Dam(n)ing BC or Remembering the dam(n)ed: Site C and mega dams in the era of contested economies and environments

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deliberate #1?
blocking/hiding part of the current Williston reservoir...
....hmmm...
Site C: continuation of WAC Bennett Dam, Peace Canyon Dam, and Williston Reservoir
Preamble...

Consumers of electricity

• current society needs / wants electricity

• only 1% - 3% electricity load saved on Earth Hour
Rivers and humans

humans have manipulated rivers for millennia

- Smith, N. *A history of dams*, 1971

- Goudie, A.S. *The human impact on the natural environment: Past, present, and future* (7th edition since the 1980s!)

- Wohl, E. & Merritts, D.J. What is a natural river? *Geography Compass*, 2007
deliberate #2? Note site C reservoir location...hmmm...

BC gov’t Dec.16, 2014 announcement slideshow
“...is in the public interest and that the benefits provided by the project outweigh the risks of significant adverse environmental, social and heritage effects.”

(BC government newsroom, October 14, 2014)
Site C “...would be accompanied by significant environmental and social costs, and the costs would not be borne by those who benefit.” (p.307)

“These losses will be borne by the people of the Valley... Those who benefit...will be future electricity consumers all across the province.” (p.307)

(Report of the Joint Review Panel: Site C project, 2014)
“Today’s distant [electricity consumers] do not remember the Finlay, Parsnip, and pristine Peace Rivers, or the wildlife that once filled the Rocky Mountain Trench.” (p.307)
How did we get from this...

[section of map from] *Peace River Chronicles*, 1963
...to this...  ...let us remember the...
With a historical geography lens, how did the Findlay, Parsnip, and Peace Rivers end up being considered as a potential major hydroelectric site?

Remember the Findlay, Parsnip, Peace and their tributaries

methods / sources

primary sources, gov’t reports and maps from late 18\textsuperscript{th} century onwards
“Aboriginal Engagement”

“...meaningful consultation with the potentially affected Aboriginal groups...”

“...consultation has been carried out in good faith...”

*Federal / Provincial Consultation and Accommodation Report, 2014* (and BC gov’t announcement slideshow)

uses (exact) phrases from:

*Aboriginal Consultation and Accommodation: Updated Guidelines for Federal Officials to Fulfill the Duty to Consult, 2011*
“All but two Aboriginal groups opposed the Project. Of the two, one favoured the Project and one was ambivalent.” (p.308)
for millennia...

May 31, 1793 “...we arrived at the fork...” (p.177);

PeaceR canyon portage: May 21 (p.168)
A map exhibiting all the new discoveries in the interior parts of North America

PeaceR rapids now labelled

A. Arrowsmith, 1802; (various editions exist)
first “fort” in BC; K.Fladmork, Early fur-trade forts of the Peace River area, 1985

South branch labelled PeaceR
early map with FinlayR (after John Finlay, 1797 journey)
Note “portage” labels
Canada’s “water power”

• 1866: “...there is good water power...” [for operating mining equipment] (p.298; Geological Survey of Canada *Report on Progress, 1863 to 1866, 1866*)

• 1870: “…Water-power, if needed, is accessible in several localities...” (p.308; Geological Survey of Canada *Report on Progress, 1867-69, 1870*)
Map of British Columbia to the 56th Parallel North Latitude, 1871

under the direction of Joseph W. Trutch; J. B. Launders, draughtsman

early map of area made in BC by Royal Sapper Engineer

South branch still labelled PeaceR
1874: “...the Qualicum River...would afford any amount of water power...”
(p.101; Geological Survey of Canada Report of Progress, 1873-74, 1874)
Sketch survey of route from Quesnel mouth by Stewart and McLeod's lakes to junction of Smoky River and Peace River

Selwyn, A.R.C. Geological Survey of Canada, Multicoloured Geological Map no. 111, 1877
“we passed into the Parsnip, so named on accounts of the cow-parsnip (Heracleum lanatuniy) being so abundant on its banks”
“...we ascended the Parsnip River down to the mouth of Nation River...”, 1877

Selwyn, A.R.C. (BC Archives NA-41323)
BC Minister of Mines: “water power”

1874 - onwards:
several “water power” references throughout the province
but not in reference to the Peace River...

“There is not a mine in the district at which electricity generated by water power
could not be used.”

BC Annual Report of the Minister of Mines 1893, 1894
Map of the Finlay and Omineca Rivers, 1895

Omineca R: "...its current is extremely swift, the slope of the bed exceeding ten feet to the mile." (p.7)

Canada’s “water power”

1899:
“An examination of any good map of our broad Dominion, reveals... an inexpensive dam will hold back the water...” (p.4)

“...spruce...manufactured by our water power into paper... would yield this country ten times the value...” (p.11)

*Canadian water power and its electrical product in relation to the undeveloped resources of the Dominion*, 1899
looking up river from the entrance to the Peace River Canyon, 1901

unknown photographer
1903:
“Peace River...of great size and volume...”

“So far as known to me no official or other competent survey or report has been made of the water power available in British Colombia.”
(p.335; E. Jacobs, Water powers of British Columbia, 1903)
BC water powers: “Peace River”

1911:

“Peace River...power sites ...there are two important sites... ...the upper is at Rocky Mountain portage.”

“At this point the river is a raging torrent flowing 25 miles through a canyon, and has a total fall of 270 feet” (p.287; Water-powers of Canada, 1911)
1912:
“Water Power Investigations” (p.36)
(no reference to Peace region but elsewhere)
Coal measures of Peace River Canyon (more interest in mineral exploration)

C.F.J. Galloway, BC Annual Report of the Minister of Mines, 1912
Coal measures of Peace River Canyon

no mills in area

BC Dept. of Lands, Forest Branch, 1912
no fire fighting in area

BC Dept. of Lands, Forest Branch, 1914
minimal timber extraction

BC Dept. of Lands,
Forest Branch, 1918
Frank Swannell, surveyor; 4000+ photos in BC Archives
[Frank Swannell] survey expedition crossing Finlay River at Moodie Trail, Oct. 1914 (low water)
Finlay rapids on the Peace River, October (low water), 1914
Peace River “water powers”

1915:
“Peace River...of great size and volume...”
(p.12; Water powers of Canada, BC, 1915)
1916:
“To the east are enormous great factories for the immense power of the water in the canyon has been harnessed.”
(p.215)

“...Finlay, whose broad valley will afford homes for many thousands...”
(p.202)
Call of the West: Letter from BC, 1916)
1917:
“...this canyon will be harnessed to great turbines...great manufacturing establishments...” (p.266)
*On the headwaters of the Peace River*
Peace River “water powers” reality...

1918:
“Many misleading statements have been published relating to the vast amount of power available on the Peace river.”

“...a power development at this site will be an expensive undertaking, and can only be accomplished when a market for the power is available close at hand.” (p.18)
Canada’s “White Coal”

1918:
“...no country in the world is more fortunate in the extent and location of its white coal than is Canada...”
(Five thousand facts about Canada, 1918, p.70)

“Canada ...her heritage in white coal...”
(Journal of the Engineering Institute of Canada, 1918, p.445)

Froschauer, K. White gold: Hydroelectric power in Canada, 2011
“...canyon...considerable magnitude...supply the lights and power needs...of Peace district.”

Water Powers of British Columbia, Ottawa, 1919
province has not identified the Peace... …yet...
making a dugout canoe near Fort Grahame, 1927

BCA I-33314, 1927

[section of] GSC Map 207A, Finlay River Area, 1928
(Nes) Parle Pas Rapids on the Peace River, July 1929

Frank Swannell, 1880-1969
mouth of the Ingenika River (at Finlay R), Oct. 1930

BCA I-33314
Frank Swannell, 1880-1969
1930: “...create a reservoir...upstream to Clearwater Creek...”

Pacific Great Eastern Railway lands report of survey resources, 1930

[section of map from] Peace River Chronicles, 1963
(poor copy but...) Peace area identified...

Major Water Powers, 1946
BC Minister of Lands
“...that’s just the place to drop a dam...1/4 million horsepower going to waste...”
"Peace River Canyon offers a good site for future water-power development." (p.5)
Stream flow: thousands cubic feet / second; Peace area for power now etched in stone...
Remembering the Dam(n)ed: Finlay, Parsnip and Peace rivers before Williston reservoir

"Today's distant [electricity consumers] do not remember the Finlay, Parsnip, and pristine Peace Rivers..." (SiteC Joint Review Panel, 2014)

Zoom in to see the rivers; click markers for historic photos; and use slider to fade out pre-Williston reservoir topographic maps.
Voices from Two Rivers
OF THE PEACE AND COLUMBIA

Harnessing the Power

Meg Stanley for the BC Hydro Power Pioneers

Meg Stanley, 2010
hydroelectric power reservoirs...

- interfere and obliterate the land of:
  - First Peoples today and their ancestors
  - current dwellers and their ancestors

- significantly alter the physical and cultural landscape
“There are alternative sources of power available at similar or somewhat higher costs, notably geothermal power.”

“These sources, being individually smaller than Site C, would allow supply to better follow demand…”

“…the policy constraints that the B.C. government has imposed on BC Hydro have made some other alternatives unavailable.”

(p.iv)
“The Panel concludes that a failure to pursue research over the last 30 years into B.C.’s geothermal resources has left BC Hydro without information about a resource that BC Hydro thinks may offer up to 700 megawatts of firm, economic power with low environmental costs.” (p.299)
Temperature at 500m depth

thousands of boreholes drilled
Tidal Power

[section of] *Green electricity resources in British Columbia, 2002.*
summary:
What contributed to the Findlay, Parsnip, and Peace Rivers area development that it was considered as a potential major hydroelectric site?

• Fur trade

• Mineral exploration

• Water powers potential

But there are alternative power options and...
...ultimately rivers will triumph...
Elwha River, “free” after 100 years!

ELWHA
A RIVER REBORN

LYNDA V. MAPES
PHOTOGRAPHY BY STEVE RINGMAN
CO-PUBLISHED WITH THE SEATTLE TIMES