

Science & Indigenous Wisdom - Both Are True

By Bob Weber

The berries tasted different. The blueberries and cranberries didn't look the same either.

When elders from Fort McKay near Alberta's oilsands went to their traditional berry-picking areas, things just didn't feel right. They knew something was off. But what?

The First Nation's questions eventually grew into a collaboration with university-based researchers that brought botanists out on traditional berry-picking trips in an attempt to use western science to investigate community concerns.

Sure enough, the elders were right. Berries closer to the oilsands were different.

That effort to unite the white coats and the bush jackets was so successful that the Alberta government is extending the model into fish and wetland projects.

"We have a lot of scientists working in the area, but they don't always get to meet the elders and learn from them," said Jenelle Baker, a botanist who helped direct the research. "A lot of the scientists that are doing that are having some pretty big, almost life-changing moments."

Reconciliation between Canada and First Nations is playing out not only in legislatures and courtrooms but in labs across the country. Research grant applications often require provision for what is called traditional ecological knowledge and Indigenous communities have a growing influence on what questions are explored.

It isn't always easy. Differences between science rooted in European ideas and the conceptual tools of Indigenous people are real and both parties still sometimes struggle for common ground. "Anything science can't measure on the x and y axis, they tend to disregard," said Elmer Ghostkeeper, an engineer,



An aerial view of Fort McKay, Alta., Monday, Sept. 19, 2011. The blueberries and cranberries didn't look the same, either, and when the elders from Fort McKay near Alberta's oilsands went to their traditional berry-picking areas, things just didn't feel right. They knew something was off. But what? THE CANADIAN PRESS/Jeff McIntosh

anthropologist and member of the Alberta government's Indigenous Wisdom Advisory Panel — a group charged with bringing Indigenous perspectives to environmental monitoring.

"Everything is about measurement and anything you can't measure is not scientific," said Leroy Little Bear, a University of Lethbridge professor and another panel member.

On the other hand, individual experience and oral history isn't always enough, said Andrew Derocher, a University of Alberta polar bear biologist with extensive field experience.

"There's been a push to try to move the traditional ecological knowledge into the science and that has not worked very well. They are two very different entities.

"Traditional ecological knowledge isn't feeding directly into the scientific questions that we have anymore."

Science isolates a variable, notes its behaviour under controlled conditions and extrapolates that into a general rule. The

scientist stands apart, neutrally observing.

Indigenous people have been more interested in relationships between many things at once as they interact in the real world. That real world includes the observer. "I am nature," said Ghostkeeper. "I am the environment." That perspective inevitably includes feelings and values — love for a place, for example. "Science can't measure love," Ghostkeeper said.

But those feelings and values are real and they matter. In Fort McKay, they were what started the whole study.

"They have subtler indicators of contamination," Baker said. "Often, that involves symbolic, spiritual contamination."

Sometimes, science itself causes the contamination. Inuit have long objected to polar bear research that involves tranquilizing, handling and taking samples.

"It is very disrespectful to the animal," said Paul Irgaut of Nunavut Tunngavik Inc., which monitors the Nunavut land claim. "It goes against our beliefs and it

goes against our values."

And even in successful collaborations, Indigenous concerns sometimes leave scientists nonplussed, Baker said.

"If we're doing a traditional land-use assessment and we're talking about the landscape, what happens when someone brings up the serpent that lives under the muskeg?"

Still, both scientists and Indigenous leaders understand they have a lot to offer each other.

"We welcome science," said Irgaut. "It enhances our knowledge."

Derocher credits Inuit hunters with invaluable advice about bear behaviour and habitat.

"We're talking to people who have been on the land for decades," he said.

Fred Wrona, Alberta's chief scientist, said Indigenous input has been at the heart of research programs he's worked on.

"It's important for us, when we're reporting on the condition of the environment, to understand the values of that environment," he said. "It's broadened my per-

spective. A classical western scientist, you tend to look at components in isolation from each other and try to understand all these pieces.

"The Indigenous perspective has always reinforced the importance of understanding relationships between components of the environment."

Ultimately, western and Indigenous viewpoints may not be that far apart. Little Bear points to the findings of quantum physics, which conclude that the observer and the observed are part of the same system and that the only constant in the universe is flux.

"A subatomic particle, isolated — which is the western approach to science — doesn't have much meaning. It's only when you take that particle and relate it to something else that it begins to have meaning.

"We may measure. But we also have to relate." Science — and society — will benefit by learning how to straddle both ways of knowing, said Baker. "There's lots of times we can say both things are true."

New Brunswick Joins Saskatchewan To Support Ontario's Case

Greenhouse Gas Pollution Act Termed As 'Unconstitutional, Disguised Federal Carbon Tax'

The Ontario Government is gaining support across Canada in its fight against the federal government's unconstitutional carbon tax, the government said in a statement. In addition to the Province of Saskatchewan, the Province of New Brunswick has now also joined Ontario's challenge to the federal Greenhouse Gas Pollution Pricing Act, which is an unconstitutional, disguised tax.

"The federal carbon tax will eliminate jobs and make life more difficult for families, seniors and everyone who works hard to get ahead in Ontario and across our country," said Premier Doug Ford. "We are on the front lines of this fight because the costs for people and communities are simply unacceptable, whether in Ontario, in Saskatchewan, in New Brunswick or everywhere people are bracing for this new tax."

Canadians across the country are calling on the federal government to eliminate the unconstitutional carbon tax and let the provinces decide how best to regulate greenhouse gas emissions.

Ontario has already intervened in the reference case Saskatchewan has launched to its Court of Appeal. "We are thankful for the support of Premier Ford and Premier Higgs, and the people of Ontario and New Brunswick, for intervening in our case against this unconstitutional and harmful federally imposed carbon tax," said Saskatchewan Premier Scott Moe.

Premier Ford and Minister Mulroney have shown great leadership in introducing a constitutional challenge against this job-killing carbon tax, and Saskatchewan is proud to stand with the people of Ontario in this fight. The federal government should respect the court process by delaying the imposition of this harmful and job-killing tax until



the courts have rendered a final decision."

New Brunswick has intervened in the reference case in Saskatchewan as well and has now joined Ontario's challenge.

"The Province of New Brunswick is on track to meet and ex-

ceed carbon emission reduction targets by 2030. We believe the federal government's carbon tax unfairly targets our business and is too heavy a financial burden for ordinary New Brunswickers and Canadians alike," said New Brunswick Premier Blaine Higgs.

The province has released for consultation a new, made-in-Ontario environment plan tailored to the province's specific priorities and regional challenges

"Ontario is doing its share to address climate change and reduce greenhouse gas emissions; our families, workers and businesses have already made significant sacrifices to get here, and there is no justification to punish them further with a carbon tax," said Rod Phillips, Minister of the Environment, Conservation and Parks. "With our environment plan, Ontario will continue to protect the environment while respecting taxpayers."

• Ontario is arguing that the

provinces, not the federal government, have the primary responsibility to regulate greenhouse gas emissions and that the charges the act seeks to impose are unconstitutional, disguised taxation.

• Parties wishing to seek leave to intervene in the reference have until the end of the day today to file their materials with the Court of Appeal.

• The reference will be heard from April 15-18, 2019 in Toronto.

• The court has issued a scheduling order setting out the timetable for the reference. The materials that have been filed in the case can be viewed at <http://www.ontariocourts.ca/coa/ggppa/>.



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