁴.

One of the most concerning aspects of the forests of British Columbia is the lack of any clear vision guiding their management. Such a vision was expressed in the pre-ambule to the Forest Practices Code, but this legislation was replaced by the Forest and Range Practices Act almost 20 years ago. There is no statement by government that indicates what sort of balance is needed between for example, the production of fibre and the conservation of biodiversity.

Under the *Forest Act*, the balance between ecological, social and economic values that considered in AAC determinations is stated as:

8(8) In determining an allowable annual cut under subsection (1) the chief forester, despite anything to the contrary in an agreement listed in section 12, must consider

- (a) the rate of timber production that may be sustained on the area, taking into account
 - (i) the composition of the forest and its expected rate of growth on the area,
 - (ii) the expected time that it will take the forest to become re-established on the area following denudation,
 - (iii) silviculture treatments to be applied to the area,
 - (iv) the standard of timber utilization and the allowance for decay, waste and breakage expected to be applied with respect to timber harvesting on the area,
 - (v) the constraints on the amount of timber produced from the area that reasonably can be expected by use of the area for purposes other than timber production, and
 - (vi) any other information that, in the chief forester's opinion, relates to the capability of the area to produce timber,
- (b) the short and long term implications to British Columbia of alternative rates of timber harvesting from the area,
- (c) [Repealed 2003-31-2.]
- (d) the economic and social objectives of the government, as expressed by the minister, for the area, for the general region and for British Columbia, and
- (e) abnormal infestations in and devastations of, and major salvage programs planned for, timber on the area.

³ The 2018 BC Forest Inventory Review Panel Summary Report makes the telling recommendation: “Develop Growth and Yield models that cover the main stand types and management regimes in BC”

⁴ A 2015 report from the BC Forest Practices Board concluded that most Forest Stewardship Plans in BC “do not meet the public’s needs, are not enforceable by government and provide little in the way of innovative forest management”. Ten years after problems had been identified by the Board, no improvements had occurred.



The Forest Planning and Practices Regulation within the *Forest and Range Practices Act* gives an indication of the priorities that have evolved over time:

9 The objective set by government for wildlife and biodiversity at the landscape level is, without unduly reducing the supply of timber from British Columbia's forests and to the extent practicable, to design areas on which timber harvesting is to be carried out that resemble, both spatially and temporally, the patterns of natural disturbance that occur within the landscape. [en. B.C. Reg. 580/2004, s. 8.]

9.1 The objective set by government for wildlife and biodiversity at the stand level is, without unduly reducing the supply of timber from British Columbia's forests, to retain wildlife trees. [en. B.C. Reg. 580/2004, s. 8.]

The wording used by the government to ensure that the value 'water' is maintained, is worded similarly:

8.2(2) The objective set by government for water being diverted for human consumption through a licensed waterworks in a community watershed is to prevent to the extent described in subsection (3) the cumulative hydrological effects of primary forest activities within the community watershed from resulting in

- (a) a material adverse impact on the quantity of water or the timing of the flow of the water to the waterworks, or
- (b) the water from the waterworks having a material adverse impact on human health that cannot be addressed by water treatment required under
 - (i) an enactment, or
 - (ii) the licence pertaining to the waterworks.

8.2(3) The objective set by government under subsection (2) applies only to the extent that it does not unduly reduce the supply of timber from British Columbia's forests.

Similarly, the objective set for by wildlife states:

7(1) The objective set by government for wildlife is, without unduly reducing the supply of timber from British Columbia's forests, to conserve sufficient wildlife habitat in terms of amount of area, distribution of areas and attributes of those areas, for

- (a) the survival of species at risk,



- (b) the survival of regionally important wildlife, and
- (c) the winter survival of specified ungulate species.

The statements that the protection of wildlife, water, soils and biodiversity can only be done in so far as they do not unduly reduce the supply of timber from British Columbia's forests provide a clear indication of the direction that recent governments have been taking. Despite the provisions to ensure continuity of timber supply, the concerns over the availability of suitable fibre at an appropriate price has been one of the biggest issues for the forest industry, and the first objective in the plan for the future of the Council of Forest Industries is:

Define the working forest land base. Like conservation areas, designate the area that will be available for harvesting and lock in the commitment.

Such a goal would be difficult for the BC Government to achieve, given its commitments towards the recommendations of the Truth and Reconciliation Commission, and nature of the *Declaration on the Rights of Indigenous Peoples Act*. Resolving the rights to Crown land in BC is one of the many challenges faced by the government today.

Given these concerns, and many others expressed about the state of the forest sector in British Columbia, the decision was taken to organize a summit where individuals from a wide variety of backgrounds could come to together to discuss a possible vision for forests, forestry and forest sector of the province.

The Summit – Preparations

Faced with these exceptionally challenging circumstances, as well as the absence of a neutral forum to discuss potential solutions to them, the Faculty of Forestry at the University of British Columbia agreed to host a Summit that involved a broad range on interested parties. The planning was informed by a small committee, consisting of John Innes (UBC), Mike Harcourt (former BC premier), Bob Peart (biologist, consultant), Rob Falls (adjunct professor, UBC), Bob Simpson (mayor of Quesnel) and, latterly, Susan Gagnon (UBC). UBC engaged Refinery to act as facilitators for the Summit.

A large invitation list was drawn up that included all sectors involved with BC's forests and multiple provincial Ministries. Many people and organizations are involved in BC's forests, and it was not possible to invite everyone. A number of individuals had to be turned away as the goal was to have about 80 people present. It was acknowledged that this was going to be the start of a process, and that those were either unable to attend or chose not to would have opportunities to have their say at some point in the future.



In order to get some idea of the challenges lying ahead, although those who accepted the invitation to attend were given the opportunity to state three key words that they felt characterized the forests of BC today, and three words that they hoped would characterize BC's forests 50 years from now. This proved to be a fascinating exercise, and the word clouds that ensued are shown in figures 1 and 2.

Today's forests were characterized by words such as sustainable, beautiful, valuable, renewable and essential, as might be expected from the marketing of BC forest products done by the forest industry. However, there were also words such as unhealthy, stress, overharvested, mismanaged, unsustainable, declining and dying, which indicate that significant numbers of people are unhappy about the current state of the forests.

In contrast, in Figure 2, the larger size of the words means that they were more commonly used, and indicate a level of agreement amongst participants about what is being sought of our forests in the future. Sustainable is again the most frequently used word, with other prominent words including biodiverse, community, managed, resilient and healthy. It is evident that significant numbers of those present agreed over what they would like to see of our forests in the future. The time span of 50 years was chosen to take us well beyond political cycles, but is well within the average rotation of managed forests in BC. The results of this exercise provided the organizers with optimism that it might be possible to develop a vision for the future.



Alternatives to the *status quo*

When an entire sector is in a state of disarray, evidenced by a lack of resilience in the forests, community disruptions, mill closures and government uncertainty, there is often a feeling of being locked into a particular set of conditions. This is because so much effort is placed on finding short-term solutions and on maintaining the status quo amongst key actors that no time is spent researching alternatives or developing longer term strategic objectives. To counter this, the Summit organizers invited an outside voice to the group to describe some possible alternative states.

Dr. David Brand is CEO of New Forests, Pty, Ltd., an investment management business in forestry. His company operates about 1 million ha of intensive hardwood and softwood plantations, as well as conservation areas, forest carbon projects, sawmill and infrastructure in Australia, New Zealand, SE Asia and the USA. His clients consist of pension funds, insurance and reinsurance companies, and sovereign funds, all of which see the benefits of forestry as a long-term investment. The goal of the company is to create landscapes that balance conservation and production functions, while generating investor returns and community benefits.

In his presentation, delivered the evening before the main event, he described the main challenges facing forestry today are:

- “Shifting of wood demand driven by the rise of China, and behind it, India and then Africa
- Shifting of incremental commodity wood supply to intensive plantations in the Southern Hemisphere
- Restructuring of markets for wood and wood fibre to meet the demands of the emerging bioeconomy
- The rise of sustainability and climate change as economic drivers of forestry
- The increasingly central role of communities, including Indigenous communities in forest management
- The changing capital base of forestry and rise of institutional investment”

The increase in demand in China has benefited Australia and New Zealand, enabling forest owners to get good returns on their products. It has enabled Brazil to develop a globally competitive hardwood pulp industry, enabled the reinvigoration of the Russian forestry sector and provided a major new market for western North America. While in the past, much fibre has come from natural and semi-natural forests, plantations are steadily rising in importance. South America’s 12 million ha of plantations now produce as much timber as Scandinavia and central Europe, whereas the 3.7 million ha of plantations in Australia and New Zealand produce more than British Columbia’s 22 million ha of timber harvesting land base.



He argued that while the official statistics tend to focus on traditional products, the industry has major new markets in energy, liquid fuels, biochemical, new cellulosic fabrics, fillings and additives, while more traditional products have new uses including new construction systems involving engineered wood products that offer the possibility of expanding the use of wood in construction. These markets are real, and many companies globally are making significant investments. Dr. Brand illustrated this with one of his businesses, Timberlink, located in New Zealand. They started by re-investing profits back into the business, lowering their production costs. A new plant is combining sawmill waste with recycled plastics to create an extruded decking product that will replace tropical hardwood decking (supplies of which are diminishing). He pointed out that demand for all types of woody biomass, fibre and building materials may rise by 4% per annum between now and 2050, almost quadrupling demand. His argument was that more biomass would need to be grown on less land if demands were going to be met.

Dr. Brand then turned to forest values. As an investment manager, he buys forest land, so determining its true value is an important part of his business. A back-of-the-envelope calculation suggested that the value of the global forest estate was about US\$ 800 billion. For comparison, the real estate value of Manhattan is US\$ 1.5 trillion. Similar calculations could be done for BC, which would show that real estate turnover in any given year exceeds the total estimated value of BC's forests under the current tenure system. This clearly indicates that forests globally are undervalued, providing significant investment opportunities.

As political and economic attention turns to Nature-based Solutions to climate change and other major problems, forests are ideally placed to play a major role. This will only work if there is a move away from the philosophy that land is a commodity that should be dedicated to its highest and best use through an economic bidding process. Significant departures from this philosophy have already occurred: many community forests, Indigenous lands, private lands and other forest areas are not managed to maximize the economic benefit. New investment models based on shared value and with local community benefit as a central objective are required. Such models exist and have been applied by New Forests.

Dr. Brand then drew attention to the availability of capital for investment. Globally, there is between US\$70 and US\$80 trillion of institutional investment capital. This was previously largely invested in publicly-listed stocks and corporate bonds. With return on government debt being close to zero or even negative, and pre-COVID inflation rates predicted to remain low for a long period, asset managers have been switching to 'real assets' that can provide reasonable returns, including reasonable cash yields. In the 1990s, 'real assets' comprised 5% of investment portfolios, but today they represent 15%, and forecasts suggest they will reach 20-25% in the next decade. This implies that US\$ 6 to 7 trillion will be invested in these assets in the coming decade.

It has been estimated that the total investible base of forestry assets is about \$250 billion, half of which is in the USA. Climate change mitigation finance will radically change this, potentially



quadrupling the value of the asset base in the next 10 to 20 years. This is because of the 10 billion tonnes per annum of carbon mitigation that will have to come from the land-use sector over the next 20–30 years. Sustainable forestry and land management, reforestation and conservation will all become investment opportunities, especially when linked to the production of renewable products.

Dr. Brand provided examples of countries that had gone through periods of major change. Australia in the mid-1990s had a forest sector half based on natural timber and half on plantation softwood. The harvesting of native forests was highly controversial, and affected by the same issues as face the harvesting of old-growth forests in BC. The government decided to move the industry towards a core of plantation forestry, providing tax incentives to attract private investment. The plantation base is now 60–65% owned by institutional investors who are providing the investments to make the entire supply chain viable. The processing sector is being recapitalized, and the sector now has resource security, limited debt and a long-term mindset amongst owners. Plans have been announced to increase the forestry sector by another 50%. The government is paying for carbon sequestration in reforestation and revegetation programs, leading to private investment in greenfield reforestation. An Aus\$5 billion forest resilience fund is expected that will support active management of native forests through prescribed fire, density control and restoration planting.

In New Zealand, almost all harvesting of native forests ended in the late 1990s. There is now a plantation base of 1.7 m ha, dominated by radiata pine, over half of which is owned by institutional investors, and with much of the underlying land owned by Maori communities, many of which also have minority stakes in the forest enterprises. The Maori have often chosen to tie up community capital in trees, preferring instead to invest in education programs and other community benefits. A carbon price of \$20 a tonne and a policy goal to reforest another million hectares are combining to encourage expansion of the forest sector.

California has enacted policies aimed at rewarding private forest landowners for conservation and improved forest management, utilizing their cap and trade legislation. Other jurisdictions are also using carbon to fund forestry developments.

Europe has benefited from “a combination of resource security, government support and a cadre of bold industry leaders who were prepared to exit struggling businesses and invest in new areas of growth and opportunity”. Stora Enso, for example, earns 70% of its revenue from products that it didn’t make 10 years ago.

While British Columbia is unlikely to go down the route of intensive plantation forestry as seen in Australia and New Zealand, many environmental advocates would argue that the second- and third-growth Douglas-fir and lodgepole pine forests are anything but natural, and, on the coast, are very long way from the old-growth forests that they replaced. Good information on the structure and composition of British Columbia’s regrowth forests is grossly inadequate, but



what studies there are suggest they are very different to the forests that once occurred. Accepting this could provide the opportunity to judiciously intensify production on a fraction of the forests that have already been harvested or otherwise disturbed.

The full text of Dr. Brand's speech is provided in Appendix 1.



The Summit

The main activity of the Summit occurred on Friday 28th February 2020. 61 of the ca. 80 participants who had accepted the invitation attended; a full list of attendees is provided in Appendix 2. This list only records those present on the day: a number of individuals accepted the invitation but were unable to attend on the day. A diversity of interests were represented at the Summit, although it was not possible to accommodate all those that expressed an interest in attending. The interest group that was least represented was the Provincial Government. Although invitations were sent to multiple Ministries, only one government official (from the Ministry of Forests, Lands, Resource Operations and Rural Development) was able to attend the Summit.

The Summit adopted a workshop format, using the SOAR Model of Strategic Thinking (Strengths, Opportunities, Aspirations and Results) and a World Café methodology to capture the many diverse opinions and views in the room. This involved splitting up the participants into small groups that were continuously re-formed moving between 10 tables where they could interact with a table host to work on the 3 questions posed within each of the four topics (strengths, opportunities, aspirations and results). The ideas that were presented were exactly that: ideas. They do however represent the thoughts and professional opinions of a broad range of people knowledgeable about the multiple facets of BC's forests, including their governance, their ecology, their economy and their many social and cultural values.

In examining the large number of thoughts and ideas that were captured during the Summit, we decided identify a number of themes. These were: the ecosystems (what we might consider as the natural capital), the forest economy (economic capital), and social aspects (human capital). We also separated thoughts related to First Nations, since following British Columbia's acceptance of UNDRIP, any vision will need to be consistent with its principles (and BC's legislation to implement the principles). A fifth category, governance and policy, covered thoughts about government policies in relation to forests.

We have reproduced below everything that was included on the flip charts used in the Summit. If an item was listed more than once, its frequency is indicated by a number in parentheses. The categorization is intended only to help sort through the wide range of ideas that were generated by the Summit's participants. Some ideas may have been misclassified as their original intention may not be evident in the words used. In other cases, an idea might find it any of several categories. The weightings produced during the Summit to summarize each of the four sessions have not been used.



Strengths

S1: Thinking about forests in BC, what do we excel at? Brainstorm – as many as you can without judgement!

This initial question challenged participants to identify areas that they considered BC excelled at. As might be expected from the first stage in the process, a wide range of topics were identified.

The ecosystems

- Variety of Ecosystems (2)
- Diversity of tree species
- Biodiversity
- Biodiverse forest
- Scale of forests
- Lots of conservation areas
- Protected areas
- Large areas of protected forests- not to be touched
- Intact unbothered forest
- Opportunity for conservation
- Conservation
- Ecological Classification system (BEC)
- Solid understanding of structure and function of forest
- Carbon conservation
- Carbon storage
- We grow rare big trees
- Availability of water

Clearly, British Columbia's natural environment, with its diverse ecosystems, scale and large areas of untouched forests is seen as a major strength by many. Coupled with this is the relatively good understanding of the ecosystems. The amount of carbon stored in the forest is also seen as a strength.



The forestry economy

- Productivity
- Good quality lumber
- Good at cutting down trees
- Tree length harvesting
- Exploiting raw logs
- Conversion of logs to lumber
- Producing higher volume of lumber
- High fiber quality
- Excel at managing for fiber
- Fiber properties/ uses
- Sustainable harvest
- Operational Efficiency
- Good infrastructure (2)
- Mature forestry industry
- Efficient manufacturing
- Regenerating logged areas (?)
- Tree planting
- Growing trees (3)
- Culture of care of forests
- Keeping /growing matured forests
- Certification (3)
- Practice of forestry
- Planning eco-based long term
- Managing multiple values across the landscape (2)
- Great Bear forest based on science
- Marketing
- Professional association

Economic strengths seen as important relate to the quality of the resource, the scale and efficiency of the industry, the extent to which it has received certification, and the renewal of disturbed areas.



First Nations

- Growing inclusiveness with First Nations/ Indigenous knowledge
- Building relationships with aboriginals/ non aboriginal
- Inclusion of indigenous/participation
- Indigenous led land-use planning

The involvement of First Nations in resource management was seen as a strength.

Social aspects

- Highly skilled and educated
- Education system
- Well trained workforce
- Public access to forests (2)
- Remembering our history
- People appreciate the forest
- Involving everyone
- Talking/ engaged stake holders
- Problem solving
- Knowledge
- Conflict
- Controversy

The human resources available in BC are seen as a strength, with a well-trained, well-educated and highly skilled workforce. People are engaged and motivated and willing to address conflict and controversy.

Governance and policy

- Clean BC action plan
- Legal framework is relatively strong

Only two items were included as strengths in this area, and the failure to see any of the current policy as a strength is noteworthy.



The second part of the exercise involved culling the list of strengths until each table had reached broad agreement, although not necessarily consensus.

S2: Cull the list until you have consensus.

The ecosystems

- Large intact landscapes
- Scale vastness of forest
- Natural forests assets – dominant on out landscape
- Abundant natural capital ecosystems and biodiversity that has not been fully destroyed
- Variety of systems
- Rich biodiversity
- Biodiverse forests
- Conservation
- Carbon in forests

As the lists developed by individual tables were narrowed down, the importance of the natural environment remained important.

The forest economy

- Growing trees
- Good at cutting down trees but not globally competitive
- Efficient at conventional forestry harvesting
- Conversion of logs to lumber
- Conversion of logs to wood products
- Facilities to process a full range of products
- Fibre properties
- Efficient manufacturing of commodities e.g dimensional lumber and pulp
- World class manufacturing
- Access to markets, sawmills, pellets
- Logistics and access infrastructure
- Marketing our products
- Certification
- Intact forests certification workforce `
- First phase of forest regeneration
- Certifying forests
- Conservation both in and out of the working forests



- Eco tourism
- Recreation
- Multi use

There was also considerable agreement over the economic strengths within the province. The industry is large and efficient. Interestingly, there was agreement that non-fibre aspects, such as ecotourism and recreation were strengths.

First Nations

- Indigenous knowledge based

There was a lack of agreement over strengths associated with First Nations in the province.

Social aspects

- World leading skills knowledge educations
- Training and higher education
- Training in higher post-secondary in resource management
- Training institutions
- Education systems
- Highly skilled
- Historic knowledge
- Resource management
- Strong civil society and advocacy
- Diversity of forests = diverse options
- Diversity in forest uses stakeholders
- Creating conflict
- Management expertise
- Potential for better management
- Reasonable understanding of what the forests are
- Mentorship of forest practices
- Access
- EXP in managing complexity and conflict
- Good at dialogue when there is conflict
- Network professional accountability
- Our forest and our part of our identity
- Controversy/conflict
- Understanding structure of forests



- People appreciate forests
- People who care and are passionate about our forests (2)

Broad agreement was reached on a number of different strengths related to the human capital in BC. These included the education system, the management expertise, problem-solving abilities, strength of civil society organizations and a highly motivated body of people passionate about forests.

Policy

- Good management policies

Having not been identified as a strength in the first round, management policies emerged in the second round as an area where broad agreement, although not necessarily consensus, could be reached.

Finally, in analyzing strengths, participants were asked to identify which strengths created value. What exactly was meant by 'value' was deliberately left undefined so that it could be interpreted differently by individual tables.

S3: Which of these Strengths create value? No more than ten.

The ecosystems

- Biodiverse forests (global significance)
- Variety of ecosystems
- Diversity of forests and users (2)
- We have rare, big trees (diverse ecosystems)
- Vastness of the resource
- Abundant natural capital ecosystems and biodiversity that has not been fully destroyed
- Large areas of protected forests not to be touched
- Intact forests
- Our understanding of the structure and function of forests
- Conservation
- Protected areas add value
- Carbon in forests



Again, the size and diversity of BC's forested ecosystems was widely agreed on, and were identified as creating value for BC. The protected area system and carbon stocks were also seen as creating value.

The forest economy

- BEC system
- Keep growing natural forests
- Growing trees (2)
- Resource ready to implement
- Efficient at conventional forestry harvesting
- First phase of forest regeneration
- Multiuse adds values and subtracts values
- Certification (3)
- Fibre properties
- High fibre quality (2)
- Good quality lumber
- Conversion of logs to wood products (2)
- World leading core manufacturing success creates value added opportunity
- Efficient manufacturing of commodities e.g. dimensional lumber and pulp
- Value created then opportunity of uses
- Processing capacity
- Good infrastructure (2)
- Skilled workforce (2)
- Management expertise
- Eco tourism
- Recreation

Strengths that added value were considered to include the resource and knowledge about it, the quality of the timber. The efficiency of manufacturing and the expertise. Ecotourism and recreation were both considered strengths that add value.

First Nations

- Indigenous knowledge base (2)
- Diverse First Nations cultural knowledge
- First Nations inclusivity
- First Nations culture



First Nations' culture and knowledge were considered to be strengths that add value.

Social aspects

- Education systems / skilled workforce
- Research training institutions
- Higher education and training in red management
- Trained workforce
- Knowledge capital – local!
- Reputational value
- Responsibilities management
- Good at dialogue when there is conflict
- People who care and are passionate about our forests leads to collaboration and improvement
- Civil society and advocacy network
- Our forests are part of our identity
- Historic knowledge
- History of opportunity to engage and tack stakeholders
- Diversity of opinion
- Mutual caring and response
- Stakeholder diversity

Human capital strengths that add value included the higher education system, resulting in knowledge and a skilled workforce, willingness to work out differences, and a diversity of opinions.

Governance and Policy

- Ecosystem services -> not maximized
- Public access (2)
- Climate change strategy/ clean BC Action plan
- Publicly owned assets

Public access is highly valued, as are ecosystem services, although the true value of the latter is not being maximized.



Having identified a wide range of strengths that add value to the BC forest sector, the Summit turned to the opportunities that these strengths presented to British Columbia. The thoughts that were presented took several forms, ranging from a fact that presented an opportunity (e.g. 'abundant biodiversity') to an opportunity for an action that could be taken on the basis of one of the strengths identified in the previous exercise (e.g. 'protect areas').

Opportunities

O1: Reflecting on the summarized Strengths, what Opportunities might they create for BC forests? Brainstorm – as many as you can without judgement!

The ecosystems

- Our geography
- Abundant biodiversity
- Diversity of ecosystems
- Protect areas
- Carbon sequestering
- Forest regeneration

While many strengths were associated with the natural environment of BC, there were far fewer opportunities identified. However, the potential for carbon sequestering and the opportunities provided by forest regeneration were clearly stated.

The forest economy

- Ability to capitalize on forest assets
- Multi use
- Harvest wood more sustainably
- Whole tree utilization - avoid waste
- Forest certification
- Certainty for sector
- Create investment climate that supports forest producers
- Wood quality
- Long fibre wood
- Regional diversity, existing infrastructure opportunity to leverage
- Manufacturing



- Value to be found in quality not just quantity
- Value-added products
- Value added – optimization
- Developing new products – bioproducts
- Develop new products (high value)
- Have the fiber resources to start producing new non commodity products
- Non forest commodities
- Nonmaterial products
- Operating platform to adapt and build from
- Skilled workforce
- Adage reforestations
- To diversify forest products
- Providing world with carbon products
- Grow opportunity to export out technology
- Markets
- Know your clients
- Integrate markets in BC forest products
- Strengthen market intelligence
- Ability to build and grow brand on strengths
- Ecotourism the biodiversity conservation
- More jobs at home

A large number of opportunities were associated with the economy. This reflects a widely held opinion that insufficient value is being obtained from the forest resource. Many of these opportunities related to better utilization of harvested wood, and greater diversification, especially of value-added products. It was evident that there was considerable divergence in understanding here, especially over the extent to which BC provides value-added products. The difference lies in the degree of value added, with some arguing that much more value should be added than already is.

First Nations

- First Nations cultural and language
- Long term First Nations planning
- Mutual learning
- First Nations commonalities province wide
- Draw on First Nations “TEK” for managing forests
- Embrace indigenous knowledge
- First Nations knowledge intimate by areas



- First Nations perspective knowledge and perspective can help better balance values
- Develop synergies between First Nations and knowledge values and biodiversity conservation
- Eco-cultural restoration – learning from Indigenous knowledge
- Combination of Indigenous knowledge and non – Aboriginal relationship
- New relationship
- Co-management

Many opportunities were also identified with First Nations, largely related to the better use of Indigenous knowledge and experience in managing natural resources.

Social aspects

- Research trading
- Shared knowledge
- Adaptions -> leveraging
- Maintain values that we care about , economically, social, and environmentally
- Education of mass public
- Skilled workforce – retrainable

There were relatively few opportunities identified in the social arena.

Governance and Policy

- Use evidence-based decision making
- Opportunity to strike a balance
- Opportunity to maintain globally an intact forest system
- Strengthen connection between R&D and industry
- Change legislation to allow for Aboriginal knowledge to be included in forest management
- Technology R&D

The opportunities identified in the governance and policy were broadly covered a variety of areas, and were undoubtedly influenced by the methodology, which focused on identifying positive opportunities. Many of the opportunities identified in this session would be compromised by existing governance arrangements and policies. These however are seen as obstacles to materializing the opportunities, and were therefore not considered at this point. This is emphasized in the next question.



The participants were then asked to assess which of these opportunities were possible, without debating how they might be done or what obstacles there might be.

O2: Without debating “how”, which of the Opportunities are possible? Cull the list until you have consensus.

The ecosystems

- Maintain globally care intact forests
- Forest growth restoration
- Carbon storage
- Carbon sequestration
- Silicon Valley of conservation finance

Forest maintenance and restoration, as well as carbon sequestration and storage were seen as key opportunities. British Columbia has a real opportunity to be a global leader in conservation finance and has already had some experience in this area.

The forest economy

- World verification of practice
- Manage for healthy sustainable forest ecosystems (2)
- Manage and optimizing for multiple values
- Grow opportunity to export knowledge and technology, certification
- Long fibre wood
- Have the fiber resource to start producing new products
- New high-value products
- Value-added products Improve commercial forest production
- Have the opportunity to translate new research on bioproducts into production – value added products
- We have the manufacturing platform to adapt and build from to produce new products
- To diversify the forest products, we use and add value
- Next generation manufacturing
- Skilled workforce adaptable
- Non-wood commodities
- Non-material commodities
- Diversify bioeconomy
- Vibrant bio-economy



- Increased net capital
- Innovation
- Competitiveness
- Market advantage
- Market endorsement
- Improve marketing – create value
- Ability to build and grown brand
- Adaption leverage technology
- World leader in wood construction
- Providing world with more carbon products
- Ecotourism B&B joint ventures

The long list of 'doable' opportunities associated with the forest economy is interesting. Many of the suggestions reflect some of the strengths reported on earlier, particularly surrounding the management of forests for multiple values and the opportunities to diversify the range of wood and non-wood products coming from BC's forests.

First Nations

- Combining indigenous and western knowledge
- Draw on FN knowledge (2)
- Better understanding First Nation perspectives, values and knowledge that can help us better balance forest values and conservation opportunities for more Indigenous management of forests
- Indigenous knowledge sustainability
- Embrace indigenous knowledge peoples and traditions
- Eco – cultural restoration
- Co-management
- First Nation partnerships
- New relationships = new opportunities

As earlier, the focus amongst the suggestions associated with First Nations focused on the better use of Indigenous knowledge, and better incorporation of it into forest planning.

Social aspects

- Education
- Increased skills



- Education of the public
- Shared knowledge learning
- Collaboration
- Opportunity to maintain enhance values we care about
- Creative destruction engine
- Leap frog
- Partnership international
- Sustainable/ stable jobs

The identified opportunities surrounding human capital were quite diverse, with a theme being education and knowledge sharing.

Governance and Policy

- Diversify land and resource ownership
- Multi-use option values
- Stabilize resource management and uncertainty
- Monitoring effectiveness
- EBM towards landscape lead planning to a more strategic cause
- Have not industry manoeuver our forests
- Have a shared vision of what we want from our forests (2)
- Value conservation and restoration
- Use evidence-based decision making
- Strengthen connection between R&D industry
- Leverage research into approach
- Potential policy innovation

For the first time at the Summit, a significant number of the suggestions focused on policy and governance. There was no particular pattern or theme to the suggestions, other than moving away from the status quo.



In the final part of the work on 'Opportunities', participants were asked to try to identify which of the feasible opportunities would create value, with value again not be restricted to financial benefits.

O3: Through your eyes, which Opportunities create the most value? No more than ten.

The ecosystems

- Manage our forests for biodiversity
- Creating maintaining biodiversity/ all values
- Valuing conservation
- Managing BC's forests for carbon
- Manage and protect carbon rich forests
- Carbon-climate change solutions
- Providing world with more carbon sequestration
- Managing forests for optimal carbon sequestration
- Balanced portfolio of forest values based on a healthy forest ecosystems

Two themes emerged amongst the land-based opportunities. One was related to placing a value (not necessarily monetary) on biodiversity and conservation, and the other surrounded carbon sequestration, which at the moment is greatly undervalued in British Columbia. Both of these actually relate to the opportunities identified below for the forest economy.

The forest economy

- Managing forest for more quality (wood, biodiversity, water)
- Manage for healthy forests
- Manage for healthy, sustainable forests ecosystems based on a shared vision of what we want from forests
- Healthy forests investment certainty
- Ecosystem values/ services/ carbon
- Opportunity to monetize
- Learn from and expand, refine, use of EBM in forest management rainforest
- Managing BC forests for fibre quality
- Capitalize on diverse and unique fibre attributes
- Leadership in manufacturing and protect innovation
- World leader in wood
- Wood quality
- Whole tree manufacturing
- Broader range of forest products



- Diversify the products and other values we get from forests
- Highest and best use
- Innovation and commercialization to get more value from wood per unit
- Bioeconomy and value optimization
- Petroleum product substitution
- Economic opportunity
- New high value products (2)
- Add value to forest product manufacturing
- Add value to forest (non-timber)
- Value added products
- Ability to build and grow brand
- Skilled workforce – adaptable
- Eco-tourism
- Recreation

There are a wide range of opportunities in the forestry sector that could provide value. Two major themes emerged. One relates to healthy forests and the major opportunities surrounding the maintenance of BC's forests in a healthy state. The other relates to the opportunities presented by the global move towards a bioeconomy. This is much more advanced in Europe than in BC, so the opportunities in BC are actually greater.

First Nations

- Harness the uncertainty in land tenure, ownership, title, and rights
- Incorporate Indigenous knowledge and rights into decision making (2)
- Involving First Nations in managing forests (knowledge, ownership, tenure)
- Reconciliation -> learning influences context of other opportunities
- Indigenous involvement
- Co-management
- Eco-cultural restoration
- Using First Nation knowledge, values and perspectives and increasing First Nation management of forests will better balance forest values and conservation
- First Nations partnerships

The ideas put forward in relation to First Nations firstly dealt with the resolving uncertainty associated with ownership, title and rights, and then covered a range of topics broadly related to the increased involvement of First Nations in forest management.



Social aspects

- I need a vision for our forests
- Education
- Training
- Knowledge transfer
- Public awareness and education
- Create a forest culture
- Creative disruption
- Opportunity for landscape level planning to incorporate broader range of voices and visions for the future
- Skills development and sustainable local jobs
- Strengthen connection between R&D and industry
- Export, share knowledge and technology, certification
- Dynamic and adaptive approaches
- Ongoing live systems and processes for values management
- Combining systems

The ideas put forward under this area were very mixed, and no clear theme emerged, although research, education and outreach was common to several.

Governance and policy

- Land use clarity
- Jurisdictional clarity
- Create a mixture of area-based models (public, private, community, First Nations)
- Manage more holistically
- Whole value understanding in forests
- Open/transparent shared data and 'state of the forests'
- Applying best science in a current context
- Expanded role for a forest watchdog (not just forests 'an over-arching' ombudsman)
- Opportunity = BC forest strategy
- Climate-based solutions

Several clear signals were evident here, including the need for greater clarity around land-use and jurisdiction, the need to manage the forest as a whole, and not just the timber, and the need to use the forest develop climate-based solutions.



Aspirations

In the third part of the Summit, participants were asked to look forward 50 years to what they envisioned BC's forests and forest sector might look like. To help them do this, they were asked to select a photo from a wide range of photos that were offered, indicating at the table what images the photo created for them. The emphasis here was again on the positive outlook: what they hoped the forests and forest sector would look like rather what they feared might be the case.

A1: What do you envision as the future of BC forests 50 years from now? Referencing your selected picture, tell your story.

The ecosystems

- Healthy forests and healthy rivers
- Healthy vibrant forests
- Healthy sustainable forests as the key objective
- Cooperation, healthy/shared forest ecosystem/water
- Climate-adapted resilient forest systems
- More resiliency
- Resilient forests able to respond to challenges as a result of resilience being a primary objective
- Extensive biodiverse forests resilient forests
- Old growth still intact
- Forest frontier stabilized and lower human impact
- Biodiversity and have eco-values
- We appreciate the value of forests left standing
- Eagles and salmon – sustainable forests and oceans
- Soaring – having a broader vision of our forests
- Forests valued relational as living beings
- Forests as valued as living and relational beings
- Abundance
- Diversity/ intact to combat carbon
- Embrace and be a leader in forestry-climate solutions
- Restore and maintain carbon sink in forests
- Restoration of past damage

There are clear themes in this area: participants look forward to healthy forests that are resilient in the face of climate change and other stresses. The forests are diverse (an element of resilience) and old-growth is intact. They are playing a role in mitigating the effects of climate



change by being a significant carbon sink. The value of standing forests (as opposed to cut forests) is recognized.

The forest economy

- Landscape-scale area-based management
- Ecosystem based approach to forestry
- Landscape plans in the future will reflect a broader range of values
- Tenure before facilitative no species at risk
- Approaches founded on long-term sustainability values
- Sustainability
- Ecological, economic, social, cultural
- Alignment on forest management
- More predictable and stable forest management
- Leading conservation finances bio-economy transit
- Optimized tree and forest utilization
- We are making the materials of the future
- Forests are playing a part in the circular economy
- Higher level manufacturing
- Diversity – products managements
- See value in all, new values
- Jobs that are stable, diverse and sustainable-based
- Forests providing basis for sustainable resilient communities

In this area, there was an emphasis on landscape-level, ecosystem-based approaches to forestry, with a focus on ecosystem sustainability. The material harvested from forests will play a major part in the bioeconomy/circular economy through a more diverse range of products.

First Nations

- Resolve and rectify Indigenous rights and titles for stability and certainty on the land base
- Having more shared decision making with Indigenous peoples and more holistic management
- Indigenous culture is fully incorporated in planning
- Inclusions that supports a collaborative framework
- Rebirth of industry fed by opportunities UNDRIP fully realized
- Restore First Nations relationship



The themes that were apparent were similar to those emerging in this area in the previous questions, namely increased certainty on rights and title and more involvement of First Nations in forest management and planning.

Social aspects

- Forests that are still beautiful
- A reverence and respect for our forest that does not undermine how beautiful that they are
- Having the knowledge to grow a healthy, young, and adaptive forest
- Balance among land uses and values, respecting all values, including the human component in forests
- Advance to get it right for future generations
- More humble and resilient
- We are learning from nature
- We are all working together towards a collective goal
- Integration between built and natural environment
- Effective fluid adaptive management
- Balance
- Open communication among all interests
- Doing more with the same resource to meet society's needs
- Renewal, love, circle of life
- Harmony with nation
- Human activities modified harmonically
- Balance/ resilience/ win/win for all

Themes emerging in this area revolve around a desire for a deeper respect for the forests of BC, and a more open and transparent dialogue between the parties with interests in the forests.

Governance and Policy

- Decentralized land management government models local accountability
- Forest managed by the local people of the land
- Locally owned, invested
- That we will do the right thing with the land for the future
- Decisions are based on holistic approaches
- Achieved no net loss approaches
- Balanced across values and interests



- Agreement on value metrics
- Agreement on targets and indicators in resource
- Agreement among parties in that forest management represents of all values
- Smooth clear and long-term coordinated in decision-making
- Big changes/ beyond the status quo
- Substantial shifts in future

Participants expect that the current situation in the forests and forest sector will have changed substantially in the next 50 years, with much greater emphasis on the local control of forests. They anticipated that there would be a more open process of reaching agreement on the values that forests are managed for, and that there will be more holistic approaches to management.

Participants were then asked to inform the Summit which of the stories they had heard in the first round inspired them. This provided an opportunity to find out what participants really hoped for from the future forest sector.

A2: Having heard all the stories at your Café, what one or two things inspire/excite you about the future?

The ecosystems

- Healthy, resilient forests
- Green, healthy forests
- Climate-adapted resilient forest systems
- No species at risk
- Recognition of the need to manage for biodiversity for a healthy forest rather than sustained yield
- Broad recognition of importance of climate change mitigation and the role of forests
- Forest management systems that have resilience as the primary objectives
- The health of the land, rivers, forests are recognized as the foundation of society and economy

The emphasis here was on healthy and resilient forests, and the desire to manage these for biodiversity and for carbon sequestration and storage, and not solely for timber yield.

The forest economy

- Our healthy forests are generating benefits to all and are managed innovatively
- Clarity and certainty on the land base, shared values for the future
- We have great resources in BC to start with opportunity to be a world leader
- Reconciled differential value perspectives
- Stable economy
- Manage forests for economic benefit to put back into area forests
- Using natural products
- Bio-based products vs. toxic products
- Better use of materials to increase value, reduce waste
- Renewable resources have displaced non-renewable
- There are exciting technologies out there that we don't even know about that could help
- We need transformative change (and we are close to recognizing this) BC can and should be a global leader in climate mitigation and carbon management
- Using the climate crisis to change how we value forests

Inspirational aspects of the forest economy were much more limited than when strengths and opportunities were discussed. The possibility of new products was one theme, as was the need for transformative change.

First Nations

- Harmony with nature, First Nations values and beliefs
- Store First Nations relationships and find balance
- Return to understanding/ inclusion interconnectedness of everything
- A post-reconciliation world with respect where needs of all are met
- Incorporation of Indigenous values and knowledge
- Indigenous peoples fully benefit from forests on their traditional lands

The aspirations related to First Nations were focused on the same themes as identified in other sessions, specifically greater benefit-sharing and greater respect for the connections between people and the land.



Social aspects

- Society seeing healthy ecosystems as central purpose of forests
- Beautiful forests that complement the people and serve the local needs of the community that are achieved through a diversity of views
- Passion for forests
- Educated population driving innovation
- Inspire/excite future
- Reduced emission of carbon impact from society
- We have the opportunity to choose the future we want
- We are at a point in time where people want to change the status quo
- Change opportunities with new beginnings (dignity, education, equity, reformation of production of forest products)

Societal aspirations focused on a new perception of forests, focused on the health of the ecosystem. There was recognition of the need for substantive change, and the idea that people would be actively promoting change.

Governance and Policy

- Localized governance and accountability
- Most of the province has one owner – it is ours
- Public policy reflecting consensus on the value of biodiversity and climate
- Global consensus on climate change action

The ideas in this area were mixed, with both localized governance and a single owner being seen as the future. There was also a desire to see consensus – primarily on climate action.

The final question in this section asked people to imagine what aspects of the BC forest sector would be celebrated globally 50 years from now. It generated a lot of ideas, suggesting that there are many opportunities for British Columbia's forest sector to be internationally recognized.

A3: Imagine it is 2070. What are BC forests known and celebrated for globally? No more than ten.



The ecosystems

- Healthy, resilient (2)
- Climate-adapted resilient forests
- Leader in healthy biodiverse ecosystems
- Healthy forests are an expression of global responsibility
- Ecosystems support healthy wildlife populations in balance with capability
- Having vibrant natural communities
- Wildness and other values
- Wild places
- Biodiversity
- Biodiversity (all 1807 SAR. Recovered)
- 13 ecosystems
- Old growth
- Regenerated forests are representative of our natural forests
- World leader in conservation
- Unified vision conservation sustainable production
- Protected – Stewarded
- Major influence of carbon dioxide reduction
- World's biggest carbon sink
- Recognized carbon bank with withdrawals and deposits
- Global leader in climate mitigation and carbon management
- Forests will be improving the quality of our lives. Everything will be better

As in some of the previous sessions, there was a hope that British Columbia would be world-renowned for its healthy and resilient forests. It would have vibrant natural communities and many wild places. All species at risk would have recovered. It would be a global leader in carbon conservation, and its forests would be sequestering and storing large amounts of carbon.

The forest economy

- Celebrated for innovation in forestry industry, innovation, education
- Best forest practices
- A diverse suite of management approaches to produce resilient forests for different objective and ecosystems
- Globally recognized for innovative practices
- The benchmark for globally recognized for forest management practices
- Forests that are sustainably managed
- A holistic view of forest management that respects all values



- Integrated resources management for multiple values
- Multiple values in a unified approach
- World leader for managing forests for multiple values
- Sustainability and predictability in forest management
- Healthy, resilient, and adapted to a changing climate (forest economics)
- All forest values equal – not timber values
- Sustainability (2)
- Forests that support diverse local economics
- World leader in a biological economy
- Optimization and value maximization
- A diversity of forest products
- Certainty of high-quality wood in a 7 generations philosophy
- More innovative fibre value optimization
- Value added
- Local jobs
- Vertically integrated manufacturing
- More energy from fibre
- World leader in wood construction
- Global contribution to sustainability
- Highest values environmental forest services/products in world
- That we remain a beautiful place to visit while at the same time creating the most diverse range of products efficiently

The forestry sector in 2070 would be world-renowned would have innovative and high-quality forest practices that respected all values. Our forestry would be recognized for our ability to truly manage forests for multiple values. We would be a world leader in the bioeconomy, with a diversity of value-added products that brought local jobs to communities across the province. We would be a world leader in wood construction and would be making a global contribution to sustainability.

First Nations

- Unique cultural base, 1 trillion natural leading bio-energy
- Integrating indigenous knowledge
- World leader in inclusion of First Nation co-management
- Management with Indigenous nations
- Equality in the management of values
- Forest in BC are recognized for incorporating the Indigenous principles
- Indigenous forest management incorporation Indigenous cultural values



- Cultural harmony
- Forests homes for cultural resurgence
- Implementation of UNDRIP
- We manage for a diversity of values and biodiversity with the inclusion of Indigenous peoples on the land base

Forests would be the home for a cultural resurgence of First Nations. First Nations would be managing the forests, either alone or in co-management agreements. BC would be recognized globally for the way in which First Nations' values were incorporated into forest management.

Social aspects

- People having an intimate relationship with the land and forests
- Average life span of people in BC will be longer than elsewhere because of the forests
- Social consensus how forests are managed
- Known for dynamic life
- Leading to qualities (resilience, quality), beauty, healthy, finished products
- Supporting resilient communities
- Cultural diversity
- Social justice community based
- There is pride in how our forests are managed

The people of BC would be proud of the way forests are managed, and would recognize the intimate connections between their health and the health of BC's forests. The healthy forests and environment would extend the average lifespan of BC's population. Policies would support resilient communities.

Governance and Policy

- World recognized leaders in intergenerational, integrated, sustainable, engaged coordinated land stewardship and governance
- Decentralized land management
- Reconciled land government model – Redefined ownership model -> more local/regional/Indigenous integrated model
- Management approaches principles in long term sustainability
- Prioritized environment health

British Columbia would be recognized globally for its approach to land governance and stewardship, and the balance achieved between local, regional and Indigenous control and management of resources. Policies would prioritize environmental health.



Results

In the final session, participants concentrated on the results part of the SOAR process. There were some concerns at this stage as it was felt by some that the summary process used during the actual Summit missed many of the nuances associated with the ideas being generated. This was an inevitable part of the process, but caused some discomfort. The ideas that were generated in this part of the Summit should be viewed with this in mind. Choosing long-term indicators is a rigorous process that requires considerable thought and study. The ideas presented here more provide an affirmation and reality-check of the ideas generated in the previous section on aspirations.

R1: To determine if BC forests 2070 is tracking to become a reality, what leading indicators would you want to see? Consider these through a strategic lens.

The ecosystems

- Reduced number of species at risk (3)
- No extinctions or extirpations of species native to BC and recovery of species at risk
- Number of species and ecosystems at risk (less is good)
- No increased species at risk
- The same percentage of natural forests plus improved biodiversity
- Diverse plus healthy biodiversity
- Percentage forest cover
- Salmon runs abundant province wide
- Amount of old growth protected
- Populations of wild creatures
- Recessive derived from carbon capture
- Healthy, vibrant, evolving carbon neutral industry
- Carbon negative sink (2)
- Climate change impacts mitigated
- Is the land the same or better?

There were many ideas for indicators. One group focused on the number of species at risk, a good indicator if the goal is to have no species at risk. Others focused on the habitat, such percentage forest cover, and the amount of old growth. A final group related to carbon, extending beyond the forests to include the forest products industry.



The forest economy

- Multiple revenue streams from forests, including carbon, recreation, wildlife
- Net asset values BC forests
- Annual gross revenues (reduce volatility)
- Percentage wealth reinvested in forest management
- Investments in conservation and restoration from a variety of sources
- Capital investment in innovation by industry
- Net investment capital inflow and outflow
- Total resources from non-timber
- 0 percentage harvested and mill waste
- Utilization processes that are efficient and predictable
- Total value added per meters cubed plus gross profits
- Healthy Economy
- Percentage of SFM certified forest
- Nothing for the Forest Practices Board to do
- Jobs/ Value per meters cubic m harvested
- Percentage of log processing in BC (goal 100%)
- New value-added products
- More value per meters cubed of wood economic growth comes from innovation rather than increased logging
- Employment in forest resource sector
- Controversy: fewer lawsuits
- Financially independent forest communities due to carbon credits
- Effective practice of forest restoration

Again a range of indicators were suggested. These included following multiple revenue streams associated with the forests, the amount of capital investment (not just by or in the forest products industry), levels of utilization, the value added to logs processed in BC, the role of genuine innovation in increasing revenues, and forest restoration. An interesting indicator that was suggested in different ways was the number of disputes – in the form of lawsuits or complaints to the Forest Practices Board.

First Nations

- Revitalization of languages (indigenous)
- Percentage of land managed owned by First Nations and private sector
- Increased indigenous management of forests and shifts in tenures to First Nations, communities, and partnerships



- More co-managed forests plus lands with indigenous peoples
- Co management practices with First Nations
- Shared/ co management with First Nations
 - Decision making plus benefits
 - Number of joint ventures
 - Value of joint ventures
- Social/economic outcomes for communities (Indigenous)
- GDP of First Nations
- Vibrant communities especially First Nations
- Consistent with 'UNDRIP'

The proposed indicators were related to the proportion of forest land owned, managed or co-managed by First Nations. There was also interest in seeing measures that recorded the economies of First Nations. A particularly interesting indicator was the resurgence of languages, which is linked to the desire to see forests become the home of a cultural resurgence amongst First Nations.

Social aspects

- Number of community evacuations and annual life losses and insects, and uncontrolled floods, drought
- No more boil water advisories
- Longer life expectancy (healthy forest/healthy people)
- Healthy forest reinvested abused communities
- Healthy diversified community
- If rural populations are declining, we are not on the right track
- Gender participation and employment equity in forests businesses
- Working together on shared vision
- Reduced conflict over forest values and land use
- Significantly reduced number of conflicts / universal certainty
- Big picture thinking
- International recognition
- Environmental and social values included in all activities
- Augment harmony with cultures stake holders
- Social well being/wellness
- Community access to intact forests, forest recreation, ...
- Widely supported vision for BC's forests that puts health of the land and forests first



The potential indicators of human capital related to the number of community evacuations and boil water advisories, the incidence of conflict and indicators associated with social wellbeing and wellness.

Governance and Policy

- Ownership reform
- Diversity of tenure (2)
- Increase in number of values forests are managed for (emotional plus spiritual wellbeing)
- Government policy/ legislation to enable the visions
- BC's forests are a significant carbon sink and integral component of BC's plan to reduce GHG emissions.
- Net emissions profile of forest and world products

The indicators relate to tenure reform, values that are managed for, carbon and the extent to which Government develops policy to enable the vision of British Columbians to be materialized. There were also suggestions related to using carbon as an indicator.

The second question, and the final one in the process, asked participants to think about the results that might define the collective success of the forest sector in 2070. The aim was to have participants how their particular interests might fit in with the aims of others.

R2: Which items from Question 1 benefit the collective success of BC Forests 2070? No more than ten.

The ecosystems

- Important unique ecosystems and forests are preserved
- No extinctions or extirpations of species native to BC and recovery of species at risk
- Delisted species
- Species recovery increasing stabilizing
- % Forest Cover
- Persistence of diverse seral stages
- Biodiversity (2)
- Resilient forest
- Healthy water quality and quantity
- Vibrant stable salmon stocks
- Water/ Forest Universal Protection



- A plus on the report card for ecosystem health
- Fire insect and other losses are within historical movements
- Reduced frequency in landscape level disturbance
- Increased rates of carbon capture and storage
- Carbon stock (sink/source)
- Stable or growing carbon reservoir
- Effective practice of forest restoration
- Grouped similar indicators

Many of the possible indicators remained the same as in the first round of the 'Results' discussion. They included species at risk, salmon stocks, frequency of landscape-level disturbances, carbon stocks and effective ecosystem restoration.

The forest economy

- Widely supported vision for BC's forests that puts health of the land and forests first
- More focused approach to Silviculture
- Management for a diversity of values
- Net asset measured holistically is increased
- More dedicated intensively managed forests on a smaller footprint
- Long term management perspectives are leading
- Productivity of secondary forests
- Work safe landscape loved management approach
- Investments in conservation and restoration from a variety of sources
- Inward investment in forests
- Net investment capital inflow
- Forest-based revenues are diverse and stable
- Multiple revenue streams from forests, including carbon, recreation, wildlife
- Increased non-timber revenue
- More value per meters cubed of wood economic growth comes from innovation rather than increased logging
- Greater diversity of value-added products
- Numbers of value of forest products from forests
- Number and value of NTFPs
- Less industry waste – more uses for waste products
- 0% Waste (Harvest and Mill)
- Use all parts of the tree (no waste)
- Full harvested product utilization
- Gross value add per meter squared cut increasing



- More market products diversity to support more employment per meter cubed
- Vibrant self-sufficient commerce
- Proportion of goods consumed locally
- GDP of long related activity (resilience)
- Delighted customers
- Opportunity for employment from non-timber values in forests
- Increasing rural employment stats – in forestry

Suggested indicators covered both the management of forests and the forest products industry. They included more holistic monitoring of the resource to cover its multiple values, monitoring of investment in both forestry and conservation, greater utilization of harvested materials and employment in the forest sector as a whole.

First Nations

- Proportion of lands managed by Indigenous groups
- Increased indigenous management of forests and shifts in tenures to First Nations, communities, and partnerships
- Shared/ co management with First Nations
 - Decision making plus benefits
 - Number of joints ventures
 - Value of joint ventures
- Co-managed lands
- Effective co management model be indigenous + non indigenous communities
- Equitable sharing of debriefs with indigenous people
- Increased participation towards of land by First Nations and Pinyate Setol
- Reconciliation has stabilized perspectives/predictability in land management

Almost the same results as is the first round were considered valuable for the monitoring of the extent if First Nations involvement with forests. They included the proportion of land owned, managed or co-managed by First Nations and the economic opportunities being provided to First Nations' communities.



Social aspects

- Reduced conflict over forest values and land use
- Collective success
- Community well-being
- Adoption of more diverse systems
- Increased garden equity and cultural diversity in forestry section

Suggested measures related to the number of conflicts, community well-being, and measures of success.

Governance and Policy

- *No items*

Parting thoughts by participants

As participants left the Summit, they were invited to provide some parting thoughts. These have again been categorized, but include a further category: recommendations about the process and next steps. The last category refers to recommendations for the Summit organizers, rather than recommendations for next steps within the Province as a whole.

No attempt has been made to summarize these thoughts as they are all worth considering, and could form the basis for further discussions. The recommendations are being considered by the steering committee: there will be a follow-up, but this needs to be undertaken within the constraints imposed by the COVID-19 crisis.

The Ecosystems

- Economic and ecological aspirations cannot be “balanced”. We claimed to do this but failed. Economic aspirations must respect nature’s limits, ensure species and ecosystems are protected, including environmental services
- The effective management of BC’s forests, including restoration and other silvicultural practices, is the ONLY viable option for removing and storing large tonnages of CO2 from the atmosphere in B.C. The effective management of BC’s forests, on public, private, and FN lands, must play THE dominant role in having the province achieve its carbon management and climate mitigation goals and obligations.



- All aspirations require stabilizing the climate, i.e. phasing out fossil fuels and saving natural carbon sinks. There is an opportunity to shift fossil fuel subsidies to reformed forestry for the 21st century
- We need accurate tracking of forest carbon budget and best practice to achieve benefits of forest C sequestration

The Forest Economy

- Truly holistic stewardship requires timber as a “by-product” (Herb Hammond) not be the primary driver. Addressing the climate crisis requires managing for carbon, for species, clean water and other crucial services
- Embrace creative destruction of some existing industries and institutions.
- Stop slash burning!
- Move away from fibre-centric forest management model to include other values
- Integrated carbon tax and offset program whereby companies captured by the tax can use nature based solutions offsets including restoration/conversation bio mass fuel switch in lieu of paying the tax

First Nations

- Transfer land ownership to First Nations
- Recognize title and rights as part of all land use decision making
- To move forward we need a couple of pilots where land base is turned over to First Nations with investment partners to drive innovation and get government out of the way
- First Nation traditional territories recognized as legal jurisdictions to develop nature-based solutions offsets including restoration and bio mass fuel conservation to thereby receive the benefits (financial) to benefit local F.N. communities.
- Indigenous relations
- Communicate to understand what First Nations want/need
- Incorporate First nations fully in forest management and discussions – cooperative management
- SOAR exercise results must be reviewed in context of climate crisis. Economic results like “full harvest prod. Utilization” must be consistent with the goal to restore and maintain natural carbon sink, not damage it
- Question: How can partnership be made effective with First Nations and BC



Social aspects

- Need to encourage de-urbanization
- Celebrate successes.
- We have many positive things happening to celebrate
- Informative day, but to me the insistence of positivity and optimism didn't provide space for the conflicts we need to have in order to move past our differences into joint solutions. Decolonization and the climate crisis require fundamental re-thinks, and we can't do that if we're not honestly grappling with current problems.
- Develop trade-off metrics for conflicting objectives
- More community based decisions on local forest management → community forests, ???, conversation, recreation
- "Educate" each other based on facts and figures
- Continue to look forward in improving forestry with being more inclusive of all stake holders and communities and meeting on a more regular basis

Governance and Policy

- Need to find a path forward for private ownership of forest land. This can include First nations. Self-responsibility!
- Consider political lens and associated issues – e.g. need for economic diversification strategy in some communities? Jobs plan for non-timber forestry jobs? Funding?
- Quantifiable indicators
- Broaden the mandate of the Forest Practices Board to make it able to address future aspirational issues such as those raised here
- Modelled on PICS: "BC Institute for forest stewardship solutions"
- We need government to develop pilot projects in co-management of forests for multiple values in collaboration with Indigenous groups based on "7 generations" rotations
- Idea: Need more data about forests, forests products and communities
- It's time for a forestry vision in BC adapted to the 21st century
- Consider carbon storage in decision making/direction



Recommendations

- Key “result” from this exercise broad common vision for a 21st century model of forest management where social justice, ecosystem services, carbon, and resilience are central objectives. This is important and should be trumpeted from the roof tops.
- As much as possible, more specificity, avoid “consensus by generalization”
- Words on flip-charts should be word-processed, and files shared. There may be better ways to aggregate thoughts among groups – it would be good to have a second look at them. Some right now (e.g. Aspiration “unified approach to sustainable production”) are meaningless.
- Disregard weighting (process wasn’t designed to get proper weightings)
- Remove weighting from Aspirations and Results
- Have a second look at the summaries to refine the bullets and catch any key missing items
- Randomize the SOAR inputs. Weighting is controversial but ideas are good.
- Relate this back to the survey we did before we came – how does it relate
- Put all the words into a picture or art work
- Get a forestry expert to re-cast the bullets into terms easily understandable by all
- Share the results openly with all forest sector parties
- All participants to receive all data
- Open all possible communication channels
- After advisory committee reviews material, prior to publication, or report, have participants review and comment on report
- Parsing raw data by non-forest policy folks may have missed important nuance
 - I: have someone or two with forest policy expertise (BC) review the summarizing for the SOAR outcomes
 - S: Do the above
- This is a great beginning to creating a diverse and sustainable future for BC forests – and a future we can be proud of.
- Really appreciated UBC putting this on and providing a space for thoughtful conversation – it’s sorely missing from the broader public and political conversation on forestry.
- This is a good start, now let’s make it happen!
- Make the aspirations and results more tangible – what needs to be done to get to these goals and what needs to change?
- There needs to be a recognition of a shared vision
 - Idea: Form a leadership group to finalize the vision and come up with a plan to implement



- Suggestion: Include more experts in the conversation
- Clarify next steps
- Include youth
- Test our results with younger demographic (3rd-4th year university)
- Today's group is heavily weighted to urban, dominant culture
 - I: Find out if rooms gathered elsewhere have similar or divergent outcomes from this exercise
 - S: replicate this exercise with a couple rural communities, First Nations, etc.
- Need more voices at tables. Will plans moving forward make it possible for a competitive forest industry in BC in 2070?
- Review and talk about the outcomes with targeted groups to “test” the rigour of the outcomes and create buy in for a new future in 2070

- Consider similar workshops, Round 2 with another group of people from the sector
- Continue this process somehow – further workshops, subgroup, develop a plan for how to implement the vision
- Feed the results of this workshop into other processes and groups (e.g. FN climate initiative)
- Encourage multi-sectoral dialogue on our forests
- Another forum would be good to discuss ideas for “how to” get from where we are now to 2070.

- Identify a subset of us to take this to provincial government
- Do a summary document recommendation to our sitting BC Government on our results
- Report out to government – have a couple people with high credibility do it (FN leadership, political, bureaucracy)
- How to take this conversation to government
- Positive discussions today with many perspectives but many common values need to be captured and translated into a white paper about future directions. Thank you.
- Share success, leading to fulfilment of aspirations that we have witnessed in our particular area, with the group
- Consider successful example on cases that have worked out in other places or times
- Find win-win solutions
- Thoughts lead to action lead to results
- Mine the information gathered and establish a destination
- Find the results that are not quantifiable and think about ways to measure/quantify them
- Great initial discussion today. We need to find ways to broaden the discussion and accelerate change. Let's start by creating pilot projects etc. that can attract private investment and demonstrate what is possible



Actions and next steps

- 1) Send Summit info and David Brand's speech to:
 - BC Govt/UBCM/Other parties
 - Aboriginal leaders
 - Environmental leaders
 - Forestry leaders – business and labour

- 2) Agreement in principle from above

- 3) Fall 2020 – Summit on next steps to implement
 - Form an independent body to further the vision, plan, implement
 - UBC needs a bigger forest policy capacity in this realm – ideas need research behind them
 - Arms-length, independent think and do tank. Established to work with government, industry, F.N., civil society and academics on implementing this emerging vision through applied policy implications.
 - Establish an independent forestry think tank to provide input into policy and forest practices

 - Produce a white paper and reconvene in 6 months
 - Send out a summary document to the First Nations in BC
 - Prepare an Op Ed for Vancouver Sun (and maybe one for the Forestry Chronicle) which distills the essence of our SOAR as an exercise in public consciousness raising
 - Develop a transition strategy and implementation strategy
 - Be clear this is vision, not policy – cannot be implemented as written
 - Build a forest accord from our key aspirations and results that will allow FN people, governments, NGO and industry to endorse
 - Do not stop now that this working vision has been created. Continue to implement through a work plan.



A vision for British Columbia's forests

The remarkable level of agreement that was reached at the Summit by so many different interest groups is very powerful. It was not a consensus, and a consensus was not sought. Rather, it pointed to a potential way forward. To summarize this vision and goals:

Vision:

British Columbia is renowned for its healthy and resilient forests that are the foundation for all forest-related activities.

Goals:

- Damaged ecosystems are restored, and species at risk have fully recovered.
- Wild areas and old-growth forests are retained through conservation, and British Columbia is recognized globally for this.
- The forest is managed for multiple values, and cut levels are determined on ecological principles.
- First Nations are heavily involved in the management of forest lands, owning a significant portion of the forest estate and co-managing large parts of the remainder.
- British Columbia's forests are a massive store of carbon, and sequestration is enhancing this, and there is an active carbon trading market. As a result, the forests of British Columbia are making major contributions to the achievement of domestic and international carbon management and climate mitigation policies and objectives.
- Investment and revenue streams from ecotourism, recreation, carbon and the conservation economy are significantly enhanced.
- The forest products industry is a major employer, particularly in rural areas, and utilizes fibre obtained from forests in an optimal fashion.
- It has secure, economically viable, timber supplies, is innovative and has diverse markets for its products.
- There is a diversity of manufacturing units producing a wide range of value-added products that satisfy the needs of the emerging bioeconomy, as well as more conventional products such as engineered wood products.
- Rural communities have become vibrant and dynamic.
- Supported by a range of world class universities and training institutions, British Columbia is the foremost global centre of expertise in conservation, forest management and advanced forest products processing, and has some of the best-trained and highly skilled forest-related people in the world. This expertise is sought all over the world.



Postscript

Shortly after the Summit took place, on March 5, the first case of community transmission of COVID-19 in Canada was confirmed in British Columbia. Soon after, the province, and the rest of Canada followed many other parts of the world in shutting down much of its economy. Although forestry was declared an essential service, supply chains and markets have been severely disrupted. Recreation activities in forests were severely limited and provincial parks and recreation sites were closed. About 24 mills in the Province had curtailed activity or were shut down prior to COVID-19-induced restrictions, and a further 21 have shut down or curtailed their operations since then.

At the current time, it is very uncertain what the post-COVID forest landscape in British Columbia will look like. Reductions in timber supply are forcing some forest products mills to close, and increasing uncertainty is discouraging investment. The current situation is dire, with many rural communities, and the people who depend on them, suffering. The time is ripe for a major reset of the forest sector, and the first step is decide what we would like to achieve. The Summit has provided this.

The next steps will involve ensuring that there is broad consensus on the vision, and then determining how we will get there. The Steering Committee for the Summit has agreed that that a Strategic group should be established that should consist of senior figures able to determine how the vision might be achieved, and able to initiate steps to do this. Online consultations will be organized, and an online conference (or face to face in the unlikely event that that such meetings are permitted) will be held in the fall of 2020.

Since the Summit, a number of reports have been published or more widely circulated (some examples are listed below) and integrating the many ideas presented in them, as well as other emerging concepts and policies, with the ideas presented during the Summit will be a major challenge. However, with adequate thought and care, this should be possible.

- *A Framework of Improving British Columbian's Standard of Living. Economic Plan 2019-2020.*
- *Putting Innovation to Work for British Columbia: Growing B.C. Companies*
- *Emerging Economy Task Force. Final report – March 2020*
- *BC's Old Growth Forest: A Last Stand for Biodiversity (April 2020)*

With thoughts now turning to the recovery of the post-COVID-19 recovery of the economy, the opportunity is there to weave together a future for BC's forests and forest industry.



Appendix 1.

“Forces Transforming the World’s Forestry Sector and Implications for British Columbia” remarks by David Brand, CEO, New Forests, Pty, Ltd., to Forests Summit 2020, February 27, 2020, University of British Columbia, Vancouver, BC.

Let me begin by thanking John Innes and the Faculty of Forestry for inviting me to participate in your discussions this evening and tomorrow. As an alumnus it is great to see that the Faculty is prepared to host this strategic conversation at a time when the forestry sector of BC is facing important challenges. I hope I can contribute, in some small way, to your deliberations over the next day.

I started my career in Forestry here in BC in late 1978 and spent four years working with the BC Forest Service and then Weldwood on the coast, before doing my Ph. D. in Forestry at UBC, then moving back east in 1986, and then down to Australia in 1995. It has been a long time since I worked here in forestry, and therefore you don’t have to worry about me flying in from Sydney to tell you what to do.

What I thought I would do is first briefly introduce our company New Forests, then talk about some of the main international trends I see affecting the forestry sector over the next 20-30 years. I suppose to use the Canadian analogy, I will try to paint a picture of the where the puck is going, rather than where it is today. Then I will talk about some examples of forest policy evolution in different parts of the world and conclude with some thoughts on how BC can consider where it wants to position itself for the future.

New Forests is an investment management business in forestry. We operate about 1 million hectares of intensive hardwood and softwood plantations, conservation areas, forest carbon projects, sawmills, and infrastructure across Australia, New Zealand, SE Asia, and the United States. Our clients are pension funds, insurance and reinsurance companies, and sovereign funds. They see forestry as a long-term investment which matches their liabilities to pay future retirement benefits, health care costs, or insurance payments. Our goal as an investor is to help create landscapes that effectively balance conservation and production functions, as well as investor returns with community benefits.

Let’s now turn to what is happening in the world of forestry today.

I would say that there are six big trends to consider



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- Shifting of wood demand driven by the rise of China, and behind it, India and then Africa
- Shifting of incremental commodity wood supply to intensive plantations in the Southern Hemisphere
- Restructuring of markets for wood and wood fibre to meet the demands of the emerging bioeconomy
- The rise of sustainability and climate change as economic drivers of forestry
- The increasingly central role of communities, including indigenous communities in forest management
- The changing capital base of forestry and rise of institutional investment

Let's start with demand. If we go back 30 years, there were three main forestry markets. There was North America with the huge US housing market, as well as big newspapers like the NY Times, and printing and writing papers. The harvest of timber from the US and Canada, about 500m cubic metres per annum, was sufficient to meet demand. Europe was similar, with close to 500 million cubic metres of timber demand, largely provided by forests in Scandinavia and central Europe, augmented by tropical hardwood from Africa. The third market was Japan, which was largely an importer of softwood from North America, and hardwood from SE Asia. China was a very limited demand source, and was largely self-sufficient until about 15 years ago, when they outgrew their domestic supply of timber. Effectively over the past 15 years all incremental demand for timber has come from China. China's demand for resources has had substantial implications for the forestry sector. Forest owners in Australia and New Zealand have very good returns, Brazil has built a globally competitive hardwood pulp industry, the Russian forestry sector has been reborn, and Western North America gained a major new market—which was especially helpful after the global financial crisis in 2008.

Alongside this demand rise, however, has been a creeping shift in the supply side of the international forestry sector. The North American timber harvest peaked 30 years ago and has been flat since then. Europe is also largely flat at around 470m cubic metres of supply, SE Asia has been overharvested and has 1/3 of the supply from 25 years ago, and various consultants I have talked to about Russia suggest that the 400 km haul distances are a symptom that most accessible timber has been exploited. On top of that have been extensive bushfires and insect epidemics in natural forests. While this has been going on, the plantation base of the Southern Hemisphere has steadily grown, now to about 12m hectares in the southern cone of Latin America, 3.7m hectares in Australia and New Zealand, and about 4 or 5m hectares in SE Asia. Those 12m hectares of plantation in South America are now producing as much timber as



Scandinavia and Central Europe combined. The 3.7m hectares of plantation in Australia and New Zealand now produce more timber than the 22m hectares of working forest in British Columbia.

Of course, the supply and demand statistics tell only part of the story of how the forestry sector is changing.

When I started New Forests 15 years ago, there was no iPhone, no iPad, and people read newspapers daily. Now information is largely consumed on electronic devices and paper demand has declined. But the forestry sector has adjusted. I remember in the 1982 recession they said that forestry was a 'sunset industry'. In the mid-1990s in the first tech boom, they said that forestry was an example of the 'old economy', after the iPhone it was said that the forestry industry was being 'disrupted'. But today, the industry has incredible new markets in energy, liquid fuels, biochemicals, new cellulosic fabrics, fillings, additives; new construction systems including glulam and cross laminated timber and on and on.

We have invested in a great sawmilling business called Timberlink in Australia and New Zealand. We have supported re-investment of profits in the business, ensuring we are a low-cost producer, and have recently approved a new plant to combine our sawmill waste with recycled plastics into an extruded decking product that replaces the diminishing supply of tropical hardwood decking. We are also building a combined CLT and GLT plant alongside our largest sawmill that will principally be targeted towards mass timber construction in mid-sized buildings. Some projections suggest that demand for all types of woody biomass, fibre and building materials could raise by up to 4% per annum between now and 2050—that would almost quadruple demand.

My view is that the forestry sector will need to evolve into a biomaterial sector and that the challenge is to grow biomass as productively as possible on as small a land base as possible and to then re-form that woody biomass and fibre into a myriad of sustainable, renewable, recyclable and decomposable products. This is being called the circular bioeconomy.

Which brings me to the issue of sustainability. A year or so ago I tried to figure out what it would cost to buy the entire forest cover of the earth. Using both a discounted cash flow approach, and a bottom up area times value approach I got about \$USD800b. Just for comparison, the real estate value of Manhattan is \$USD1.5t, almost twice the value of the world's forest cover. I found that disturbing, given that our forests and associated soils contain more carbon than the atmosphere, regulate most fresh water on earth, and support about 50% of the diversity of life on earth. That is a massively mispriced asset! In BC's case you would probably find that the real estate value of the West End is greater than the entire 50m hectares of forest.



A couple of years ago it was calculated that less than 3% of investment to address climate change was directed into sustainable land use and forestry. Yet scientists also project that 25-30% of the emissions reductions over the next 15 to 20 years could come from sustainable agriculture and forestry, conservation of natural ecosystems and reforestation. I have sometimes been frustrated by commentators who say, 'we must focus entirely on reducing and ultimately eliminating the use of fossil fuels—forest conservation and reforestation are a distraction from this goal'. We need to do both. The problem is that 25% of global emissions are from the land use sector, substantially exceeding the emissions reductions from all renewable energy investments to date.

But this is changing rapidly. Not only are major NGOs pushing for more attention to conservation and reforestation, but the climate and conservation agendas are morphing together into a concept of Nature Based Solutions. 2020 is being called the Super Year for Nature, with the Biodiversity COP emphasizing the need for no further net loss of nature, and the Glasgow Climate Change COP having Nature Based Solutions as one of the central themes.

There are about 4 billion hectares of forest cover, around 31% of the earth's land surface. This idea of planting 1b hectares as part of a global effort to mitigate climate change and to ensure we limit global temperature increases to between 1.5 and 2 degrees C has been proposed by various scientific groups and even by the Intergovernmental Panel on Climate Change. Yet most land that could be reforested is already being used by people, and that is my next main point.

The Western idea that land is a commodity that should be dedicated to its highest and best use via an economic bidding process is increasingly being resisted, especially in rural areas. Conflicts over land use between communities and businesses are ongoing in many parts of the world. There is significant political pressure to restrict foreign ownership of land and natural resources, and rural communities, including indigenous communities feel that they have been pushed aside and marginalized. There is a need to find new investment models that are based on shared value and local community benefit as a central objective. The flip side is that rural communities that engage with investment capital can potentially take meaningful steps to creating sustainable jobs and new business models.

We invest in Indonesia, Malaysia and Laos. In every case understanding land use and identifying ways to engage with and ensure benefits to local communities was a major issue in approving an investment. In Laos we made a core investment in an existing forestry plantation and have built out an out-grower program with local farmers and women in the community to expand the forestry base. In Malaysia we have introduced an agroforestry program, where we plant widely spaced trees on farmer's land and pay them a rental, while they can still farm under the trees. In Indonesia we operate under the Adat system, where a proportion of our profits are provided to a community council to fund health care, education and infrastructure.



In New Zealand we partnered with a Moari Iwi in a transaction where they bought back traditional land and we bought a forestry right to the commercial plantation on the land, helping bring the capital needed to close the deal. I believe that these types of models will be central to any global push to restore and conserve forests to address climate change.

Finally, the last big trend is the availability of capital for investment in forestry. There is \$70 or \$80t of institutional investment capital—pension funds, insurance pools, sovereign funds, endowments, and foundations. If we go back thirty years this money was almost entirely invested in publicly listed stocks and government and corporate bonds. However, the return from government debt is now close to zero, if not negative. And the demographic outlook for the world suggests inflation and interest rates are going to remain low for a very long time. So, over the past 25 years there has been a steady trend for these investors to seek out real assets—real estate, infrastructure, forestry and agriculture, that can provide reasonable returns including reasonable cash yields. It is estimated that these real assets have gone from 5% of portfolios in the 1990's to 15% today and may increase to 20-25% over the next decade. That means \$6 or 7t so far, and maybe another \$6-7t of investment capital over the next decade.

As I mentioned earlier, the world's forests are not very valuable. It is estimated that the total investible base of forestry assets is about \$250b, half in the United States. It is my view that the forestry asset class is about to be transformed by climate change mitigation finance and may well quadruple in size in the next 10 to 20 years. This is because the expectation is that 10 billion tonnes per annum of carbon mitigation will need to come from the land use sector over the next 20-30 years, and that means sustainable forestry and land management, reforestation and conservation will become investment opportunities, especially linked with production of sustainable renewable materials to displace concrete, steel, plastics and aluminium.

So what does all this mean for British Columbia's forests and forestry sector?

Let's look around the world at how various countries or regions are adapting to the trends I have just discussed. I will start with Australia. Australia was a country with a forestry sector based on both harvesting publicly owned natural forests and growing intensive forestry plantations. When I moved to Australia in 1995 the industry was about half based on natural timber and half on plantation softwood. The natural forest harvesting on public land was a political football, and subject to chronic stakeholder disputes. The government decided to expand the plantation base and make that the core of the forestry industry, using tax incentives to attract private investment. This led to a doubling of the plantation base, and today the industry is based on 90% plantation timber supply. Australia's plantation base is about 60-65% owned by institutional investors who make the whole supply chain bankable. The processing sector has also begun to be recapitalized by institutional investors, and our business, Timberlink, is a great example of what you can do when you have resource security, limited debt, and a long-term mindset from owners. Australia's government has announced its policy



support for planting another billion trees, and this could increase the forestry sector by another 50%. The government, while not particularly enthusiastic on climate change policy, has established a program to pay for carbon sequestration in reforestation and revegetation programs. This is now leading to private investment in greenfield reforestation, including by our company. Alongside this growth in the plantation sector, the natural forests have just been massively hit by the huge fire season. It is expected that the government will need to put up a \$5b forest resilience fund that will support active management through prescribed fire, density control, and restoration planting.

New Zealand is similar, although it completely ended harvesting of natural forests in the 1990's as part of an accord with stakeholders. The New Zealand plantation base, dominated by radiata pine, is now about 1.7m hectares in extent, over half owned by institutional investors, but with much of the underlying land owned by Maori communities that often also hold a minority stake in the forestry as well. In my discussions with the Maori, as well as other indigenous communities around the world, there is a desire to own the land but not necessarily tie up a lot of their community wealth in the trees. They are thinking about creating diversified portfolios that allow them to sustainably fund education programs, cultural enterprises and other community benefits. New Zealand also has a carbon price of about \$20 per tonne, and a policy goal to reforest another million hectares, so there is expansion going on there as well. Foreign ownership of land is a challenging political issue in New Zealand, but if the Maori and rural farmers own the land and investors are leasing or joint venturing on the forestry, that is a model which seems to work.

In California I recall meeting Mary Nicholls who was the State Secretary for Energy and Forestry in 2004. The first thing she said to me was that owing to stakeholder conflict, California had legislated the toughest private land forestry regulations in the world. Now, as they introduced a cap and trade legislation she wanted to 'give something back to the landowners' via incorporating forestry conservation and improved forest management into the carbon market as an offset. They threw out the Kyoto protocol rules and designed their system to create an offset for landowners who had managed their forest for conservation. This is opposite to the Kyoto rules where a landowner who had earlier cleared the land would be paid for the carbon sequestration if he/she reforested it. We have begun investing in forestry in California and have been making good returns from now optimising the management of both timber production and carbon offsets. We have also developed a couple of dozen large scale carbon offset projects, many of them with Native American communities like the Yurok Tribe, Round Valley Tribe, Mescalero Apache and Chugach in Alaska. These projects have delivered over \$100m of funding to these communities allowing them to invest in community services, buy back more of their traditional lands and even buy back cultural artifacts.

Laos is another interesting example. While it is a least developed country, with per capita income of about \$US2,000, sitting between China, Vietnam and Thailand it is seeing strong



economic growth of about 7% per annum. The government has decided to expand forest cover from 50 to 70% which means about 5 million hectares of reforestation and restoration. They are doing this both as their Nationally Determined Contribution to the Paris Agreement, but also as a major rural economic development strategy. We are the largest forestry investor in the country and their Prime Minister has indicated to us that they are very supportive of expanding our investment, but also want the community forestry program expanded alongside our core program. For the rural farmers growing one hectare of plantation over a 6-7-year rotation can provide a return equal to five years of their traditional agriculture income.

Europe is also a fascinating example of how government and industry have partnered to create almost a Silicon Valley of forestry, with leading companies like Stora Enso, UPM, and SCA. I think that what has happened has been a combination of resource security, government support and a cadre of bold industry leaders who were prepared to exit struggling businesses and invest in new areas of growth and opportunity. This process of capital re-allocation is very tough to get right in business, but these firms have done it. I have been told that Stora Enso, for example, earns 70% of its revenue from products it didn't make 10 years ago. That is impressive.

I could go on, but I suppose the background for our discussion today and tomorrow is that innovation is happening, the forestry sector is being re-invented, recapitalised and expanded. There are opportunities in crisis, and for British Columbia many interesting models of what others have done. In BC, of course, the context and starting point will determine the options, but the world doesn't stand still, it is constantly changing and evolving.

Michael Porter, the guru of competitive advantage of nations has said that success comes from solving your own problems and exporting the solutions. But context matters—what are your advantages, what is unique, and how do your assets line up with the international trends and opportunities I have discussed.

Everyone has to change and evolve and grow to be successful. My message today really is that there are exciting market opportunities, but also a shifting competitive dynamic. There is also unlimited capital for new and innovative opportunities, and these new opportunities will be driven by a central and ever-increasing focus of the world on sustainability, rural and indigenous community benefits, climate change mitigation and the conservation of nature. That should be playing to your strengths.

Thank you.



Appendix 2. Participant list

FirstName	LastName	Position	Organization
Sally	Aitken	Professor and Associate Dean Research Faculty of Forestry, University of British Columbia and Innovation	
Mike	Anderson	Qwelmintec Secwepemc ("QS")	Forestry Transformation Forum
Peter	Arcese	Professor	Faculty of Forestry, University of British Columbia
E. R. Atleo (Umeek)	Atleo	Hereditary Chief of Ahousaht	Scientific Panel for Sustainable Forest Practices in Clayoquot Sound; Malaspina University College
Vaughan	Bassett	President and Board Chair	Wood Pellets Association of Canada
Judi	Beck	Director General	Pacific Forestry Centre - Natural Resources Canada, Canadian Forest Service
Bill	Beese	Teaching Professor, Forestry Department	Faculty of Science and Technology, Vancouver Island University
John	Bergenske	Conservation Director	Wildsight
Bruce	Blackwell	President	B.A. Blackwell and Associates Ltd.
Trent	Blind	Founding Chairman	Neyaskweyahk Group of Companies Inc. (NGCI), Ermineskin Cree Nation
Bill	Bourgeois	President	New Direction Resource Management Ltd
David	Brand	CEO	New Forests Asset Management Pty Limited
Ione	Brown	Chair	North Island Community Forest LP
Gary	Bull	Professor	Faculty of Forestry, University of British Columbia
Tim	Caldecott	Provincial Lead - British Columbia	FPIInnovations
Richard	Cannings	Member of Parliament - South Okanagan-West Kootenay	New Democrats Party



Chris	Cole	Professor, Forest Resources Technology	Vancouver Island University, Woodlot 020 Manager
Torrance	Coste	National Campaign Director	Wilderness Committee
Christopher	Derickson	Chief	West Bank First Nation
Dennis	Dugas	Mayor	City of Port Hardy
Gerald (Gerry)	Epp	President and Chief Engineer	StructureCraft Builders Inc.
Robert	Falls	Resource Management Scientist and Adjunct Professor	Faculty of Forestry, University of British Columbia
Susan	Gagnon	Assistant Dean, Communications	Faculty of Forestry, University of British Columbia

Christine	Gelowitz	Chief Executive Officer	Association of BC Forest Professionals
Dave	Gill	RPF, General Manager	Ntityix Resources
Stuart	Glen	Director, Forest Inventory and	Western Forest Products Inc. Stewardship
Jörg	Götsch	Director of Strategic Initiatives, Western Canada	Mercer International
Mike	Harcourt	Former Premier of BC and 34th Mayor of Vancouver	Government of British Columbia/City of Vancouver
David	Hendrickson	Manager Special Projects	Real Estate Foundation
Charlene	Higgins	Chief Executive Officer	BC First Nations Forestry Council
Domenico	Iannidinardo	Vice President, Forest & Sustainability and Chief Forester	Mosaic Forest Management
John	Innes	Dean	Faculty of Forestry, University of British Columbia
Rick	Jeffery	Former President and CEO	Coast Forest Products Association
Kevin	Kriese	Chair	Forest Practices Board
Bruce	Larson	Vice Chair	Forest Practices Board and Faculty of Forestry, UBC



Ken	Lertzman	Professor Emeritus	School of Resource and Environmental Management, Simon Fraser University
Peter	Lister	Vice President, Commercial Services	Seaspan Marine
Tara	Martin	Professor	Faculty of Forestry, University of British Columbia
Lisa	Matthaus	Provincial Lead	Organizing for Change
Noa	Mayer	Undergraduate student	Faculty of Forestry, University of British Columbia
Andy	McKinnon	Councilor	District of Metchosisin
Sarah	Miller	Green Caucus Policy and Issues Manager	Green Party
Leonard	Munt	District Manager	HGDOWC - Haida Gwaii District
Jeff	Mycock	Chief Forester	West Fraser - BC operations
Kurt	Niquidet	Vice President, Policy and Operations	Council of Forest Industries
Adam	Olsen	MLA, Saanich North and the Islands	Green Party
Devon	Page	Executive Director	Ecojustice
Peter	Pearse	Professor Emeritus	Faculty of Forestry, University of British Columbia
Bob	Peart	Biologist	
Scott	Rennekar	Associate Professor	Faculty of Forestry, University of British Columbia
Orlando	Rojas	Professor	Faculty of Forestry, University of British Columbia
Dominik	Röser	Associate Professor	Faculty of Forestry, University of British Columbia
Ken	Shields	Chairman & CEO	Conifex Timber
Bart	Simmons	President	Quillicum Environmental Services
Taryn	Skalbania		BC Coalition for Forestry Reform



Kennedy	Thomson	Undergraduate student	Faculty of Forestry, University of British Columbia
Matt	Vickers	President	Vickers and Associates (Gunaatsk)
Matt	Wealick	First Nations Strategic Advisor	Spá:th Strategies
Jens	Wieting	Senior Forest and Climate Campaigner Science Advisor	Sierra Club BC and
Alexa	Young	Vice President, Government and Public Council of Forest Industries Affairs	
Chuck	Zuckerman	Vice President	BC Wildlife Federation

Facilitators

FirstName	LastName	Position	Organization
Warren	Baxter	VP, Consulting	Refinery Group
Winnie	Chick	Program Coordinator	Refinery Group
Susan	Eick	CEO	Refinery Group
Lili	Hardy	coop student	Refinery Group
Meena	Kandola	coop student	Refinery Group

Observers

FirstName	LastName	Position	Organization
Stephanie	Troughton	Senior Manager Communications	Faculty of Forestry, University of British Columbia
Alexi	White	Senior Policy Advisor	Government Relations, University of British Columbia

