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Nature's bounty - a traditional plant study

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Brian Wolf had a chest cold. It was about a decade ago, when the current Junior Lands Director for the Prophet River First Nation (PRFN) was working for the band as band manager. He went into work one day with a terrible cough and ran into a group of elders sitting together in front of the band hall. Telling the elders that he had to see the doctor about his cold, one member of that group spoke up and suggested he try a medicinal plant known as rat root that was traditionally used by the PRFN to treat chest colds, among other ailments.

That one remark was the beginning of a long discussion, the conclusion of which was a decision that it was important to start documenting the elders' knowledge of traditional use plants to pass that knowledge along to the younger generations. Wolf decided to apply for funding to perform a study of traditional use plants in PRFN territory, receiving \$25,000 from the First Nations Forestry Program, which supported a summer of research and the production of a booklet about those plants.

Then Encana arrived on the scene in 2006. The natural gas company was working on a road application in that region, which led to the realization that there was a lack of information available about those same traditional plants of interest to Wolf and the PRFN elders. A literature review was conducted, but many knowledge gaps still remained. Consequently, Angela White, Encana's Surface Land Representative in Fort Nelson, contacted both the Fort Nelson First Nation and PRFN to try to find a way to fill those gaps. Ultimately, Fort Nelson First Nation chose not to be involved in the ensuing project, but there are hopes to involve them in future studies on traditional plants in the region.

The project that evolved from those first discussions between Wolf and White would grow to include not only those representatives from PRFN and Encana, but also a biologist with environmental services firm Environmental Dynamics (EDI) by the name of Cathy MacKay and an ethnobotanist from the University of Northern British Columbia (UNBC) by the name of Jane Young. The study was sponsored by the Science and Community Environmental Knowledge (SCEK) Fund, which derives its funding from the oil and gas industry and is administered by a steering committee of representatives from the BC Oil and Gas Commission, the Small Explorers and Producers Association of Canada (SEPAC), and the Canadian Association of Petroleum Producers (CAPP).

“It was very unique,” said White, who brought a forestry background and a personal interest in identifying plants to the project. “And it was actually great. ... Everybody kind of gelled really well together and everyone got along really well. And having the university, I think, was key, because they’re just – you know, they’re basically there to collect information. They’re not taking sides with anybody. They just want to preserve information and collect information. So, it adds so much credibility, I think, to the project.”

“The project involved partners from quite different backgrounds,” added Young. “And I think we proved that partners from diverse backgrounds can work together very well. We made a team that has created really important and useful deliverables.”

The tangible results of the study include a booklet, *Communicating Traditional Knowledge*, which provides information about the traditional uses of local plants ranging from mint and blueberries to the sap of spruce trees, and a Spatial Data Decision-Making Tool (SDDT). A geographic information system (GIS) application, the SDDT can be used to identify known and potential traditional plant gathering areas in PRFN territory, as well as to predict areas likely to contain specific plant species and determine if those spots are readily accessible. Importantly, the tool also has great applications in terms of the relationship between PRFN and the oil and gas industry.

“Our lead area was to go forward with somehow facilitating spatial data compilation for the First Nation,” said MacKay, discussing EDI’s role in the project and the two year process of developing the SDDT. “So, facilitating them to take ownership of compiling their own spatial data so that it could improve their ability to respond to referrals. And, of course, that’s an objective from [the] industry point of view, to get good and timely response to referrals that go in for different developments.”

“We’ve put into this mapping system where these sites are that are important to them right now, but we can also predict ones that are out there that they could use at another time,” Young added. “And then those are the kinds of things that they’ll be able to tell industry: these areas aren’t the best areas to build roads; so, this area over here is better. That’s the whole idea.”

Wolf is thrilled with the results of that element of the project.

“What we gained,” he said, “is a lot more knowledge in a lot more areas where we basically documented, GPS located, and passed on some of the knowledge to the youth. We also gained a tremendous – a great, wonderful – working relationship with UNBC, Encana and EDI. And the elders can’t wait for them to come back and do some more work.”

It is those less tangible elements of the project – building relationships, learning from the PRFN elders, and passing knowledge along to the young generation – that have clearly made the most lasting impression on the project partners and the PRFN community. As White suggested, Young and UNBC played a vital role in making those outcomes possible.

“I’ve been involved with research and teaching ethnobotany for probably thirteen years now,” said Young, adding that she has been a plant biologist for a long time.

However, it wasn't just her scientific expertise in that field that were so important to the study, but also her experience working with First Nations communities as part of that line of work, particularly in terms of ethical aspects of conducting research on matters of such cultural significance.

"My first work was with Sophie Thomas, an elder from Saik'uz in Vanderhoof," said Young. "And she passed away just over a year ago. Quite a renowned elder. I miss her a lot. And that was my first experience with First Nations. And just a lovely group of people to work with. I learned a lot from them."

"The intellectual property rights of Prophet River or any other First Nations have to be respected," she continued, "and that's where the university was huge in making this Memorandum of Understanding ... like a protocol that has to be in place in order to protect these rights. And all partners were involved in writing that up. So, that was one thing that I could add to the table, is my experience in working out a document such as that, because, as I say, we need to protect the rights of the knowledge holders and the knowledge itself."

It created the foundation for a mutually beneficial and enjoyable relationship with the PRFN elders.

"For the elders and other knowledge holders to share their information is pretty darn special," said Young. "It is information that is quite sensitive. And to share it like they did, it's quite an honour. And I think it's really going to benefit so many people to get this knowledge out."

White echoed those sentiments.

"I really enjoyed how the elders were very willing to share their stories and their knowledge," she said. "That really impressed me. Once we got in the field, it was just amazing the change. They just wanted to talk and tell you and show you different things and find certain plants. And even having the youth there with them was really cool, just having that knowledge transfer. Like everybody just seemed so engaged when we were outside. It was just such a transformation from talking in the band office and then actually going to the field. It was really neat. And just everyone's enthusiasm. Once you'd get to a location, if there was a plant that somebody didn't recognize, everyone was going to Jane: 'What's this plant? What's this plant?' And then they'd be telling stories about other plants. That was really neat."

White was even given a very hands-on demonstration of the medicinal use of one of those plants.

"It was actually kind of timely," she recalled, "because they use wild rose leaves for bee stings. And one of the elders was telling me this story. And then, lo and behold, literally not an hour later, I stepped on a wasps' nest and got stung. And did what they had explained to do. And it worked. That was really neat. I didn't know that about using rose leaves for bee stings."

"It still hurt a little bit," she added. "But it didn't hurt for very long. So, yeah, I guess it just helps draw out whatever venom they put in you."

Wolf recognized the value of passing that sort of information along to the PRFN youth and other interested individuals like White.

“That’s one of the things that we always try to do [and] want to do as much as we can,” he said. “Every time that we have any projects like this, we want to get the younger generation involved. That’s how the knowledge gets passed on. How to use them. How to properly use it. How to respect the areas ... And what you’re supposed to leave behind when you take something out.”

“Lots of times,” Wolf continued, “a lot of people would pass a lot of these medicinal plants. They wouldn’t really know what it’s for. They really don’t know what we use it for until we show them how to use them, how to respect them, and stuff like that. And they just go, ‘Wow! I passed through this place a lot of times. I really didn’t know there’s these plants that have medicinal purposes or how to use them.’ We try to share that knowledge with them too. And basically when to harvest them, how to harvest them, and making sure that they harvest them so that they won’t over-harvest. They always make sure that something will be left behind for the following year so that it will grow back again.”

Wolf believes the sharing of this information has created a heightened awareness on both sides of the First Nations-industry equation that has vastly improved their relationship.

“They basically understand why we want all these sites and stuff protected,” he said. “And they really get it. Especially Encana.”

“There’s definitely that comfort level between both of us now,” added White. “We know the community knows us and we know them. And it feels like a friendship more. And the benefits to us – it helps us feel, like when we’re approaching them about other referrals and that, there’s just that, again, that familiarity with them. So, it’s easy to work with them. And having them have information that they can use for their community and ... more information to use when they are looking at applications from industry, that gives us a comfort level.”

This project ran from January 1, 2009 to January 31, 2011, followed by a number of technical reports and presentations. However, this isn’t the end of the work in this area. For example, MacKay and EDI believe this study can be a good stepping stone towards further meaningful collaborations with First Nations.

“We can learn effective ways to work with First Nations,” said MacKay. “And that has applications to every project, because any proponent who’s current is interested in working well with First Nations. So, it’s something we can offer, hopefully, to facilitate for other clients.

This project involved, so far, four field tours where there was ... a group of six or eight elders and youths and the four partners that went into the field touring different traditional plant sites. And just [that] direct experience is really – professional development-wise or [in terms of] learning cultural awareness – is really valuable to learn practical ways that you can work effectively with First Nations.”

There may also be more work involving traditional use plants and these four project partners on the horizon.

“We are waiting to hear about funding to continue the work with Prophet River First Nation,” said Young. “And the elders and the other participants in Prophet River definitely expressed that desire to continue to work with us and visit sites that were inaccessible. And these were very culturally important and environmentally important.”

Wolf is certainly quite interested in continuing the study in that area.

“This is the second phase,” he said of the recently completed study. “We want to work on a third phase. The third phase would probably be inaccessible sites, where there’s only access by horseback or by helicopter. And most convenient would be helicopter, even though it’s fairly expensive. So, these are areas where you can’t get to by vehicles or quads.”

“So, we’ll have all those sites documented and stuff on a map,” Wolf continued. “And any sort of industry wanting to go into these certain areas, we can say, ‘No, we’ve got these very important traditional sites that we used to use in the past and still use them. We want you to avoid them. Either reroute your road access or your wellsite or you borrow pits, anything that may be that deals with development, to avoid these very important sites.’”

As for White and Encana, they are very curious to see the applications of the study in terms of site reclamation after ground disturbance.

“We’d like to expand this with other First Nations,” said White. “And we’d like to kind of expand this project towards traditional plant use in reclamation work.”

“When we’re reclaiming wellsites,” she continued, “typically they would just be seeded with like a grass seed mixture. But what we’re hoping to use is taking this traditional plant knowledge and working with First Nations and actually transplanting more traditional plants and plants that they would use – possibly medicinal plants. So, it’s just better for the landscape and it’s better for the community, because rather than just taking away from the landscape, now we might have an opportunity to put plants back that the community would use and might even be better for wildlife too.”

This possibly dovetails with one of Wolf’s big concerns: the encroachment of invasive plants on traditional lands.

“One way or another,” he said, “these invasive plants will get into pristine lands, and they’ll just take over. That’s something that we want to avoid. We try to get industry involved.”

White wonders if using traditional plants in reclamation can help deter invasive plants. At the very least, the presence of traditional plants will attract members of the First Nation community who can then monitor and remove invasive plants.

“Because there would be more activity out there,” she said. “More people aware of keeping an eye on things. And so, yeah, you can get them under control before it gets out of control.” •

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