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“Put It Near the Indians”: Indigenous Perspectives on Pulp Mill Contaminants in Their Traditional Territories (Pictou Landing First Nation, Canada)

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ABSTRACT

Background: Pictou Landing First Nation (PLFN), a small Mi’kmaw community on the Canadian east coast, has had a relationship with a tidal estuary known as A’s’e’k for millennia. In the 1960s, it became the site of effluent disposal from a nearby pulp mill. Almost immediately, health concerns regularly and consistently reverberated throughout the community.

Objectives: The Pictou Landing Native Women’s Group (PLNWG) formed a community-based participatory research (CBPR) partnership with an academic team to conceptualize community well-being in the context of environment and human health connections. This paper documents Mi’kmaw Elders’ stories of A’s’e’k before it became contaminated.

Methods: Using narrative inquiry vis-à-vis oral histories, we carried out conversational interviews with 10 Elders from PLFN. These interviews were thematically analyzed and ‘re-storied’ through a process of (w)holistic content analysis.

Results: Our findings present four broad story layers, recounting the themes that emerged through analysis and

presenting a broad Mi’kmaw narrative of A’s’e’k. These story layers share: what A’s’e’k originally provided, the historical/cultural context of PLFN, changes to land and health after the mill was put in, and reflections on the past and future of A’s’e’k.

Conclusions: Our research offers a novel contribution to the literature by showing how Mi’kmaw perspectives on the pollution at A’s’e’k reveal the close connection between Mi’kmaw livelihood, local ecologies, and health and well-being. Our research also provides insights into the way the research relationship developed between the PLNWG and the academic team, providing a pathway for others seeking to decolonize the research landscape.

Keywords

Indigenous health, environmental justice, social justice, oral histories, narrative inquiry, environmental health equity, community-based participatory research, Canada, decolonizing research, Two-Eyed Seeing

FROM A’S’E’K TO BOAT HARBOUR: SITING POLLUTING INDUSTRIES ON INDIGENOUS LANDS

Mi’kmaw peoples have inhabited the Canadian Maritimes for millennia. It is where Mi’kmaw origin stories begin and where Mi’kmaw peoples continue to raise families, share knowledge of the land, and live in relationship to it through oral traditions.¹ Indigenous relationships to the territory from time immemorial have led to close connections to the environment; healthy connections manifest in the vitality of Indigenous well-being.^{2–6} Indigenous cultures, languages, and

knowledges flow from the land; health and well-being flow from cultural strength.^{7–10} Healthy lands and healthy peoples include spiritual, emotional, mental, and sociocultural connectedness in many Indigenous contexts; these functions have a profound impact on overall community health, well-being, and resilience.^{1–12}

For the Mi’kmaw peoples of Pictou Landing First Nation (PLFN), one place—A’s’e’k—is a culturally significant tidal estuary adjacent to the community (with an on-reserve population of 476¹³). It was known for its highly productive sub-

sistence fisheries, and recreational and medicinal functions. In the late 1700s, soon after the arrival of British settlers, A'se'k became known as "Boat Harbour," a site for ship building. Fifty years ago, an effluent (wastewater) treatment facility associated with a nearby bleached Kraft pulp mill was established, releasing daily approximately 85 million liters of effluent into A'se'k.

Like many other Indigenous locales across the colonized Canadian landscape, Boat Harbour is a highly contested and politically charged site. Although Mi'kmaw lands and waters have never been the subject of a land cession treaty or a Crown grant (only Peace and Friendship Treaties were signed in the 1700s), when the mill was proposed, the then-Chief of the PLFN signed an agreement for the treatment facility with the province on the promise that A'se'k would remain clean.¹⁴ Soon after the mill became operational (1967), it became clear that the promise was an empty one. Untreated effluent was dumped directly into Boat Harbour without treatment until later that year, resulting in immediate fish kills and significant social, psychological, and cultural impacts on the community. Since then, a legacy of broken government promises has continued, through unfulfilled commitments to relocate the waste treatment facility and remediate A'se'k. As Mascarenhas observes, "whether by conscious design or institutional neglect, [First Nations] communities face some of the worst environmental devastation in the nation."^{15p570}

Over the next 20 and more years, the company's emissions standards fell through regulatory gaps (i.e., 'grandfather' clauses), thus not needing to meet contemporary standards until the 1990s. Although the pulp and paper industry has improved its environmental performance improvements in its lifetime, the enduring impacts on the natural environment are vast and continue to pose risks to human health and well-being.¹⁶ Air emissions from such mills include a number of malodorous sulfur compounds, as well as particulate matter, sulfur oxides, nitrogen oxides, and volatile organic compounds.¹⁷⁻¹⁹ A complex mixture of roughly 300 known chemicals can be found in this type of effluent,²⁰ known to be highly toxic and a major source of pollution.²¹⁻²⁷ The impacts on the local ecology have led to fundamental differences in how the PLFN interacts with the land so much so that Mi'kmaw members no longer gather foods and medicines there. A'se'k/Boat Harbour quickly transformed into a place of fear, anxiety, and unrest.

A NEW PARTNERSHIP FOR COMMUNITY HEALTH AND WELL-BEING

The effluent from the mill has compromised the ecological integrity of the once-healthy tidal estuary^{28,29} and, as a result, the PLFN lost the use of A'se'k and surrounding landscape. Community concerns around contaminated land, water, and air extend to unease about the potential negative effects on residents' health. Frustrated with government inaction and wary of government and industry reports that they were out of harm's way, in 2010 the PLNWG, a volunteer group of women from across the community that supports community-based activities, fundraising, charitable work, and other emergent projects, began mobilizing around these concerns. First, the PLNWG invited Lewis, a Mi'kmaw woman from Sipekne'katik First Nation, with graduate-level training in environmental studies to discuss the women's concerns and what could be done about it. With the PLNWG's permission, Lewis then invited Castleden, a community-based participatory settler (non-Indigenous) researcher with more than 15 years of experience working with Indigenous peoples, and Bennett, her settler graduate student, to meet with the PLNWG in the community (a 2-hour drive from the university).

A CBPR partnership began to form over the next 16 months, centered on listening to and learning from each other (and shedding tears too—for the land, the Elders, and future generations). This period of relationship building involved monthly meetings in the community "drinking tea,"³⁰ and a 3-day retreat of social, cultural, recreational, and intellectual interactions. Having determined the women's priorities, we invited a number of scientists with expertise in GIS, air quality, water quality, soil analysis, and ecotoxicology to join our team, asking them to commit to a CBPR partnership through a signed agreement to honor the PLNWG's protocols for engagement and dissemination. From there, we collaboratively wrote a grant proposal, securing funds to conduct the research and continue our relational process of maintaining good hearts and minds across the cross-cultural research team.³¹

Hinging on the important role Mi'kmaw women have played in protecting and preserving the land, water, and air while acting as guardians for future generations, the initial partnership between the PLNWG and the research team acknowledged the need to conceptualize community health

and well-being in the context of environment and human health connections from Indigenous perspectives. Indigenous knowledge holders represent thousands of years of contact and experience with the local environment³² and so the PLNWG made it clear early on in our research relationship that they were increasingly concerned with documenting community Elders' stories about what A'se'k was like before the effluent treatment facility began operations. The women were concerned that the decades of colonial disruption to Mi'kmaw ways of life put Mi'kmaw oral traditions at risk and as community Elders were passing, so too, were their stories. Thus, the women prioritized this aspect of our CBPR plan. The research we describe herein is one arm of a multiyear research program using Indigenous and Western science to answer the PLNWG's research question: "Are we getting sick from Boat Harbour?" In addressing this question, our scope is not limited to physical health, but extends to exploring the impacts of Boat Harbour on the mental, emotional, and spiritual well-being of the community as a whole. Gathering Elders' stories about A'se'k helped to build a (w)holistic understanding of how Boat Harbour has changed the community's health and sense of well-being.

METHODS

Our CBPR approach "provide[d] a launch pad for the recognition and inclusion of Indigenous epistemologies and community participation."^{33p11} This was of critical importance for moving forward, given the track record of unethical research in many Indigenous contexts.³⁴ CBPR principles framed our theoretical approach to inquiry as well as the methodological choices made in our research partnership.

Like many who endeavor to carryout CBPR research from the academy,^{30,34} we encountered our share of institutional hurdles, but with frequent and ongoing dialogue, our research was approved by the University Research Ethics Board and the Mi'kmaw Ethics Watch,³⁵ an entity specific to the Mi'kmaw Nation that was established to ensure that research involving Mi'kmaw peoples is done in a culturally appropriate way that safeguards Indigenous knowledge.³⁶ In keeping with the revised *Tri-Council's Policy Statement: Ethical Conduct for Research Involving Humans*,³⁷ participants opted to use their real names.

Three advisors from within the PLNWG elected to give Bennett (who collected the data) guidance over the course of the study. Two advisors were Elders, fluent Mi'kmaw

speakers, and were included as participants, and—equally important—Bennett had established rapport with all of them. Regular community-based meetings helped to refine the path of inquiry and provide updates to the PLNWG throughout the research process. In particular, the advisors provided suggestions on participant recruitment, which resulted in 10 Elders agreeing to participate (eight of whom were women). They also provided guidance on how to appropriately collect data, they shared community and cultural protocols, and they translated interview data as needed. Beyond the integral research guidance, they welcomed Bennett into their homes during the 5-month period of data collection, had many conversations over meals and tea, and offered friendship and familiarity in an environment to which she was an "outsider."^{30,38–40}

Story as Method/Narrative Inquiry

Storytelling is an important means by which much Indigenous knowledge is transmitted through generations. The use of story as a research method honors the process of conversation, dialogue, or narrative exchange to value participants' voices in the research process.^{41–46} Narrative inquiry, conversational interviewing, and oral histories have thus been considered appropriate methods in many action research contexts,⁴⁷ and they align well with honoring the oral traditions of many Indigenous cultures.^{42,48} Stories allow us to understand and explore phenomenon through lived experience^{45,49} and illuminate voices that are often excluded from dominant narratives. Doing so can act to challenge established "orthodoxies" and "conventional ways of thinking."⁴³ The suggestion by Blodgett et al. that "conversational interviews provide the researcher and the participants with flexibility to co-create both *what* is said and *how* things are said during the interviews"^{50p524} aligned well with our goals for doing CBPR in a good way.⁵¹

Similar to general theme areas developed by other researchers,^{50,52} the PLNWG–academic research team crafted a conversational oral history guide. Members of the PLNWG suggested that it would be most appropriate to have younger community members, who had formed a relationship with Bennett, introduce her to potential participants. Thus, participants were recruited using purposeful and snowball sampling methods guided by the inclusion criteria set out by members of the PLNWG.

The interviews were unfolding dialogues with participants.

Beyond recollections of A'se'k and changes to the environment and human health, conversations included details of participants' lives, their families, and significant moments in their community's history. Four interviews were one-on-one, five involved another member of the PLNWG and/or a participants' family member for all or part of the interview, and in one instance two participants were interviewed at the same time. All interviews were conducted at participants' homes. Many interview participants used Mi'kmaw words and phrases. The interviewer intentionally avoided disrupting the natural flow and later sought translation (if appropriate) from one of the team's advisors, fluent in the Mi'kmaw language.

The PLNWG wanted the interviews to be video-recorded to create a digital archive according to the OCAP® principles⁵³ of First Nations' ownership, control, access, and possession of research data (*OCAP® is a registered trademark of the First Nations Information Governance Centre [FNIGC]; see www.FNIGC.ca/OCAP*). Six participants agreed to video, two opted for audio recorded interviews only, and one chose to interview without recording devices (hand-written notes were taken). Although the interviews ranged from 35 to 75 minutes, the time spent together often exceeded multiple hours. For example, Bennett stayed afterward to visit and in some instances went for walks, shared food, or ceremonially smudged with the smoke of sacred medicines, which is practiced by (some, not all) Mi'kmaw peoples and other Indigenous Nations. Interviews were transcribed and copies were hand-delivered to participants, giving them the opportunity to review and make any corrections to the content.

Interview data were analyzed thematically using a constant comparative method (a process of moving back and forth between the data and themes from existing literature),¹⁻¹⁴ through which a number of emergent themes were identified and coded. From there, a holistic content analysis was undertaken, where the function of analysis moves toward retelling the story in an attempt to provide an account of participants' lived experiences.⁵⁴⁻⁵⁶ Specifically, we threaded together temporal dimensions of each story so that these could be understood in relation to each other, which is particularly well-suited for this type of analysis.⁵⁷ Over several months, preliminary findings were vetted with both PLNWG and individual participants during in-person meetings, thus allowing for analytic refinement, an important function of CBPR³⁰;

moreover, the feedback helped to ground our interpretations in a Mi'kmaw ontology and epistemology. Bennett's thesis, upon which this manuscript is based, was defended openly in front of a community audience in PLFN, not the university—a first for that institution.

RESULTS

The initial process of coding the data served as an important level of analysis, but to present the findings along the lines of discrete themes would risk taking elements of the participants' stories out of context from their place in the broader collective narrative.⁵⁸ Instead, vignettes of the following four broad story layers emerged as a basis for a holistic narrative of A'se'k. Pieces of narrative from across the participants were then woven together to reconstruct each story layer. By presenting the findings as stories, our goal is to honor the oral tradition of Mi'kmaw culture by enacting interpretive responsibilities on the audience.^{45,46,50}

Story Layer 1—"All Seasons, All Purpose": What A'se'k Provided

It was always known as A'se'k before it was called Boat Harbour. It was a recreational place for us, but also our livelihood, a playground, and a work area. There was something to do with every season, like an all-purpose place.

"It was thought of as the other room, where food is stored. Like—nature was storing the food there, 'cause it was there all year round." (Mary Irene Nicholas)

There was a time when most of our food was from there. Every family was hunting, fishing, trapping, and gathering. We ate healthier then. The salmon ran in the streams, and so many smelts we would take home buckets and buckets of them. We would go down with our shovels and buckets and dig up clams, cooking them right there on the shore.

"That was safe haven for all of us. Everything that we needed was there." (Sadie Francis)

We did lots of berry picking there, and gathered other plants and medicines too. Women would collect mayflowers and blueberries—sell them in town for a little extra pin money. Older folks knew about the Indian medicines that came from the woods. Going to A'se'k was like a family outing for us. Sometimes there would be a bunch of families gathered, cooking and eating together right there on the shore.

“We would swim and skate, sometimes make a great big bonfire and we’d skate around. Oh my god, it was beautiful—sometimes it’s just the moonlight.” (Martha Denny)

Story Layer 2—“A’sē’k Was a Refuge”: Historical/Cultural Context

We have a connection to these places; our ancestors have occupied this space for thousands of years. The spirit of our people is here. We feel connected to our ancestors in this way. Every time our people ate, it came from the land around us. It is what kept you alive, and it is what kept the people around you alive. When you hunted a deer or a moose, it did not belong to you, it belonged to the community.

“The meat was divided accordingly, nobody was left behind. The men would be up all night carving the meat, and people would come by to pick up their share . . . The people. . . were looking after the community.” (Sadie Francis)

After European contact and after the reserve system and Indian Act were in place, a lot of our men were going down to the States for work, or maybe looking for a better life. Some men could find odd jobs around the area, as labourers mostly. It would help get us by.

“Back then they were mostly trying to survive. I watched my dad working so hard to get so little.” (Don Francis)

And our kids were being taken away to the Indian Residential School. The Indian Agents would come down to our community, and just take them. But A’sē’k, that was like a refuge, a safe place for all of us that they would not venture out to.

When they decided to dump that effluent into A’sē’k, everything was supposed to stay ‘ok’. We had no reason to assume otherwise, until we learned of the White man’s way—*aklasie’wey*. Some people had come down and talked to Chief and Council, duped them into signing that agreement. Some crooked people. Dishonest people. But that is how the Indian Affairs and the non-Native society has been. Their main goal was to get rid of the Indians. It has always been about the almighty dollar for them.

“Well, I guess they didn’t want to put it anywhere else in town. Let’s put it near the Indians—Native people close by, we’ll dump it on them! . . . Let them deal with it. But it’s always us that got dumped on. That’s how they treated us I guess.” (Mary Ellen Denny)

Story Layer 3—“After the Mill Went in . . .”: Changes to Land and Health

At first, there was nothing to it really, just a mill. But then we saw all the fish dying. The rabbits and the deer—they seemed to disappear. And if we did hunt one, they had strange lumps. All those swampy areas that we used to get our cranberries, all that is under water now, and we do not even know if our medicines are good anymore.

“Our air is polluted, our water is polluted, our land is polluted . . . And they’re all connected.” (Diane Denny)

The pollution is not just in the water, it is in the air too. Sometimes that stink can be so bad we cannot even sit outside. In the beginning it turned our houses black. We found out it was the sulphur drawing the lead out of the paint, so they gave us money to repaint our houses. What is it doing to us? It is everywhere, there is no getting away from it.

“We had to change our diet. The things that we were accustomed to for thousands and thousands of years, those were all of a sudden not available to us anymore. We had to resort to another way of life. And now we have people that have diabetes, heart disease.” (Sadie Francis)

When the land went, so did our health. It is not just the rabbits getting those lumps, it is our people now too. Skin cysts and cancer. A lot of kids have breathing problems, asthma, nosebleeds, sinus headaches, and it is like that stink does something to your nose. There seems to be a lot more cancer. Growing up, we never knew what cancer was but all of a sudden there are so many different kinds of cancer down here. Looking at all these health problems, we cannot help but wonder if that pollution is the reason.

Story Layer 4—“Lost, Gone, and Changed”: Looking Back, Looking Ahead

It is too bad what happened there; it was such a beautiful place. So now nobody goes down there to hunt or trap, get eels or smelts, snare rabbits or fish. There is no place for kids to walk along the shore, or swim in the summertime. Nothing grows there or lives there anymore, and if it did—we would not trust it. Our community has lost their trust in that food, and our connection seems to have suffered too.

Food from the land was the way it was before Europeans arrived, but in the last couple hundred years it was also a safety net. A’sē’k was something our people could fall back on. When the groceries were running low, we always knew

we could get food from there. But when the pollution came, we did not even have that anymore. And now the young people, our youth, they are not out there learning in the woods from their Elders.

Everything is gone for us there, and it is like we are getting poorer while that mill is getting richer. We wonder what could have been . . . just think of the beautiful things we could have done down there. And it is not just us that lost out. Everybody all around here lost out, the non-Native community too. And there has been anger. There has been blame. It has divided families, divided our community.

“Everything we used to do, we can’t do. What we were brought up on, it’s all been taken away.” (Don Francis)

We had something good and sacred here. But our stories are slowly being lost in the older generations. We need to tell the younger generations, share our stories and share our knowledge, so that the memory of a clean A’s’e’k can be preserved. History is not meant to be kept in a closet; it’s not doing any good there. It is meant to be shared.

“I had a dream once. I dreamt it was clean, and our community became rich from it. And everybody worked together, in my dream.” (Louise Sapier)

DISCUSSION

Substantively, our research offers Mi’kmaw perspectives on the highly contentious “Boat Harbour issue” from Elders who have lived through the loss of A’s’e’k. For Indigenous peoples, the ability to practice subsistence livelihoods facilitates a connection to the local environment. Many of the Elders discussed community sharing practices, which were an important cultural function in PLFN before the pollution at A’s’e’k. Such practices are foundational to Mi’kmaw values, upholding kinship ties and connections with Mi’kmaw knowledge systems.^{14,59–61} PLNWG members consequently spoke of the links between the pollution at A’s’e’k and the dramatic decrease of individual and community engagement with the land and waterways. Although sharing continues to function in a contemporary context in PLFN and some members continue to engage in traditional harvesting activities (albeit usually far from their contaminated homeland), it is overwhelmingly clear from the Elders in this study that trust in food and medicines from the land has been compromised radically. The Elders suggested that a lack of engagement with the land is especially true for the younger generation, many of whom do not hunt or fish, or know what foods and medicines

are available on Mi’kmaw lands because they do not have a place to engage in these activities. Most important, our data indicate that Boat Harbour is indeed making the community “sick,” by highlighting the ways PLFN’s loss of A’s’e’k and surrounding land use has compromised the community’s physical, sociocultural, emotional, and spiritual health and well-being.

Methodologically, the relationship building between the PLNWG and the academic members of the team offers an example of working toward CBPR’s goals of balancing power and fostering trust between research partners, and also aligns with the calls made by Indigenous scholars, leaders, and community members to further decolonize the research landscape. Our unstructured oral history interview style facilitated a co-creation of knowledge; participants were able to guide the research conversations, and “re-storying” the data together maintained a holistic representation by drawing entirely from the narratives of participants for collective story layers. The oral history interviewing process also enabled intergenerational knowledge sharing in that younger family members of participants were often present. Finally, although researchers typically destroy data after 5 to 7 years, the recorded interviews that were conducted with these Elders will remain in the hands of the PLNWG, allowing future generations to have the opportunity to engage with their Elders’ memories and perspectives. Already, the stories from the Elders and other aspects of the larger research project are providing important teaching resources for PLFN, grounded in (and helping to revive) Mi’kmaw concepts and connections to their lands.

Although our findings reflect the voices of only some PLFN Elders, it is important to recognize that there are other Elders and Indigenous knowledge holders who hold important cultural relationships with A’s’e’k. This research is, therefore, “one move in a continuing dialogue”⁶² and with community researchers continuing to document Elders’ oral histories, the story of A’s’e’k for PLFN will continue to evolve and be shared. As for our partnership, it is now going on 6 years, and we hold annual PLNWG retreats to reflect on where we have come from and establish where we are going next (see www.heclab.com for updates).

Concerning issues of voice and representation in research, the nature of CBPR, and whether it is an inherently emancipatory research tool,^{63–65} we note research is not about *giving* voice to participants; they have always, and will always, have a voice. Moreover, as scholars Vannini and Gladue note, “as

researchers, we are not writing to give voice to theoretical ideas hidden in the cracks of “reality” or even to give voice to the marginalized. Rather, we are writing to begin to share Mi’kmaw voices. With this in mind, cross cultural research must begin with the people and end with the people and everything in between.”^{66p157} Our research partnership addresses the penchant for dismissing Indigenous voices by honoring and illuminating the voices of Elders from PLFN by reconstructing stories about A’s’e’k from those who remember it as a healthy, thriving, culturally significant place. Since the effluent began flowing, the area has become a source of environmental contamination and serious health concerns that are difficult to measure using Western methodologies alone, but as this study concludes, not only has it negatively impacted the environment, but Boat Harbour has also compromised Mi’kmaw sociocultural, emotional, and spiritual health and well-being.

CONCLUDING COMMENTS

The story has not ended. In 2015, after significant pressure from PLFN and constituents in the county (and perhaps awareness that the results of this study were forthcoming), the provincial government legislated to stop the flow of effluent and remediate the site by 2020. Moreover, in referring to the manner in which the mill was sited 50 years ago as an “injustice,” the Provincial Court of Nova Scotia sentenced the Northern Pulp Nova Scotia Corporation (current owner of the mill) with a \$225,000 CAD fine in May 2016 for a 2014 offence concerning 47 million liters of effluent escape; \$75,000 CAD of this award went to PLFN for purposes related to conservation and restoration. Precisely how the site will be remediated, and whether it will be remediated according to Mi’kmaw values and PLFN’s vision or simply to current Western standards, remains to be seen.

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