

Submission to the BCUC Site C Review  
**Natural Capital and Ecosystem Services**  
Ken Boon

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Site C Inquiry Panel

David Morton, Chair, and Commissioners Karen Keilty, Dennis Cote and Richard Mason

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Dear Members of the Commission Panel:

No review of financial implications of the Site C dam would be complete without consideration of the value and benefits of the natural capital and ecosystem services of the valley.

By definition, *“Natural capital is the world's stock of natural resources, which includes geology, soils, air, water and all living organisms. Some natural capital assets provide people with free goods and services, often called ecosystem services. Two of these (clean water and fertile soil) underpin our economy and society and make human life possible.”*

[https://en.wikipedia.org/wiki/Natural\\_capital](https://en.wikipedia.org/wiki/Natural_capital)

Here is the definition of ecosystem services:

*“Humankind benefits in a multitude of ways from all kinds of ecosystems: agroecosystems, forest ecosystems, grassland ecosystems, aquatic ecosystems, natural ecosystems, urban ecosystems, etc. Collectively, these benefits are becoming known as ecosystem services. Ecosystem services are regularly involved in the provisioning of clean drinking water and the decomposition of wastes. While scientists and environmentalists have discussed ecosystem services implicitly for decades, the Millennium Ecosystem Assessment (MA) in the early 2000s popularized the concept.[1] There, ecosystem services are grouped into four broad categories: provisioning, such as the production of food and water; regulating, such as the control of climate and disease; supporting, such as nutrient cycles and crop pollination; and cultural, such as spiritual and recreational benefits. To help inform decision-makers, many ecosystem services are being assigned economic values.”*

[https://en.wikipedia.org/wiki/Ecosystem\\_services](https://en.wikipedia.org/wiki/Ecosystem_services)

I want to emphasize where it states: *To help inform decision-makers, many ecosystem services are being assigned economic values.*

Therefore, the loss of the valley speaks to TOR 3(a)(i), 3(a)(iii), and 3(b)(iii).

We all understand that part of your task is to consider the financial implications should Site C be stopped, suspended or built. That will involve a lot of number crunching and debate over interpretation of such. However, I assume that at the end of this exercise, you will come up with a dollar figure of what is the value to continue the project (point of no return). For instance, Harry Swain made the following determination in his submission:

*“Solely from a financial point of view, unless the cost to complete is less than \$2 billion, the project should be cancelled immediately....”*

[http://www.bcuc.com/Documents/Proceedings/2017/DOC\\_90042\\_F36-1\\_Swain-H\\_Site-C-Submission.pdf](http://www.bcuc.com/Documents/Proceedings/2017/DOC_90042_F36-1_Swain-H_Site-C-Submission.pdf)

At that point, consideration must also be made for the value of ecosystem services being lost. Rachel Darvill makes that very point in her submission to this review *“BCUC must consider the intangible ecosystem services in assessments, even though they do not have a quantifiable economic value.”*

[http://www.bcuc.com/Documents/Proceedings/2017/DOC\\_90043\\_F37-1\\_Darvill-R\\_Site-C-Submission\\_Redacted.pdf](http://www.bcuc.com/Documents/Proceedings/2017/DOC_90043_F37-1_Darvill-R_Site-C-Submission_Redacted.pdf)

So that leaves the question; how do you put a value on that in a BCUC review of the economics of Site C?

In a report titled: THE PEACE DIVIDEND: ASSESSING THE ECONOMIC VALUE OF ECOSYSTEMS IN B.C.'S PEACE RIVER WATERSHED by the David Suzuki Foundation in 2014, the following findings were reported:

*“This report assessed the economic values for the ecosystem services provided by natural capital within the B.C. portion of the Peace River Watershed (approximately 5.6 million hectares).*

*The total annual value for carbon stored in the Peace River Watershed was estimated at \$6.7 billion to \$7.4 billion per year (central values); and the total value for the other ecosystem service values was estimated to range from \$879.4 million to \$1.74 billion per year in economic benefits”.*

[http://www.davidsuzuki.org/publications/DSF\\_Peace\\_natcap\\_web\\_July\\_29%20copy.pdf](http://www.davidsuzuki.org/publications/DSF_Peace_natcap_web_July_29%20copy.pdf)

To be clear, this report covered an area much larger than what would be impacted by Site C, and does not supply separate dollars figure for that area. However, it too illustrates the economic values that we all take for granted.

So what is the dollar figure? I am no expert here at all, but a very conservative estimate puts that number at over \$2 billion just over the lifetime of the Site C dam in current dollar values. This is derived by extrapolating the values given above over the smaller area impacted. It does not account for the increased value of ecosystem services in the river valley as found by Rachel Darvill. Furthermore, even if Site C is eventually decommissioned by some future generation, the loss of natural capital and ecosystem services in the 107 km of river valley would likely continue for many years as the valley would be literally a mess.

I can imagine some eye rolling at my suggestion of the \$2 billion. Then I hope that same skepticism is given to any assumptions and forecast put out by BCH, because they have a very well documented history of being wrong for decades now with their numbers. Even if you refuse to accept that dollar figure, you have to accept the fact that there is a very real value that will be lost should the valley be flooded.

The potential for economic and society benefits of a Peace River Valley with no threat of Site C or the 1957 Flood Reserve restricting sustainable development was presented to

the Joint Review Panel for Site C in 2014 in a presentation titled “*An Alternate Vision for the Peace River Valley*”. This was a joint effort by a number of stake holder groups. Click on document 2587. (Not listed in numerical order but document date January 23, 2014), and then scroll down to page 129 where the presentation starts and runs to page 147)

<http://www.ceaa.gc.ca/050/documents-eng.cfm?evaluation=63919&page=1&type=0&sequence=0>

In their final report, the JRP for Site C made the following recommendation with:  
Recommendation 19

*“The Panel recommends that, if the Project does not proceed, the Province, after consultation with affected local parties, remove the flood reserve in a manner that preserves the agricultural, wildlife and heritage values of the Peace River valley”.*

**Conclusion and Recommendation:** When the value of natural capital and ecosystem services of 107 km of river valley are combined with the strictly traditional financial considerations of the Site C dam, it further reinforces that there is no business case now or into the future.

The Site C dam should be stopped, and not suspended.

Thank you,  
Ken Boon