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## **When the Counting Stops: What's at Stake When BC's Forest Inventory Efforts Fall Short**

Speech delivered by Ben Parfitt

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*The following is adopted from a speech to the Winter Workshop of the Southern Interior Silviculture Committee (SISCO) in Naramata, BC, on April 6, 2011. SISCO members include forest professionals from government, academia and the forest industry. The workshop theme was Forest Stewardship in the Context of the Forest and Range Practices Act and Professional Reliance: Moving Forward with New Dynamics and New Directions.*

In November 2006, the Association of BC Forest Professionals submitted a report to the chief forester of the province outlining its concerns about the status of forest inventories in BC.

The Association commissioned three professional foresters to undertake the work.

The work was done for one major reason: good inventories are the foundation for making decisions about how to manage BC's publicly owned forests.

The report noted that good inventories (the counting of trees and more) are essential to manage public lands at a broad landscape level. Only with such tools can forest professionals acting on the public's behalf properly assess alternative courses of action or "policy alternatives" that balance off "economic, social and biological" needs in publicly owned forests.

The report went on to note that Association members – including foresters and technicians within the provincial government, industry, the consulting community and academia – were worried that the timeliness and reliability of inventory information was suffering and at the worst possible of times. To paraphrase the Association:

*The need for current, accurate and accessible forest inventory data has increased with increasing competition for resources, changes in climate, and greater global interaction and communication. Land use competition has increased as global demand for timber products, fossil fuels, minerals and water escalates. In northeastern BC, natural gas exploration has resulted in*

*extensive forest removal. Increased use of forestland has resulted in more rapid and extensive changes, emphasizing the need for current and accurate forest inventory information. At the same time, changes in climate are affecting natural disturbances, particularly fire, pests and disease in BC, requiring both current and future forest inventory information.*

The Association's take was that both inventory staffing and funding levels were insufficient to do the critical work that would lay the foundation for sustainable forestry in future years, years that promised to present unparalleled challenges for forest professionals, given climate change.

The erosion of inventory function within the provincial Forest Service is one of a number of issues I addressed in a recent report prepared for the Canadian Centre for Policy Alternatives and co-released by the Sierra Club of BC. Released in December 2010, *Axed: A Decade of Cuts to BC's Forest Service*, struck a chord with many people, including Association members. In the last three weeks of 2010 alone, over 10,000 individual PDF downloads of the report were recorded.

In my conversations with Association members – many of whom I met during a recent series of meetings hosted by the BC Government and Service Employees' Union in Prince George, Kamloops, Castlegar and Campbell River — concerns were expressed with the lack of current inventory information and how its lack was bound to create problems for forest professionals who are tasked with making informed choices about the management of our publicly owned forests.

Having made two fieldtrips in the Peace River and Northern Rockies regions in the past year, it is a concern I share as well. But I will leave off talking about that for now, and return to the issue of just how much inventory effort in the province has declined over the past two decades and what the declines foreshadow if they are not reversed. The figures I am about to cite come straight from the Forest Service's Forest Analysis and Inventory Branch.

If we look at inventory funding over the past decade in support of the central inventory branch in Victoria and regional Forest Service offices as well as in the inventory contracting community, it works out to, on average, \$8.76 million a year between fiscal year 2001-2002 and fiscal year 2010 -2011.

A decade earlier, the figures were consistently higher. Between the 1991-1992 and 2000-2001 fiscal years, the annual inventory expenditure averaged \$22.25 million.

What this means is that on average over the last 10 years, funding of inventory work was nearly \$13.5 million less each year than it was the decade before, representing an average annual decline of nearly 61 per cent.

It comes as no surprise that such a sharp shrinkage is mirrored in staff declines within the Forest Service. These declines, I note, occurred under both NDP and Liberal administrations, and they were most pronounced in the past 12 years.

Between 1992 and 1995, there were approximately 188 provincial Forest Service employees working on inventory-related jobs, jobs that helped the Chief Forester to make informed decisions on Allowable

Annual Cut calculations, among others. By 2000, the inventory staff component had been nearly halved to 105 positions. By 2004 it had been more than halved again to 50 jobs. As of December 2010, inventory staff in the Forest Service – including support positions – stood at 39 people.

I have been unable to arrive at figures for how many men and women in the contract community doing inventory work for the provincial government may have lost their jobs. But clearly a steady erosion in provincial funding of inventory work in the contract sector – which over the past 20-plus years has played an increasingly important role – have been extensive. Contractors I spoke with in preparing the *Axed* report said that they were operating today with skeleton staffs due to funding declines from \$20 million per annum in some years in the previous decade, to lows in the most recent decade of \$3 million per annum.

The decline in funding meant that qualified contractors who were trained to do their work by the Forest Service either left the profession to find other work or were in danger of doing so. As an example: of 40 certified photo interpreters in the contractor community (photo interpreters produce initial forest inventory estimates by analyzing aerial photographs – the estimates are ideally then ground-proofed during follow-up fieldwork), 40 per cent are currently unemployed and looking for work elsewhere.

The Association of BC Forest Professionals summed up the cumulative impact of such losses this way:

*In recent years, decreases in funding have resulted in a significant decline in the number of people with sufficient inventory experience to meet growing demands for more reliable, up-to-date inventories. Most of the current funding in BC is dependent upon forest licensee support through Forestry Investment Account allocation. This is not consistent across the province over time. Furthermore maintaining an update and reinventory process to ensure currency of information, and effectively storing and managing archival data are difficult without baseline funding.*

The most recent State of British Columbia's Forests report for 2010 offers other pointed criticisms, not so much with funding but with the inadequacy of inventory data.

"The inventory does not yet account for the epidemic mountain pine beetle losses. Inventories for tree farm licences and private land are mostly not available to government and the public," the report states at one point.

The same report notes that much of the current "forest cover inventory" work is still based on the use of photo-interpretation work dating between 1953 and 1995, and that just over one quarter of all of the provincial forestland base has been re-inventoried to the current Vegetation Resources Inventory or VRI standard – a standard that moves well beyond just counting timber, to a fuller range of plants. In other words, an inventory that takes a broader ecosystem-based approach.

Findings such as this take on added significance when "Not Satisfactorily Restocked" or NSR lands are concerned. With growing debate among forest professionals over the true extent of public lands once

treed but now far less so due to past logging activities, forest fires and pest and disease outbreaks, the need for prompt, frequently updated inventories is clear. Otherwise, forest professionals – let alone the general public – have no way of knowing whether the extent of such lands runs to the hundreds of thousands or millions of hectares or how best we ought to respond.

Much of what I am telling you, I know, is of no surprise and has been of concern to many of you for some time. But I can also tell you that it is a concern that is shared by a much wider audience. My research position at the CCPA has from its inception been a place where policy options are put on the table that serve to bring different constituencies together in common cause, most notably people working in resource sectors like the forest industry and people in the environmental community. The CCPA firmly rejects the false proposition that when it comes to natural resources we must choose either a healthy environment or a healthy economy. Rather, we promote policies that lay the foundation for a healthier environment that anchors a healthier, more sustainable economy.

In the past few years, working through that lens, I have been gratified to see that on major issues relating to our forests – such as the pine beetle outbreak – leading environmental organizations have joined together with forest industry and public sector unions in calls for substantive reforms.

A few years ago, all three of the province's forest sector unions joined with Sierra Club BC, ForestEthics, Ecojustice and the CCPA in support of policy reforms calling for scaled back logging activities in certain forests attacked by mountain pine beetles. It made far more sense from a forest health perspective to leave such forests alone than to log them prematurely – either because they were mixed forests with only a portion of dead pine trees in them, or because they had lots of healthy tree growth in the understorey of the dead pine trees. Those environmental organizations and unions count among their members tens of thousands of women and men who care deeply about our forests and understand their ecological and economic value.

A little over a year ago, the CCPA, Sierra Club BC, the David Suzuki Foundation and the Wilderness Committee joined with the three forest sector unions in a united call for a series of policy reforms aimed at promoting greater carbon storage both in our forests and in our forest products. Forest sector unions signed a report calling for increased forest conservation, including old-growth forests and older second-growth forests. The quid pro quo was that environmental organizations signed a document acknowledging the important role that solid wood products played in continuing to hold onto the carbon stored in those trees that are logged.

There is a solid appreciation in the ranks of the environmental organizations and unions alike that in order for our forests to be restored to health, we need bright minds in our public Forest Service, the contract community and forest industry out there on the ground regularly assessing what is going on and how things might be done differently, particularly in light of climate change.

This is most true when it comes to inventory and research work, without which we cannot hope to understand the complex processes in BC's ecologically diverse landscape.

Such landscapes, as we know, have been dramatically altered both by previous logging and tree-planting activities as well as by landscape level disturbances such as the mountain pine beetle outbreak and a host of other forest pest and disease disturbances, some of which we heard about yesterday during Lorraine McLaughlin's presentation.

In recent months, I have had a chance to speak to and read the work of forest scientists within and outside of government who are working hard to understand what is occurring on previously logged and replanted lands. When such lands attain "free-growing" status – the point at which the planted trees have reached a height where they will outcompete undesired "weedy" plants – the forest companies that planted such sites are deemed to have met their legal reforestation obligations.

At that point, it is assumed that the trees will chug along with healthy growth until a point decades down the road when the lands are logged again. But for years, forest researchers have been troubled by nagging questions about whether such sites are, indeed, freely growing with the desired number of trees. Jean Mather and Suzanne Simard, who are both here today, were among those with such questions. Through their fieldwork, we now know that on many previously logged and allegedly "successfully" replanted sites numerous problems have arisen. Poor choices about what species of trees to plant – in particular an overreliance on the planting of lodgepole pine seedlings — have led to large numbers of trees dying or becoming stressed, to the point where minimum stocking targets have in many cases not been met, let alone optimum targets.

Similar work has been done and is expanding in scope led by Alex Woods of the Forest Service. In the Okanagan area, Woods' field investigations found problems on about a third of sites examined.

Such work underscores the need for constant reassessment of reforested sites so that the reforestation efforts of tomorrow can be recalibrated to provide better prospects for healthier forests in future years. It also suggests the need for a strong core of inventory specialists and researchers to map out a game plan for how best we conduct forestry activities in the coming years.

Yesterday afternoon, we heard from Walt Klenner about the myriad challenges posed by climate change. How can our silvicultural practices be designed to help maintain the full range of forest values?

His presentation underscored the important role that "retention" logging systems can play in helping to ensure that planted trees had improved chances of survival in a world where the climate is changing, particularly on "moisture stressed" sites. If more trees are retained rather than harvested, the shade and increased water retention they provide makes it easier for the planted or naturally re-seeded trees underneath to flourish. But this will have an obvious impact on timber supply calculations, which in turn increases the importance of good forest inventories, so that the right decisions are made about what to do in what places for what reasons.

In recent conversations with people inside and outside the Forest Service, I am told that at a minimum \$20 million in annual budget allocations are required to move forward with a reasonably effective inventory effort, and that getting caught up – because we are so far behind – will require an additional

annual infusion of another \$5 million in each of the next 10 years. Combined, this means spending about \$16 million more each year than we currently do.

A predictable response to this is that “we can’t afford it,” particularly with the forest industry still trying to crawl back from the drubbing it took with the collapse of the US housing market. But this is no excuse for inaction. For one thing, we all know that forest commodity markets are fickle and that while they can go into protracted slumps they can also come roaring back.

Also, there is any one of a number of forest policy options that the provincial government could pursue that would result in capturing the increased funds needed to pay for enhanced inventory efforts. First, a simple increase in monitoring and enforcement efforts to ensure that forest companies do not defraud the public by failing to report what they log or mischaracterizing what they log could easily net increased province-wide stumpage revenues of \$16 million or more. So too could setting BC’s notoriously low minimum stumpage charge of 25 cents a cubic metre a notch or two higher.

With badly needed inventory funding restored to its rightful place, the talented men and women who track our public forest resources need to be encouraged to do even more to protect the public interest by focusing on other critically important resources on public forestlands such as water.

We all know that watersheds are under tremendous stress in many areas of the province and predicted to get worse. A recent Forest Practices Board audit looked at the cumulative impacts on watersheds of land-use practices in the Dawson Creek area, and highlighted the need for more integrated and coordinated planning across three resource sectors – oil and gas, forestry and agriculture.

And it is on water that I think I want to end.

As we all know, last October a cabinet reorganization resulted in the creation of a new ministry — the Ministry of Natural Resource Operations. More recently, that ministry was reconfigured yet again, resulting in the present Ministry of Forests, Lands and Natural Resource Operations.

Significantly, the new ministry includes water stewardship officials, who were until last October working for the Ministry of Environment. Those officials are being called upon, increasingly, to make decisions on major, long-term water allocations to the energy sector operating in the northeast of the province.

In two trips to the region in the past seven months, I witnessed a scale of forest fragmentation beyond anything I’ve witnessed in 25 years covering land-use stories in the province. The accumulated clearing is immense due to the explosion in the extraction of natural gas from deeply buried shale formations. Forests are being cleared at unparalleled rates to make way for seismic lines, multi-well gas pads, massive burrow pits for water storage – some more than half a kilometre long and 200 metres wide — pipeline corridors, compressor stations and new gas processing facilities.

When I called a Forest Service official in the Peace River region and asked how much forest the energy sector was clearing, I was literally laughed at. “Go ask the Oil and Gas Commission” was the answer – one that did not fill me with confidence, because by then I already knew that the Commission was scrambling to understand just how much of the water that it had allocated to the industry was actually

being used, let alone other water that the industry was accessing, for which it deemed it did not need permits. (The Commission has powers under the *Water Act* to assign short-term water permits to the industry. The permits last up to 12 months. Water Stewardship officials in the new ministry of Forests, Lands and Natural Resource Operations have the authority to issue long-term, more secure water licenses.)

There is no better time than now for the new Ministry of Forests, Lands and Natural Resource Operations to embrace a more robust inventory program, one that elevates the importance of healthy forests and watersheds, with water protection being an overarching goal. Without healthy water supplies our human health is at risk, as well as our environment and resource communities. All of which will carry considerable costs to the provincial treasury. So investing more broadly in inventory efforts should be a top priority.

It is that more rounded view that lies at the heart of what drove the Association of BC Forest Professionals to sound the alarm on the state of the province's forest inventory program. Its message may be five years old, but its relevancy has only increased with time.