



Fort Nelson First Nation

Hydraulic Fracturing: Fort Nelson First Nation's Perspective

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A presentation to the Yukon Select Committee on
Hydraulic Fracturing | February 1, 2014



- Fort Nelson First Nation (FNFN) rights, interests and lands
- FNFN's experience with hydraulic fracturing
 - Significant adverse impacts on land, water, air and treaty rights
 - BC LNG export poses tremendous risk to FNFN
 - Inadequate regulatory framework
 - Inadequate consultation and accommodation
 - FNFN bearing greater burden than benefit



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A River People

“Rivers are our means of life – where we hunt, fish, trap and travel. The river is not just the water; it’s the vegetation, the fish, the medicines, the moose that come down to drink, the beaver that swim by, the muskrat. It has more value than all the parts of the land. It needs to be protected.”

- FNFN Elder



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FNFN Treaty Rights

- The ancestors of FNFN adhered to Treaty No. 8 in 1910.
- Treaty adherence was seen as an honourable exchange. The freedom to remain connected to the territory and derive a sustainable livelihood from the land, in exchange for peaceful co-existence with the newly arrived settlers.



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Treaty 8 Territory





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FNFN Approaches to Land Management

- We have lived and relied on our traditional lands since time immemorial
- We have the right and obligation to manage our lands to ensure that they sustain future generations
- We aspire to have our community take a central role in responsible land and resource management in our territory to restore balance between our cultural values and economic use of our lands and resources



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FNFN's Experience with oil and gas

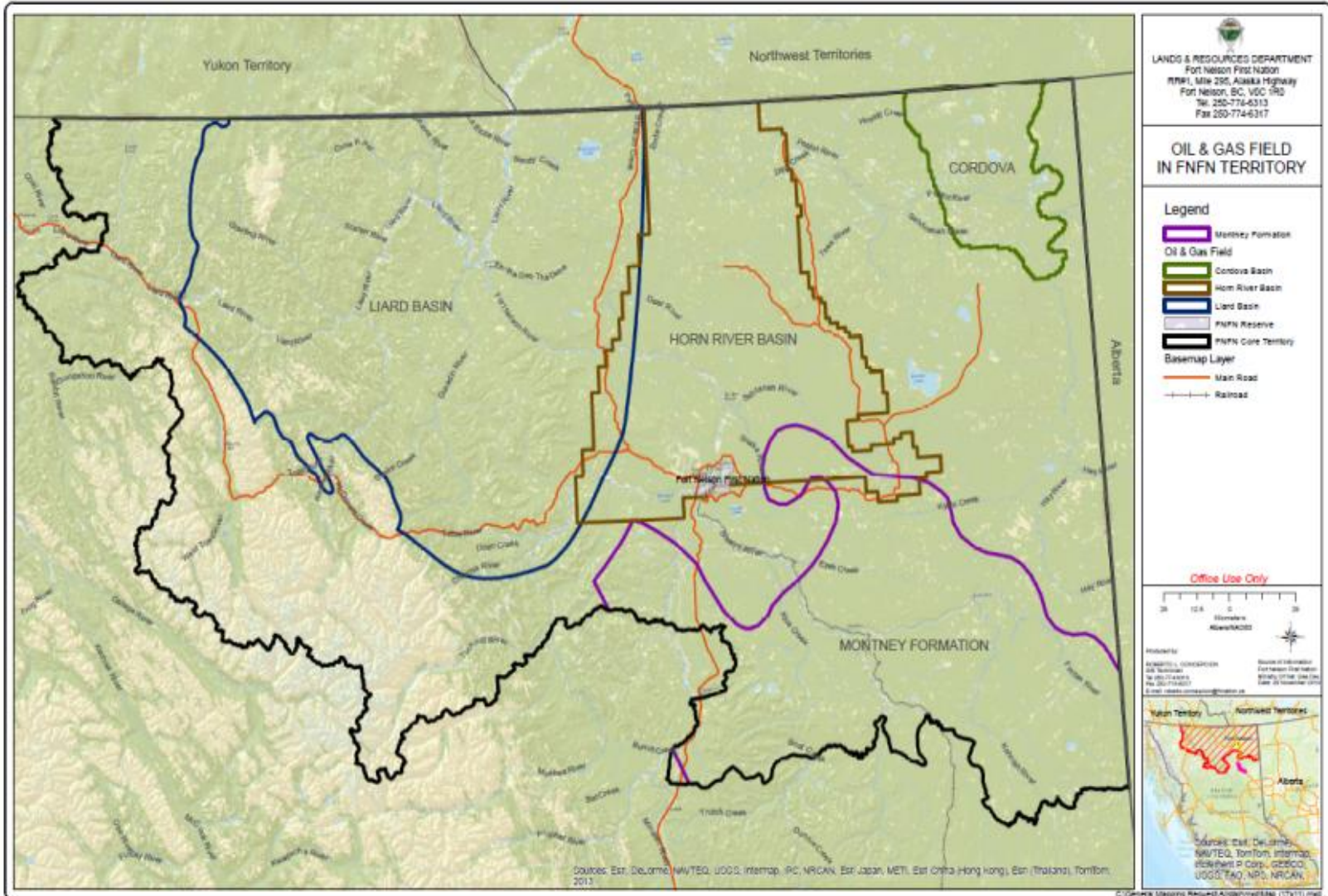
- Environmental concerns
- Failure to consider cumulative effects of development
- Inadequate consultation & accommodation
- FNFN bearing greater burden than benefit





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Shale Gas Plays in FNFN Territory





- Over the past ten years there has been enormous oil and gas development in FNFN territory, with more anticipated
- Hydraulic fracturing and horizontal drilling technologies have brought rapid change to FNFN territory
- Regulated by the Province of BC (Oil and Gas Commission) on an incremental basis, with little or no attention to cumulative impacts



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Summary of Gas-related Activity

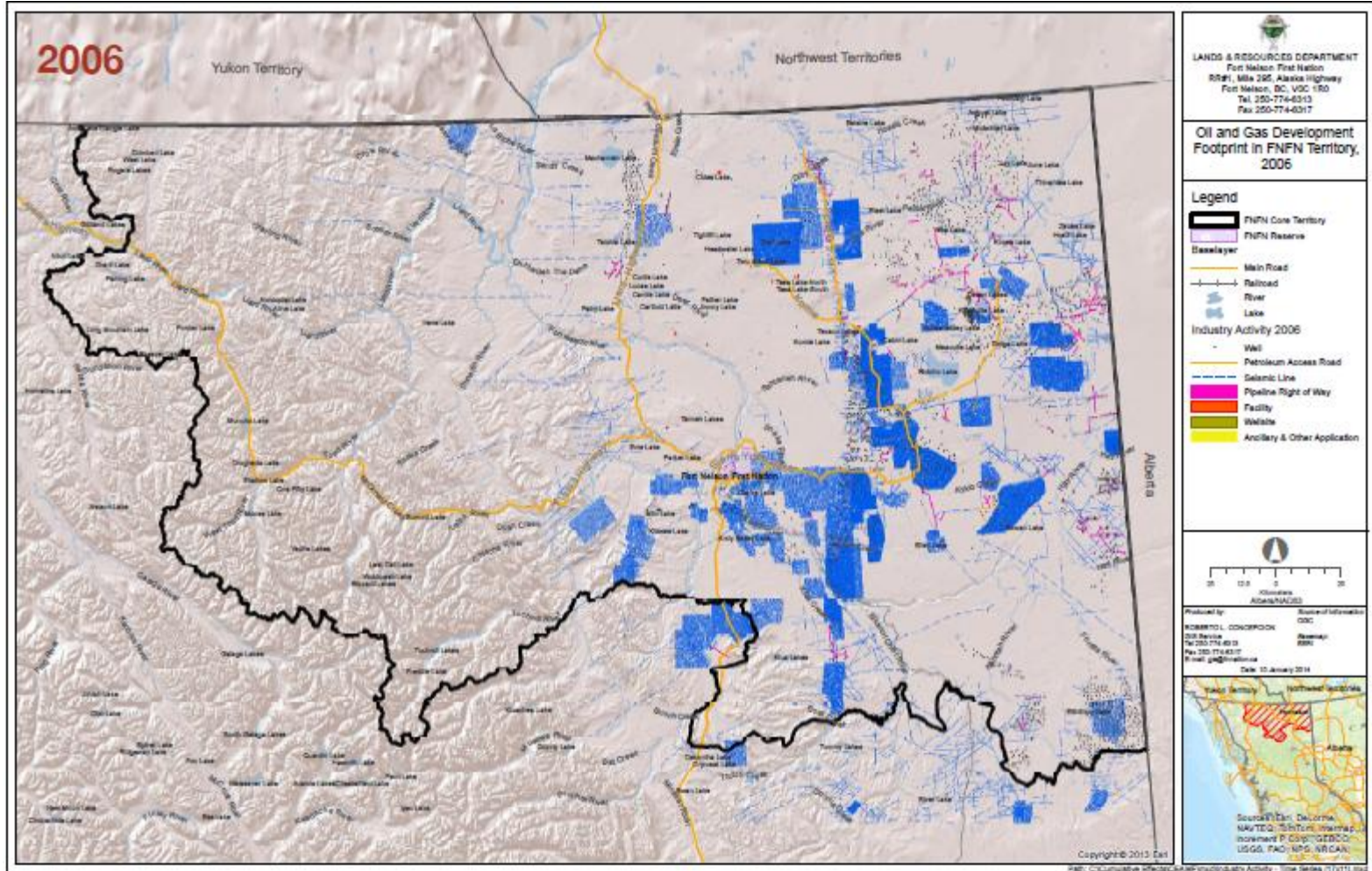
	Horn River Basin	Liard Basin	Cordova Embayment
% tenured by 2012	63.5%	18.4%	44.6%
Linear disturbance 2002-2012 (density on tenure)	59,915 km (6.84 km/km ²)	7137 km (1.07 km/km ²)	11,531 km (5.93 km/km ²)
Areal disturbance on tenure, 2012 (with 250m buffer on lines)	71% of tenured lands	33% of tenured lands	73% of tenured lands
Gas wells drilled 2007-2012	537	39	53
Well pads constructed 2007-2012	255	32	22
Production rates Dec. 2011	400 million cubic feet/day	Minimal	200 million cubic feet/day

Source: B.C. OGC data, through published materials (see reference section) and materials available to the FNFN Lands Department GIS team through the B.C. OGC's shape file database, www.bcogc.ca/public-zone/gis-data



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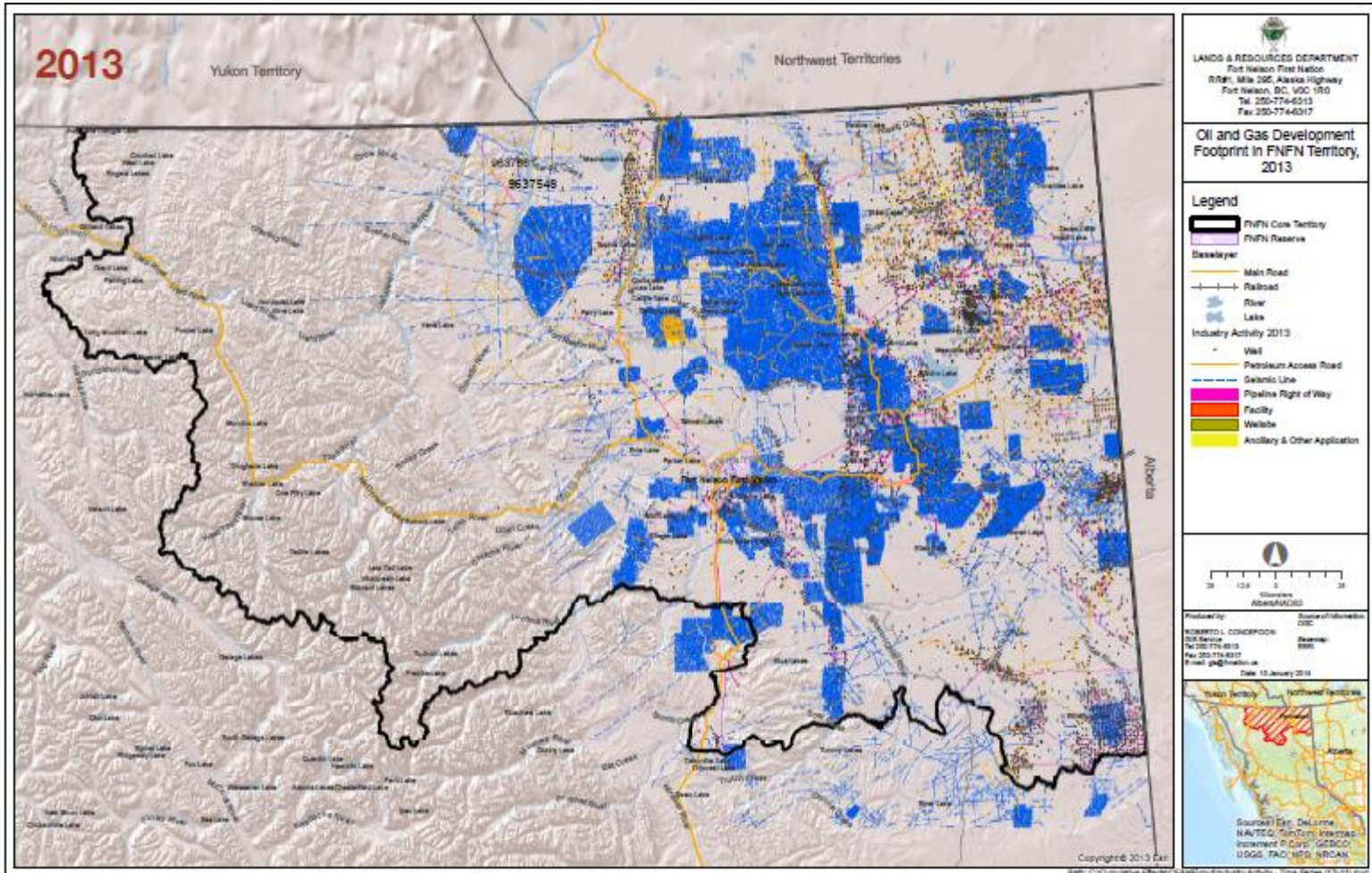
Oil and gas development in FNFN territory, 2006





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Oil and gas development in FNFN territory, 2013





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Wildlife

- Habitat fragmentation & loss (caribou, grizzly bear, bison)
- Increased predation (caribou, moose)
- Populations of furbears decline with industrial development (lynx, marten, fisher, beaver)

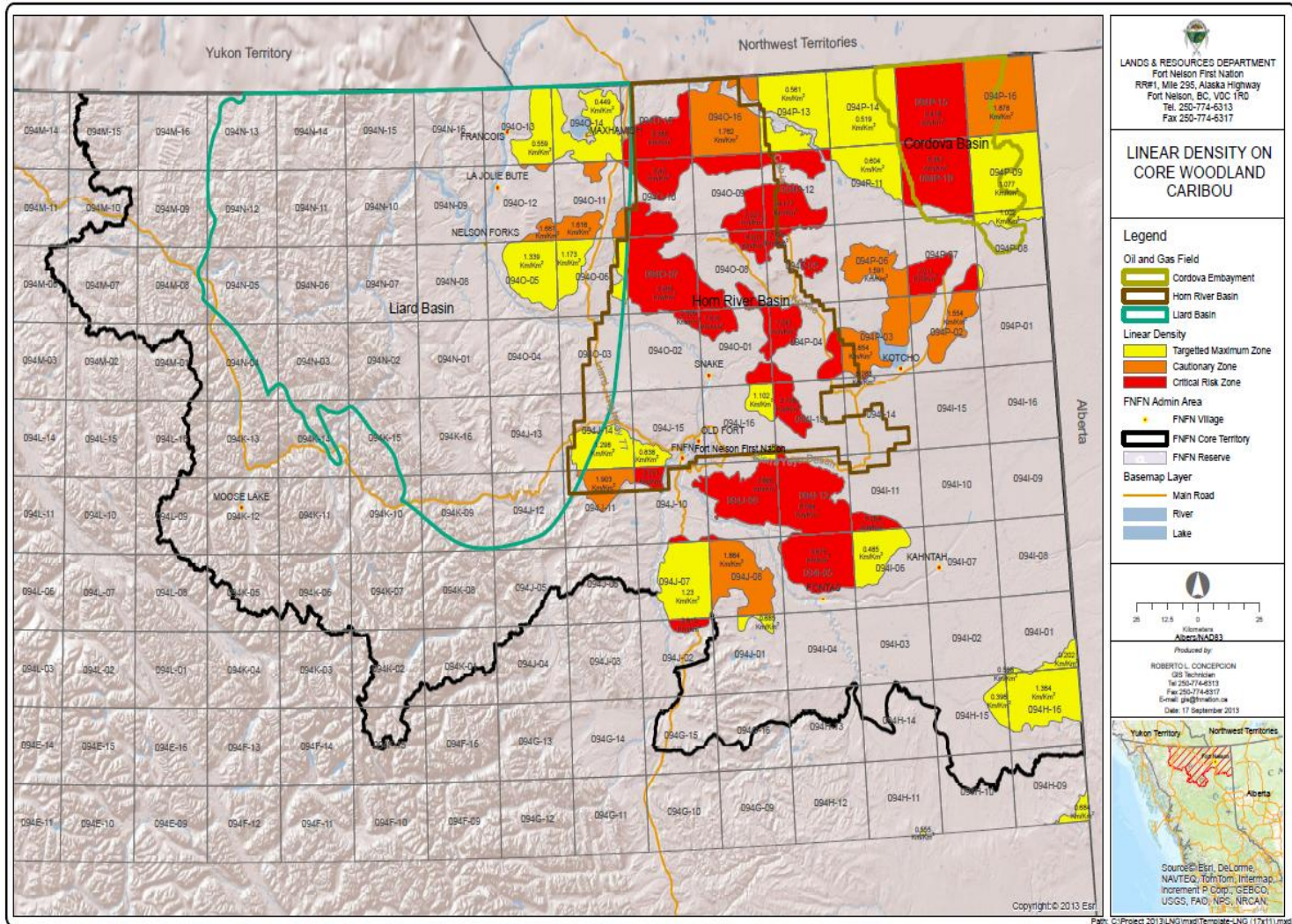


- Introduction of invasive species



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Caribou face critical risks





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Vegetation

- Reduction in plant and ecotype diversity
- Contamination
- Rare plants lost
- Fragmentation of forested lands reduces ecological vitality





Climate Change

- When the GHG emissions associated with the production of shale gas are considered, GHG emissions are high
- Horn River Basin shale gas contains high % CO₂ (approx. 12% vs. BC average of 2%)
- LNG export would require fracking levels that make it impossible for BC to meet legislated GHG reduction targets
- Two large LNG facilities in BC would produce 21 million tonnes of GHGs per year, or 44% of BC's total targeted emissions for 2020



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Air Quality

- Increased emissions of VOCs (volatile organic compounds) and hazardous air pollutants from leaks and flaring
- Air pollution has sensory and potential health impacts



The Need for Water

- Fracking requires more water than conventional gas
- Fracking involves pumping fluids down a well until the pressure builds to a point that it fractures the shale
- Hydraulic fluids consist of water (approx.. 98%), unknown and untraceable chemical additives and sand



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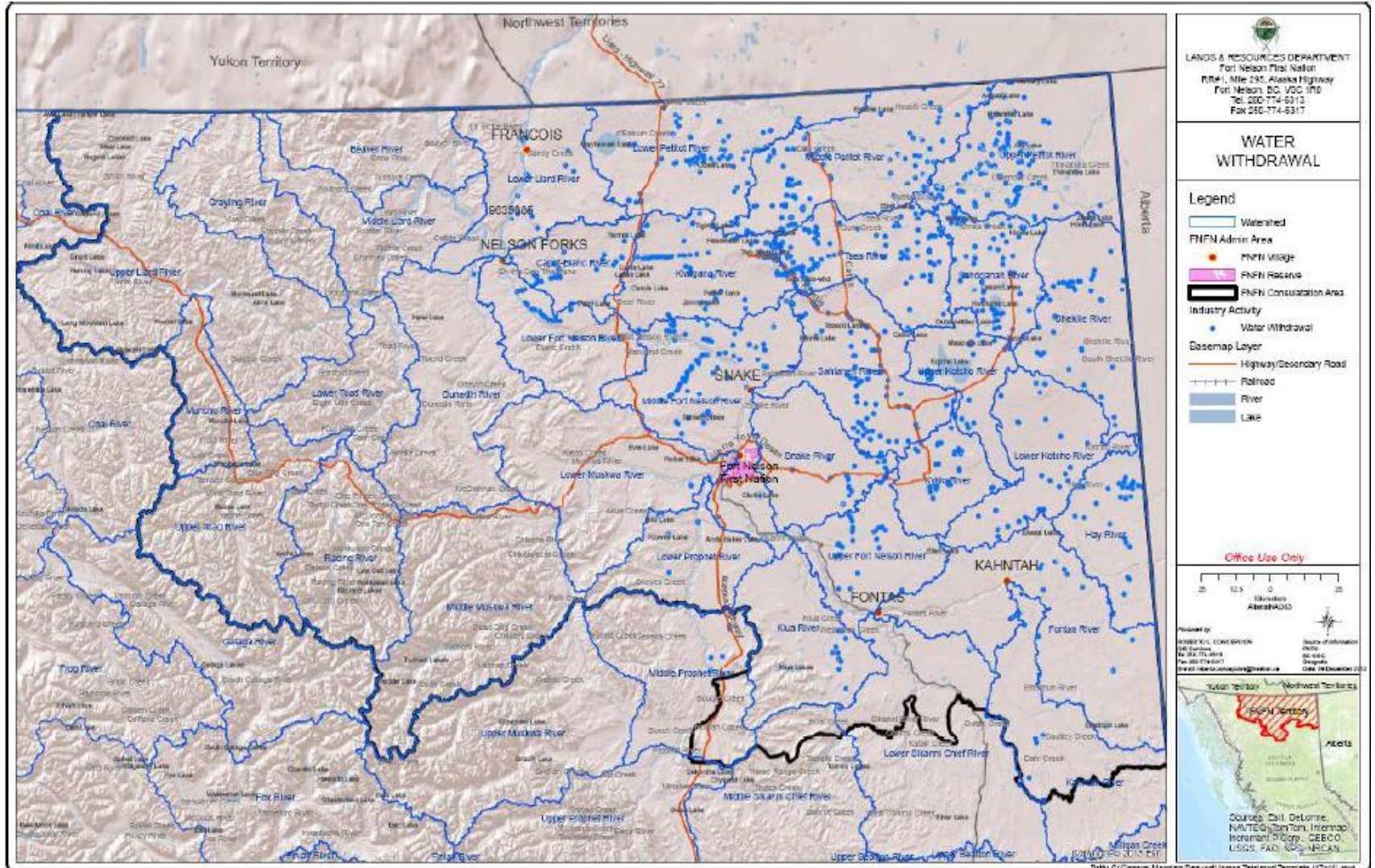
Water Use & Impacts

- Water is being withdrawn in unprecedented rates from the lakes, rivers, streams, water source dugouts and aquifers in FNFN territory
- 30,000 to 100,000 m³ of water is required per well in the Horn River Basin
- As of June 2013 the OGC had approved the use of up to 2,623,000 m³/day or 20,405,000 m³/year (equivalent to +8,000 Olympic swimming pools) for fracking in FNFN territory
- Significant hydrologic impacts (reduced stream flow, drought vulnerability, degraded fisheries habitats and wetlands)



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Water withdrawals





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Water Contamination

- Fracture fluids contain chemicals that are possible human carcinogens
- Produced water or flowback can have high concentrations of salts, naturally occurring radioactive material and other contaminants including arsenic, benzene and mercury
- Risks include both sub-surface (ground water) and surface water contamination
- FNFN has seen effects of flowback of saline water on nearby forested areas



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Accidents & Malfunctions

- Corrosion and well failure
- Wastewater spills or leaks (i.e. Farrell Creek leak in Montney Basin)
- Risk of blow-outs
- The BC OGC found an increase in minor earthquakes in northeast BC from 2009 to 2011 and has recommended further monitoring



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Social Impacts

- Infringement of FNFN treaty rights to hunt, trap, fish and practice a traditional mode of life (including FNFN culture)
- Increased risk perception
- Increased land and water alienation
- Reduced food security (reduced country food harvesting)
- Reduced transmission of knowledge
- Lack of impact equity for First Nations



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Effects on FNFN rights

- Undermining FNFN ability to live off the land as we have for millennia including:
 - Reduced access to wildlife
 - No longer able to drink water from rivers & streams
 - Reduced stream flow impacts ability to travel along traditional transportation routes by boat
 - Harvesting of medicinal plants, fur bearing animals and game impacted by availability and contamination
- No longer able to manage our environment in a way that ensures the land will sustain us for generations to come



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Will things get worse? - BC LNG

- To meet BC LNG export targets 50,000 new wells will need to be drilled in BC in the next 27 years, double the number of wells drilled in BC since the 1950s
- Between 10 and 25% of gas for BC export facilities will come from FNFN territory
- FNFN projections suggest this will mean at least 3,000 new wells will be drilled in our territory
- FNFN concerned about induced impacts from LNG demand particularly in light of Province's failure to accommodate FNFN rights and interests



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Inadequate Regulatory Framework

- Activity regulated on an incremental basis
- Province fails to assess and address cumulative impacts
- OGC is a captured regulator
- Groundwater extraction is unregulated
- Inadequate monitoring and enforcement



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Inadequate Consultation and Accommodation

- Province fails to engage FNFN in meaningful discussion of cumulative effects
- Regulatory framework fails to ensure FNFN interests are considered and respected
- FNFN is inadequately consulted on provincial initiatives (i.e. *Water Sustainability Act*)

“While the environmental footprint of any one project might appear quite modest, the eventual cumulative impact of development on the rights and traditional interests of Aboriginal peoples can be quite profound.”

- *Brokenhead Ojibway First Nation v. Canada (Attorney General)*, 2009 FC 484



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Benefit and Burden

- FNFN bears greater burden than benefits
 - Significant impacts on our Treaty rights
 - Significant social impacts
 - Inadequate revenue sharing
- Lack of project impact equity



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FNFN's Response

- FNFN continues to press for proactive, collaborative assessment of cumulative impacts on aboriginal and treaty rights
- Litigation: Appeal of Nexen water licence for up to 2.5 million m³/year of water at North Tsea Lake
 - Inadequate consideration on potential impacts of water licence
 - Failure to meaningfully consult FNFN
- Want to achieve direct management and stewardship of resources within FNFN territory (i.e. FNFN Water Management Strategy)



Recommendations

- Be very careful!
- Fracking presents significant risks to lands, water, and resources
- Fracking has already had significant adverse impacts on FNFN treaty rights
- Effective cumulative effects assessment is essential



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Recommendations cont'd..

- BC has no effective regulation or consultation framework for addressing impacts on the environment and First Nations
- Very careful consideration is needed in establishing regulatory framework necessary to address extensive impacts
- Allowing fracking is a Pandora's box which will have severe and far-reaching consequences



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To watch time lapse videos of oil and gas development in FNFN territory, go to <http://lands.fnnation.ca/our-land>.