

Forest Futures Project, SFM Network. Scenario Summaries, August 2008 (compiled by Peter Duinker, Project Manager)

Theme	Scenario A	Scenario B	Scenario C	Scenario D
Climate Change	> measurable warming, but within range of adaptability	> measurable warming, but within range of adaptability	> huge warming, well beyond the range of adaptability for most sectors	> huge warming, well beyond the range of adaptability for most sectors
	> drier conditions in the prairies	> more windstorms in Atlantic Canada	> serious droughts in the prairies; more large storms in Eastern Canada	> serious expansion of the world's deserts, and serious droughts in the prairies
	> reduced snowpacks across most of Canada	> reduced snowpacks across most of Canada	> much less snow across all of Canada; 40 cm rise in sea level	> much less snow across all of Canada; 65 cm rise in sea level
			> evapotranspiration way up, lower lake levels and reduced river flows nationwide	> evapotranspiration way up, lower lake levels and reduced river flows nationwide
Geopolitics	> increased international conflict and armed aggression	> relative peaceful global relations	> increased conflict and international hostilities	> UN is thriving; amazing levels of international cooperation
	> strong regional trading blocs; softwood lumber dispute ended 2031	> economic balance of power resides in Asia	> Amazonia war (2030s) and ongoing Arctic cold war	> focus is on adapting to and coping with ravages of climate change
	> WTO of little influence	> E7 has risen above G7 in 50 yr!	> UN of little influence	> Asia has risen to global prominence in commerce
Global Energy	> fivefold increase in real price of fossil fuels	> less than double increase in real price of fossil fuels	> twofold increase in real price of fossil fuels; rampant consumption	> less than twofold increase in real price of fossil fuels; rampant consumption
	> huge increases in nuclear and renewable energy	> huge increases in nuclear and renewable energy, but not biomass	> large increases in nuclear and renewable energy as well	> large increases in nuclear and renewable energy as well
	> Canada a world leader in bioenergy		> Canada uses a lot of forest bioenergy, especially hogfuel	> Canada uses little forest bioenergy
Air Pollution	> strong reductions due to lower consumption of fossil fuels and better regulations	> strong reductions due to lower consumption of fossil fuels and better regulations	> increased due to higher consumption of fossil fuels and climate change	> increased due to higher consumption of fossil fuels and climate change
	> fewer ozone episodes (but more severe due to warming)	> fewer ozone episodes (but more severe due to warming)	> more-frequent and more-serious ozone and smog episodes	> more-frequent and more-serious ozone and smog episodes
			> heavy metals and mercury depositions dangerously high	> poorly understood impacts, but everybody suspects serious cumulative effects
Invasive Species	> more invasive alien species in the forests	> more invasive alien species in the forests, especially invasive plant species	> huge increase in invasive alien species in the forests	> huge increase in invasive alien species in the forests
	> however, most are merely local/regional nuisances	> however, most are merely local/regional nuisances	> many are ravaging forests, resulting in widespread forest declines	> many are ravaging forests, resulting in widespread forest declines
Global For Prod Demand	> strong growth in consumption; wood seen as good for making many products	> modest growth in consumption; wood not seen as best for making products	> strong growth in consumption of most wood-based products	> modest growth in consumption of most wood-based products
	> prices buoyant, even for roundwood	> prices are flat, even for roundwood	> fluctuating prices because of unstable roundwood availability	> Canada a small player in global markets - most is for domestic consumption
	> lots of value-added production in addition to strong basic commodities	> lots of value-added production, weak production of commodities	> plantations around the world have had mixed results	> plantations around the world have had mixed results

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	> plantations around the world have had disappointing growth rates	> plantations around the world have had expected high growth rates		
Technology	> high levels of investment by both governments and private sector	> high levels of investment by both governments and private sector	> concept of wood refineries has flourished (needed due to unstable wood supply)	> advances in sub-atomic physics, minerals-based materials, and communications
	> strong innovation development and implementation in all tech sectors	> strong innovation development and implementation in all tech sectors		> also advances in specialty wood-composite products
	> bioenergy and biopulping technology has seen major advances	> major advances in nanotechnology, materials technology		
Industry Profitability	> after rough times in 2000-2020, return to stability and prosperity	> after rough times in 2000-2020, prosperity only for innovators	> mixed; lots of commodity-specific ups and downs	> unfavourable except for some paper producers and tech-advanced firms
	> strong wood supply, very strong demand for all forest products	> weak wood supply, modest demand for forest products	> biorefineries doing comparatively well	> Canadian industry a much smaller one; transitional pain has been high
			> investments dominated by energy (petroleum) interests	
Demographics	> Canada grew from 30.9 to 45.9 million people; growth due to immigration	> Canada grew from 30.9 to 45.9 million people; growth due to immigration	> Canada grew from 30.9 to 59.8 million people	> Canada grew from 30.9 to 59.8 million people
	> continued urbanization; people moving downtown to urban cores	> abated urbanization trend; people moving back to near-city rural areas	> growth due to immigration as well as rising birth rates	> growth due to immigration as well as rising birth rates
	> Aboriginal populations continue strong growth in numbers	> Aboriginal populations continue strong growth in numbers	> continued urbanization, with huge growth in small to mid-size cities	> new concept of inhabited forest - brand-new green mini-cities are thriving
Societal Values	> continued consumeristic society; individualistic behaviours; low volunteerism	> abated consumerism; communitarian behaviours; high volunteerism	> continued consumeristic society; individualistic behaviours; low volunteerism	> very service-oriented society; collaborative behaviours; high volunteerism
	> people accept strong regulations on waste and pollution	> people have their material needs easily met, and now turn to services	> long-time residents depressed and recent immigrants upbeat about Canada	> people upbeat about socio-economic prosperity, despite degraded forests
	> people focus on urban and peri-urban forests, not hinterland forests	> people concerned about all forests, especially hinterland boreal forests	> people focus on urban and peri-urban forests, and ignore hinterland forests	> people keen on all forests; put excess disposable income into forest restoration
Governance	> strong trend toward increased influence of ultra-large multinational corporations	> strong trend toward increased influence of local communities	> widespread experiments with community forests gave way to timber baronism	> divestment of forests from provs to communities, Ab. communities, some private
	> comparatively strong forest regulations by provincial governments	> comparatively strong forest regulations by provincial governments	> comparatively weak forest regulations by provincial governments	> remaining prov land dominated by co-management partnerships
	> huge divestment of productive Crown land to private ownership	> huge divestment of Crown land to communities, both Aboriginal and not	> few changes in forest-land ownership	> strong influence of global organizations on local forest management
Aboriginal Empowerment	> political empowerment slow to materialize, and uneven across Canada	> political empowerment strong and consistent across Canada	> no real progress on political or economic empowerment	> strong progress on political empowerment; considerable land transfers
	> despite that, many Aboriginal groups are doing well economically	> with all their new lands, many Aboriginal groups are doing well economically	> Aboriginal peoples feeling disconnected from the climatically ravaged landscape	> continued economic struggles; leaning on mining industry for incomes

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			> Aboriginal peoples experiencing cultural discontinuity	
			> Aboriginal peoples strongly urbanizing, with trends toward assimilation	
Conflict over Resources	> active users of forest lands, esp. multiple-use lands, are frequently at conflict	> active users of forest lands, esp. multiple-use lands, are seldom at conflict	> active users of forest lands are frequently at conflict	> active users of forest lands are seldom at conflict
	> most conflict resolutions are without violence	> most conflict resolutions are swift and amicable	> many conflicts characterized by minor acts of violence	> when they are, the conflicts are resolved swiftly
	> however, many conflicts remain unresolved and fester away	> this supports a strong sense of community in many rural areas	> many conflicts remain unresolved and fester away	> this contributes to a strong sense of community in many rural areas
	> this erodes any sense of community in many rural areas		> this erodes any sense of community in many rural areas	
Biodiversity	> 22% of all forests formally protected (13% in timber-productive forests)	> 35% of all forests formally protected (22% in timber-productive forests)	> 12% of all forests formally protected (9% in timber-productive forests)	> climate change has invalidated all models of biodiversity conservation
	> widespread implementation of triad (and later quad) land-use zoning	> widespread implementation of triad (and later quad) land-use zoning	> climate change has invalidated all models of biodiversity conservation	> generally degraded forest across Canada, but with lots of restoration initiatives
	> more old forest on the landscape; better balance of conifers and non-conifers	> more old forest on the landscape; better balance of conifers and non-conifers	> generally young degraded forest across Canada	> many more forest species at risk; several high-profile extinctions
	> more forest species at risk	> forest species-at-risk situation improved; woodland caribou turned the corner!	> many more forest species at risk; several high-profile extinctions	> boreal forest under greatest siege due to climate change
				> new biodiversity opportunities, e.g., expansion of Carolinian forest in ON
Ecosystem Condition and Productivity	> slightly improved ecological integrity	> considerably improved ecological integrity	> greatly impoverished ecological integrity	> greatly impoverished ecological integrity, but less than otherwise because of restoration
	> modestly increased levels of disturbances	> modestly increased levels of disturbances	> hugely increased levels of disturbances	> hugely increased levels of disturbances
	> adequate forest regeneration, with strong investments in assisted regeneration	> natural forest regeneration favoured, even when marginally successful	> ubiquitous forest regeneration failures, modest investments to restore forests	> gross primary production is high, but net is low due to high disturbance rates
Water and Soil	> improved water quality due to stronger regulations and privatization	> improved water quality due to strong regulations and huge public investments	> widespread water quality and quantity problems, due mainly to climate change	> widespread water quality and quantity problems, due mainly to climate change
	> no major soils issues except in wet parts of Canada with steep slopes	> no major soils issues except in wet parts of Canada with steep slopes	> forest soils are stressed nationwide, due to a wide range of pressures	> lots of investment in waterworks to improve/preserve both quality and quantity
				> forest soils are stressed nationwide, due to a wide range of pressures
Carbon Cycles	> hinterland forests are neither clear sources or sinks of atmospheric carbon	> hinterland forests are small sources of atmospheric carbon	> most forests in Canada are strong sources of atmospheric carbon	> most forests in Canada are strong sources of atmospheric carbon

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	> counting of wood products in forest carbon budget helps Canada greatly			
Amenity Values	> per-capita visitation rates down, but visitors willing to spend on services	> per-capita visitation rates are up, and visitors spend handsomely on services	> heavy recreational use of near-urban forests; low use of hinterland forests	> heavy recreational use of all forests; people have sympathy for degraded forest
	> large increase in commercial forest recreation businesses	> large increase in commercial forest recreation businesses	> most people's attentions are turned to urban forests - these are highly valued	> group ecotourism is a thriving business opportunity for many
	> successful series of DisneyForest franchise sites	> recreational focus is off hunting and fishing and onto nature appreciation		
	> people comfortable with the look and feel of industrial forestry			
Participatory Processes	> continuing wide range of opportunities for participation in forest decisions	> continuing wide range of opportunities for participation in forest decisions	> continuing wide range of opportunities for participation in forest decisions	> continuing wide range of opportunities for participation in forest decisions
	> however, few people get involved and public influence is low	> increasing numbers of people get involved and public influence is high	> however, few people get involved, given the neo-feudal decision-making	> participation rates are strong, esp with the co-management partnerships
			> increasing public involvement in urban-forest decision-making	> many people nationwide participating in global forums on forest sustainability
Forest Employment	> numbers of traditional forest jobs relatively stable, but improved quality	> numbers of traditional forest jobs way down	> numbers of traditional forest jobs increased, but lots of fluctuations	> lower jobs in conventional forestry, increased jobs in restoration forestry
	> large increases in forest jobs related to recreation and water enterprises	> large increases in forest jobs related to recreation and water enterprises	> increases in forest jobs related to urban forests	> workers like being employed by community-based organizations
	> Aboriginal share of forest employment quadrupled since 2000	> Aboriginal share of forest employment quadrupled since 2000		
Wood Harvests	> annual industrial harvest nationwide up from 180 to about 270 million m3	> annual industrial harvest nationwide down from 180 to about 140 million m3	> annual industrial harvest nationwide up from 180 to average 280 million m3	> annual industrial harvest nationwide down from 180 to ca. 110 million m3
	> increases due to strong investments in silviculture and afforestation	> decreases due to weak markets and low investments in silviculture	> huge fluctuations in annual harvests > range is 180 to 330 million m3	> partly a market response, but also forests unable to provide much more
	> on balance, climate change has also helped us grow wood faster	> on balance, climate change has also helped us grow wood faster	> 2045-2050 - annual harvest down to 150 million m3	
			> a new Royal Commission is investigating the wood-supply crisis	
Wood-processing Industries	> dismal period 2000-2020, but industrial fortunes picked up strongly since	> dismal period 2000-2020, but fortunes of innovators are bright	> dismal period 2000-2020, but industrial fortunes picked up since	> dismal performance overall for the entire 2000-2050 period
	> bioenergy way up, newsprint way down	> bioenergy has not flourished, newsprint way down	> bioenergy production is the main contemporary winner	> winners are paper producers, high-tech materials producers
	> traditional markets still served, but new markets in Africa and Latin America	> traditional markets still served, but new markets in Africa and Latin America	> wood-supply fluctuations mean ongoing mill closures; hard on communities	> losers are newsprint and lumber producers
Non-Wood Forest	> strongly increased harvest levels, especially commercial country foods	> strongly increased harvest levels, especially commercial country foods	> production flat due to deteriorated forest health	> consumption rates high due to high forest visitation rates

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Products	> by and large, harvest rates are still sustainable, due to regulation and control	> by and large, harvest rates are still sustainable, due to regulation and control	> harvest levels up only by Aboriginal communities	> sustainability of harvests of most species is seriously in question
			> sustainability of harvests of heavily used species is in question	
Markets for Forest Services	> carbon markets exciting for two decades	> carbon markets exciting for two decades	> carbon markets exciting for some time, now have disappeared	> carbon markets exciting for some time, now have disappeared
	> then failed because of foresters' inability to hold carbon in hinterland forests	> then failed because of foresters' inability to hold carbon in hinterland forests	> water markets have emerged and become quite vibrant; good water is scarce!	> water markets never materialized - public wants it as a public resource
	> water markets have emerged and become quite vibrant	> water markets have emerged and become quite vibrant	> biodiversity markets much discussed but never materialized	> biodiversity credit idea gave way to forest impoverishment credits
	> biodiversity markets much discussed but never materialized	> biodiversity markets are vibrant, bringing much income to woodlot owners		