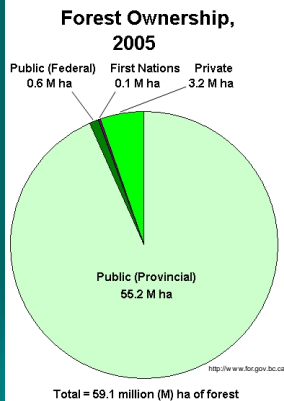
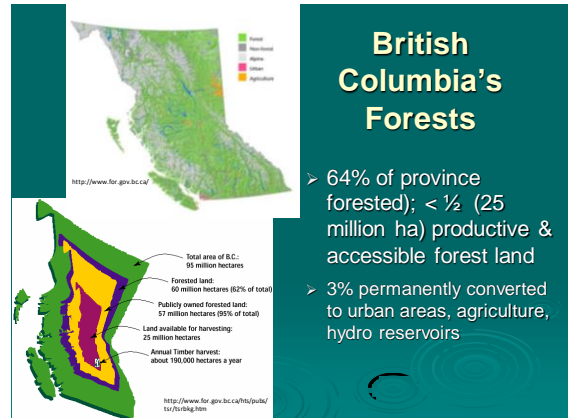


# A Brief but Tortuous History of Forestry in British Columbia

Jim Pojar  
March 2019

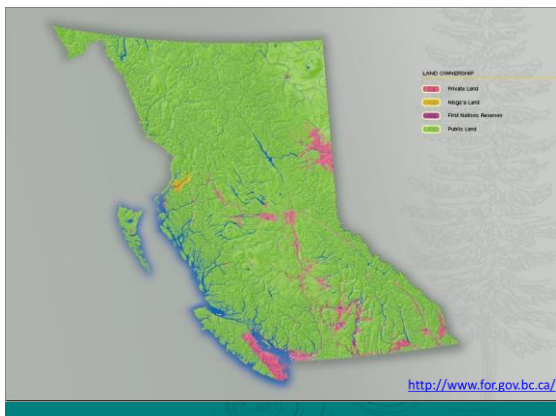


public resource: 94-95% of BC is 'Crown land'; as is 94% of forest land base

## Public Land, Private Land

- Concept of 'Crown land' goes back to early BC land allocation.
- Principle of **public ownership of forests** (and not selling off forest land base) established—prior to BC becoming a **province**—by House of Assembly 1866:  
*"selling and granting of large tracts of timberland to companies or individuals should not be entertained as it is socially injurious & detrimental to settlement".*
- When grants of land proposed to attract investment in sawmilling, Assembly's response was: *"we will offer licenses to cut timber only on unsold and unpre-empted land."*
- **Leases & licenses** became the predominant tenures.

Pearl, Bob. 2012. BC's Crown lands are public lands. <http://bcforestconversation.com/>



## Crown Land in British Columbia

- 94% of B.C. remains public 'Crown' land.
- Of the 94%, 2% is fresh water; of the 6%, ~1% is federal crown land & ~5% is privately owned.
- By retaining the land base in public ownership, the Province 150 years ago kept open its options to enable other public purposes concomitant with timber production.
- But forest industry never gives up; desires privatisation of Crown land or at least more TFLs.

Pearl, Bob. 2012. BC's Crown lands are public lands. <http://bcforestconversation.com/>

## Forest Tenures?

- ❖ Most forestland 'owned' by public.
- ❖ Almost all logging & processing equipment & mills are privately owned.

Tenures are certain property rights to public timber, transferred by Provincial government to private sector through legislation, regulation, contracts or policy.

## BC has very complex tenure system

### Area based Tenures

20 million m<sup>3</sup> (30%)  
*exclusive rights to area's timber*

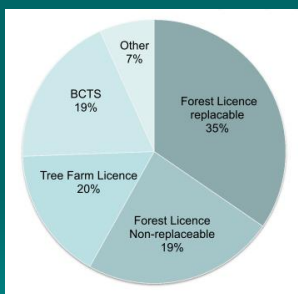
- Tree Farm Licences
- Timber Licences
- Community Forest Agreements
- First Nation Woodland Licences
- Woodlot Licences

### Volume based Tenures

65 million m<sup>3</sup> (70%)  
*share area with others*

- Forest Licences
- Timber Sale Licences
- Pulpwood Agreements
- various Licences-to-Cut
- Free Use Permits

## Allowable Annual Cut (AAC) by Tenure - 2012



## Evolution of Forest Tenure Policy

- **Early to mid-20th Century** – focus on stimulating economic development. Timber rights offered in exchange for building wood processing facilities and creating employment.
- **1980s** – multiple use emphasis, sustained timber harvest (≠ sustainable), more responsibility on licensees (deregulation).
- **1990s-2000s** – short-lived regulation (Forest Practices Code) then more deregulation

## Evolution of Forest Tenure Policy

### More Recently

- Development of tenures to support the bio-energy industry
- Area-based tenures to provide First Nations with forest-based economic opportunities and employment
- More local control of some forest resources (community forest agreements)

## AACs & Timber Supply



1980 cutblocks near Nadina Lake  
J. Pojar

AAC – allowable annual cut

- rate at which timber is made available for harvesting "*in response to social, economic, & environmental considerations.*"

### Timber Supply

- Availability of timber over time; the potential flow of logs out of the forest.
- "*the amount of timber ... forecast to be available for harvesting over a specified time and under a particular management regime.*"

www2.gov.bc.ca/gov/content/industry/forestry/managing\_our\_forest\_resources/sustainable/forest-management-practices

## My View of BC Forest Management

Historic pattern of events:

- **Company** establishes processing facility (sawmill or pulpmill), its size based on anticipated markets, persuadability of investors, and a 15- to 20-year amortization period
- determines volume of wood required to run the mill, and area of forest land required to produce the volume
- acquires licences to the trees—Crown asset (common property)
- **Regulatory agency** (provincial Ministry of Forests) determines AAC required to keep all mills in a given 'timber supply area' running
- **THEN** addresses biology of commercial tree species plus a few other forest species (mostly animals), and begins to study the ecology of the forest
- treats welfare of those other species and of non-timber forest values as **constraints** on timber production, rather than as management goals
- conducts research on stand dynamics, growth & yield, density management, fertilization, tree breeding, and so forth
- does some arm-waving about sustainability, integrated use, biodiversity, ecosystem management, social contract

## Collective BC Forestry Mythology

- ❖ Cut the decadent old forests down and replace them with thrifty young plantations.
- ❖ Compared to primary wild forests, managed forests will yield a lot more wood—quickly.
- ❖ The 'allowable cut effect' is valid.
- ❖ Maximum sustained yield works.
- ❖ Forest management on private land is better than management on public land.

## Too Much Too Fast: It's Still About the Rate of Cut

### Allowable Annual Cuts in British Columbia

The Agony and the Ecstasy

Address by

Larry Pedersen

Chief Forester  
British Columbia



www.ourplacesociety.com



Chief Forester 1994-2004.

UBC Faculty of Forestry  
Jubilee Lecture

Vancouver  
Thursday March 20, 2003

## 1912-1947 Unregulated Forest Industry Expansion

- Logging rates and utilisation standards not regulated; reforestation not funded
- Coast: portable camps & itinerant loggers tracked (very effectively) the best, most accessible wood
- Interior: lots of small bush mills & small sawmill towns
- Two issues faced government
  - 1) Industry demanded more secure timber supply
  - 2) Foresters worried about pattern of harvesting (including high-grading) and inadequate reforestation

Haley, David. 2005.

### Hanzlik Formula

$$\text{Sustained annual yield} = \frac{\text{Mature timber volume above rotation age}}{\text{Years in rotation}} + \text{Mean annual increment of immature timber}$$

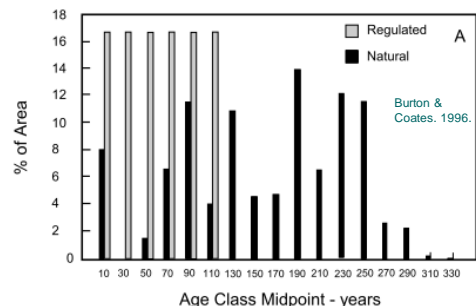


Determination of the Annual Cut on a Sustained Basis for Virgin American Forests

E.J. Hanzlik, U.S. Forest Service  
*Journal of Forestry*, 1922

- Chief Forester F. D. Mulholland, used formula in 1937 survey of BC's forest resources.
- Emerging concept of sustainability & need to ensure that once seemingly inexhaustible timber supply was logged at a rate that met needs of both current and future generations.
- **Goal was a 'normal' forest.**

## What's A 'Normal' (i.e., Regulated) Forest?



-a balance of forest age classes that can each grow to maturity and be harvested

## 1945 Sloan Royal Commission



### Origins of sustained yield in BC

*'...a perpetual yield of wood of commercially usable quality from regional areas in yearly or periodic quantities of equal or increasing volume'*

### Anticipating increased yields

*'Silviculture can, and will, increase the yield and the optimal yield would result from an intensive use of the productive capacity of an area.'*

Hon. Gordon Sloan, BC Chief Justice. 1945. *Report of the Commissioner Relating to the Forest Resources of British Columbia.*

Note invocation of the concepts of long-term even flow of timber; increasing yields; benefits of intensive mgmt; maximum sustained yield. Reflecting belief system that seemed plausible in 1945 but is now recognised as obsolete and unrealistic.

## 1945 Sloan Royal Commission

### Recommendations:

- Increase fire protection
- Increase rate of planting
- Regulation of logging methods
- Management plans for regional working circles
- Funds and facilities for research
- A Faculty of Forestry at UBC
- Statutory recognition of profession of forestry

## 1947-1979 Sustained Yield Forestry

- ❖ Two major types of sustained yield mgmt unit created: forest mgmt licenses (FMLs) and public working circles
- ❖ FMLs designed to combine Crown granted land, old temporary tenures, & Crown land under a single working plan; many required a manufacturing facility
  - 1956: FMLs became tree farm licenses (TFLs) with 21-year renewable terms.
  - *"During the years following the establishment of FMLs, the procedures for granting and administering them fell into disrepute and, ultimately, criminal proceedings found the Minister of Forests guilty of accepting bribes in exchange for granting licenses."* (Haley 2005)
  - These and other factors led to another Royal Commission, in 1955.

## Social Credit cabinet, 1952



Minister of Forests, Robert "Honest Bob" Sommers, convicted 1958. Thrown under the logging truck but he wasn't the only one involved, & companies with ill-gotten licenses kept them. Ray Williston succeeded Sommers as Minister, serving 1956-1972.

## 1947-1979 (cont'd)

- public working circles >> public sustained yield units (PSYUs)
- timber disposal supposed to be short-term, competitive sales
- by mid-1950s informal **quota system** had developed, allowing established operators to acquire a proportion of the AAC
- regulations favoured quota holders in bidding process
- quotas transferable; timber rights increasingly concentrated with a few larger companies
- Gov't: justifiable to increase industry stability & attract investment
- ... *"entrepreneurship stifled & competitive efficiency of the market place was eliminated"* (Haley 2005)
- 1958 Deputy Minister/Chief Forester position separated

## 1955 – 2d Sloan Commission

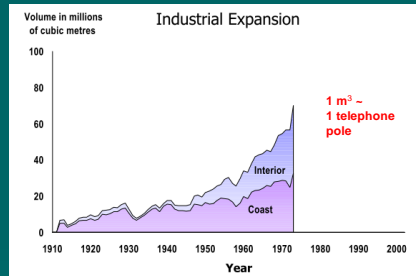
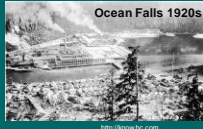
*'There is a moral obligation on this generation to leave the forests in a productive state, ... not merely that they have been reforested after logging, but that the growing stock is capable of sustaining an annual yield of commercial quality.'*

- Timber cut doubled in decade after 1945 Sloan Commission; increase mostly from interior (then primarily as railway ties).
- Rapid increase helped prompt 2d Royal Commission in 1955, again led by Sloan.
- Many of current TFLs also awarded during this time.



## 1947-1979 (cont'd)

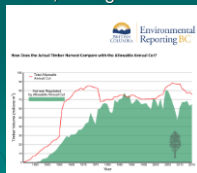
- Many pulp mills on Coast (only 5 in 1945: Ocean Falls, Powell R, Port Alice, Port Mellon, Woodfibre)
- 1961: pulp industry established in Interior via pulpwood harvesting agreements (PHAs)
  - Supposed to be for utilisation of lower quality timber and residual woodchips from sawmills, but in early years lots of sawlogs pulped.
- 1967: timber sale harvesting licenses (TSHLs)
  - Established operators consolidated quotas into a single license (TSHL); right to harvest specified volume from PSYU each year for 10 years.
  - Precise area to be logged designated in cutting permits.
  - TSHL holders had more mgmt responsibility (esp. reforestation) & had to log to closer utilization standards.
  - TSHLs became chief means of timber disposal within PSYUs. Haley, 2005.
- ◆ 1970 - BC Professional Foresters Act enabled R.P.F. designation



Over next two decades (1955-75), volume cut doubled again, to ca 60 million m³ annually, with increases in both coastal and interior harvests.

## Industrial Expansion 1955-1975

- 1966: industry shifted from using only large diameter trees to 'close utilization', as smaller & smaller pieces became economical to harvest
- species like lodgepole pine & western hemlock became merchantable (previously 'weeds')
- big increases to overall provincial AAC, >> high of almost 85 million m³ in 1975
- many sawmills & pulp mills built throughout province; 100s of (mostly interior) 'bush mills' replaced with sophisticated industrial complexes



## Continuing Commitment to Sustained (& Increasing) Yield



*'...regulate the annual timber cut so that there will be an assured never-decreasing harvest for all time. This is the "sustained yield" policy.'*

1973 BC Forest Service Brochure

## Another Royal Commission

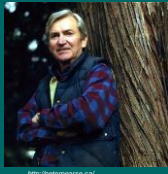
- early 1970s – **Increasing Concerns**: sustainability; non-timber forest values; industry structure.
- 1976: Pearse Royal Commission
  - Big forest companies argued for *status quo* but with more secure tenure.
  - Independent loggers, contractors & manufacturers wanted more timber supply available on open market; more opportunity for individuals, coops, small firms & communities to manage Crown forests for logs and other forest products.
- Pearse's particular concerns
  - lack of competition for Crown timber & its implications
    - increasing corporate concentration & control of public forest lands
    - little opportunity for new firms to enter the industry
    - industrial inefficiency
- concerns never fully addressed (Haley, 2005)

## 1976 Pearse Royal Commission

- Recommendations:
  - No change in the policy of Crown ownership
  - Formalization of chart areas
  - Power to suspend cutting permits
  - Major licensees responsible for fire planning and stand-by crews
  - 10-year grazing licenses with renewal opportunities
  - Can reduce the AAC by not more than 10% upon any five-year renewal
  - Timber licensee contracts should enable the ability to regulate other users
  - Develop harvest optimization model for establishing harvesting limits
  - Creation of a forest planning regime
  - Creation of an interagency consultation planning process
  - Creation of process for engaging the public in forest planning
  - A review of the Forest Service's administrative and organization structure
  - Decentralization of decision-making authority



## 1976 Pearse Royal Commission – anticipates fall-down



<http://peterpearse.ca/>

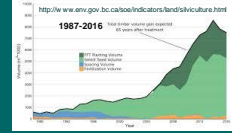


1976 Pearse Commission

'... because of the present preponderance of high-volume old-growth stands that have grown much longer than the rotation periods planned for subsequent crops. Once these are depleted and replaced by new crops, the calculated allowable cut must fall to be consistent with growth.'

Peter Pearse, Commissioner. 1976. *Timber Rights and Forest Policy in British Columbia. Report of the Royal Commission on Forest Resources*. Victoria. Volume 1, p. 227.

## Belief System: "Wall of Wood"



- ❖ During the first 30 years of harvest regulation, no expectation of a 'fall-down' in long-term timber supply, because **increased yields expected from managed forests**. Growth & yield modelling indicates a wall of wood coming our way.
- ❖ "... while review indicated that the methodology would likely induce a fall-down, **learned people** were simultaneously **optimistic that good forest management would balance it off.**" (Pedersen 2003)
- ❖ Mantra: **Log the decadent old forests and replace them with thrifty young plantations.**

["learned people" evidently = UBC Faculty of Forestry & professional foresters]

## Expansionist Not Precautionary

Pearse: fall-down won't be long term because:

- new forests will be more productive than old forests [productivity yes but volume mostly no];
- logging and sawmill technology will increase merchantable area & volume [yes];
- **'allowable cut effect'** can increase AACs [seriously?]  
❖ Rests on belief: rapid growth of new forests shortens rotation ages, making 2d-growth wood available earlier; eases constraints on harvesting current mature, increasing short- & long-term AACs

## Cut More Now; Second-Growth Will Be More Productive

### Pearse's Conclusions



Allowable cuts should not be set immediately at long-term sustainable levels, but should take advantage of the higher harvest rates possible in high-volume old-growth forests.

Hints of a Ponzi scheme??

## Historic Timber Yields

-have not and will not be repeated; neither volume nor quality

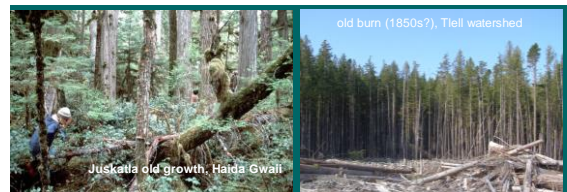


Trainload of spruce boomsticks, at Terrace B.C. Photographer – Cooper, 1929 Source: BCFS

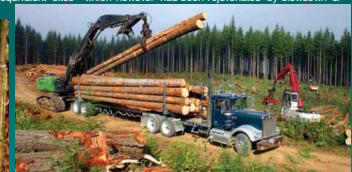


Transport of long cedar poles, Terrace BC to Washington D.C. 1930. Loading at Hanson's Pole Yard. Photographer – Cooper, 1929 Source: BCFS

Terrace was once considered the pole yard capital of North America. Some of the longest cedar poles came from Skeena in late 1800s and early 1900s.



Evidence for better 2d growth found for example in coastal Cw-Hw-salal low productivity old growth vs productive high-volume 2d growth on apparently equivalent sites—which however had been rejuvenated by blowdown & wildfire + soil mixing.



old blowdown: Lawn Hill, Haida Gwaii (left); n Van Island (above)

Once logged, these sorts of stands will not be restored.



old growth, Princess Royal Is.



old-growth redcedars, Van. Is. A. Rossberg

#### A New Policy Framework

- 1979 - New *Ministry of Forests Act* and *Forest Act*
  - MOF objectives expanded to include resource values other than timber
  - multiple-use planning process established
  - new process for determining allowable annual cuts
- Hanzlik formula gone. AACs now **determined** by chief forester after considering wide range of information.
- By 1980, Chief Forester Bill Young had adjusted AACs to level of commitments in existing licences; total provincial AAC down from high of 85 million to 68 million m<sup>3</sup>.

### 1980 BCFS Reorganization

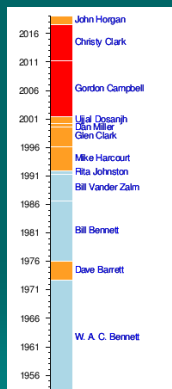
- 1980 Forest Service reorganized from Forest Districts and Ranger Districts to Forest Regions and Forest Districts
- Deputy Minister
  - Divisions – Assist. Deputy Ministers, Chief Forester
    - Headquarter Branches - Directors
    - Forest Regions – Regional Manager
      - Forest Districts – District Manager



### 1979-1992 Multiple Use

- Now managing for timber, range, fisheries, wildlife, water, recreation (>> folio plans, total chance plans).
- PSYU boundaries 'rationalized'; became Timber Supply Areas (TSAs).
- TSHLs & TSLs consolidated: Forest Licenses (FLs).
  - volume-based; 15-20 yr terms, replaceable every 5 yrs, often *appurtenant* to processing facilities
- Farm woodlots became woodlot licenses (WLs).
- Some TSLs reserved for small business.

'pendulum democracy'



BC  
premiers  
since 1952

### Bill Bennett

- 3 terms as premier (1975-1986)
- elections of 1975, 1979, 1983
- 1982 – serious recession
- 1983 – "restraint" program
- 'restraint' actually an unrestrained attack on public service & organised labour
  - 'Common Sense' operatives imported from Ontario (including Norman Spector, Patrick Kinsella)
  - battle with Solidarity Coalition; Jack Munro does controversial Kelowna deal with Bennett
  - 21 demands from Council of Forest Industries; two months after election
  - **deregulation of forestry underway**



C. Stoddy, Canadian Press



M. Zuske, Vancouver Sun

## Industry Recommendations/Demands

- reduce Forest Service staff, esp. Headquarters
- privatise timber cruising, scaling, & nurseries
- prof. reliance; trust docs signed & sealed by RPF
- give companies full harvesting benefits from intensive forest mgmt (allowable cut effect)
- convert volume-based to area-based tenures (i.e., more TFLs)
- decentralise research; more applied R & Extension
- help us find new pesticides & herbicides

## Demand 21 – privatise the fleet

Related to a later demand: transfer coastal districts from Pr. Rupert to Vancouver Region (happened to Mid-Coast & QCI districts).



Forest Service vessels at Seal Cove,  
Prince Rupert BCFS



Forest Surveyor, Dean Channel  
Graham Boothroyd

Tom Waterland was a mining engineer, but you don't necessarily have to know much about forestry to be Minister of Forests. Some ministers did and some were ideologues; many were +/- talking heads. It's the upper level bureaucrats who really run things; i.e., the deputy minister and assistant deputy ministers.



Tom Waterland, Minister  
of Forests 1975-1986

## éminence grise

Mike Apsey was a particularly influential Deputy Minister of Forests during the Bennett Socred reign of 1975-1986. Then he went to work for Council of Forest Industries, as CEO for 14 years.



Mike Apsey, Deputy  
Minister 1978-1984  
CEO of COFI - 1984-98

## 1982-1984

- economic recession
- Province responds with relaxed harvesting & management standards – aka *sympathetic administration* – so companies could reduce costs and increase revenues.
- Such sympathy, once discovered, backfired; proved controversial, contributed to increasing public scepticism about forest policy.

## Reforestation

- **1979** - *Ministry of Forests Act* required MOF to manage, protect, conserve the forest resources of the Crown. *Forest Act* obliged licensees to establish a crop of commercially valuable species of timber on the area harvested. **Reforestation funding largely by government.**
- **1984** – MOF created *Basic Silviculture Stocking Standards Policy* & *Basic Silviculture Monitoring Performance Policy* to ensure Crown forest land had a suitable crop of trees growing after logging.
- **basic silviculture** – establish a **free-growing** stand after logging.

## 1985

- Rapidly increasing NSR (not-satisfactorily-restocked) land in forests became a crisis.
- >> Joint provincial - federal \$300 million funding plan, the Forest Resource Development Agreement (FRDA), which re-stocked many thousands of hectares.
- Many people working in the bush, mostly doing some form of silviculture.



## 1987-1991 (V. Zalm gov't)

- New stumpage system, "mainly designed to exempt BC from terms of US-Canadian Memorandum of Understanding on softwood lumber trade." (Haley 2005)
- Small Business Program expanded
- Licensees made responsible for costs of **basic silviculture**
  - Basic silviculture is about establishing a free-growing stand of commercially valuable tree species after logging. It may require various activities such as seed collection, site preparation, artificial and natural regeneration, brushing, and density control.
- Proposal to greatly expand TFL system; dropped after widespread public opposition
- Forest & Land Use Liaison Committee (FLULC) – independent advisory committee, mid-80s to early 90s; met 3 times a year & advised Chief Forester about inventory, AAC, land use planning, research findings, etc.

## 1988 – Sustut-Takla Transfer

Sustut-Takla Forest Licenses; timber rights transferred from Kispiox & Morice TSAs (Prince Rupert Region) to Prince George TSA

Min. Dave Parker (Skeena MLA), Dep. Min. Ben Marr, Chief Forester John Cuthbert

Ombudsperson Stephen Owen reported (1990) political interference. FS staff had recommended that wood go west, not east.

Related to BC Rail machinations: Chief Forester had identified restoration of industrial railroad into Sustut-N. Takla as an essential management strategy for Prince George TSA Plan.

Lower Sustut to Skeena J. Miles

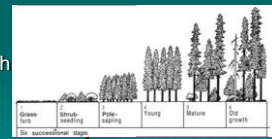
## Free Growing Requirement

- "A free growing stand ... is a stand of healthy trees of a commercially valuable species, the growth of which is not impeded by competition from plants, shrubs, or other trees. ... introduced to ensure that once adequate stocking and survival had been attained, productivity would be maintained."
  - <http://www.fol.gov.bc.ca/tasb/degsregs/fpo/FPCGUIDE/free/EEG-Van-print.pdf>
- Time requirement – within 8-14 years, for example.
- When juvenile forests on public land reach 'free-growing' status, licensee relieved of responsibility to look after the trees; responsibility returns to the Province.

## Unintended Consequences / Perverse Outcomes

Strong incentive for licensees to:

- overplant tree species that grow fast (e.g., lodgepole pine in Interior)
  - such *r*-selected species typically high risk silviculturally; more susceptible (than slower-growing species) to damage agents of young stands
- fast-track early stages of succession; "brushing & weeding" (including with herbicides) even if not necessary



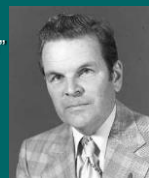
## Intensive Silviculture

- Planting genetically improved seedlings
  - Juvenile spacing
  - Commercial thinning
  - Pruning
  - Fertilisation
  - ❖ Can bring 2d-growth stands into the timber harvesting rotation more quickly. <http://www.gov.bc.ca/tasb/degsregs/fpo/FPCGUIDE/free/EEG-Van-print.pdf>
- But everything has to work, in practice not in theory or models.

## Gains From Intensive Silviculture?

1980: Chief Forester Bill Young at Canadian Forest Congress expressed concerns with "intensive forestry dream"

- massive funding required
- potential vastly overstated
- other demands on forest landbase exerting downward pressures on timber supply
- unrealistic to expect that intensive silviculture would ameliorate falldown



Lois Dellert. 2009.



## Gains From Intensive Silviculture?

- 1980s: MacMillan Bloedel committed to an intensive silviculture program with an estimated increase in yield of 300,000 m<sup>3</sup>
- 1991: program dropped in their Mgmt & Working Plan because it was *"found to be not currently practical or economic"* (Dellert 2009)
- 2000: Reid Carter, industry analyst at National Bank Financial (and former forest ecologist) says enhanced silviculture not worth the investment. (Gordon Hamilton *Coastal Forest Sector Predicted to Decline*, Vancouver Sun)

## Intensive Silviculture ... The Grand Illusion

FORUM Sept-Oct 2012  
(Assoc. BC Professional Foresters magazine)  
Alan Vyse & Ian Cameron



- Long time span between investment & return, in prevailing context of uncertainty & change.
- Most intensive treatments do not generate extra volume; they concentrate growth on selected trees, thus reducing total stand volume.
- So you need increased product value or earlier return (quicker to reach piece size) to compensate for volume loss.

## Grand Illusion (cont'd)

- Spacing can increase tree size, but decreases stand volume & wood quality.
  - commercial thinning can capture some of the volume otherwise lost
  - quality factors include bigger branches & knots (pruning can counteract), wider growth rings, increased proportion juvenile wood
- **Fertilisation can** (on suitable sites) increase volume yield.
  - often requires several applications
  - expensive
- Negative effects of insects and diseases can be magnified by intensive treatments (create big juicy targets).
- General conclusion: treatment costs high enough to *"result in a negative financial return"* on most sites.

## Stand Performance to Rotation Age

- Scant meaningful monitoring—licensees or Province.
- Failure to track actual growth of regenerated stands beyond free-growing a major problem.
- *"Stocking standards and reforestation practices are predicated on assumptions about how regenerated stands will grow in the future."*
- *"... currently ... no requirements for MOFR or licensees to check & record the growth & development of regen. stands after free growing."*

McWilliams & McWilliams. 2009.

## Challenge to Forest Productivity Dogma

- Ill-advised reliance on G&Y models rather than rotation length stand monitoring.
- Stable predictable growth assumed after free-growing (10–15 yrs); little risk of loss to dominant crop trees.
- **BUT:** 'damage agents' target dominant trees in older plantations; natural ingress not filling voids.
- **Conclusions:**
  - need more monitoring of secondary stands & forests
  - plant more trees & greater variety of species, to compensate for losses
  - revise G&Y models to account for damage agents and climate change



Woods & Coates. 2013.

*Armillaria root disease*

## 1989-91: A.L. (Sandy) Peel, Forest Resources Commission, *The Future of Our Forests*

- **Recommendations:**
  - Introduction of comprehensive land use planning with full public engagement
  - Creation of a new agency responsible for the land use planning process
  - Movement to more area-based tenures to enable improved resource stewardship
  - Complete inventories for all renewable forest resource values
  - A single all-encompassing code of forest practice be established

## 1992-2001 NDP: Integrated Resource Mgmt Towards Sustainability(??)

- 1992: Timber Supply Review (TSR) process initiated
- 1992-96: Commission on Resources & Environment (CORE)—Stephen Owen, Commissioner
  - regional land use plans (Van I, Cariboo-Chilcotin, W Kootenay-Boundary, E Kootenay)
  - not completed; political backlash
- 1995: Land Use Coordination Office (LUCO); subregional Land & Resource Mgmt Plans (LRMPs)
- Dunsmuir Agreement multisector processes unfolded around this time. 1988 & 1991 processes helped enable changes to forestry, land use planning, environment, etc. that Harcourt's NDP brought in. 1996 version was key to CORE and LUCO.

## Back to Timber Supply Analysis

1991 – review of BC process (Darryl Errico & Larry Pedersen)

- analyses not keeping pace w. changing IRM practices
- non-timber values not fully accounted for in AACs
- data analysis methods needed revision

1992 – Forest Amendment Act

- required new AAC determinations for all TSAs (currently 38) & TFLs (33) by 1995, with subsequent determinations on a 5-year (later 10-yr) cycle

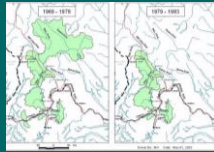
## “Non-timber” Forest Values

pre-1975

- assumption: most (all) forest land available for logging; timber supply calculated over one rotation only (“all sites, all types, all species”) >> AACs too high
- example: TFL 1 once included upper Nass-Skeena drainages, which contributed to inflated AAC; consequently, southern ½ of TFL hoovered in 60s & 70s

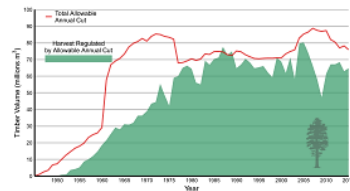
post-1975; plus TSR & Forest Practices Code

- protected areas, biodiversity, riparian, wildlife habitats, changing practices factored into AACs (but with ceilings)
- reduced timber harvesting land-base; some mature timber no longer available for logging
- non-timber forest values; framed as **constraints** on timber production, **not management goals**



## Actual Cut vs AAC

How Does the Actual Timber Harvest Compare with the Allowable Annual Cut?



“Each year, an average of about **193,000 ha** of BC forest is logged, amounting to roughly **75 million cubic metres** of timber. About 70% of the harvest comes from B.C.'s interior, and the remainder from coastal areas.”

<https://www2.gov.bc.ca/gov2/pubdocs/mgmt/1133/arvest.htm>

## An Old Growth Strategy for British Columbia



- Started around 1989.
- Largely a planning exercise; lots of talk & meetings.
- Enabled short-term deferrals (from logging) of selected OG areas.



Eventually >> Protected Areas Strategy & Old-growth Mgmt Areas (OGMAs; homeopathic mgmt for OG features).

This kind mostly gone from BC; will not return.



Vancouver Island BCFS



Nimkish R. H. Roosen

Big Falls River near Prince Rupert  
A. Inselberg

## Climate Change → old-growth forests are non-renewable resources



Inland Temperate Rainforests

## Major Ecological Impact of Logging in BC Temperate Rainforests



Chemainus River, 1977

- Enormous change, a reversal, in age-class distribution of forests over the landscape.
- Large areas, 10s of 1000s of ha, where 90%+ old forest (>200 yrs) converted to 90% young forests (< 50 years old).

Bowron Valley monster (40-50,000 ha) clearcut 1980s [spruce beetle]

1970s-90s – seemed like central Interior forest mgmt was largely about chasing beetles (spruce, Douglas-fir, pine beetles)



<http://thielmann.blogspot.com>

Unnatural landscape-level effects of checkerboard clearcutting, near Pr. George. Partly a result of reaction against large clearcuts.

## (1984)-1993/94 Clayoquot Sound Protests

- 11,000 protestors; 932 arrests
- Touched off 'war in the woods' & eventually market campaign overseas



## Clayoquot Sound Scientific Panel (CSSP)



Forests Deputy Minister Philip Halkett: "Do whatever it takes." Dan Miller the Minister at that time (apocryphal remark: "Clayoquot Sound? Is that a hi-fi shop in Port Alberni?"), but it was Deputy Minister that orchestrated the process.



Ken Lertzman, Catherine Berris, Laurie Kremsater, Mike Church, Shawn Alleo

- report: *Sustainable Ecosystem Management in Clayoquot Sound: Planning and Practices*
- July 6, 1995: Gov't accepted report; committed to implementing all its recommendations.



<http://bcdfs.ca>

## Changes to *Status Quo*

### Ecological perspective: Clayoquot experiment a success

- logging now has smaller (visible) footprint; more ecologically sustainable; less bad stuff (dense road networks, progressive clearcuts, landslides, aggraded streams)

### Industrial perspective: failure (at least partially)

- AAC reduction
- more planning & resource inventories >> increased costs & approval delays; reduced cut, exacerbated deteriorating economics
- social & economic sustainability not improved (??)
  - forestry-dependent employment has declined
  - complicated story; across BC, not just in Clayoquot Sound
  - decreasing number of forestry jobs (1984 – 1000 m3 to create 1 full-time year-round job; 2012 – 1312 m3 = 1 job [about 33 logging truck loads])

Butt & McMillan. 2009.



## Land and Resource Management Plans (LRMPs) – mid-90s to present

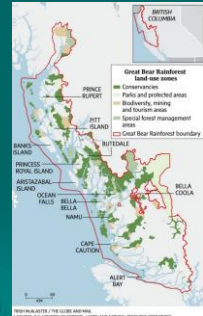
- 1995 – Kamloops first; Kispiox, Vanderhoof, Ft St John, Ft Nelson also early ones; most interior districts by 2001
- C-N Coast/Great Bear 2006, Morice 2007, Haida Gwaii LUP 2007, Atlin-Taku LUP 2011
- **focus on forestry**; mining & energy not so much
- often not in active collaboration with First Nations
- climate change not addressed
- most now need updating

### Five major constraints:

- 1) 12% limit on protected area of province
- 2) 10% limit on provincial total of 'biodiversity emphasis areas'
- 3) 6% limit on impacts to AAC
- 4) tenure allocation removed from discussion
- 5) AAC determination removed from discussion

*"Nobody wants to buy a 2X4 with a protestor attached to the end of it."* Bill Dumont, Chief Forester, Western Forest Products 2001

- EBM – ecosystem-based mgmt
- land-water embrace



Ben McAllister



Haida Gwaii Land Use Plan

They also have a long-term plan for redcedar management.

brian ecobies

## 1992-2001 NDP (cont'd)

- 1993: Protected Areas Strategy; part of overall land use planning process
- Preceded by Old-Growth Strategy + Parks & Wilderness for the 90s
- Original goal: boost protection from 6% to 12% by year 2000
- 2018: more than 1000 protected areas, covering over 14 million ha, 14.4% of the province
- Close to 8 million ha of forest now protected, 14%+ of BC's forests

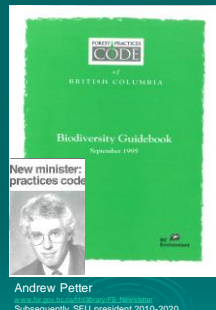


## 1994 – Forest Renewal Act

- Forest Renewal B.C. – Crown corporation
- Objectives:
  - enhanced silviculture
  - relocation/retraining of displaced forest industry workers
  - forest-dependent community development
  - ecological restoration
  - value-added manufacturing of wood products
- Dedicated revenue from increased stumpage to FRBC

## 1994-96 – Forest Practices Code

- goals: achieve sustainability, conserve biodiversity, promote multiple forest products
- comprehensive code of practice
- **prescriptive**: forest practices & standards (+ penalties for non-compliance) imposed on tenure holders
- regulations, standards & guidebooks
- detailed planning & monitoring procedures
- hierarchical pre-harvest operational planning system
- increased public participation
- clear legal foundation with explicit penalties for non-compliance
- made forest operators responsible for damage
- established administrative penalties to deal with non-compliance
- Forest Development Plans need joint approval by Ministry of Forests & Ministry of Environment
- independent **Forest Practices Board** to audit practices & investigate public complaints (lasting legacy)



New minister: practices code



Andrew Petter  
Minister of Forests and Range  
Subsequently SFU president 2010-2020.

## Sympathetic Administration, Again

- 1998 – present
- started late-stage NDP (D. Zirnvelt, Minister Forests 1996-2000); continued w. Liberals: Wilson, de Jong, Coleman, Bell, Thomson
- stumpage rates lowered
- new Forest & Range Practices Code (2004)
- mega-salvage logging
- deregulation
- ↑↑ whole log exports



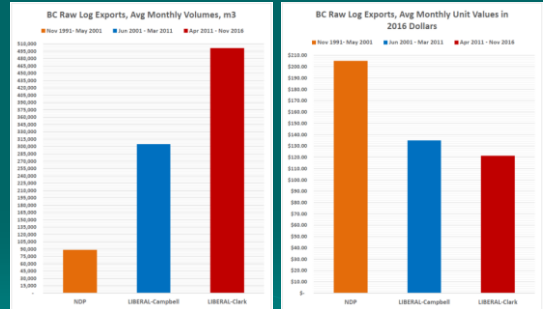
1997-99  
previously Dep Min. EMR & Env.  
2000s, affiliated with BC Lumber Trade Council, Canadian Lumber Trade Alliance, BC Bio Energy Network; CEO COFI;  
-softwood lumber negotiator



1999-2001  
previously, CEO Forest Renewal BC  
Dep Min. Skills & Development & Labour 2001-2004  
2004-present, Board of Directors, Western Forest Products  
chairman Coast Forest Products Assoc. since 2011  
-labour negotiator, consultant

Brian Birch, VP Sup.

## Whole Log Exports



<https://in-sights.ca/2017/01/29/log-exports-update>

## Government Dereliction of Duty

- 1998 – present
- increasing concerns about NSR (inadequate reforestation)
  - wildfires, beetle kill (not just MPB; also spruce, D-fir, balsam bark beetles), diseases
  - all exacerbated by climate change
- **reduction of staff** in natural resource ministries (and in forest companies)
- inadequate inventory & monitoring
- 2012 Auditor General report critical of gov't stewardship of forests

## FORUM July-August 2005

(Assoc. BC Professional Foresters magazine)

*"In British Columbia, we have resorted to short-term, minimum-cost tactics at the expense of a visionary, committed strategy that can sustain our environment and natural resources, our communities, and local and provincial economies. I question the future we are creating for long-term environmental, social and economic sustainability."*

Jane Perry



Jane Perry, RPF; former president of ABCPF, at her loom in the Cariboo

## 1999 – COFI's Disaster Plan for Forest Industry

- BC government launched Forest Action Plan; cut costs & improve cash flow for forest companies
- some estimates of savings to industry as high as \$5 per m³ of wood
- 'stumpage' – rate per m³ paid for logs from Crown forests
- widespread minimum stumpage: \$0.25/m³
- for period Q1 1998 to Q2 2000, about 30% of all wood logged in interior BC went for minimum stumpage (ca US \$10 per truckload of logs); in Kalum District 90% of stumpage paid was at minimum rate



Anderson & Werring, 2001.

## 2002 – 2017: Empire Strikes Back

- 2001: Gordon Campbell Liberals elected >> impose 'new reality'
- forest industry in decline, esp. on Coast
  - 27 mills had closed since 1997, taking 13,000 jobs with them; government revenues had dropped by \$600 million; industry making much less profit in BC than in other provinces
- gov't resource ministries reorganised, centralised, ultimately (2011) uber-Ministry FLNRO
- public service purged
- Forest Renewal Act repealed so that revenue that formerly flowed directly to FRBC now went to general revenue. FRBC replaced with Forest Investment Account





## Forest & Range Practices Act (FRPA) – 2002 (passed) – 2004 (implemented)

- original FPC watered-down, essentially repealed
- deregulation carried the day, after heavy industry lobbying
- "... *establish a workable, results-based Code, with tough penalties for non-compliance.*" (Premier Campbell)
- FRPA – operational planning, forest practices, protection, compliance, enforcement, monitoring—supported by several regulations.
- less prescriptive; **professional reliance**. Many previous Code provisions moved into non-legal realm; reliance on judgment of resource professionals to achieve required results.
- **no mention of sustainability**
- removed legal obligation for Crown to replant areas denuded by natural disturbances; also removed statutory requirement for Ministry to conduct & maintain a forest inventory.

## 2003 – Forestry Revitalization Plan

Changes included:

- licensees >20,000 m<sup>3</sup> AAC in long-term replaceable licenses must return 20% of it to Crown, for redistribution to FNs, woodlot & community forest programs, and competitive auctions
- new stumpage system (to some extent, market-based)
- small business forest enterprise program became BC Timber Sales
- **appurtenancy** disappeared
- no more punishing companies for closing mills by taking back some of their timber license
- mills allowed to subdivide their timber supply area, trading or selling sections that weren't as profitable

## Stumpage

- 2008/09 – recession; BC lowers stumpage fees again, for trees cut on Coast
- 2009 average rate in coastal region less than \$5/m<sup>3</sup>, about 70% lower than \$18.56 charged in 2008 [as of March 2018 was \$5-\$12]
- Premier Campbell: reduction in coastal stumpage fee will not constitute an illegal subsidy under Softwood Lumber Agreement

## 2008. *Taking Nature's Pulse: The Status of Biodiversity in British Columbia*

- Produced by group of scientists and biologists in partnership with prov. government. Contained background reports, atlases, etc. A comprehensive, science-based assessment of the condition of biodiversity in BC at that time.  
[http://www.biodiversitybc.org/assets/pressReleases/BBC\\_StatusReport\\_Web\\_final.pdf](http://www.biodiversitybc.org/assets/pressReleases/BBC_StatusReport_Web_final.pdf)
- But government uncomfortable with report and its implications, so didn't support the recommendations. Instead chose the Conservation Framework approach (sort of an accounting spreadsheet of biotic impoverishment). <http://www.biodiversitybc.org>
- <https://www.gov.bc.ca/science/pnw/foreman/plants-and-ecosystems/conservation-framework/conservation-framework.html>

## Shock & Awe



**beetle-mania**  
late 1990s to 2005+

lodgepole pine landscape transformed by MPB L. MacLauchlan




**large destructive wildfires**  
2003 to present

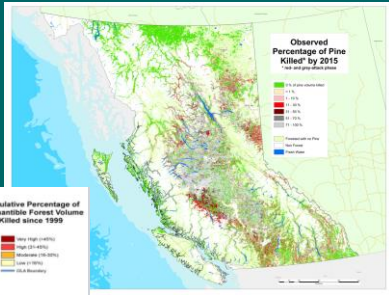
Okanagan Mtn Park fire, Aug. 2003 BC gov?

**2003**

- McLaure fire burned 26,420 ha; 3800 residents evacuated, 81 buildings destroyed, July-Sept.
- Okanagan Mountain Park fire burned 25,000 ha near Kelowna, forcing evacuation of more than 27,000 people, destroying 239 homes, August-Sept.
- MPB epidemic increased to cover 4.2 million ha, double the area in 2002.




**Jim Snetsinger, Chief Forester 2004-2012**



**Observed Percentage of Pine Killed\* by 2015**  
(not including unlogged areas)

Legend: 0-10% (green), 11-20% (light green), 21-30% (yellow), 31-40% (orange), 41-50% (red), 51-60% (dark red), 61-70% (brown), 71-80% (black).

Legend: Logged (yellow), Not Logged (blue), Forest (green).



**Cumulative Percentage of Merchantable Forest Volume Killed since 1999**

Legend: Very High (>40%), High (21-40%), Moderate (11-20%), Low (1-10%), None (0-10%).

- mid-2000s; 'timber uplift' in severely affected TSAs.
- supposed to be 'conservation uplift' (increased retention of forest structure in logged areas)
- **Guidance on Landscape- and Stand-level Structural Retention ...**
- didn't happen at landscape level (FPB 2009)

**Growing Fibre, Growing Value**  
Special Committee on Timber Supply



2012



John Rustad  
MLA Nechako-Lakes

**Falldown** mostly not the fault of present-day managers & politicians ... but not entirely the beetle's fault either.

Partly a consequence of decades of overcutting. Even 35 years ago it was common knowledge (in forestry circles) that there was 160% over-capacity in sawmills along Hwy 16.

**Report Recommendations To Increase Mid-term Timber Supply**

- utilize marginally economic stands
- invest in fertilization ('great white hope' of timber supply)
- increase area-based tenures for (presumed) enhanced forest stewardship & private sector investment

**Other Possible Responses?**

- Reduce 'bycatch' by increasing levels of retention (overstory, green tree, understory); more partial cutting instead of mowing everything down.
- Avoid harvesting mixed species stands or those with good secondary structure & advance regeneration. Burton, 2010.

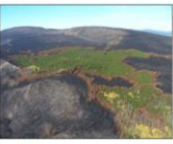


advance regen. & 2<sup>nd</sup> stand structure in beetle-affected forests near Tweedsmuir Pk. D. Coates



Partial attack, between Topley & Granite

**Post-Natural Disturbance Forest Retention Guidance**  
2017 Wildfires



To what extent has this guidance been followed? What about 2018 fires?

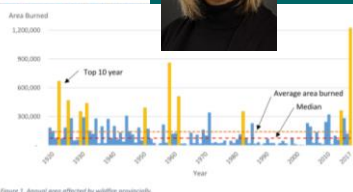


Figure 3. Annual area affected by wildfire provincially

Diane Nicholls, ADM, Chief Forester  
Office of the Chief Forester Division

Tom Ethier, ADM,  
Resource Stewardship Division

January 19, 2018

Diane Nicholls, Chief Forester

Office of Chief Forester used to be at arms-length to MoF bureaucracy, reporting to Minister and tabling Annual Report to Legislature; now OCF is an ADM reporting through Deputy Minister. Some independence has been lost; position now more technical & less about vision & leadership.

**They're Back**

In this time of increasing entropy in the forest—more disorder, uncertainty, unpredictability—is the highly skilled and very experienced senior leadership up to the task? What's the vision?



Don Wright,  
Deputy Minister to Premier,  
Cabinet Secretary,  
Head of Public Service



John Allan,  
'new' Deputy Minister of Forests

**Current Gov't Priorities/Concerns**

- Jobs; mill closures
- Forest Sector Revitalisation (coast & interior)
- Professional Reliance
- Improve flawed FRPA & revamp inadequate Forest Stewardship Plans (FSPs).
  - Forest Practices Board (2015): "... 10 years since FRPA was introduced ... [FSPs] have not improved over time. They do not meet the public's interest, are not adequate for their intended purpose and the Board questions whether they are the right tool for the job."
- Wildfire Strategy (complicated multilevel planning & action)
- Forest Carbon Strategy? (largely greenwash, in my opinion)
- Culture of deference in some gov't agencies. Restore District Manager authority over forest operations.

**Other Stories**

BC Forest History Association <https://bchistory.org/publications>, <https://bchistory.org/past-newsletters>  
<http://www.bchistory.org/links.html> <http://bchistory.org/ForestHistory/Newsletter.htm>

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