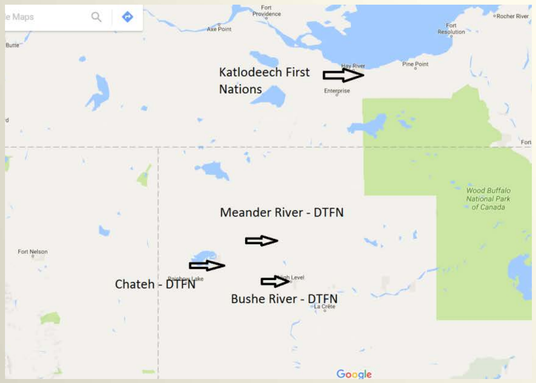
Drinking Water In Northern Canadian Indigenous Communities.

Neal Spicer – MSc Community Risk and Resilience, University of Alberta . Supervisor – Dr. Brenda Parlee – University of Alberta



Water security:

Water is an essential part of life and viable sources of clean and drinkable water is a challenge for many people across the planet. Unfortunately, this challenge exists for many Indigenous communities across Canada as seen by a series of articles, investigations and academic literature that has appeared over the last 20 years.

This research examines how members of two Dene First Nation Communities in Northern Canada perceive the degree of safety and security of their sources of drinking water, both within their homes and natural sources of water.

Participating Communities:

Dene Tha' First Nations (DTFN):

Northern Alberta

Consists of 3 communities - Bushe River, Chateh, Meander River

- 543 dwellings
- 201 homes on pressured water systems
- 339 homes have water cisterns
- 3 homes no services

•Community is heavily dependant on Hunting and fishing activities and many members spend long periods of time on the land.

•Extensive resource extraction (mainly oil) within their traditional lands since the 1930's and 40s that has impacted natural water sources extensively.

•Growing timber industry activities including cutting and mills in the area that are contaminating water sources and allowing erosion of land.

K'atl'odeeche First Nations (KFN):

Southern Shore of Great Slave Lake – NWT

•Consists of 1 community with approximately 300 members

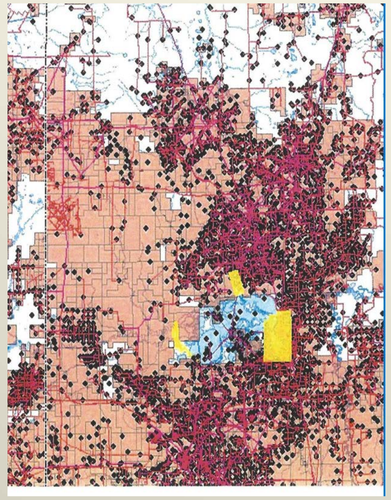
•All homes have water cisterns either inside or under the building.

•Community heavily dependant on Hunting and fishing activities and many members spend extensive time on the land.

•Limited resource extraction within their traditional land with little impact on natural water sources overall.

•However, traditional territories are being impacted by upstream resources extraction from Alberta and Saskatchewan.

Cleaning of In ground drinking water cisterns in Chateh



Map of DTFN traditional lands – each block dot represents oil well locations.

Methods

•Various members of communities participated in semi-structured interviews – 49 participants in DTFN, 50 participants in KFN .

Questions included:

1) Various personal information questions (Name, Age, Employment, Income, Education Level, English Proficiency, and contact information)

2) A variety of questions designed to ascertain perceived degree of safety and security of the drinking water within their homes.

- Where do they normally get their drinking water from.
- Do they drink tap water?
- Do they think it is safe?
- If not, what are their concerns?

3) Various Questions designed to ascertain perceived degree of safety and security of natural water sources.

- Do they drink natural water sources?
- What sources do they consider safe?
- What sources do they consider not safe?
- What are their concerns about the natural water sources?
- Are they concerned about the future security of their natural water sources?

4) Various questions designed to ascertain if and how the interviewee brought forth their concerns and have they been addressed.

- have they talked to the band council?
- Have they talked to the nursing station?
- Have their concerns been acknowledged? If yes – by who?
- How have their concerns been addressed?

Normally Drinks at Home:	Male	%	Female	%
DTFN				
Bottled water	12	54.55	20	74.07
Tap water	6	27.27	7	25.93
Both Tap/Bottled water	3	13.64	0	0
Other	1	4.54	0	0
Total Respondents	22	100	27	100
KFN				
Bottled water	7	38.89	10	31.25
Tap water	6	33.33	17	53.13
Both Tap/Bottled water	4	22.22	5	15.63
Other	1	2.00	0	0
Total Respondents	18	100	32	100.00
Normally Drinks On Land				
DTFN				
Bottled	18	81.82	22	81.48
Bottled/Natural Source Water	2	9.09	2	7.41
Bring Tap Water	0	0	2	7.41
Natural Source Water	2	9.09	1	3.70
Total respondents	22	100	27	100
KFN				
Bottled	9	50.00	25	83.33
Bottled/Natural Source Water	2	11.11	0	0.00
Bring Tap Water	0	0.00	0	0.00
Natural Source Water	7	38.89	5	16.67
Total respondents	18	100	30	100

Why respondents drink bottled water

	Tap/ natural Water is bad	%	Taste	%	Easy		Safe	%	other	%	No Ans.	%
DTFN												
In Home	9/45	20.00	18/45	40.00	4/45	8.89	15/45	33.33	4/45	8.89	1/45	2.22
On Land	4/44	9.09	2/44	4.55	25/44	56.82	14/44	31.81	0.00	0.00	4/44	9.09
KFN												
In Home	0	0.00	24/40	60.00	8/40	20.00	13/40	32.50	0.00	0.00	1/40	2.50
On Land	0	0.00	1/36	2.78	18/36	50.00	17/36	47.22	0.00	0.00	3/36	8.33

Findings:

Household consumption:

In the DTFN, over half of the respondents consumed bottled water because they were concerned over the household water supply.

In the KFN, the majority of people who drank bottled water did so because they liked the taste better. However, almost a third of respondents drank bottled water because they thought it was safer than their tap water.

On the land consumption:

In the DTFN, convenience was the largest reason for the consumption of bottled water for roughly 60 percent of the respondents. However, safety concerns was the reason stated for the remaining individuals who consumed bottled water while on the land.

In the KFN, convenience played a key part for about half of the respondent in choice of bottled water. However, safety concerns over natural sources of water played a major role in their decision to drink bottled water for the remaining respondents who drank bottled water.

In both communities spring water, rain water, snow water, and ice water were considered safe sources of water by the majority of the respondents.

In the DTFN, beyond the 4 sources mentioned above, muskeg water (32 people) , running water sources (20 people), standing water sources (7 people) and specific water sources (7 people).

In the KFN, the Great Slave Lake (48 people), most natural sources (15 people), running water sources (4 people) and specific water sources (3 people) were mentioned as good or safe additional water sources.

Conclusions:

Overall, the community respondents, especially those residing in DTFN, are drinking a lot of bottled water both in their home and while on the land, far more than the national average (Dupont et al. 2010).

Safety concerns and convenience were the most frequently given reasons for drinking bottled water both within the house and while on the land hunting and fishing.

The impacts of resource extraction is impeding Indigenous communities to have safe sources of drinking water while on the land.

Both communities have many concerns surrounding their household water sources that need to be addressed to increase levels of water security and decrease levels of bottled water consumption.

Sources:
http://denetha.ca/about-us/
http://www.dehcho.org/members/hay_river_reserve.htm
Dupont, Diane, W.L.(Vic) Adamowicz, and Krupnik, Alan (2010). Differences in Water Consumption choices in Canada: The Role of Socio-Demographics, Experiences, and Perceptions of Health Risks. *Journal of Water and Health* 8 (4): 671-686. Doi: 10.2166/wh.2010.143.

Chateh Hill Spring – now overgrown and unused – but once played an important part in Community as viable water source.