

PUKTEWEI:
LEARNING FROM FIRE IN MI'KMA'KI (MI'KMAQ TERRITORY)

by

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This thesis is dedicated to the generations that have come before us
and to the generations that are coming after us.

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ABSTRACT

Throughout history humans have lived with fires on the land. Land fires over Turtle Island (North America) are influenced by climate, lightning, ecology, and cultural uses. Recently, non-Indigenous governments have sought information about wildfires for land management in relation to forestry, public safety and conservation. Current perspectives about fire behavior, fire ecology and fire history in Atlantic Canada are largely grounded in mainstream science. Little has been researched about Mi'kmaw relationship with fire (*puktew*) in Mi'kma'ki, the territory of the Mi'kmaq. This relationship is explored through academic inquiry based in culturally-relevant and community-centered priorities and ways of knowing. Learnings were sought from Elders/Knowledge Holders across three cultural districts in Nova Scotia. Physical, mental, emotional and spiritual relationships with *puktew* were described. These teachings demonstrate cultural connections to *puktew* and unique fire regimes in each district. Mi'kmaw research methodologies highlighted cyclical ways of learning and sharing stories back to community.

LIST OF ABBREVIATIONS AND SYMBOLS USED

ATK - Aboriginal Traditional Knowledge

CBU – Cape Breton University

CMM – Confederacy of Mainland Mi’kmaq

ELC – Ecological Land Classification

IK – Indigenous Knowledge

MEK – Mi’kmaw Ecological Knowledge

PB – Prescribed Burn

TEK – Traditional Ecological Knowledge

ə - Letter in Mi’kmaw orthography denoting a shwa sound

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When we begin our thanks we are reminded to honour the land and its own story that came before us, during us, and after us. I give thanks to the elements, to all of the plants, animals, and small beings unseen. I thank all human ancestors around the world who made it possible that we are here today. I particularly wish to show my deep gratitude to our L'nu (Mi'kmaw) ancestors and grandparents who survived the unimaginable and shared territory with the newcomers who together have made this current cultural landscape. Wela'lioq.

This has been a long journey from the beginning of this research to completing this page today - through the personal life changes, raising my daughters, working in my community, learning more about the land around me, and continuing to be a professional storyteller and poet. I began this work because I wanted to be part of Indigenous ecological research, acknowledge the Mi'kmaw Elders in academic work, and have a story at the end that contributed to ecology and our Mi'kmaw communities. During the times I wasn't sure if I could continue as a graduate student it was the kind encouragement of the Elders, friends and family, as well as my supervisors who convinced me I would eventually find my way to this completion.

Thank you to my supervisors, Dr.Karen Beazley and Dr.Annamarie Hatcher, who asked good questions, learned with me, and facilitated my journey so that I did not stray so far as to lose my balance. Thank you for not giving up on me. Wela'lin to the Elder Advisor on my Academic Committee, Albert Marshall, who gave so much of his time, care, and teachings for this journey. And a great wela'lioq to all of the Elders and Knowledge Holders who agreed to be part of this and contributed to the research (and my own journey) so generously, including ones who wished to have a few anonymous chats. Thank you to the amazing trail of Indigenous scholars around the world who showed me what was possible.

Wela'lioq to parents and siblings who have made me who I am today. A special thank you to my mother who was at many times like another advisor talking me through the challenges and at the sidelines at every single phase over the years. I could not imagine having embarked on this without you having already taken a path before me and carried the ember with me. And wela'lin to my partner who reconnected me to the land and nurtured me in my most difficult hours.

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We are all Treaty People and we give thanks to all those who continued on to teach us what it means to be Mi'kmaw in challenging contemporary times with mixed ancestry and worldviews. May our research endeavor to bring more understandings within Mi'kma'ki so that we can continue to live on the land, in peace and reconciliation among the people and ecosystems. May we research our way to healing.

Msət No'kmaq. All My Relations.

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It is important to note that this research and the thesis story products are not part of the Consultation process with Mi'kmaw governments and communities on their views on fire management in Nova Scotia or Canada. This research can help inform and share some teachings with Mi'kmaw and non-Mi'kmaw organizations as they continue with their dialogue. I also wish to acknowledge that this thesis does not reflect a unanimous view on fire from the Mi'kmaq. These are some stories and thoughts from eight Mi'kmaw Elders and Knowledge Holders and myself at time of writing this version of our stories.

CHAPTER 1 Introduction

1.1 LIGHTING THE FIRE

On the eve of the new moon under Sketekamu'jawti lighting the darkened night sky was the faint steam of her own shallow breath, pulsing. The unforgiving claws of winter were opening. She crouched stiff and hunched-like, holding the shell, trembling just enough to know her own humility of the act. She saw the faces of the grandmothers as though they were present around her, in spirit now. She took one more deep saturated breath, then pursed her lips and opened the shell slowly.

E'he! It was living. It was burning. The small orange glow brightened when she blew upon it like a soft whistle. The ash edges fell off, settled as dust.

Cradling the shell with the bowls of her palms, she tilted it carefully to inspect the ji'koqs. She was the carrier.

This thought surprised her.

She held on just a moment extra, the way mothers linger. Then her hand moved to the small bundle of shavings and bark waiting among the rocks. Simultaneously one hand delivered the glow while the other buried it.

The sticks lost their shape, became verbs, burning and spitting flames. She felt the heat on her palms still hovering there as it grew. It lit up her face where the grandmothers could watch the small lift of her mouth, smiling satisfied. And so the grandmothers filled her with songs. That girl rose to her feet and sang while the flames grew to meet her.

English Translations:

Sketekamu'jawti ("spirit's path") - what is known in English as the 'milky way'

E'he - yes

ji'koqs - a certain shelf fungus from a hardwood tree

puktew - fire

1.2 RESEARCHER LOCATION

1.2.1. Where I Come From

In order to introduce you to this thesis you must first establish a relationship with me. This is essential so that you have an understanding about where I come from and of my beliefs which guide my process¹. This will also help understand the position and lens from which I have not only conducted this research but also the writing style I have chosen to relay the story back to you in this thesis.

My name is shalan joudry. I am from Kespukwitk (Southwest Nova Scotia) and I live in L'sətkuk (Bear River First Nation). [Teluisi sa'ln jutli. Tleyawi Kespukwitk aq wiki L'sətkuk.] I am of Mi'kmaw and European ancestry. My extended Mi'kmaw family lived outside of the reserve boundary and my father was in the Canadian military while I was a child. This means I had the opportunity and challenge to live in many diverse landscapes and communities across Canada. I consider myself as part of Mi'kmaw communities and now call L'sətkuk my home as I live there with my two young daughters.



*Photo of shalan
by Rose Meuse 2010*

Since my first cultural camp at age fourteen I have learned from Mi'kmaw philosophy and teachings about the importance of culture and the role of spirituality. Learning Mi'kmaw cultural values, philosophies, teachings, song, stories and ceremonies have been important in becoming who I am and how I see the world around me. I also have a Bachelor's of Environmental Science from a Eurocentric or mainstream science perspective². This thesis is a sharing of some of my journey as a Master's of Environmental Studies student through Dalhousie University. Although writing a thesis document is a standard requirement for the completion of a graduate degree, my

¹ As described in: Absolon and Willett (2005), Hampton (1995), and Kovach (2009)

² I will use 'Eurocentric' in this thesis to describe ways of thought that stem from European cultural background which became the foundation of mainstream or dominant Canadian contemporary life. I use the term 'mainstream', particularly when referring to science, describing what has been established practices and perspectives where I juxtapose another worldview. I also use the term "dominant" as interchangeable with the same meaning as 'mainstream', which in many domains in Canadian life does stem from a Eurocentric root. It is not my intent to use these words in a negative way but rather I keep in mind the words of Eber Hampton (1995): "We live in a world of many cultures, all of which have different standards. It is not necessary to devalue the standards of Western society, except insofar as they claim to be the only worthwhile standards" (p. 37).

responsibility as an Indigenous researcher, is to also fulfill my community obligations that require me to report back to the community. It is this responsibility to the community that has influenced me to use a storytelling format and to share my journey in a way that may be helpful to new Mi'kmaw or Indigenous researchers.

Although learning about the natural world and Mi'kmaw culture have been strong thirsts of mine since childhood, so have the arts. I studied performing arts and later taught performing arts workshops in Mi'kmaw communities, published poetry, and became a professional oral storyteller. For me, it is important to weave my passion for ecology, arts, and cultural perspectives and these have influenced the way in which this thesis is written.

Being of First Nations descent, part of my identity is having group consciousness and responsibility to a specific group of people. A Mi'kmaw community can be a physical location



Photo of shalan's daughters making tobacco ties for a community event Milidow (left) and Malaika (right)

such as a reserve or a collection of Mi'kmaq not on a reserve bonding through their unity and gathering, but a Mi'kmaw community can also be a sense of relations, identity and responsibility without a geographical location to gather physically. I have a few ways to view my responsibility towards

Mi'kmaw identity. First is my obligation towards my children in a similar way my own mother described her duty through us, her children, as future generations³. My wider responsibility is to the collective and it is this lens I use to write, throughout this thesis, about serving the greater Mi'kmaw community.

1.2.2 Journey into Academics

We're in a time when our Mi'kmaw communities and culture are strengthening and being revitalized and it is vital that we, as land stewards and decision-makers, not only have access to ecological research but are part of the research process in an integral way. In my work life and personal life I am inspired by and honour Mi'kmaw philosophy and incorporate teachings from our Elders. It was therefore important to me once in graduate studies to focus on learning from

³ Sylvia Moore (2011, p. 16)

Mi'kmaw Elders and using culturally-appropriate ways of learning, researching and sharing back to the communities as well as to other ecologists and Indigenous researchers.

1.3 THE RESEARCH TOPIC

1.3.1 Finding a Beginning

When asked to tell the stories of this research I have found it difficult to find a linear way to tell how this research began among the many varied components competing for voice. The background story of how this research came to be was not a footpath which in the retelling has a beginning, middle and end; it is a view of a forest, with so much happening below the surface, among the forest, the elements and also the dimension of time, that have all made it what it is. I think of Shawn Wilson (2014) describing culture or research as an island, with the geologic formations and soils below what we see, and below the water line is the background of a culture or research. The origins of this research are complex and beautifully intertwined, much like the bedrock, geology, hydrology, soil, insects and fungus growing and moving about, as well as the roots of all the trees from the forest that was before me.

1.3.2 Fire as Part of Ecological Systems

Many Mi'kmaq and ecologists are continually curious about our history: the ecological history of the landscape and the socio-cultural history of our ancestors. There is much uncertainty about what a 'healthy ecosystem' is, and amidst the many questions, ecologists are trying to measure, monitor or protect the life of the land. One of the places we, Mi'kmaq, look for inspiration on 'ecological integrity' is to historical landscape types before European colonization and modern society, which brought about the intense ecological change. Much like how we look to the past for inspiration about our Mi'kmaw heritage, this way of researching isn't to say that which existed 400 years ago is how landscape health or Mi'kmaw culture need to be today. Specific to fire ecology, this research was a subset of the broader inquiry about our past. From such research

we can be inspired by those qualities that must remain, while taking into consideration present factors and future realities.

As a Mi'kmaw ecologist, when I look at ecosystem functioning, I am reminded to consider and honour the four sacred elements⁴: Earth (wskitqamu/tupkwan), Water (samqwan), Air (musikisk) and Fire (puktew). Puktew, as one of these elements, represents a powerful force that sustained life for our Mi'kmaw ancestors. On a larger scale, across the landscape, it also can transition the lives of plants and animals from active beings back into energy and into the earth, thus changing nature around us. This natural cycling of life has influenced the way our ancestors and Elders today teach about the world, and it is a foundation of Indigenous philosophy.

Throughout history humans have been reacting to, relating to, and learning from fires on the land. Over the past thousands of years there have been land fire systems⁵ over Turtle Island⁶, influenced by lightning patterns, ecological elements, cultures using fire on the land, and a mixture of these factors. These fire systems would have changed over time as the influences went through flux and transition. European colonization in North America greatly altered the kinds of human-land relationships and, in this, they changed the land fire systems. Since the time of British control in Eastern North America, land fire management has mostly been conducted by non-Indigenous European colonists. (Arno, 1985; Pyne, 1994, 2007)

In the context of ever-changing needs, non-Indigenous governments within North America have sought information about wildfires for ecological land management and planning in relation to forestry practices, public safety and conservation. As a result, in the past few decades there has been a saturation of research about varied fire histories across the landscapes (Abrams, 1992; Boyd, 1999; Kay, 2007; Lewis and Ferguson, 1988; Natcher et al., 2007; Pyne, 2007; Wein and

⁴ The four 'sacred elements' are common across many Turtle Island Indigenous cultures. The words in parentheses are in Mi'kmaw. Earth as entirety is wskitqamu, where soil is specifically tupkwan. Words were provided by Diane Mitchell and Helen Sylliboy through online resources.

⁵ Fire system or fire regime are both used to mean the patterns of fire, its effects in the ecosystem over a long period of time. A fire system or regime includes the intensity, amount of fuel burned, and the frequency at which the fire was occurring on the land and how it was ignited. Topography, climate, vegetation type, weather as well as human actions all affect fire occurrence.

⁶ Turtle Island is a common name in many Indigenous communities of North America to describe the landmass of North America itself. Mi'kmaq have also adopted this common term.

Moore, 1977). In the 1950's, Omar Stewart researched Indigenous⁷ peoples' use of fire in California. He demonstrated the socio-political and ecological factors that were significant in understanding the relationship of people and fire. Neglecting this human element on the landscape can be a glaring omission in the study of fire ecology (Stewart, 1951, 1963, 2002). Subsequently, academic research increased and explored the human element in wildfire history and in the ecology of landscapes. In particular researchers have considered whether and how the Indigenous Peoples of an area used fire as a cultural land management practice (e.g., Arno, 1985; Boyd, 1999; Day, 1953; Delcourt and Delcourt, 1997; Russell, 1983; Williams, 2000).

For decades, mostly non-Indigenous peoples have conducted this fire-history research. Some more recent studies have acknowledged the importance of not only seeking living cultural knowledge from the Indigenous peoples of the study's geography (e.g., Anderson, 1999; Peacock and Turner, 2000; Turner, 1999) but also seeking to partner with Indigenous communities in conducting the research itself (Huntington et al., 2006; Natcher et al., 2007).

1.3.3 Fire in Mi'kma'ki

There currently exists a mainstream science eye or perspective about fire behavior, fire ecology and some fire history of Mi'kma'ki (Green, 1981, 1982; Pyne, 2007, p.45; Wein and Moore, 1977, 1979). Paleocological research on land fire history and regimes in Eastern North America have looked at charcoal deposits (e.g., Carcaillet and Richard 2000, Davis, 1983; Fesenmeyer and Christensen, 2010; Ponomarenko, 2007; Wein et al., 1987), natural lightning strike frequencies (e.g., Kay, 2007), and plant community assemblages through the soil layers (e.g., Green, 1982; Ponomarenko et al., 2013).

⁷ I will use the term "Indigenous" as referring to the communities, peoples and nations having historical continuity prior to colonial societies (United Nations, 2009, p. 4). Historically the term, "Indian" referred legally to certain groups of Indigenous peoples in Canada through the Indian Act of 1876, however, more commonly today, other terms such as "Aboriginal" are used to mean all First Nations, Inuit or Metis. This research was conducted only in Nova Scotia speaking with Mi'kmaw Elders or Knowledge Holders and therefore I will use the specific term Mi'kmaw or Mi'kmaq when possible.

Although studies document Indigenous relationships to land fire in other areas of Turtle Island, very little has been researched specifically about Mi'kmaq relationship with and knowledge of fire in our traditional territory of Mi'kma'ki⁸ (Pyne, 2007, p. 46).

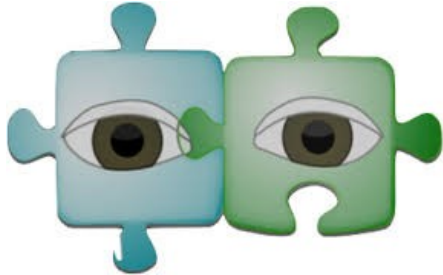


Figure 1 Concept of "Etuaptmumk" or "Two-Eyed Seeing" put forth by Elder Albert Marshall (Image by Integrative Sciences, CBU)

Mi'kmaw Elder and Guide for this research, Albert Marshall, has led us in Mi'kma'ki to use the analogue, "Two-Eyed Seeing" in research domains as a mixed team of thinking, valuing both a Mi'kmaw eye and a Eurocentric or mainstream science eye working together (Hatcher et al., 2009; Bartlett et al., 2012). Albert teaches us to make sure that one eye does not dominate the other, encouraging us to weave between the knowledges or perspectives. Through his presentations and conversations, the concept of Two-Eyed Seeing encouraged questions about Mi'kmaw perspectives or eye of land fire.

The impetus for this research was encouraged and partially funded by Parks Canada who were interested in a Mi'kmaw lens and knowledge of land fire around what is now Kejimikujik National Park, both naturally-occurring land fires such as by lightning strikes and those created by the Mi'kmaw for cultural purposes. However, talking about puktew through a Mi'kmaw lens⁹ is much more than just asking when, where and why fire occurred. Thus, in my thesis, I reshaped this land fire history topic early on to widen the research question to accept the dynamic components of Mi'kmaw cultural-ecological relationships with fire and the context of today's heavily human-influenced landscape. It is with this inspiration that I followed Mi'kmaw teachings to research fire's place in our lives and on the land, over time into the present.

⁸ Geography of Mi'kma'ki is explained in chapter two.

⁹ It must be noted that there are many Mi'kmaq who have their own view of the world, through their experiences, language and local culture. I have been taught by many Elders that we cannot say that there is one Mi'kmaw worldview.

1.4 SITUATING THIS THESIS

1.4.1 The Importance of Prioritizing Oral Knowledge

Although many Indigenous-fire studies reference historical documents and give them much weight, Tuhiwai Smith argues that European-based historical accounts can not be viewed as being universal, one large chronology, or about development, nor can they be told in one coherent narrative. She points out that Indigenous researchers should seek to reclaim their cultural histories in their own retelling using Indigenous epistemologies (1999, p. 30-31). For this reason I have privileged Mi'kmaw perspectives and voices about fire as well as in the interpretation of that which has come before us.

Long before Bromley (1935), Day (1953), or Stewart (2002)¹⁰ wrote about the Indigenous peoples' use of fire on the landscape, my Mi'kmaw ancestors were living with fire, speaking about fire and sharing the teachings from one generation to the next. No one had to discover or define our culture: it was what it was to the Mi'kmaq. As the relationships with land fire changed with time to reflect a changing world, the people still carried the words, stories and teachings.

As a storyteller, I understand and practice the cultural richness of oral traditions. Lowan-Trudeau repeats the teaching of oral story, "One of its strengths is that it is highly adaptable; for example, a story meant to pass on cultural values might be updated and interpreted to suit the current lives of its audience without changing the original meaning or lesson of the story. In this manner, the audience might better relate to the story as it comes alive in their contemporary world" (2015, p. 23). Thus, the Mi'kmaw oral stories and thoughts about fire highlighted in this thesis should also be understood as teachings passed on from previous generations and contextualised in the lifetimes and experiences of the participants.

I was careful to minimize my literature review of Indigenous-fire studies until after I had the conversations and learning with the participants to form an understanding about fire and histories based on their stories. In this way I knew that my learning would be focused on the Mi'kmaw teachings, grounded in the experiences I was having instead of being influenced by the way other

¹⁰ Stewart presented his research as early as the 1950's but his main body of work was only later published in 2002.

research had been conducted or how other non-Indigenous scholars were describing Indigenous cultures and histories, whether through other Indigenous perspectives or through European colonial lenses.

1.4.2 Writing Style

This thesis is an academic requirement, documenting what I have carried out and learned through my Masters research. However, following Mi'kmaw community reciprocity I am also keeping in mind the non-academic readers, such as Mi'kmaw communities, schools and organizations, who wish to know the results of this study.¹¹

To accommodate both the wide range of audiences and the academic requirements, I have written each chapter with a different principal reader or intent in mind. The opening and closing prose are my ceremonial offerings to set the storytelling tone and cultural context. I view chapters one through three as academic requirements to document and describe the scholarly attributes of this research¹². After describing my methodology in chapter three, my intention for chapter four is to be offered to Mi'kmaq, sharing the thoughts and stories of the participants back to the families, communities, and schools to whom this is also meant to serve. For this reason, chapter four does not contain the academic citations as found in other chapters. The heart of this main chapter is listening to the Elders and Knowledge Holders as well as offering some of my own experience and interpretations. Chapter five is written as a weaving of knowledges to include some non-Mi'kmaq literature, and further discussion. The main audience for this chapter is other ecologists looking at fire research, ecological conservation, or Indigenous Ecological Knowledges. I follow up with chapter six offering the results of my journey of learning how to conduct Mi'kmaw ecological knowledge research. The primary audience for this chapter is other researchers conducting Mi'kmaw or Indigenous study. Chapter seven is a summary of discussion points that I wanted to end with.

¹¹ I am also engaging any and all interested readers. This thesis is not meant to be exclusive to Mi'kmaq audiences, although I highlight the need to ensure the respectful honouring of and return of gained knowledge back to these communities in particular.

¹² An alternate introduction and background information will be available to Mi'kmaw communities by removing the more academic subsections.

In writing this thesis I wanted to truly honour a Mi'kmaw teaching style in storytelling. For this reason I used my oral storyteller teachings to arrange this Mi'kmaw-knowledge centred thesis like a story itself. After reflecting on the main teachings, findings and messages, I wished to retell this story and offer it to you, the readers, in chapters four through six. Unlike conventional academic writing, I have not organized these points to culminate into one more substantial thesis argument, but rather I have included interesting teachings that I offer along the way (which are chapters four through seven).

While weaving these Mi'kmaw cultural ways of sharing stories, I was also inspired by imagining the readers sitting with me in a sharing circle. The circle is a cultural way of going around the group, each person taking a turn to speak. Usually in this format there is a circle host such as an Elder who will begin and identify the object that will be passed to signify each speaker, which can be a stick or rock and sometimes more sacred objects such as an eagle feather. It is up to the host to determine if there is more to be said and if they will pass the object again for another round of sharing. Imagining us in a circle allows me to think through some of what I would share verbally as a storyteller. I will begin each chapter with a creative narrative to ground my thoughts from that circle image and prepare to translate it into written thesis narratives. Each chapter feels like another round, sharing a different theme. In this thesis I imagine the sharing circle object as a ji'koqs, which is a shelf fungus historically used to hold or carry fire ember.

1.5 THE CONTRIBUTING MI'KMAW ELDERS AND KNOWLEDGE HOLDERS

By nature of being a Mi'kmaw cultural research topic, the stories, teachings, and new ideas are the intellectual rights of the Mi'kmaq as a collective. This research would not have been possible without the care and willingness to share of the following Elders and Knowledge Holders. First I will introduce you to my research Elder Advisor on my Committee, Albert Marshall and then I will list the participants in alphabetical order (by family name and then given name).

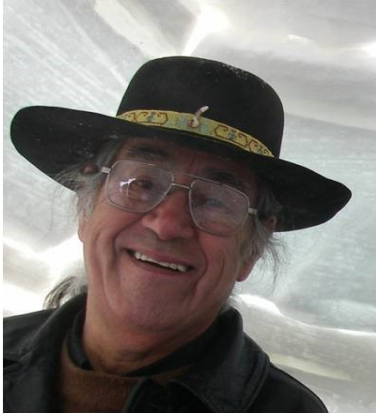


Photo of Albert Marshall
(From Integrative Sciences, CBU)

Dr. Albert Marshall

Albert Marshall is from Eskasoni, Unama'ki. He is a passionate advocate of cross-cultural understandings and healing and of our human responsibilities to care for all creatures and our Earth Mother. He is the “designated voice” with respect to environmental issues for the Mi'kmaw Elders of Unama'ki. He sits on various committees that develop and guide collaborative initiatives and understandings in natural resource management or that serve First Nations' governance issues, or that otherwise work towards ethical environmental, social and economic practices. Albert is a much sought after speaker, locally, nationally, and internationally, given his passion for and understanding of the Mi'kmaq culture and its 'living knowledge'. In October 2009, he and his wife Murdena were awarded Honorary Doctorates of Letters by Cape Breton University for their work, which seeks the preservation, understanding, and promotion of cultural beliefs and practices among all Mi'kmaw communities, and encourages a strong future for the Mi'kmaw Nation and its peoples. In February 2009, Albert was awarded the Marshall Award for Aboriginal Leadership as part of the Eco-Hero Awards delivered by the Nova Scotia Environmental Network.

It is Albert who brought forward Etuaptmumk / Two-Eyed Seeing as a Guiding Principle for Integrative Science and encourages its awareness across Canada and beyond. Albert is a passionate advocate of Netukulimk, which involves inter-relativeness, co-existence, interconnectiveness, and community spirit.

Albert was an inmate of the Indian Residential School in Shubenacadie, Nova Scotia, for much of his childhood and teenage years. He was profoundly affected by this experience and it has led him on a lifelong quest to connect with and understand both the culture he was removed from, and the culture he was forced into ... and to help these cultures find ways to live in mutual respect of each other's strengths and ways.¹³

¹³ Biography from the Integrative Sciences website, Cape Breton University



Photo of Diane Denny

Diane Denny

Diane is from Pictou Landing First Nation. She is the second oldest of ten children, raised by two cultural and ecological Knowledge Holders who passed on important teachings about the land and Mi'kmaw community life. Diane studied at St. Francis Xavier University and was trained to work at a Helpline. She was a Native Alcohol and Drug counsellor as well as a Native Student Advisor for St.F.X. She was the first cook at the community school, started the first PowWow in Pictou Landing, as well as initiating other events and programs. Diane has been involved in other university research projects, always willing to share her teachings and thought.



Photo of Gerald Gloade
(From Mi'kmawey Debert
Cultural Center)

Gerald Gloade

Gerald Gloade is from Millbrook First Nation. He is an award-winning visual artist and cultural educator, giving workshops, presentations, and guided walks. Gerald worked with the Nova Scotia Department of Natural Resources as a graphic designer in the Communications and Education Branch for decades before working for the Confederacy of Mainland Mi'kmaq. He is currently the Program Development Officer for the Mi'kmawey Debert Project where he works on cultural-ecological research and interpretation. When possible, Gerald speaks to a diversity of audiences including universities, public events and schools, sharing his research and personal stories.

Todd Labrador

Todd Labrador is a Mi'kmaw artisan, traditional Knowledge Holder and teacher from Kespukwitk. He was raised on the Wildcat community of Acadia First Nation and currently lives seasonally on both the westcoast of Canada and Kespukwitk. Todd honours the heritage and culture of his people by producing traditional art such as: birch bark canoes, wi'kuoms, bark containers, drums, paintings and so on. Todd is a mostly self-taught artisan. His great-grandfather Joe Jerney was a birch bark canoe builder and he raised Todd's father, Charlie Labrador who passed on to Todd the teachings shared by Joe. Todd was always connected to mother earth and his Mikmaw culture and feels the responsibility to not only keep the old ways alive, but to also pass these skills on to the future generations.



Photo of Todd Labrador
(Photo by Lori Craig)



Photo of Lillian Marshall
(From Integrative Sciences, CBU)

Lillian Marshall

Lillian Marshall is from Potlotek (Chapel Island), Unama'ki where she has been working in Mi'kmaw education and cultural preservation. Instead of attending Canada's residential school system, Lillian attended day school until grade six at which time she soon traveled and returned home to work. She completed a Native Language Teaching certificate at St. Thomas University and a Diploma in Counselling from Acadia University. In the 1970's Lillian worked with the Union of Nova Scotia Indians to interview many Mi'kmaw Elders across the province and then researched the effects of the centralization policy. Passionate dedication to Mi'kmaw culture and community, Lillian has created children's books and language CDs, written books, and revived the Mi'kmaw Mid-Winter Feast in the community. Later in life she returned to university to further study counseling, early childhood, native teacher education, and graduated in 2007 with a Bachelors of Arts in Community Studies from Cape Breton University. Lillian is a member of the Elders' Advisory Council for the Mi'kmawey Debert Cultural Centre and is the winner of the 2007 Grand Chief Donald Marshall Senior Memorial Elder Award by the Nova Scotia Premier.

Dr. Murdena Marshall

Murdena Marshall is from the Bear Clan and she lives in Eskasoni, Unama'ki. She is a Spiritual Leader, fluent Mi'kmaw speaker of the Mi'kmaw language, the spouse of Albert Marshall, the mother of six children, the grandmother or great grandmother for many more, and a friend to thousands.



Photo of Murdena Marshall
(From Mi'kmaw Archives website)

She graduated from the University of New Brunswick (BEd) and Harvard University (MEd). Between degrees Murdena worked in education in her community for a period before, in the 1980s, joining the faculty at the University College of Cape Breton (today called Cape Breton University). Murdena played a key role in developmentally enhancing the Mi'kmaw Studies program and in teaching in it for many years as well as being instrumental in helping create the globally unique Integrative Sciences program - one that enables students to learn indigenous and mainstream sciences side by side as science courses in a science degree.

In 2009, Murdena was conferred the degree Doctor of Letters *honoris causa* by CBU. She was awarded the Grand Chief Donald Marshall Senior Memorial Elder Award by the Nova Scotia Premier in 2006. In 2011, Murdena's achievements were recognized in the Senate of Canada in Ottawa by the Honourable Jane Cordy, Senator from NS.



Photo of Frank Meuse
(Photo by John Browning)

Frank Meuse

Frank Meuse is an avid outdoorsman from L'sətkuk (Bear River First Nation), Kespukwitk. In 1987 Frank was elected Chief of his community and served for ten two-year terms since then. During his 20 years as Chief, he was able to help the community establish some desperately needed infrastructure such as a school, health centre, multi-purpose centre, recreational facilities and some new housing. He also helped with projects such as river restoration work, a traditional medicine trail, and a forestry management plan for the community's woodlot. Frank's passion

the outdoors led him to the Elders and the woodsmen of his community early in his life. His adventures traveling the back country by canoe and hiking expanded his knowledge, both traditional and modern, which made Frank a well-respected person to guide and share his teachings with others. He is the founder and caretaker of Stone Bear Tracks and Trails in L'sətkuk where he hosts cultural and ecological workshops.



Photo of Brian Purdy

Brian Purdy

Brian is from Kespukwitk, living in Milton, NS. He first began his education in a one-room school house where an old wood stove sat in the middle. He spent much time with a Mi'kmaw Elder who was born in the 1800's who taught Brian about hunting, fishing and the history of the Mi'kmaq. Spending time in the woods with Mi'kmaq friends from the community across the river from his home shaped his relationships with the land

and perspective in the world. He married a Mi'kmaw woman and had two children with her. Brian's professional work was mostly focused with Bowater Mersey as a forest harvester for 34 years.

CHAPTER 2 SITUATING IN THIS CULTURAL LANDSCAPE

2.1 HOLDING THE JI'KOQS

Pjia'si. Welcome.

Our fire is burning and our circle is as it was meant to be. Whoever is here reading was meant to be here. The opening welcome and acknowledgements were already said and now I will prepare us for the sharing. I invited you into my story here so that I could tell you about my research. First I ask that you quiet yourselves and make a commitment that you will read and hear these words with welcomed spirit of intent, open hearts and minds.

This ji'koqs I have with me came from a walk in a forest close to my home. Before this research began many years ago I wouldn't have been able to tell you about the qualities of this fungus, how it holds embers safe and why that matters. For this story I am going to hold this while I tell you about fire and the land through Mi'kmaw relationships.

As Todd Labrador taught me, I cannot speak for everyone, but can only speak for myself. I will tell you about this research journey through my experience.

Wela'lin for your patience and for your presence here.

2.2 WHERE THIS STUDY TOOK PLACE

I will describe the geography using the Mi'kmaw names to honour the cultural stories that are embedded in the place names.¹⁴ Our Mi'kmaw ancestral homeland or territory, "Mi'kma'ki", includes what is now known as Nova Scotia, regions of New Brunswick, Prince Edward Island, spans west to Quebec's Gaspé region and northeast to Newfoundland.¹⁵ Although there is discussion as to the pre-European contact regional delineations and names, the territory is commonly described as seven districts.

¹⁴ Kovach 2009, p61

¹⁵ Contemporary maps now include regions and communities of Newfoundland where Mi'kmaq would travel to and have mixed families with the Beothuk people there.

I could not attempt to engage Elders in all of the Mi'kma'ki districts for this research in order to maintain those sensitive and consistent relationships that had me return to their homes on multiple visits. As I will described later in this chapter, our research design team chose three districts that seemed most appropriate for this study. The regional differences in ecology and culture will also play a part in this research as “Indigenous knowledge is localized to an environment and its peoples, it is not conceived as having general application to other ecosystems” (Battiste and Henderson, 2000, p. 67)

The three geographic regions chosen for this study are: Kespukwitk (meaning “end of flow”), Piktuk (meaning “explosion place”), and Unama'ki (meaning “foggy land” or variation of “Mi'kmaw territory”) as seen in Figure 2.¹⁶



Figure 2 Map of Mi'kma'ki - territory of the Mi'kmaq in Eastern Canada. Three focal areas for this study were: 1) Kespukwitk, 2) Piktuk, and 3) Unama'ki (Image of Mi'kma'ki by the Confederacy of Mainland Mi'kmaq and used with permission. Image of Canada from Printable Maps Online Retrieved from: www.printablemaps.net/north-america-maps/canada-maps/)

¹⁶ There are variances to specific delineations on Mi'kma'ki districts as well as spellings. In this thesis I am using the spellings that I am most familiar with for the three focal districts. Those on the map provided have slight differences of orthography. Place name translations into English come from Rand (1875), with corrections or edits by the Confederacy of Mainland Mi'kmaq (2015, p. 16) and Sable and Francis (2012, p. 21)

2.3 WE ARE MI'KMAQ / L'NUK¹⁷

In our oral tradition, it is often said that our ancestors have been here “since time immemorial”. The understanding of our past origin is described in the continuing narratives of our Creation Story of how our culture, language, and perspectives of the world came from this land.¹⁸ In referring to where the Mi'kmaq have come from it has been said, “weji-sqalia'tiek”, translated as to mean that we sprouted from this earth.¹⁹

With these teachings, the beginning of our story has no set date but an image of creation being a verb of past and present. Life as we know it, as told by these cultural stories, begins with Na'ku'set, or the sun, and then Wskitqamu, the earth, and continue with elements, beings and characters that have shaped who we are today.²⁰ Through the story we are taught the humility of being part of a greater complex web of what makes up the world around us. We learn to respect all aspects of our history, all elements, creatures, landscapes, and human relations. Story can be both fact-driven and lesson-driven, full of a different way of knowing about the world than to sit and read a textbook. Cajete reminds us that in Indigenous worldviews, the stories of emergence, the myths and metaphors help track a people's evolution and relationships to the land (2000, p. 13).

After many conversations with cultural leaders and Elders I have come to appreciate the value of hearing stories over and over again as subtle changes each time and deeper understandings come to light for me, a listener.

¹⁷ L'nu in English means “person” and l'nuk means “people”

¹⁸ In keeping with the common Indigenous cultural method of teaching -oral tradition- Stephen Augustine's narratives of the Mi'kmaq Creation Story have been shared through a two-part video (2006). I am still learning the stories and not yet a carrier or teller. And so it is not my place to share it with you now, however I acknowledge its place in understanding a Mi'kmaw worldview which does come into our conversation throughout this thesis.

¹⁹ This term was used during the Peace and Friendship Treaty process in a 1749 document from Mi'kmaw Chiefs demonstrating Mi'kmaq territorial right in Mi'kma'ki (as cited in Sable and Francis, 2012, p. 105 and Confederacy of Mainland Mi'kmaq, 2015, p. 16).

²⁰ This story and teachings continue but it is best shared orally and with a Mi'kmaw Elders' own words.

2.4 OUR ECOLOGICAL-CULTURAL LANDSCAPE

In keeping with the Creation Story and the way in which I give thanks in my own working lifestyle I will begin the descriptions of this territory by speaking about the landscapes and ecology as they have come before us. Without the land we would not be here today.

The three focal areas of Kespukwitk, Piktuk and Unama'ki are within what has been termed the Acadian ecozone (see Figure 3) in dominant science worldview (Rowe, 1972)²¹. Living in transition between northern Boreal forest and hardwood forest to the south, the Acadian Forest is characterized by red spruce, further including the mix of sugar maple, red maple, yellow birch, American beech, white ash, eastern hemlock and white pine, among other deciduous and coniferous trees (Simpson, 2008).

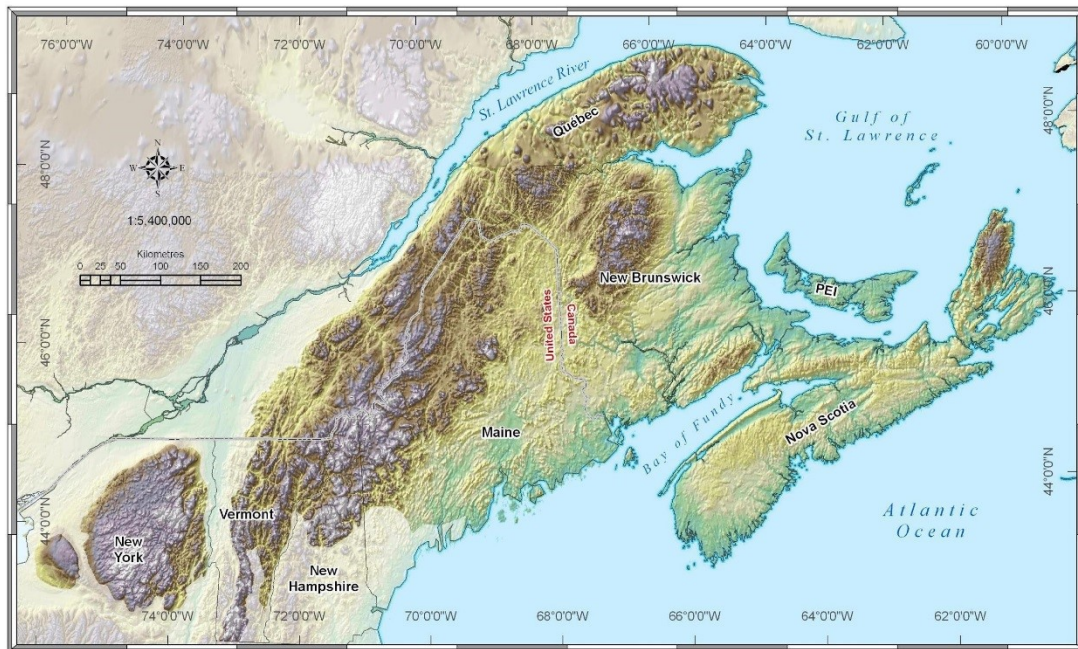


Figure 3 Region of Eastern North America termed the Northern Appalachian and Acadian Forest or the Acadian Ecozone. (Image from the Nature Conservancy and used with permission.)

Soils here are relatively young, having only the past 13,000 years since the retreat of the last glacier to develop, making the most common soil type inland from the shoreline a well-drained humus/iron podzol. Other soil and exposed bedrock types are found throughout the province,

²¹ The Ecological Stratification Working Group (1996) instead calls this ecozone the Atlantic Maritime.

expressed from the dynamic geologic history of three separate land masses coming together 435 million years ago (Atlantic Geoscience Society, 2001). Nova Scotia sits as a peninsula on the farthest eastern tip of this forest type and its four-season climate is influenced greatly by a latitude between the equator and the north pole, moderating temperatures of ocean water, and changes in elevation.

Intense, wide-spread fires in Mi'kma'ki were more frequent between Sa'qewe'k²² ("Ancient", from 13,000 to 10,000 years before present -BP) and Mu Awsami Kejikawe'k ("Not So Recent", from 10,000 to 3,000 years BP) than after 3,000 years BP (Green, 1981, 1982). In terms of natural disturbance that influenced the forest succession of this region in more recent times, in the Kejikawe'k period ("Recent", from 3,000 years BP until European colonization 500 years BP), Wein and Moore (1979) concluded that insect epidemics and wind storms were more common than stand-replacing fires. Fire-adapted conifers were replaced over time with fire-sensitive trees of the more recent cultural-ecological period, Kejikawe'k (the past 3400 years BP to the present); however, based on her review of the literature, Beazley notes that fire regimes are not general for all of Nova Scotia – or Mi'kma'ki - because various districts or regions are greatly influenced by the differences in topography and climate, as well as the coastal or inland positioning (1998, p. 70).²³

In terms of their respective geographic locations within Ecoregions, Kespukwitk is part of the Southwest Nova Scotia Uplands; Piktuk is part of the Pictou-Cumberland Lowlands; and the greater region of Unama'ki (Cape Breton Island) is part of the Nova Scotia Highlands and the Cape Breton Highlands.²⁴ These ecological characteristics of Mi'kma'ki influenced the cultural history of our Mi'kmaw ancestors, both directly (such as what kinds of food and tools could be

²² As this research was meant to seek out further understandings of fire history on the land and the relationships with Mi'kmaq we must specify the era/s which would be most relevant to focus on for this study. Although there are archaeological terms to separate cultural eras, I will use the Mi'kmaw terms provided by an Elder Advisory Board for the Confederacy of Mainland Mi'kmaq (Assembly of Nova Scotia Mi'kmaq Chiefs in Confederacy of Mainland Mi'kmaq, 2010, p. 3).

²³ I do not reference the many changes in human-related fire frequency change in the past century. I would like to, however, acknowledge that human-related fires on the land were shown to increase through intensified European settlement before the era of fire suppression of the past century (Pyne, 2007).

²⁴ As this research was meant to focus on forest lands I have excluded the coastal ecosystems.

made from the landscape) as well as indirectly (such as influence on socio-political relationships across watersheds (Roger Lewis in Sable and Francis, 2012)).

During the writing of this chapter, as I researched the ecological descriptions of our Mi'kmaw homeland and saw the map delineating the Acadian Forest Region, I noticed the striking resemblance of this area to what we in our Eastern Indigenous communities call the Wabanaki Confederacy territory. Mi'kmaw historian Daniel Paul explains that through time, strong political alliances were formed by similar and neighbouring peoples. East of the Iroquois nations, the peoples who made up the Wabanaki group were of Algonquin families of close geography and cultural family (Assembly of Nova Scotia Mi'kmaq Chiefs, 2007, p. 12; Paul, 2006, p. 12; Speck, 1915).²⁵

Places and their names matter to people whose identity is rooted in a particular area. As Kovach (2009, p. 61) writes, "Place links present with past and our personal self with kinship groups. What we know flows through us from the 'echo of generations,' and our knowledges cannot be universalized because they arise from our experience with our places. This is why name-place stories matter: they are repositories of science, they tell of relationships, they reveal history, and they hold our identity."

2.5 LINKING THE PAST GENERATIONS TO TODAY

After the retreating of the last glaciers and the time for the formation of soil, plant and animal life, and according to archaeological records, our human history of Mi'kma'ki spans more than 11,000 years.²⁶ There have been many non-Mi'kmaq who studied and wrote about our ancestors' culture or archaeology. However, I will not use that research literature as the foundation for this part of my research on fire. Rather, in keeping with Indigenous research methodologies where Indigenous worldviews and research is privileged (Tuhivai Smith, 1999), I will, whenever possible, rely on Mi'kmaw researchers and Elders regarding our culture and history.

²⁵ There are varying maps delineating the multi-national Wabanaki region. I suggest that the reason for other maps showing additional Indigenous nations might have been included in the alliances shifting over time.

²⁶ This has been documented with extensive archaeological research in what is now called Debert as well as the archaeological site on Gaspereau Lake (The Confederacy of Mainland Mi'kmaq, 2015, p. 16-18).

Mi'kmaw cultural historian and project participant, Gerald Gloade, stated (2008), "[We] look at [ourselves] as the descendants of the people who came before [us]. This is who we are. There was a continuous flow of generations from the most remote past to the present." The ancestors of present day Mi'kmaq have been living and surviving in what we call Mi'kma'ki for well over 11,000 years, after the last glaciers receded from this territory and after the time it took for the land to become hospitable enough for human settlement and survival. Recognizing the long history of Mi'kmaw ancestral occupancy in Mi'kma'ki, and the differences of ecosystem changes and cultural changes over that time, I didn't limit my research to a specific cultural period. As described in the last chapter, it is important to keep in mind that when speaking with Mi'kmaq about our living memory some information may be imbedded in stories and teachings that come through thousands of years, where some will be as recent as in their own lives. The lessons of relationships with fire are also artefacts of long history and recent history imbedded within the stories and personal experiences described in this thesis.

What we know of our ancestors' culture through the ages is based on mixed methods of relating to our collective past, including oral stories from many generations and on to the present, written European documents, petroglyphs, and archaeology.²⁷ Later in this thesis, I look at literature that dates back to European colonization in the 16th century. At that time our ancestors were living a semi-nomadic life, in small family or village sites dispersed in watersheds through Mi'kma'ki. Coastal from spring until fall, inland in winter, our Mi'kmaw ancestors were fishers, hunters, and gatherers as well as small-scale horticulturalists (Leonard, 1996; Paul, 2006, p. 18). Specific natural resources are mentioned in chapter five as they relate to the landscape and fire.

²⁷ If you are not familiar with Mi'kmaw history or culture please consider other ways of learning about the Mi'kmaq such as speaking with and developing relationships with Mi'kmaw Elders or teachers in person at events, gatherings and meetings; visiting Mi'kmaw community Cultural Centres or museums; visiting Mi'kmaw community or organization websites online (examples include: the Mi'kmaq Resource Center at Cape Breton University, www.cbu.ca/mrc; and The Mi'kmawey Debert Cultural Centre, www.mikmaweydebert.com/home/); reading reference material from Mi'kmaw organizations or authors such as the following: "Kekina'muek: Learning about the Mi'kmaq of Nova Scotia" (Confederacy of Mainland Mi'kmaq, 2010); "We Were Not the Savages: First Nations history: collision between European and Native American civilizations" (Paul, 2006); and, "The Language of This Land: Mi'kma'ki" (Sable and Francis, 2012), among many other books and articles.

2.6 IMPORTANCE OF LANGUAGE AND CONNECTION WITH THE LAND

Many scholars speak about the integral backbones of Indigenous epistemologies with common themes around the people's Indigenous language and relationships with the land or natural world (Barnhardt and Kawagley, 2005; Henderson, 2000; Kovach, 2009; Little Bear, 2000; Simpson, 1999, Struthers, 2001). In my lifetime and experiences, these two have been key sources of inspiration and roots of Mi'kmaw culture or worldview. Although I did not grow up speaking the Mi'kmaw language, I increasingly learn more words, concepts, and phrasing, and with them I find deeper understandings and different ways of viewing the world around me. Like many Mi'kmaw communities and families devastated by the colonial legacy of English society and forced assimilation, there are not many fluent Mi'kmaw speakers in my home community. However, in acknowledging the importance of our native language there has been a renaissance in Mi'kma'ki to promote, teach and regrow the language, particularly teaching the children so it assists in growing up with more Mi'kmaw identity and worldview to live by. Struggling to build our relationship with the Mi'kmaw language does not mean we as individuals are completely without Mi'kmaw culture. For example, in my home district of Kespukwitk many people and families have continued, trans-generational relationships to the land. The teachings that come from being in the woods or on the water inform our cultural identity even without the Mi'kmaw language to define it in words.²⁸

We are hunters and fishers here. We are crafters, many. We know how to call moose, how and where to portage the old routes, how to make tea from leaves while sitting a day's paddle inland, how to de-quill a porcupine, colour them, and make famous quill boxes and jewellery, how to start fire in the rain, and more recently our people here re-learned how to make canoes the old way. We have become teachers. We are all part of the nation and each community or family has a gift or teaching to carry on behalf of the nation.

²⁸ Kinnear (2007) also found this same discussion happening in my community about the importance of language but that we are not without culture if we still have relationship to identity and cultural practice as transferred through the generations (p. 69).

I am not denying that so much of our worldview and understandings are kept in our language. However, we must remember that it is also our relationship to the land itself and our deeper connections to community and spirituality where our language came from in the first place. (reflexive journal entry May 19, 2011)

Although some participants were not fluent Mi'kmaq language speakers, the teachings about land and relationships with fire were culturally-rich and helpful for this study.

2.7 COMPLEXITIES OF CONTEMPORARY MI'KMAQ CULTURE AND IDENTITIES

The over 400 years of European settlement within Mi'kma'ki brought many challenges to the livelihoods, health and culture of the Mi'kmaq. It is not the place here²⁹ to retell the descriptions of war, enforced relocation of our ancestors to small parcels of reserve lands, Treaties,³⁰ the Indian Act³¹ and assimilation, separation of Mi'kmaq children from their families, and the hardship within the communities that ensued.³²

It is important to acknowledge here that we recognize the effects European colonization has had on our languages, cultures, and landscapes (Battiste, 1998, 2005; Graveline, 1998; Simpson, 2002). As recently as when my parents were being raised in rural Nova Scotia, overt racism was

²⁹ I chose not to describe this history in more detail, however, these experiences of hardship is integral to understanding the complexity of Mi'kmaq contemporary culture and communication. I did include references to these histories when a direct link was described to puktew relationships and the stories.

³⁰ Peace and Friendship Treaties of the 1700's exist between the British Crown and the Eastern Indigenous Nations including the Mi'kmaq. For a summary, please view: <http://mikmaqrights.com/negotiations/treaties/>

³¹ "The *Indian Act* is the principal statute through which the federal government administers Indian status, local First Nations governments and the management of reserve land and communal monies. It was first introduced in 1876 as a consolidation of previous colonial ordinances that aimed to eradicate First Nations culture in favour of assimilation into Euro-Canadian society. The Act has been amended several times, most significantly in 1951 and 1985, with changes mainly focusing on the removal of particularly discriminatory sections. The *Indian Act* pertains only to First Nations peoples, not to the Métis or Inuit. It is an evolving, paradoxical document that has enabled trauma, human rights violations and social and cultural disruption for generations of First Nations peoples. The Act also outlines governmental obligations to First Nations peoples, and it determines "status" — a legal recognition of a person's First Nations heritage, which affords certain rights such as the right to live on reserve land." (Canadian Encyclopedia n.d.)

³² For more information see "People to people, nation to nation: Highlights from the report of the Royal Commission on Aboriginal Peoples" (Canada. Royal Commission on Aboriginal Peoples 1996) and the Truth and Reconciliation Commission (2015).

so strong that many people of mixed heritages were keeping their Mi'kmaw links unspoken (Moore, 2011, p. 15). This added to the suppression of Mi'kmaw knowledge, stories about the land, and our cultural history.

After centuries of European colonization in all Indigenous territories of Turtle Island, Indigenous peoples have managed to survive. The communities, families and individuals have grown, they practice their Indigenous culture as well as further their education or work in Canadian society. As Mi'kmaq, we are all living in two worlds today: we are all Two-Eyed Seeing in both a Mi'kmaw worldview and heritage and a modern way of life. It is our Mi'kmaw ancestors' and grandparents' resilience and strength that allows us to be here and to be having these conversations about Mi'kmaw Ecological Knowledge (MEK) and how it relates to future ecological research in the first place.

Although the pain of our collective past is difficult to navigate in today's conversations with Canadians of various backgrounds and heritages, it is our responsibility to have the dialogue in order to heal our relationships. As in all places of public learning, academic institutions should engage and support Indigenous ways of learning, knowing, sharing their own stories and visioning future society or ways to live on this shared territory. By focusing my inquiry on Mi'kmaw Elders' stories and our cultural relationships I am, as a Mi'kmaw researcher and ecologist, contributing to the healing of my family's inter-generational effects of European assimilation and also contributing back to the healing journey of other Mi'kmaw families and communities (such as described in Tuhiwai Smith, 1999, p. 117). Wilson offers that, along with deepening our relationships with the land, each other and our identities, "the research process may also build or strengthen a sense of community" (2008, p. 86). This is much like the hope of an Elder who, speaking during the Royal Commission on Aboriginal Peoples in 1992, described it as "researching ourselves back to life" (see Castellano, 2004).

CHAPTER 3 METHODS / THIS STUDY

3.1 HOLDING THE JI'KOQS

Wela'liq. Thank you for listening to this story so far.

I started with ceremony to set a cultural tone that connects our hearts to this work, not just our minds. I then introduced myself and this thesis. The previous chapter was to tell you more about how this project came to be, where it is situated and who/what is the focus. Now I would like the opportunity to tell you about the next layer: how I researched.

It's difficult to tell you a story that seems like it should have a beginning, middle and end, because it was all cyclical and animated. I will start this round by telling you about things I learned only towards the end of the research process and perhaps I will end this chapter by telling you things that I thought early on. Perhaps you can imagine that time is suspended and I am sharing the diversity of research elements that went into this work.

3.2 DECOLONIZING AND INDIGENOUS RESEARCH METHODOLOGIES

The colonial legacy in Mi'kma'ki is apparent in not only the diminishing fluency of our native language, orally-based stories and customs, but in the continuing influence of Eurocentric frameworks on our ability to think as Mi'kmaq and do as Mi'kmaq³³. As Battiste and Henderson say, "Indigenous scholars, peoples, and institutions are struggling to displace the systemic discrimination that dominates modern worldviews. Despite the implementation of constitutional reforms to correct the legacies of colonialism, systems discrimination persists. It is manifested in all institutions, policies, and law; its assumptions, practices, and singular viewpoints are so common that they appear to be natural, neutral, and justified" (2000, p. 59).

³³ There are Mi'kmaw language rejuvenation initiatives across Mi'kma'ki but there is still much work to be done to resurrect the language. The work of the Truth and Reconciliation Commission resulted in a Final Report in 2015. It remains to be seen if this brings about change for Indigenous peoples across Canada.

To reclaim our Indigenous heritage, thought and research practice, scholars suggest we must first decolonize our minds to be able to truly understand the non-dominant worldview we wish to follow (Tuhiwai Smith, 1999; Kovach, 2009; Chilisa, 2012). The process of decolonization is viewed as the conceptual recentering of identity, worldview, learning styles and research frameworks; rather than coming from European-biased histories, worldviews and frameworks, these should come from our Indigenous epistemologies (the nature of knowledge), ontologies (nature of being) and axiologies (values). Poka Laenui (2000) talks about five stages of decolonization: rediscovery and recovery (learning your Indigenous history, culture and identity); mourning (feeling the sorrow in identifying the continued oppression of Indigenous cultures); dreaming (exploring your Indigeneity further and visioning what else can exist through your research); commitment (defining your research role and responsibility); and, action (carrying out your research to help bring change and offer a voice forward).

Some Indigenous scholars suggest that to begin with a research concept already in place and then attempt to decolonize the framework will be more difficult and draws a focus on the Eurocentric worldview. Therefore, they propose to begin Indigenous research from the epistemology, axiology and ontology³⁴ you wish to honour and engage (eg., Bishop, 1998; Wilson, 2008). This is the approach I have chosen.

Tuhiwai Smith defined Indigenous Methodology as theory and analysis of research, which embodies a mix of Indigenous worldview and techniques that serve to strengthen an Indigenous agenda (1999, p. 143). Some considerations in an Indigenous methodology may be to: i) reframe the research question into a concept or query that uses the language, terminology, and worldview of the Indigenous people the research focuses on; ii) employ research methods that are appropriate from an Indigenous perspective such as storytelling, celebrating, naming, and so on; iii) analyse the information using Indigenous techniques which may include ceremony and storytelling; and, iv) find culturally-significant modes of returning the information back to the Indigenous community which was studied in an act of reciprocity and engaging in the natural cycle of Indigenous learning or relationship-building. Thus, she reminds me that in this research

³⁴ Chilisa (2012, p. 20-21) describes these as: “Ontology is the body of knowledge that deals with the essential characteristics of what it means to exist.”; “Epistemology inquires into the nature of knowledge and truth.” (p. 21); and “Axiology refers to the analysis of values to better understand their meanings, characteristics, their origins, their purpose, their acceptance as true knowledge, and their influence on people’s daily experiences.”

I have the responsibility of asking Mi'kmaw Elders or Knowledge Holders what they would like to share about the topic. In this way, I may learn and re-share the teachings so that this knowledge may be part of us telling our own stories (p. 30).

Mi'kmaw scholar, Fred Metallic, reminds people of the responsibilities of knowledge. He writes, "In Indigenous ways of knowing, teachings and traditions (songs, prayers, stories) are not treated as "sources of information" that can be accumulated for personal gain. Rather, teachings are often shared with the intent and understanding of strengthening our family systems, communities, and our nations" (2008, p. 61).

Indigenous research is a transformative learning journey, which in First Nations cultures in Canada can be conceptually synonymous with forms of ceremony, as described by Wilson (2008). Culturally, I have been taught that when you ask for new insight through ceremony what you receive will be for or on behalf of the rest of your nation. Indigenous scholars Battiste and Henderson (2000), Dana-Sacco (2010), Steinhauer (2002) and Simpson (1999) discuss the responsibility of researchers to acknowledge that the intellectual rights of the knowledge gained through the study are honoured and kept with the Indigenous nation (United Nations, 2007).

3.3 MI'KMAW ECOLOGICAL KNOWLEDGE

The desire to be included in land conservation or planning in many forms, including those related to fire, may compel Indigenous peoples in Canada and elsewhere to defer to commonly used English terms like "traditional" when referring to their own knowledges, or cultural activities in order to remind ecologists or planners of the deep-rooted connections and the authority by which these land-culture relationships have been cultivated (Houde, 2007). The unique body of Indigenous peoples' knowledge about ecosystems and cultural worldviews in relation to the natural world, rooted in the past and passed on through generations while also maintaining contemporary understandings, has been termed Traditional Ecological Knowledge (TEK).³⁵ Sometimes more general terms are used such as Aboriginal Traditional Knowledge (ATK) or

³⁵ Examples of definitions in Berkes (1993, p. 3), Four Directions Council (1996, p. 5), and Stevenson (1996, p. 281).

Indigenous Knowledge (IK). Cajete looked to honour Indigenous ways of knowing about the land as a science, “Indigenous science is a body of traditional environmental and cultural knowledge that is unique to a group of people and that has served to sustain those people through generations of living within a distinct bio-region” (2000, p. 268). In Mi’kma’ki, this body of land-specific and culture-specific relationships was termed more appropriately as Mi’kmaw Ecological Knowledge (MEK).

The Assembly of Mi’kmaw Chiefs ratified a Mi’kmaw *Ecological Knowledge Study Protocol* (2007) in which MEK is described.

Throughout history and today, Mi’kmaq subsistence and spiritual practices encompass the natural world in a manner that is, at times, distinct from understandings inherent in western society. The Mi’kmaq do not perceive the natural and spiritual world as separate and distinct spheres. This long-standing relationship that the Mi’kmaq have maintained for centuries with their natural surroundings is the foundation for MEK. For the Mi’kmaq, MEK is not just simply an exercise in the examination of Mi’kmaq land and resource use; rather, it also involves a unique approach to the gaining of this information through Mi’kmaq cultural practices and tradition. Secondly, MEK is not static. It is constantly reanalyzed and tested through the experiences of new generations of Mi’kmaq. This experience considers and incorporates new and emerging resource issues thus enabling reliable MEK data to emerge through a shared experience.

I viewed my study as a subset of MEK research, more specifically asking about the element of fire ecological knowledge or relationships.

Like many Indigenous North American cultures, our Mi’kmaw language is verb-based. I have heard and read this statement many times in my life and as a non-fluent speaker I continue to learn how this permeates an entire worldview. To see the world as active reminds us that everything is in a state of transformation and flux (Cajete, 2000; Sable and Francis, 2012). Metallic connects this verb-oriented way of seeing the world to the way in which a Mi’kmaw

perspective can focus on the relationships rather than the objects in our ecological teachings (2008, p. 68).

Elder Murdena Marshall sat with me for quite a while, on a few occasions, at the very beginning of this study. This helped me start my journey as a Mi'kmaw researcher with a greater understanding of Mi'kmaw Ecological Knowledge. Murdena described knowledge as a verb instead of a noun³⁶. Understanding Indigenous Knowledge as verbs similar to “constantly becoming” (Warren Linds in Four Arrows 2008, p. 18) or as “ways of being” (Aikenhead and Mitchell, 2011, p. 65) is then, as Murdena explained to me, not an object of discovery as it cannot be ‘gained’ or ‘transferred’.

Murdena drew four concentric circles representing physical, personal (or mental), respect for (or emotional), and sacred nature of (or spiritual) relationships with the subject of the learning (see Figure 4).

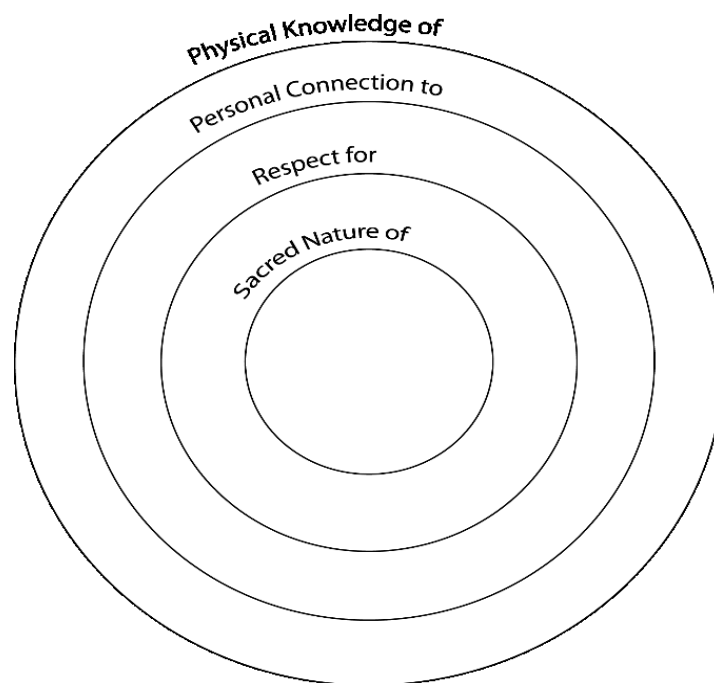


Figure 4 Elder Murdena Marshall passing on the teaching of Mi'kmaw knowledge as “deepening relationships with” (Image from Marshall 2008)

³⁶ Many Indigenous people continue to use the word ‘knowledge’ as a noun as we speak in English (Aikenhead and Mitchell, 2011, p. 65)

Learning begins with a physical relationship with the topic. In Murdena's example of Mi'kmaw plant medicines, the physical relationships would include learning the names and qualities of those plants. The next learning layer is developing a more intellectual and personal relationship with the topic. The learner is working with more concepts and attributes as she develops more relationship with those medicines. She is engaging her brain in various observations and thinking. The next layer is the emotional relationship that comes after deepening the connection to the plants while working with and coming to know them. Murdena links this to a deeper respect for the subject being studied. The deepest layer yet is the spiritual relationship that comes from spending the time, making the commitment, and engaging the whole self into the study, which can eventually lead to understanding the sacred nature of that subject. For some people this takes decades of a learning journey until you are spiritually or intuitively connected.³⁷

When we, as Mi'kmaq, speak about the land, we include ourselves and our relationships as an integral part of the ecosystems. An environmental studies graduate student conducted her research in my home community, asking in particular about the relationships with animals. She found that many participants spoke about our interconnectedness. This is in contrast to the dominant worldview, wherein humans are understood as being at the apex of priorities and needs and thus more important than the rest of the natural world (Kinnear, 2007, p. 61). The Mi'kmaw understanding of human inter-dependence with the natural world is not only a historical cultural worldview but continued to be embraced and communicated in present day discussions.

As outlined in the definitions of TEK or MEK, relationships with ecosystems are intertwined with lifestyles of resource use. In Mi'kmaw culture today, when we speak of our ecological knowledge or relationships, "Netukulimk" is often a part of the conversation and learning journey (Stiegman and Pictou, 2010). Linguist Bernie Francis describes its functional meaning in Sable and Francis (2012, p. 105).

Netukulimk is a concept referring to a way of gathering/hunting for a living. This could mean anything from hunting large or small animals and birds, fishing, attending a blueberry and potato harvest in Maine, or money in the sense of

³⁷ For people not familiar with what a spiritual or intuitive relationship may look like, an example is watching "expert" basketmakers, who have harvested ash trees themselves for decades, walk through a swamp of ash with not only a keen eye but an instinctual and spiritual awareness for which an individual tree is "offering itself".

bringing back a living. Having brought the concept forward in the mid-1980s to the Government of NS at the time, its usage was essential to convince the department of lands and forests that the Mi'kmaw people understand only too well the meaning of conservation.

Like Mi'kmaw perspectives, the inter-relatedness of all things in creation are integral webs of Indigenous learning (Bartlett et al., 2012). Leroy Little Bear talks about common Indigenous philosophy: "All things are animate, imbued with spirit, and in constant motion. In this realm of energy and spirit, interrelationships between all entities are of paramount importance, and space is a more important referent than time" (2000, p. 77). As we understand that "knowledge is relational" (Wilson, 2008, p. 74), we must pay particular attention to keeping the research subject in constant context and in keeping with the relationships referenced in the stories or experiences.

In my method of researching Mi'kmaw cultural-ecological fire knowledge I would spend time with the Elders and Knowledge Holders. They represented people who had a deeper relationship to fire, the natural world, and our cultural histories. As they shared their thoughts with me I would journey through my own relationship and understanding about fire. My other research methods would assist in deepening my relationship to land, fire and our culture. Once I had a theoretical sense of what Mi'kmaw methodologies might mean in the context of this research I worked to create the research plan.

The influx of Indigenous Knowledge-related studies across the country in the past few decades was met with caution and criticism of mainstream science research dissecting the interrelated dynamic knowledge systems into discrete data used for the advancement of non-Indigenous programs without being able or interested to include the deeper cultural understandings (McGregor, 1999, 2000; Simpson, 2001). Anderson acknowledged that Indigenous participation in some fire systems research is relegated to appearing as a collection of informants and interviews while the knowledge itself still undergoes mainstream science scrutiny and frameworks (2002, p. 56). In contrast, my research has been conducted in a way intended to honour Mi'kmaw methodologies and voice (including within the thesis document itself), honour the participants by giving them more depth of research time and commitment throughout the study as well as a cherished space in the narratives, respect Mi'kmaw knowledge as a verb, and

pay careful respect to my duty as a researcher to offer the results back to the community in meaningful ways.

3.4 MY RESEARCH METHODS

3.4.1 Research Design

This study followed basic principles of Indigenous methodologies with a blend of qualitative approaches. My role as a Mi'kmaw researcher came with a responsibility to not only the university but also the Mi'kmaw communities, making sure the study would serve their interests and needs as well. Early in the thesis proposal stage my academic supervisors and I held a research planning meeting with representatives from the Confederacy of Mainland Mi'kmaq (Mi'kmaw tribal organization), Unama'ki Institute for Natural Resources (Mi'kmaw organization), Parks Canada (Fire Management), and Mi'kmaw Advisory Elder Albert Marshall. Their input helped shape the research objectives, scope, participant selection criteria, methods, and the dissemination plan for how I would find culturally-appropriate ways to share the data back to Mi'kmaw communities.³⁸

3.4.2 Project Objectives

The goal of this study was to learn from participating Mi'kmaw Elders and Knowledge Holders through their stories and teachings about relationships between our people and puktew within Mi'kma'ki, dating from as far back as their oral teachings allow and up to recent memories.

The objectives were to: (1) learn about and incorporate into the research an Indigenous paradigm by using Mi'kmaw or Indigenous methodologies including storytelling, remembering, connecting, networking, and sharing; (2) carry out academic inquiry using culturally-relevant and community-centered priorities and ways of knowing; (3) gain, analyse, and create culturally-relevant knowledge relating to fire in Mi'kma'ki; and, (4) disseminate within Mi'kmaw

³⁸ This research went through both the Mi'kmaw Ethics Watch and the Dalhousie Social Sciences Research Ethics Review Board and were successful before interviews were conducted.

communities, partner organizations, research funders, other forest managers and scholarly contexts the Mi'kmaw fire teachings. These objectives were determined in consultation with the representatives previously mentioned.

3.4.3 Scope of the Study

Our research design team together agreed that, as a Master's student, I would only have the time to spend in a select few regions rather than attempting to spend time with Elders in all seven districts of Mi'kma'ki. Speaking with Elders connected to three different districts or regions would provide enough stories to discuss fire relationships –geographically and culturally across the study areas and with mainstream science fire studies.

My research advisory team collectively decided on the three Mi'kmaw-defined study regions that I introduced in my earlier chapter: Kespukwitk, Unama'ki, and Piktuk (refer to Figure 2). We first chose to include the district of Kespukwitk as it is my home territory and also includes Kejimikujik National Park and Historic Site. We also chose to include Unama'ki as it is the home territory to my Elder Advisor (Albert Marshall) and Cape Breton Highlands National Park³⁹. For a third district the team chose Piktuk as it is known linguistically to relate to “fire” and the forest managers in the community were making inquiries about fire relationships for their forestry work.

3.4.4 Participant Selection

My research advisory team decided to engage at least three Elders/Knowledge Holders⁴⁰ to be participants in each of the three study regions. The criteria for selecting participants for interview sessions were that they are seen by the community as Elders or culturally knowledgeable adults; they know stories about and/or land fire history within one of the focal regions; they are good communicators in English, French, or Mi'kmaw; and, they would like (and have the time) to be involved. Names of potential participants were generated in consultation with my research

³⁹ As one of the research funders and advisory team members in the initial stages of this research plan, Parks Canada noted the regions that included a National Park for both Kespukwitk and Unama'ki.

⁴⁰ I should clarify that it is us as learners and community members who endow the title “Elder” or “Knowledge Holder”.

advisory team. When speaking with the initial participants, I asked them who else they thought I should speak with, a “snowball sampling” technique⁴¹, to find the next participants for the study⁴².

3.4.5 How I Planned to Learn

I began the research with the primary method of facilitating semi-structured, free-flowing interviews as chats with Mi’kmaw Elders/Knowledge Holders⁴³. Additional research and learning methods included: (i) self-reflexive journal writing;⁴⁴ (ii) reviewing Mi’kmaw language, words or phrases about puktew; and, (iii) reviewing literature and historical documents on Indigenous methodologies, Mi’kmaw history, land fire history and fire ecology.

Emphasis was placed on the interviews as storytelling and conversation. Whenever possible, storytelling by participants was encouraged, as their teachings conveyed meanings and contexts about fire that might not be achieved by other methods.⁴⁵ The sessions were audio recorded for a few important reasons, culturally and methodologically. The recordings provide: a means of sharing the participants’ stories in their own words and voices with other Mi’kmaw and non-Mi’kmaw communities and schools so that they too can learn from them directly⁴⁶; an opportunity to save the teachings of our Elders before they pass on; a means of reviewing the recordings with the Advisory Elder as part of our cultural protocol; a format for sorting, organizing and storing audio-clips on my computer as part of analysis; and, a means for ‘member checking’, whereby a copy of each participant’s recording was returned to them for review and feedback, so that they could ask for revision or corrections for accuracy and clarity, additions, or for pieces to not be further included.⁴⁷ After the interview sessions were completed, I reviewed

⁴¹ As used in Ampiah and Adu-Yeboah, 2009

⁴² Although I wished to engage three participants from the Piktuk region it was an area where I had little previous experience and was only able to meet two people who wished to participate during the timeline I had for interviewing/recorded chats.

⁴³ As used by Archibald, 2008. Chilisa (2012, p. 205) reminds us that decolonizing the interview method itself is an important part of this research method. Wilson 2008 also quotes participant Jane, stating that with an Elder you enter into conversation rather than coming with a set of questions (p. 113), and so, I only referred to my booklet of questions and photos if there was a long lag in conversation where I felt we were searching for something specific. One participant specifically asked me for questions so that she could get onto the topic with some prodding.

⁴⁴ As described in Bullough and Pinnegar, 2001 and supported by Kimpson, 2005.

⁴⁵ Bailey and Tilley, 2002.

⁴⁶ It is understood that a different listener might take different lessons from the recordings than what I chose to articulate in my own story – this thesis.

⁴⁷ Original audio tapes will be held at the Mi’kmaq Resource Centre after this project is completed.

each of the participants' recordings with Elder Albert Marshall. This process served as a checkpoint to make sure that culturally-sensitive information and those not suited for public distribution were excluded from the thesis document.

I used three modes of reflexive journaling⁴⁸: 1) audio recording my own thoughts after visiting participants and later transcribing them onto the computer; 2) writing in a file on the computer while I was working on other stages of the research; and, 3) writing by hand in my paper journal whenever thoughts came up about the project and process.

For language learning, I took note when participants shared Mi'kmaw words with me about puktew. Additionally, I looked through the Mi'kmaw dictionaries, lexicons, and online language sources for fire-related words. Mid-way through the project I had the expert help of Diane Mitchell who compiled and shared with me the words that she had access to as a Mi'kmaw linguist.

Early into the research I was hesitant about relying on existing Eurocentric North America literature about Mi'kmaw history and culture. I was aware of the flaws in colonial texts, such as linguistic and cultural barriers or misrepresented observations. Even though these are not Mi'kmaw sources, they initially presented another place to look for clues and to deepen my own thinking about who we are today and where we might have come from. Later in the research phase I returned to further examine the literature for examples of Indigenous peoples relationships with land fire in North America in order to compare and contrast research methodologies and findings.

Learning by watching and doing is an integral part of what makes up Indigenous research methodology (Wilson, 2008). Elder Murdena Marshall explained how this facilitates a deepening of the connection to the subject from a physical relationship to other complex layers of knowing and relating. I found opportunities through the study period to use personal hands-on experiential learning about puktew. Some examples of these were watching community members and neighbours burn berry patches or grass areas, sitting with campfires, and walking a forest through which a land fire had passed the year previous.

⁴⁸ The importance of reflexivity in Indigenous research is discussed in the next section.

3.4.6 Reflexivity

Writing and reading my reflexive journal was a way to continuously react to what I was learning, and to think deeper about meanings of the process, language, and my relationship with the Elders, participants, as well as to their stories/teachings. The research was circular and wove through cycles of inquiry, returning to research advisors, returning to Elders, and reflection.

3.4.7 Analysis

The first layer of analysis or interpretation was during the research process woven through the reflexivity of responding to what I was learning and incorporating that new understanding into the rest of the research. Another form of analysis occurred while I reviewed the recorded audio clips of the conversations; by piecing together or juxtaposing story segments from different participants to match or contrast views on fire, I was able to make more meaning from what was shared with me.

Next, reviewing the audio recordings with Elder Albert Marshall allowed me an early opportunity to present some preliminary analysis orally and receive valuable feedback. Although he did not tell me what conclusions to draw, Elder Albert certainly found a way to make sure I was headed in a good direction for the next phases of the project. How we spoke to one another was a part of the analysis as we discussed the relevancy of what people were sharing with me, what was similar or different than the others.

Ceremony is a Mi'kmaq-appropriate method of study. It allows for deeper integration of the learning process.⁴⁹ I conducted culturally-relevant forms of ceremony throughout the research and particularly through the analysis time that were important to me. Although I do not wish to share the specific details, examples of ceremonial moments were: making fire, offering sacred medicines to the fire and other offerings to ask for guidance through the analysis and writing stages of this thesis.

⁴⁹ Simpson 2001 and Wilson 2008

3.4.8 Sharing

This thesis document is a compilation of the main results of this study. It will be made available on a public resource website and also sent to the participants, Mi'kmaw and non-Mi'kmaw organizations involved in the project, and Mi'kmaw resource centres. Consistent with what my research advisory team and I determined to be Mi'kmaw cultural methodologies, I will also share results through other forms of teaching and learning with diverse audiences, which include: postings of the audio recordings on a public Mi'kmaw resource website, available for listening⁵⁰; an interpretive panel designed for and displayed in Kejimikujik National Park and National Historic Site, summarizing a few key teachings from this research (Appendices G and H); a scientific poster presented at an international conference on conservation biology (Joudry et al., 2015 – Appendix I); and, publication of poetry – some pieces which were inspired by this research (Joudry, 2014).

⁵⁰ If any participant does not wish for their recordings to be shared publically, they will only be stored with shalan and at the Mi'kmaw Resource Centre at Cape Breton University. Participants also have the option that only a portion of their recording be publically shared.

CHAPTER 4 PUKTEW THROUGH MI'KMAW RELATIONSHIPS

4.1 HOLDING THE JI'KOQS

It is a significant teaching in my life when a feather, a talking stick, or this ji'koqs, is handed to me and I know that which I must share. I always pause. I stroke the feather, making the bristles realign. I touch the beads on the handle at the base of the object. I might even twist it carefully and watch the shadows change at certain angles. I do that now. I take a few breaths during that silence while everyone is quieting themselves deeper.

It is like that now.

You must take a moment.

What I have to offer you is an opportunity to journey with me. You must open your mind to other ways of seeing the world, timelines, stories and relationships to the natural world.

While many of the conversations with the participants included a mix of stories and teachings, the way that I will re-present them to you now will not be chronological. I have arranged the thoughts and sharing as a narrative path, as I have come, deepening my knowing about these subjects as they rippled out from the context of land fire.

4.2 PHYSICAL LAYERS OF RELATING TO PUKTEW

Inspired by both Diane Denny's conversation with me about needing to analyse this work in four parts and as Elder Murdena's metaphor about learning or knowing as four concentric circles, I will begin with the physical relationship learning about our cultural relationships to fire – both past and present. Every participant included the physical outer layer of facts about our utilitarian associations with fire.

Lillian Marshall in Potltek, Unama'ki territory, took time to share not only a list of tools of fire,

but also the concepts of various fires in our language.

There were so many different kinds of fires. And they had names. My mother would name outside fire, inside fire, and then the kinds of wood that we used to make this kind of fire. There was a certain fire, like, for a wi'kuom, inside the wi'kuom, where it doesn't shoot sparks, it was certain kind of wood, so it was safe for sleeping. They had a certain way of making this fire and then it wouldn't make sparks and it would burn a long time. That was an inside fire in the wi'kuom at night. But there was a cooking fire and that was a different kind of fire.

Mi'kmaw researcher and cultural historian Gerald Gloade, speaking about the Piktuk territory, shared teachings about how fire was also used in the making of tools themselves.

We know that they used fire to make the stones more brittle, it makes them easier to fashion if they've been fired. And you'll find stones of cultural significance that are sort of in their raw or natural state and then you'll find tools that are of the exact same material but they're very, very much darker and the reason why they're darker is because they've been exposed to heat for a longer period of time.

At home in Kespukwitk territory was the only non-Mi'kmaw participant, Brian Purdy, who had spent much time with Mi'kmaw Elders and woodspeople as well as marrying a Mi'kmaw woman. Brian shared some fire tool stories of spending time on the land with Mi'kmaq.

The torches were great. They used to roll the torches - the birchbark on a stick - and make it out, and kind of feed it. I watched them do that. And light it. And it was just amazing how long they'll burn. They'll burn for a long time in the dark. I mean, they always used to say, 'Find the birch and make plenty torch.' Plenty torch was lots and lots of birchbark around it.

Community member in Pictou Landing, Piktuk territory, Diane Denny, also shared diverse thoughts about fire. She weaved between stories about spiritual and personal life experiences of fire, as well as utilitarian teachings of fire. One session she was talking about using fire to cook and the conversation led to discussing our feelings and attitudes towards fire.

They would make that hole and put it in the sand. Make sure your bread's covered up properly, or dough, and everything. And then they'd cover it up and then the fire's on top and the fire's cooking the bread underneath, which was so cool. So it's really a lot of use, a lot of good uses and a lot of bad uses, I guess put it that way. There's a good and a bad in a fire.

Mi'kmaw Cultural Leader in Kespukwitk, Todd Labrador, is known in our territory as having diverse relationships to land and culture. He also works for Kejimikujik National Park and National Historic Site in our region and is familiar with different attitudes about fires on the land. Quick to include in our conversations, Todd commented on his Mi'kmaw perspective.

Mi'kmaq wouldn't have been afraid of fire. It's a good thing. But of course they respected it. ... Many, many things begin to grow after a fire. The animals will go into an area that has been burnt, maybe months later when all this new vegetation starts coming. So, it's a really important thing to have that fire.

Brian Purdy echoed that perspective when talking with me during visits. He described the common Mi'kmaw practice of watching where the natural forest fires happened and calculating those as the places to hunt after each location had a few years to recuperate. Brian spoke about land fires as a common occurrence in our recent past. Himself a woodsman and having worked in the forestry industry, he had time to get to know the land. To make sure that I envisioned the forest fire history of our region, he added:

I think Nova Scotia has been burned so many years. When you look at the soils, you can see charcoal and things that's been here way, way back.

Mi'kmaw Elder from Unama'ki and important adviser for this project, Albert Marshall, welcomed me into his home with wife Murdena on numerous visits over the years to discuss fire, culture, and our common future. When discussing the physical observations about fire on the land, Albert shared a teaching about the animals' relationships to that burning.

Animals really have this mechanism [Murdena interjects: "Sixth sense."] that they know there's a fire coming. So they all leave. Now, that's not all of them.... Even

after the fire, some of them can burrow, like the beetles and so on, they can burrow into the soil and escape the heat and they just come back out again.

Brian spoke about the movement of animals ahead of forest fires from his personal observation.

It was funny, you'd see the smoke and then things would be dense and then you'd see the animals coming, all different sorts and they'd be pattering through, across, around the lakes and through water, where they were going. And then the fire would hit, but the animals were going ahead in front of it. We've seen those things.

When discussing forest fires specifically, many participants suggested that forest fires in our past were mainly caused naturally. Todd puts this concept into Mi'kmaw philosophy.

So when you take lightning striking in an area, to us it was Mother Nature saying this needs to be cleaned. So, she would start a fire and the fire would clean things. And it would burn a lot of the old stuff that was there, clean it all up, and then new life began.

Some other participants also described fire on the land as a “cleanser”. Murdena, for example, talked about natural forest fires coming through as pest cleansers and how the Mi'kmaq were tuned into this ecological cycle.

When the beetle [asks Albert in Mi'kmaw] came on the trees [Spruce Budworm] That's the one. Spruce Budworm. Everybody was all hypered-up, they said, “Oh my God our forests will be infested.” And they said, “Don't worry, they won't over-infest, don't worry. A forest fire will happen.” And we don't know who starts them, or how they're started. But it will kill itself off by forest fires. And there was no concern, no concern whatsoever. It was still making wreaths and doing all kinds of things.

..Because the forest will take care of itself.

The use of charcoal was brought up a few times, including during the conversation with Todd and Frank together. It was interesting to note how one person could help another remember a cultural practice or solidify the living memory.

Todd: Have you ever heard of them using ... they would use, take the match, let the match burn, then use the charcoal,..?

Frank: Actually, my cousins, I remember them sitting eating the match heads. And saying, 'What are you doing that for?' They said, 'My father told me it will kill any worms or anything you have inside you.' And that's what the animals did, too, I heard, that they used to go into the burned areas and eat the charcoal, actually clean their bodies of certain worms or parasites.

While listening to these teachings I would attempt to envision our cultural past and livelihoods. Often in the conversations we wove back and forth between fire on the land and fire in the daily lives of our ancestors.

Fire ecologists and managers have been curious to ask about the possible link between campfires of the people and whether these fires had escaped onto the land. No one I spoke with really addressed that query, however many did mention the movement and transfer of fire in controlled ways. Most of the participants talked directly about the vital importance of having fire, blurring the lines between the fire that happens on the land and the fire that we hold so valued in historical everyday livelihoods.

Diane gave the example of how common it was to create a campfire whenever needed.

I remember us guys using flint, too. My dad used to tell us to always have it on us, too. But we didn't know about the electric stoves was going to be coming in, and these other things. But we used to have flint. I do remember that. And if we ever went into the woods, my dad always made sure that we always had this flint with us, just in case we got lost.

Participant Frank Meuse, from my home community of L'sotkuk, carries with him matches or a fuel lighter when he travels in the woods. Frank spends his spring season trout fishing and

showed me how he will stop along the water's edge to make a tea fire. He would tell stories of learning this from the "old folks" he grew up with. I watched him pick a wet spot along the shore, pile birch bark, then dried twigs from the surrounding trees, then larger branches on top before lighting. He then cut a live, sturdy branch to make his kettle holder while he boiled stream or pond water in the blackened camp kettle. When finished he emptied two or three kettles full of fresh cold water onto the fire before continuing on to fish.

Albert and Murdena also shared the vision of how vital those fires were to have in historical Mi'kmaw communities, so much so that the people kept the practice of holding and caring for fire. They were happy to share the stories of carrying jikoqs, which was a long time method of keeping a fire's ember smoldering. The following is a conversation between Annamarie Hatcher and Murdena about the way ji'koqs was used.

Annamarie: So jikoqs ...That was used to carry fire from one place to another. They put the cinders in there and wrap it up and eventually you can start fire, you can take your fire with you.

Murdena: In the wintertime they used that jikoqs, because you only have to have a piece. The last batch of wood that you put in the fire, for the rest of the evening, you put in the jikoqs with it, so in the morning when everyone's awake, well when someone's awake, they just go back to the jikoqs and start the fire again. Just blow it. Little bit of maskwi, what do you call it, birchbark. Start the fire again.

I read through missionary and early linguist, Rand's, highly edited versions of our Mi'kmaw legends (1893) to see if there were stories captured (or created) that depicted relationships with land fire. Although nothing stood out that I wished to share here, the role of fire in the lives of the Mi'kmaq historically and at present can also be noted in the Mi'kmaw language. Words about fire come up in the first dictionaries and current lexicons (de Blois, 1996; Metallic et al., 2005; Pacifique, 1939; Rand, 1888) and words identified by Mi'kmaw language researcher, Diane Mitchell, are provided in Appendix F. Some of the noun-related words about observing fire include: puktew (fire), pakte'j (small fire/spark), puktewei (of/relating to fire), pukwuk or püksukul as plural (firewood), puktek (in the fire), puksetew (soot), puksaqatew (ember of

firewood), puksuku'jl (splints for kindling), nuksaqatew (charcoal). Some of the verbs associated with fire or burning include: kaqsatl/kaqsək/kaqsit/kaqtek (burn), kaqamklekt/kaqamklek (finished burning), kaqa-nu'kwalək (finish burning up), ketmoqsit/ ketmoqtek (burned completely out –animate/inanimate), elamklek (the fire burns to there/that point), pitoqtek (burn underneath).

Some of the personal verbs of fire include: pukteweie'ji'j (I set it on fire – animate), puktewa'tekei (I make a fire), puktewekei (to light a fire), puktewapsk'tekei (I draw fire from flint), puktewa'tu (I put fire on it), saqtai (I make fire with flint), saqsikwei (I hunt/fish by torchlight at night), nu'kwa'tekei (I make/set a fire or I burn things in the fire), mawsaqate'm (activate/stimulate/accelerate a fire), mawsa'tekei (I make a fire in a stove), pewksaqate'm (to arrange/adjust/control/regulate a fire), kaqsək (she/he/it burns it – inanimate).

The ways our Mi'kmaw ancestors named other objects or animals that had a relationship to fire are also included, words such as: puktewulk (steamboat/ship), puktaqan (snare), puktewijk (whiskey), etlikpətaq (smoke or steam), mtlu'tew (smoke), pukətli'kej (starling or “black robbin”), puktewikan (fire hearth). I particularly enjoyed learning the words “puktewe'j” and “pukto'kuwome'j”, which literally translates in English as “fire critter, and “fire-home critter”/ “place-of-fire critter”⁵¹. It refers to the crickets and “chimney beetles”. Although a chimney or pukto'kuwom is more modern I did wonder if before chimneys there were fire places for a cricket to have originated this name. In a subsequent visit I asked Frank Meuse about the cricket's Mi'kmaw name and he agreed that after a fire you will see the beetles and crickets come out of hiding earlier than other burrowing animals.

The interesting conversations and exploring Mi'kmaw words about various types of fire and our various relationships to fire in the past and present began to affect the way I myself was experiencing fires at home. Sometimes at a gathering or camp when a fire would be burning I would sit there thinking about our Mi'kmaw ancestors through history. The deepening of my own relationship to fire was on its way.

⁵¹ “Critter” is a term I chose for little animal

4.3 MENTAL LAYERS OF RELATING TO PUKTEW

In this project, everyone was travelling back through time cycles with me, envisioning the land and our ancestors. I observed that in these conversations with the Elders and Knowledge Holders, the people combined their teachings that were passed to them, their own experience of Mi'kmaw life and the land, as well as what they inferred. During a joint visit at Todd's house, Frank shared his ideas of historical wildfire in Kespukwitk.

The way the fire would move through, it would probably be differently four to five hundred years ago than present day. Maybe there wasn't as much damage done years ago because it stayed lower, it maybe didn't get up into the canopy, just burned on the ground, slower, deeper. That's the other thing I feel like, maybe some of these fires went underground. We've heard them go underground sometimes for a year or so and then all of a sudden resurface again. It's interesting how all these things have, kind of make you think about the importance of fire, both from our ancestral fire to present day.

Todd listened and added in agreement during the discussion:

Interesting how fire can travel underground. You might have saw, too, but a fire can travel through root. You will see fire here, and then nothing, and then all of a sudden smoke over here. The heat will travel through root and actually come out. Quite amazing how, if it's sap in the root or what it is, but it will actually burn on the other end.

The most fascinating district to research for this project was of course Piktuk. Bernie Francis's work on Mi'kmaw place names explains that Rand had translated Piktuk or Piwktuk into English as "at the explosions"⁵². Gerald worked on researching the place name as it relates to the geology of the region and he kindly spent hours recounting his own research journey over a few visits and chats with me.

⁵² See "Pjila'si Mi'kma'ki: Mi'kmaw Place Names Digital Atlas" at: sparc.smu.ca/mpnmap/

Puktewekan literally translates in the Mi'kmaw language as "the place where you go to get fire." If you had a geological inventory map of the province of Nova Scotia, you'd see that Piktuk is full of volcanic fault lines and it was very, very active during our occupation here for the past 13,000 years. And those land pieces shifted, grinded, and moved. And because there's coal fields located here, that are on the surface, or very shallow in the topsoil, once they would grind, they would actually spark and ignite. And these fields would burn for months at a time, if not years.

We've got stories of European travellers who came here and literally saw this place burning and went into what is now known as Toney River and what the Mi'kmaq were calling Puktewekan, and they found this coal field that had been burning there for literally months. I do believe it was Henry Sinclair who was here 50 years before Christopher Columbus set sail, ... he sent a crew of men over this hill to see what was burning over on the other side. And when these men went over they found all this sludge and it was all the black soot and grime from all these coal fields that were burning. And when it would rain, that sludge would sort of run off and run out. So they saw these black rivers of sludge running out....

I mean, it's been called Puktewekan for as long as memory takes it. And for it to be so specific as 'the place where you go to get fire'. Tim just thought it was the material that we used to create fire, but they're physically going there to get fire.... The material that's coming from that area, there was a lot of communities near there.

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As the project went on I took more opportunities to watch things burn. I would catch myself slowing down the car on the road if someone were burning their grassy yard. I would notice the

⁵³ In Rand's Micmac Grammar (1875, p. 101) he translates the English name of Toney River into Booktawaagen (a contemporary spelling of "Puktewekan"). Diane Denny in reviewing this added that a local place name can also be the similar word, "Puksukekan", meaning to get wood to make fire.

flattened, blackened middle and how high the flames were cast on the edge of the burning. There would usually be a man sitting or standing watch.

“Did our Mi’kmaw ancestors ever make fire on the land on purpose?” I asked every participant. I also asked if there were differences through the generations. And I asked about them and what they knew about burning the land.

Reviewing the responses to this part of the project’s query represented the next level of knowledge or learning.

One of my earliest conversations about these questions was with Todd.

I’m thinking that our people wouldn’t have set fire to forests. They wouldn’t have burned forests, but they would have burned areas where the berries grow because that really stimulates the berries to grow better.

Of course they knew when to burn and when not because there is a period of time that they knew it was ok to burn, that it wouldn’t get out of control. And that’s after the snow goes and things dry up a little bit, but leaves quite haven’t come out yet, but everything’s dry enough, the fire will burn really well on the top, but it won’t go deep into the soil because the soil is still wet. So, they would have done that for thousands of years.... When I was young, grandmother always used to burn early in the spring, my father used to tell us that they used to burn the old meadows - meadow grass; they always used to burn that. I’m sure it would help rejuvenate/regenerate.

Lillian also referred to her mother’s stories about burning.

I remember my mother talking about my grandfather. That he was good at making fires. But it wasn’t just making a fire, an ordinary fire; it was burning the ground. And he was good at it. I guess you have to be good at it. What she meant was that it didn’t spread. Like you have to take into consideration what it was like, the day, the wind probably had to blow from a certain direction, or it was going to be wet that night or raining. All these things I suppose he took into consideration.... Waqamuksowit. Waqamuksowit is..., I don’t know how to translate it in English.

Waqamuksowit ... But he burned what was unnecessary. That was another fire. To clean, probably where he wanted to build something, a house; it could be anything. It could be somewhere you wanted to build a wi'kuom in the woods, and he could do it right there. And the fire wouldn't spread. That technique, that wasn't learned that same day. It probably was he learned it from the generations before him because it was an art. The way my mother said he was good at it. So that's one of them, my grandfather's stories.

Albert offered that burning of the grasses for the berry patches and other shrub areas was to continue a practice of revitalizing the plant communities.

Because most berries rotate. Blueberries one year, no blueberries next year; after the burn there's no blueberries. So you don't burn everything in one year. You burn certain barrens. So, fire, then, was used quite extensively of maintaining the ecology or the habitat that was necessary for them to survive. And then of course, areas that nature took care of them, took care of them anyway through lightning.

Also in Unama'ki, Lillian spoke about “shooting the fire” at which time the children weren't allowed to go berry picking. I took notice of an inter-generational fading sense of purpose and meaning in Lillian's recounting of the story. She herself was a bit perplexed as to what meaning this all had when she was a child.

And they said, 'We're going picking berries.' 'Oh,' my father said, 'You can't. Puktewpeskasit.' In Mi'kmaw that means it's a day that they shoot at the fire. I don't exactly know what that means. ... That they shoot the fire. Shoot at the fire. I don't know how to explain it in English. Anyway, the little girls knew this because we were taught that we're not supposed to pick berries on that day.⁵⁴

We sort of lost our ways. No more medicine men.

Around the three districts my research focused on, most participants agreed that at least in living memory Mi'kmaq burned only grassy or shrub areas if necessary. There was a common theme

⁵⁴ Upon reviewing these quotes Lillian explained that around June 21st each year is a day of purification for the Earth.

that our ancestors always understood the benefits of fires on the land as being part of the natural cycle of things, wherever and whenever it occurred.

I asked Brian, who had walked the burned areas with Mi'kmaw hunters over the decades, about whether he saw the use of burning grasses or other areas. He spoke about the interplay between natural lightning fires, Mi'kmaq burning grassy places for certain reasons, and the role of the forestry industry in putting a stop to both types of fires.

They did some of that, a little bit of that, on the hill, but you see it was frowned upon by Natural Resources, Lands and Forest at that time. I can remember a fire started up here back on the hill where the natives lived, I can remember the forest rangers coming in and saying, 'You gotta be careful. This has gotta stop. This is bad business. You're going to burn the community out in a dry season.' And these things.... I was brought up under a regime where that was the forest industry, that was the livelihood. When those fires hit we were onto them instantly, try to get in and get them out, because when a fire goes through and it burns deep it hurts the soil and it takes years to get that kind of timber back.

These complex stories interweaving between histories and influences were not easy for getting a clear picture of fire history on the land as it relates to Mi'kmaw cultural history. The changes of land use and cultural practises were influenced or forced by European settlement in Mi'kma'ki. Albert and Murdena did not shy away from these topics.

Co-supervisor Annamarie Hatcher was at our table at the Marshalls' on one research day and she asked more about this burning activity. She asked Albert when the people would have burned the grasses or barrens. Albert and Murdena both chimed in:

In the fall. Well, it was done when everything is finished growing/growth is finished.

Albert: You see, up until the '40's, before the welfare system came on stream, all those barrens were maintained because they depended on them.

Annamarie: But no more?

Albert: No.

Through many of the interview discussions we talked about the challenges and changes in our cultural understanding of our past. During another conversation with the Marshalls, Albert was to the point.

In 1939, when the government introduced here in Nova Scotia a program called centralization, that's when our culture stopped. [Murdena interjects: "Stood still."] Stood still, ok. So since 1939 our language has not evolved with all these modern conveniences that have come about. No one is living off the land anymore. And that will become stagnant, because the more you are away from it, you're not connected to that anymore, so you're not learning anything from that.... Since people have been encouraged to be disconnected from the natural world, then the importance or the significance of fire, I think, also went on its way, in the way in which fire was not looked upon same way it was in the past.

Intuition tells me to pause here, again.

You must take time to digest the shifting, the deepening of this conversation. There are different layers and textures, different thoughts and emotions emerging. Any research one might embark on pertaining to Indigenous culture, history, past or present - no matter how seemingly straightforward or ecological rather than anthropological - will eventually need to meet head-on the politics of war, assimilation or cultural suppression and their effects within the culture, community or individual. This research is not exempt. This statement is not only for non-Mi'kmaw researchers. Some of the participants in this research took the time to ensure that I, too, understood that these political and emotional subjects are part of the conversation and analysis.

I remember Albert Marshall pausing my thinking one day in a great conversation about the past. It was one of those visits where I was trying to grasp the various time periods and when/how Mi'kmaq relationships with fire changed. Albert asked me what good would it be to talk about that now. What matters is what our relationship to fire is today. And then we may talk about the future.

Here I needed to collect my thoughts about the role of the past in the future of our relationship with fire. I can't help but think that we must be talking about the present and future of fire, not just asking about the past. At the same time, I can't eliminate all the questions about the past because that's what gets this fire question to all the conversations and then concluding that I agree with Albert that we can't just investigate fire history and assume that we need to mimic that (as other fire research suggests we do). This is similar to how we ask about our culture which is still important to seek out our history - the living memories, just as the Elders tell us stories to learn from. It is, however, also critical to put the teachings about our past into the context today.

4.4 EMOTIONAL LAYERS OF RELATING TO PUKTEW

Deepening our relationship to the conversations and topic of fire are more than simply a mental exercise of collecting data. Mi'kmaw research methodology, by my own growing experience of it, includes invoking the emotional layers of storytelling. There are moments of rediscovering one's own identity or responsibility in the lineages of how we are the way we are today, as well as considering – most likely, thus, 'feeling' - the negative impacts of European colonization to Mi'kmaw identity today and our relationships to the land.

As we go further along our cycle of interpreting the conversations about fire, we hit emotional details in either the participant's stories or our own. The more we talked about fires on the land and possible destructions it became even more apparent to me that I cannot be an objective researcher. I am very much a part of the stories and feelings we share around the kitchen tables. Right before I turned sixteen my house burned down completely and I lost everything I had at that age, including pets. I later wrote a poem about that experience which is in the collection of poetry that was published through the years of this research (Joudry, 2014).

Possible devastations of land fires out of control were brought up by the participants themselves, or later through my book of various fire photographs to evoke more conversation and story sharing. Of the worry about fire destruction, the most memorable sense of fear and urgency came

through Diane's stories about her 85 year-old father.

The only thing about the old folks, I'm seeing today, is panic instead. They're more in fear of the fire because of the neglect that's going on around them. That's what my dad exactly said, too, 'They're neglecting the land.' ... because I remember they used to work in the woods. They used to carry the power saws, I remember the men going, they used to carry the power saws to get rid of the trees.

My dad is 85 years old ... He says, 'Diane, they have to cut down these trees, because if they don't,' he goes, 'a fire will, somebody will end up making a fire and something will happen,' and he goes, 'all of our houses will burn.' I mean, that's scary for him. So fire's scaring him right now.

There are mixed feelings and teachings about our relationships to fire. What I also heard was much admiration for being next to controlled fires, as though as fire becomes less used in everyday life, a campfire also becomes our re-connector to our culture. As Diane shared,

It's changed a lot. Right now for the Mi'kmaq, when we have a fire it's only going to be for a sacred fire. We don't use it in our houses anymore for stoves because we have electric stoves.

A few participants shared their experiences with fires at community events in contemporary times. I, too, have my own stories of sitting around many fires at gatherings and ceremonies over the years. Another Elder at one point through this research shared the concept of fire as meditative and it certainly made sense to me and so I've honoured that teaching by sharing it with others as we discuss the attraction to fire.

Murdena spoke about the power of that group fire.

Fire is a social gathering technique. When you want people to gather, you build a bon fire, near the river. When you were a kid, teenagers would build a fire near the brook and everybody in the neighbourhood would come to be with the fire and tell stories and talk about whatever happened today. It was a social gatherer. People are attracted to it. And when there was a wake in your hometown, there was always a sacred fire going. And the sacred fire

served its purpose. All the young people gathered around here, around the fire. It kept going all night and all day. And there you get stories and lessons. One Elder perhaps would come and sit with you, tell you stories and tell you about protocols and all that. So it was a learning opportunity and everybody was always thirsty for knowledge of the Mi'kmaw world.

Here we are finding ourselves back to the healing powers that reconnecting to fire brings to people, communities and individuals. Just as in good cyclical teaching styles of a Mi'kmaw worldview, I find myself back reflecting on the positive role fire plays in our lives.

With some of the Elders and Knowledge Holders sometimes I would return for another visit and find that they had changed their opinions and views about our possible historical relationships to land fire or simply made a stronger stance in our interview chats. I remember such was the case with a second conversation with Frank as he shared more thoughts.

I think our people would have more understanding about what was in that meadow before they lit it. They would have to be very careful at a certain time of year when certain migratory birds were in there laying their nests. Why would they want to go in there and burn that and maybe destroy that or chase away a certain food source? You would think they would be very cautious of that. But then on the other hand, I know certain tribes used fire for chasing wildlife out and so I guess there's a couple different ways of looking at it. But I think here in the Atlantic region I don't know if they would do that, make fire to chase animals. They would be very careful about where they would make their fires. It would be very, very controlled fires just for their cooking and for their heat source.

It's very hard for us to comprehend what that must have been like.

Frank had also mentioned prescribed burns ("PB"s) in the same questioning frame of mind.

When you hear about PBs, you really have to stop and figure out, what is that really going to do, what's the purpose.

The mixed opinions and feelings about the land burning from our own design was not lost on many participants. These teachings of caution often led to the interconnectedness of the landscape.

As Todd added,

[You] have to respect the spirit of the fire, the spirit of the plants that are burning, the spirit of the land.

With this thought we take the conversation to a deeper or wider scope of understandings.

4.5 SPIRITUAL LAYERS OF RELATING TO PUKTEW

As a research guide, Albert spoke often about spiritual relationships and the necessity to include spirit in the conversations about fire, research, and knowledge. He seemed to offer thoughts that were not only for me the individual, but also words that would help caution me in the hurdles he knew I would face as a Two-Eyed Seeing ecological student.

The mainstream is not ready to embrace traditional knowledge, yet, especially when we talking about natural world, that everything within that natural world is both physical and spiritual.

Diane, as an example, talked about the healing relationships of sacred fire.

Sacred fire. That's something that, it's something not necessarily only for PowWows. And sacred fire, I think, is really for anybody that's sick. A person can light up a sacred fire, at a PowWow time. That's where everybody goes and they say their prayers in four directions because you're praying at the fire and then that's when you can throw your prayers.. [and tobacco] into the fire.

Interconnectedness of Mi'kmaw worldview opens more dialogue for any ecological research. I believe we must take those opportunities as ecologists – Mi'kmaw or non-Mi'kmaw – and ask more questions about the other ways we understand the topic at hand. I took extra years as a part-time student and stretched the research out longer, allowing me more time to appreciate this

inner circle of Murdena's diagram. As over the years I made and kept fires, sat with others around the fire, made offerings to fires with sacred medicines, contemplated fire, and deeply reflected upon the stories and the relationships, the past and the future, my own relationship deepened, my mind began to open and spiritual knowing began to seep in and emerge.

In Kespukwitk, Frank, in a later part of the discussion, shared this opening of the mind.

It's pretty hard to just sit here and talk about fire because it's one of our sacred elements. And it's all connected, no matter. Sometimes it's hard not to talk about fire and talk about water at the same time, the two opposites.

One of the activities that helped me was to sit more with fire, to keep fire in my home woodstove. A few people mentioned the connection women in particular had as fire-tenders.

Brian also remembers this commonplace as well.

In my time, things were changing, but I still remember some of the women getting firewood out there on their backs to keep the stoves going on the hill, when I was young. That seemed to be the women doing that.

Was it luck that it was I, a woman, who answered the call to research our relationships to fire? At home while I sat with the fire and watched the way embers smoldered I often thought about the ji'koqs that was explained to me, about keeping the embers, to keep a fire burning. I had read Ruth Whitehead's book, "The Old Man Told Us,"⁵⁵ and in it I had read the excerpt about women caring for the ember through the winter months and how celebratory it was to reach the spring moon with that still smoldering. A few participants also referred to that book. Lillian shared her experience going to the Museum of Natural History where they were inspecting a shell and ji'koqs.

When we went to Halifax they showed it to us. And they showed that thing inside and they both have names. But in our culture I read that a woman was in charge of it, it

⁵⁵ (Whitehead, 1991, p. 11-12)

was a very important, it was very important that kept that people's fire. She was the keeper of that fire.

The stories being shared with me were coming from a diversity of experiences.

Frank also referred to Whitehead's book in our chats, but also to urge me further still.

I think on a spiritual note, the whole concept of what we talked about, times before of the winter celebrations and the women taking that shell and holding that ember for three months and starting the fire in the spring for another celebration. I think those became more ceremonial, more spiritual. It took it to a whole other level of just having that ceremony, spiritual connection to fire, sacredness. Bringing balance to everything. That's a really neat concept to think about. I think that's worth following up on.

There were other participants' stories about spiritual experiences and connections to fire that were intended for the wonderful learning I was embarking on but not as part of the stories to be openly shared in this thesis. The difficulty for me, then, was to understand how to share these spiritual connections. Albert has shared powerful messages with relevance to this, and I wish to hand him the ji'koqs now.

I still like to open up the discussions again by looking at why do fires occur, not just from the practical perspective, but rather from the ecological perspective. Because fire, I believe, is very much part and parcel of the natural phenomena. But I think in recent times fire has been looked upon as sort of an enemy rather than a friend. And if then, like all energy forms, then fire must have a spirit just like every other living thing. Like anything that has a spirit will not use its power to destroy, but rather, to fulfill the purpose of that spirit.

Fire will have to be equated as equal as any other element that we depend on because of this interdependence/interconnection with our natural world. For her to function, for her to be sustainable, all these elements have to be in place.

I wouldn't even discount this notion that, as far as the Aboriginal understanding of nature, that everything is alive; and I'm not suggesting that you can control fire, but if you have that understanding that this is a life's energy, and if you rely and depend on it for the benefit of all, then I believe that the fire will also respond in that way.

And I believe one of the main purposes of an Aboriginal thought is again to create that balance again. And this subject, for example, I think could very well be a tool in which non-native thinkers would be able to adapt those ways of knowing in which they'll be able to weave back and forth between their ways of knowing and into these ways of knowing. So that they will be transformed, that everything that we see or have, we looked at it with reverence. With fire, when you burn sweetgrass or sage or whatever, from that fire and the smoke that comes out of it, you know that this smoke is good.

4.6 MY REFLECTIONS

4.6.1 Learning the Cyclical or Non-Linear Nature of Time in Mi'kmaw Teachings

As the Elders and Cultural Leaders shared the various stories and teachings with me, it became evident to me that even the idea of fire on the land cannot be isolated from Mi'kmaq history and contemporary identity. It became an interesting challenge and learning itself when I attempted to ask questions about the various eras and time periods of our culture's history. I inquired about how our people's relationship to fire would have changed through ancestral history and I did not receive any specific fire incidence story that directly answered a time period pre-European contact. However, that concept was using my English noun-oriented notion of time and story. My favourite quote was while I was speaking with Lillian Marshall about the use of smoke signals around the area where the Cape Breton causeway now stands. I wondered how far back it went. And she replied, "it was always like that until it ended."

Mi'kmaw Elders have taught me that time is not linear in Mi'kmaw worldview as time-specific phrasing is differently conceptualized⁵⁶. That concept took many stories and conversations before I began to open my English and mainstream scientific perspective to be able to grasp the idea of time being more dynamic and cyclical, constantly weaving with our future stories, to go beyond understanding it on an intellectual level to really understanding it in a deep way - knowing it internally on a personal experiential level.

What I was getting a sense of was the confirmation of the length of time that can be included in the term “living memory”. For lifestyle practices relating to *puktew*, a few of the participants could recount changes that their grandparents would quote from their grandparents. Some of today's Elders and storytellers keep those stories alive from generations they have never met. These stories came up when discussing the role of fire on the land through the generations. Values and practices for burning small tracts of land have gone through changes just as dominant Nova Scotian attitudes towards Mi'kmaw lifestyle have gone through different changes and pressure. So, too, has the mainstream or other Canadian cultures gone through changes of practice. It is not obvious to me from this research as to who started burning small tracts of land first in Mi'kma'ki. And I do not know when that practice started or how long that has been a practice in Mi'kma'ki. However, as Lillian has taught me, perhaps that's not the right question in the first place.

Just like in many of our oral stories, some of the *putkew* practices, teachings or details, stem from very long ago, passed from generation to generation, onward. It is now up to us to learn from all of these -old and new- in order to make our stories or understandings of today.

4.6.2 Summary of *Puktew* Relationships

Being guided by Murdena's diagram (as described in her original metaphor, Figure 4) of learning as a way to conceptualise what I was learning from the Elders/Knowledge Holders as well as watching my own relationships evolve with fire over the years of this research, it seems fitting to

⁵⁶ Similarly described in Sable (1996, p. 67, 102)

recreate the diagram (see Figure 5) from which to summarize these puktew teachings emerging from this research.

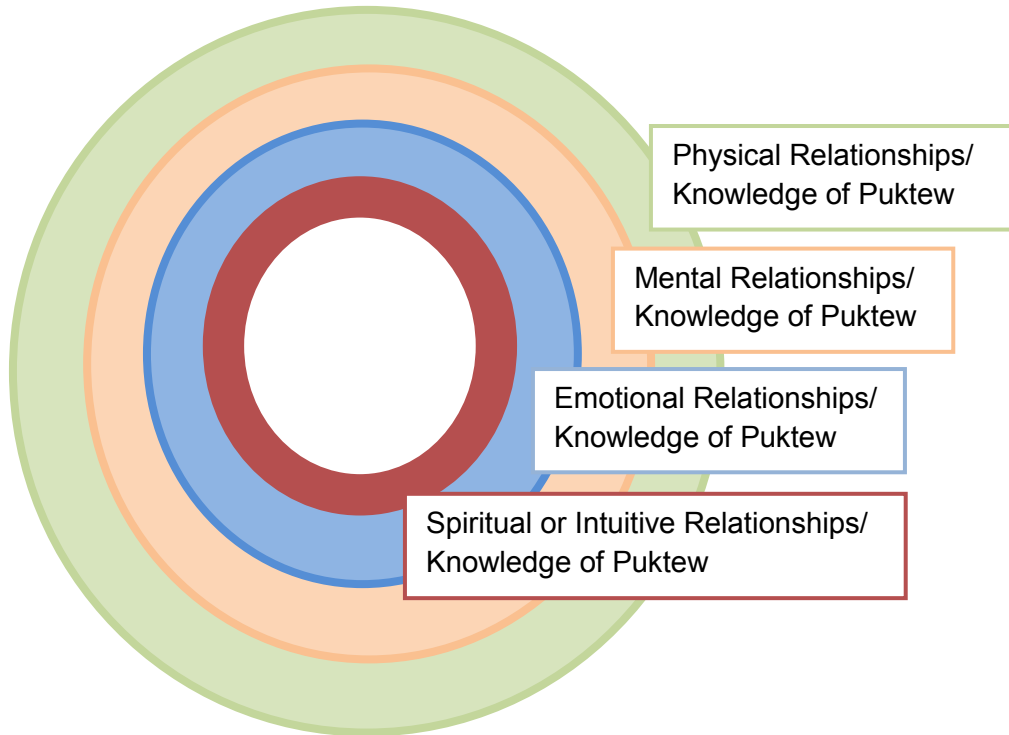


Figure 5 Modified Elder Murdena's diagram as it depicts a metaphor for coming-to-know fire

The outer/physical layer can represent getting to know fire in a physical way: such as temperature, colours, sounds, the way things burn, it can burn underground, and how it can start by lightning or by humans. This sense of knowing may be conveyed to others more readily and is expressed in the stories. These levels of stories are about learning about fire by experiencing it and observing it.

Intellectual knowledge or mental relationships come from thinking about these experiences and observations and constructing meaning about it, including thoughts on how it relates to them and the rest of the world in an explanatory and or utilitarian way. These kinds of learning includes knowing why fire burns underground, how to harness it for cooking or enhancing the growth of berries.

Emotional relationships or connection to fire comes from a diversity of experiences that can include sadness at losses caused by fire, comfort and happiness derived from fire, as well as a deeper sense of fire that leads to coming to an understanding or respect for that element's place in the world (as Murdena described in her original metaphor).

The spiritual relationships (or 'intuitive' as I have termed it for other researchers who do not use the word 'spiritual' in their research practice) can be the deeper understanding of fire as having its own intrinsic value and spirit. This relationship includes the person's wisdom and ability to vision the many diverse connections with all of life, past, present and future. These connections and diverse experiences, engaging their mind, body and spirit, endows the person an intuition about the subject – in this case, fire.

In a territory and time where fire on the land has been largely suppressed until recently, burning yards has been condemned, and cooking or heating fires have been replaced by electricity, it might be too easy to not consider fire. It might be more common to not talk about fire in many Nova Scotian homes unless a fire is on the news, in which case it would be a negative feeling associated with the fear and loss of forest, infrastructure or lives. In the face of a more common negative feeling towards fire, every participant in this research solidified the notion of sacred, useful, or ecologically-beneficial images of fire. The fear of out-of-control fires on the land was not mentioned as often as I would have thought. Instead, these cultural leaders wished to teach me about the beauty and the role of fire in our world, as sacred and beneficial under the right circumstances. This also makes me consider how this culturally-relevant research should also serve to help promote understandings of puktew with Mi'kmaw youth to carry on future relationships with fire as a sacred element in our lives. It is my hope that the conversations as audio recordings will be shared in Mi'kmaw households or classrooms to continue these thoughts and encourage further puktew teachings.

4.6.3 Puktew on the Land

From my perspective, three overarching themes emerged from the conversations with participants: 1) puktew as an element and natural force, 2) puktew characteristics and frequencies vary between geo/ecological-cultural regions of Mi'kma'ki, and 3) although through

many eras puktew came to the land via lightning, in living memory some Mi'kmaq would burn small areas of non-forested lands for various purposes.⁵⁷

Understanding fire as an element and natural force was a key teaching that came through many stories and conversations with the participants. In this view, fire takes a place within the sacred medicine wheel and thus requires particular attention to its relationships to all things, known and unknown, as a physical and spiritual element. This cultural teaching carried important messages to me as an ecologist to not look at fire with an objective eye but to carefully reflect on the many relationships to fire that we should be aware of, respect, and take into consideration when investigating ecological roles of fire. I see this theme as a central message for Mi'kmaw ecology in weaving a cultural eye of this sacred element and a mainstream science eye in Two-Eyed Seeing research or work.

The Mi'kmaw Elders in this research spoke of puktew in similar ways among each other but they also had different emphases or focuses as expressed in their experiences and teachings suggest fire regimes varied (and continue to vary) in our cultural regions of Mi'kma'ki. Although the varied fire regimes within Nova Scotia landscape types have been researched and documented (as I will discuss in the next chapter), what the Elders and Knowledge Holders are able to communicate is the cultural impact of those systems on the people living within them. To hear the different stories and teachings demonstrates the importance of learning through story to fill in the inter-related web of connections between landscape and culture.

Many participants referred to lightning-caused land fires. As this research included questions of other sources of fire, the Elders spoke of Mi'kmaq burning small areas of non-forested lands for various purposes in living memory. This seems to have been a common or shared cultural practice as the stories of small burning spanned from Unama'ki down to Kespukwitk. Although we can't get a sense of how many patches of land were burned, exactly when or how often through time, it is the teaching of this small, localised practice that I wanted to highlight in the greater conversations of fire teachings or relationships.

⁵⁷ The general theme of using fire on the land was mostly discussed as small areas of non-forested lands. Elder Advisor Albert Marshall did discuss with me the potential use of fire in spruce forests. More conversations are needed to further investigate these teachings.

Each time I listen back to the recordings, think some more about fire, or speak about it to others, I may choose different themes to focus on as it relates in the specific conversation or audience. I encourage all readers to take time to look up the recordings on the Mi'kmaw Resource Centre's website (see Appendix E for more information) to listen to the Elders speak about fire themselves so that you may make your own meaning or highlight different stories that are of particular interest to you.

CHAPTER 5 WEAVING PUKTEWEI LITERATURE, STORIES, AND IDENTITIES

5.1 HOLDING THE JI'KOQS

The ji'koqs finds its way back to me around our sharing circle.

I can tell that everyone is thinking about many things now that we've heard more fire thoughts from these Elders and Cultural Leaders. However, the specific subject matter – puktewei – was somewhat easier to tell you the story of.

There is another story I wish to share with you. It's the one I have struggled with the most through this research. Questions in fire history literature involving Indigenous Knowledge have been very narrowly focused. I had wanted to avoid this research becoming stripped of the richness and breadth of Mi'kmaw fire teachings.

I have waited the rounds, held the ji'koqs, asked for guidance and here we are. Through all the years of waiting for me to tell these stories, Elder Albert kept saying to me to not be afraid to weave and allow space for the other sciences.

I will tell you something else I learned from puktew during this phase of weaving teachings and research.

5.2 REACHING TO LITERATURE ON FIRE AND INDIGENOUS HISTORY OF EASTERN TURTLE ISLAND

After learning from the participants about their living memory and thoughts about fire it was time to review other research to compare and contrast in the fire conversation. These readings do not represent confirmation or discredit the conversations of Mi'kmaw Elders, but they can be woven together along with my own experiences to deepen the learning and discussion (Kimmerer, 2012). Another analogue was how Brigitte Evering (2016) taught me to consider how various cultures see stars with different teachings and connections to their night sky stories and constellations, and yet a group of diverse peoples talking about the night sky might see overlapping constellations that they share in common.

This weaving also reminds me of Gerald Gloade's presentations⁵⁸ and our conversations where he speaks about reading European archives, reviewing geologic studies, visiting areas in person, and researching the Mi'kmaw place names or stories about locations. It is by weaving these multiple eyes/lenses or by finding the overlapping constellations of understanding that he was able to piece together a fascinating story with much more detail to share with Mi'kmaw communities, historians, ecologists and interested public.

As I began reading further fire and Indigenous history literature I spent time in analysis, sketching diagrams and drawing analogues, to make my own sense of what I was learning. A diagram that represents how I began to compare and contrast the relationships with fire in cultural landscapes is shown in Figure 6.

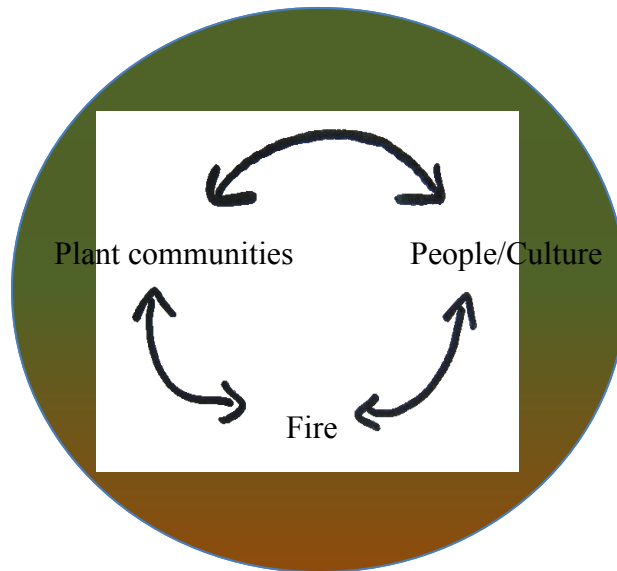


Figure 6 Conceptualizing a cultural landscape's complex interactions of influence between Plant communities-and-Fire, Fire-and-People/Culture, as well as Plant communities-and-People/Culture

Let us look at these relationships for Mi'kma'ki (specifically in the three focal districts) and our Mi'kmaw stories or culture of fire.

⁵⁸ Examples such as: Gloade 2007 and <http://www.mikmaweydebert.ca/home/ancestors-live-here/>

5.3 MI'KMA'KI PLANT COMMUNITIES - FIRE - CULTURE

The forest ecoregions of Mi'kma'ki are diverse (Louks, 1959-1960). Fire history, particularly fire events of larger geographic scale or intensity, of the Atlantic landscape has seen typically less intense and less frequent fires as compared to other landscapes in Canada (Pyne, 2007, p. 45). In New Brunswick, Wein and Moore (1977) found that significant fire rotations varied between specific forest ecosystems, describing the highest fire rotation in the province was in the red spruce-hemlock-pine forests with a rotation of about 230 years, whereas in the high elevation conifer stands the frequency was over 1000 years. It is important to note that additional researchers such as Carcaillet and Richard (2000) and Ponomarenko (2007) also maintain that fire systems have varied considerably over thousands of years in this region, being affected by not only the human element but by the climate, summer humidity, vegetation type in that era, and incidences of storms.⁵⁹ For this study I could not compare the thousands of years of history, however, I can compare the three regions and contrast stories by juxtaposing the comparisons of specific landscapes.

From the participants' stories in this study, Piktuk may have a higher fire frequency through history up until recent times, Unama'ki might have had the lowest and Kespukwitk's general fire frequency would be in between those. I will speak to these regional differences and how the literature and conversations shared constellations of understanding.

Both Gerald and Diane spoke about the Piktuk landscape with stories that showed the direct connection to frequent fire such as the place name itself. Diane's stories of her father not wanting the trees to grow in because fire comes easily was another key to the lifestyle and teachings that have been passed down. From my own experience being in Diane's community and the surrounding area of Piktuk, I took note of the softwood forests. The Ecological Land Classification (ELC) reports that this ecodistrict has stands of jack pine, red pine and black spruce (Neily, et al., 2003, p. 47), which according to fire managers would have a high fire frequency of 60-70 years –given the climate and topography that matches other study areas (Pyne, 2007, p. 45).

⁵⁹ Again I remind readers that the fire conversations and teachings shared with me through this study did not address the variances between eras, but of the most recent human experiences and landscapes/forest stands as far back as their particular stories are most relevant to them and to me the researcher asking to hear them.

The western areas of Unama'ki, the Cape Breton Highlands, are within what Neily et al. characterise as higher elevation landscapes with predominately hardwood forests (2003, p. 23). These landscapes are much cooler, minimizing the ability for a lightning fire to burn as readily (Wein and Moore, 1977). When the participants from Unama'ki spoke of their relationships with fire, they made very little reference to landfires. Instead, their predominant relationships with fire were utilitarian, such as for cooking and using some small fires on berry patches and yards. In terms of land fires in Unama'ki, participants spoke only of small fires created and monitored by Mi'kmaq of past generations for maintaining grass or berry patches, which do require the highest of landscape fire frequency (Pyne, 2007, p. 19). Most of these conversations did not include experience of other land fires in their area, thus suggesting it was not a predominant or frequent part of their living memory or their landscapes.

Elders in Kespukwitk shared more landfire stories, with a sense of there being a natural fire rotation on the land, yet not as continuous as in Piktuk. There were stories that demonstrated how Mi'kmaq made use of that ecological fire (and contemporary people-related) cycle or events, such as by noting the wildfire locations and returning to hunt there a few years later. I could not get a sense of the geographic scale or intensity of these fires or if they had been predominately set by people or incidental. However, these stories and experiences through time gave rise to their understanding of the role of fire in the ecosystem as being common enough that each generation had experience with land fires. Similar to these relationships and stories about land fire occurrence, description of this Western Ecoregion states that "Forest stands of red spruce, hemlock and white pine are most prominent" and other "dominant trees include the fire species red oak and red pine." (Neily et al., 2003, p. 47-48) Keeping in mind some exceptions with the Old Growth Hemlock stands in Kespukwitk, Pyne (2007) summarized fire research in Kespukwitk ("Southwest Nova Scotia") as having a less intense understorey fire about every 20-40 years, but a crown fire only every 150-200 years (p. 45). Ponomarenko (2007) found that in the Kejimikujik ecosystem of Kespukwitk that within the past 900 years the average largescale fire was about every 250 years.

In reviewing the fire literature, I found similarities between the use of fire by the Mi'kmaq and coastal Indigenous nations of Western North America. French (1999) published that the Chinookan and Sahaptin peoples of Oregon, although mainly fishers, also used burning of the

land to maintain berry patches. Turner (1999) and Johnson (1999) both studied various British Columbian Indigenous cultures whom are understood to use fire for land management in small scales for berries, vegetables, and grassy gathering areas. Natcher et al. (2007) looked at the fire knowledge of the Koyukon and Gwich'in peoples in Interior Alaska. I saw similarities between my conversations with Mi'kmaw Elders as reported by Johnson (1999), who interviewed Gitksan and Wet'suwet'en Elders in Northwestern British Columbia whom spoke about their cultural practice of burning berry patches to help maintain the production area as well as to rid the land of insect pests.

Similar to Albert Marshall and Brian Purdy's comments to me in this study about the pressure from non-Indigenous organizations and governments, Gottesfeld (1994) wrote about the pressure from the British Columbia Forest Service in the 1930's and 40's to cease the practice of burning patches of land. It is interesting to note that Taylor and Carroll (2003) discuss the 85-year history of mountain pine beetle outbreaks in the BC forests which coincide with the era of fire suppression.

In contrast to the many articles about Indigenous use of fire in Australia, Jones (1980) notes that within their language there are terms and phrases such as "taking care of" or "sweeping" the land with fire, no similar concepts in the Mi'kmaw language were identified in this study. Elder Lillian Marshall's word, "waqamuksow", meaning, "burned what was unnecessary" has a much different connotation to the intent and tools in using fire on the land. To me this demonstrates a possible cultural difference in the amount of land fire practices were employed.

Searching the literature for further "constellations" on the historical relationships between the Mi'kmaq and fire, recent studies of the past few decades quote European archives of settler observations of landscapes and some customs of Indigenous ancestors.⁶⁰ Cooking fires and camp fires were more often described in the English and French descriptions of Mi'kmaq life in the 16th and 17th centuries (Hoffman, 1955). At times, ceremonial fire was mentioned. The only archival material that I reviewed that speaks to the deepening of those relationships with fire was

⁶⁰ In reviewing the academic literature as well as the reprinted European archival materials, I paid particular attention to the dates, locations, and circumstances of the settler/explorer/missionary encounters cited, as these would greatly influence the kinds of relationships the early European-North Americans were having or the understandings they wrote about. Paul (2006, p. 9) reminds us to be careful in reviewing European-based historical documents as they were tainted with a lens of perceived superiority to the Indigenous peoples.

a reprinted letter from Abbe Maillard to Madame de Drucourt in 1740 (as cited in Whitehead 1991, p. 11; and Pyne, 2007, p. 47). In his letter, Maillard recounts his conversations with a Mi'kmaw man from Unama'ki named Arguimaut (L'kimu), who was speaking of the customs of his people before European colonization. L'kimu told of care-taking for the fire over the three moons of winter by the Mi'kmaw women in a village. He described how the women cared for the fire ember in half-rotten pine wood covered in ash; if the spark lasted the full three moons of winter, there would be a great celebration and ceremony at the arrival of what we would translate culturally today as springtime. The celebration honoured not only the women who cared for the fire, so critical to ensuring the livelihoods of the camp, but also honoured the fire, which in Maillard's description⁶¹ was called 'sacred' and 'magical'. In contrast, most of the historical European literature offers only information about the outer, physical layer of knowledge. However, it is helpful to see the connections between the past and present in our cultural practice, such as holding sacred fire and speaking of the cooking fires.

5.4 OTHER LITERATURE ABOUT EASTERN TURTLE ISLAND INDIGENOUS PLANT COMMUNITITIES - FIRE - CULTURE

When speaking about Indigenous peoples, most of the ecology fire literature in North America investigated if and how the people used fire on the landscape. For example, Stewart (2002, p. 80) and Lewis (1982) found many reasons or clues that Indigenous cultures burned the grasslands and forests, often grouping cultures and landscapes, concluding that Eastern forests of the United States were all burned extensively and through long cultural periods. There have been debates among the scholars as to the geographical extent of that use of fire on the land. As Day (1953, p. 338-339) has summarized, "Evidence for the deliberate use of fire by the [Indigenous] in Northern New England and the Adirondacks seems to be lacking." And further, "In northern New England and northern New York, the pyric factor was present in the form of an occasional escaped fire and of lightning."

Patterson and Sassaman (1988, p. 111) reviewed existing studies and archives. Although the general understanding in the fire literature was that Indigenous cultures of southern New

⁶¹ Translated from French by Margaret Anne Hamelin in 1991.

England States used fire in ways that shaped the forest ecosystems, they found that “Historical accounts of aboriginal burning in northern New England are more difficult to find. The lack of information and evidence for burning in the north is partly a function of relatively few first-hand accounts and less intensive burning practices.”

Martin (1973) and Russell (1983) both called into question the accuracy of the European archives on Indigenous use of fire, critiquing other studies that over-stated historical European-written archives. As Russell (p. 79) reminds us, “Explorers were mainly interested in economic gains, not natural historians. Letters and broadsides sent back across the sea were designed generally to attract fellow colonists.” Russell also found after reviewing the archives and studies that in some cases the so-called Indigenous fires the explorers observed were merely smoke seen from their ships on the water. Barrett and Arno (1999) agreed that reported fire was overstated, after conducting their historical archival research in Montano, adding that, “Because of their European heritage, early foresters had a strong anti-fire bias. Fire was considered undesirable and destructive, rather than yielding any potentially beneficial effects.” As evidence, Stewart (2002, p. 74-75) cited the writings of Morton, who in 1632 used derogatory words to describe the Indigenous peoples and their possible use of fire on the land, and expressed frustration that they were endangering European settlements and lives. Such reports are grounded through the lens based primarily on fear that differs from that of the Indigenous and colours the interpretation of Indigenous relationships with and use of fire, potentially exaggerating its prevalence in terms of use on the land.

Instead of relying on the varying opinions of 300-year old settler observations, Kay’s research (2007) was conducted as a series of statistical analysis as to the probability of Indigenous-caused land fires - accidental or purposeful- looking at various factors such as estimated populations of Indigenous nations across North America before European arrivals, lightning strike, ignition rates and other ecosystem data. He concluded that in the eastern United States the Indigenous peoples must have set many fires over time to create the kind of landscape at the time of European arrival. This seems in contrast to reports of relatively little and localised use of fire on the land in Mi’kmaw communities which raises questions of differences between more southern (e.g., eastern US) and more northern (e.g., eastern Canadian) landscapes and communities.

Considering that Indigenous cultures varied in lifestyle and customs, it is imperative that cultural ecological research must be nation specific to the study geography/ecosystem. Patterson and Sassaman (1988, p. 111) noted that cultural differences were evident within the Eastern North American regions that previously had been grouped together: “At the time of European colonization, northern New England was inhabited by four major groups: Western Abenaki, Eastern Abenaki, Passamaquoddy, and Maliseet.” Further, “A major contrast between northern and southern New England subsistence economies was the near absence of agriculture in the north.” The near absence of agriculture in the north is a highly relevant factor in relation to the frequency and extent of land fires, particularly those lit to clear the land for crops or pasture. Groups that do not practice agriculture would have little reason to engage in land burning.

5.5 UNDERSTANDING CULTURAL LANDSCAPES OF WAPANE’KATI

Julian Steward (1955) wrote about cultural ecology as looking at how natural environments influence human behaviours and cultures (p. 48). Alongside the literature about Indigenous use of fire are studies about transplanting and propagating medicinal, food, and mast plants (e.g., Nowacki and Abrams, 2008; Leonard, 1996). Together, these studies demonstrate that a people’s culture and how they interact with the ecosystem influence the land and contribute to shaping the ecosystem or landscape.

From a Mi’kmaw perspective this landscape-people/culture relationship can include activities such as the harvesting of birch bark or trees, planting of vegetable or medicinal plants, collecting firewood around campsites over many generations, enriching the soils around campsites over millennia,⁶² use of trails and travel routes through the forest, as well as the lack of intensive agriculture or use of fire for hunting which have been heavily documented in cultures to the west and south of the Wapane’kati⁶³ region.

With a cautionary lens I reviewed early writings by European explorers and missionaries as they could help compare or provide more thoughts about the lives of the Mi’kmaq and the ecosystems at the time of European colonization and cultural landscape change. [De]Champlain in 1603-

⁶² From food and human compost.

⁶³ From here I will use the Smith-Francis orthography ending of “e’kati”, which is another form of Wabanaki.

1616 (publications of 1922; 2012, 2013), Father Biard in the 1600's (edited by Thwaites, 1898) and Denys in 1672 (1908) were some of the main accounts I reviewed.

In contrast to references of Indigenous communities further south using fire in forests to hunt deer, in 1672 Denys wrote a detailed observation of how the Mi'kmaq hunted moose, not deer,⁶⁴ in the winter by following tracks and animal signs, sneaking up to shoot it with arrows and then out-running it with their snow-shoes on, and then in the spring hunting carried out at night by making female moose calls along the rivers (p. 21-22). Denys also describes the use of birch bark torches for night hunting (p. 28); however, he did not write about observing the use of fire on the land to herd or hunt deer as cultures are said to have done south of Wapane'kati.

Father Biard (Thwaites, 1898), wrote about the extensive use of birch bark, integral to the lives of the Mi'kmaq at that time, from canoes to their wi'kuoms⁶⁵. Our Mi'kmaw relationships with birchbark are so deep and vast that there are well over 50 words relating to birchbark in our Mi'kmaw language (Sable and Francis, 2012, p. 27). When I consider the scarring effects of land fire, I doubt that the Mi'kmaw ancestors would purposefully burn areas of their prized resource in Maskwi (white and grey birch). When considering this part of the conversation I looked at the current distribution of white birch and the boundary south of Wapane'kati. The cultures where there are no white birch, would rely on other types of trees and resources to supply the materials they need for shelter, travel and tools.

Day, in 1953, summarized European explorers Cartier's and Champlain's journals, describing the Mi'kmaq in areas now called Nova Scotia as being fisher people and hunters, rather than as having agricultural practices similar to those to the west and south (where it has been argued by researchers that extensive fire practices were used). "The earliest [European] travelers observed burning along the coast from Florida to New Hampshire," Day wrote, summarizing his research of European-based archives. Day mused about whether there might also be fire-created forests along the Penobscot River inland from the coast.

⁶⁴ It is important to note that to my knowledge there were no White-Tailed Deer in Mi'kma'ki until more recent times.

⁶⁵ (Vol. 2, p. 77-79)

Unlike the “park-like” and “nut-tree” landscapes south of Wapane’kati along the Eastern United States, Champlain wrote in his journals of the densely forested landscape along the coast from Lahave River through Kespukwitk to St. Margaret’s Bay. He described the landscape as treed of pine, oak, birch, spruce, aspen, and other tree species, and specifically mentioning the underbrush. The land of what is called the Annapolis River and Bear River area, Champlain described as being covered in great oaks, ash and other trees. He mentions meadows, but which are flooded in high tide. (2012, 2013)

In another published collection of Champlain’s writing (de Champlain et al., 1922, p. 368), he describes the Annapolis River, saying, “This place is opposite an island which is at the mouth of the Equille river. To the north of us, about a league distant, is a range of mountains, which extends nearly ten leagues north-east and south-west. The entire country is covered with very dense forests, as I have already mentioned, except a point a league and a half up the river, where there are some oaks which are very scattered, and numbers of wild vines. These could easily be cleared and the place brought under cultivation, notwithstanding it is sterile and sandy.”

In reviewing Indigenous fire literature for Eastern Turtle Island, such as Day (1953), Patterson and Sassaman (1988), and Stewart (2002), I noted the types of Indigenous fire knowledge or practice being cited, the geography and the Indigenous cultures (see Indigenous territories in Figure 7).

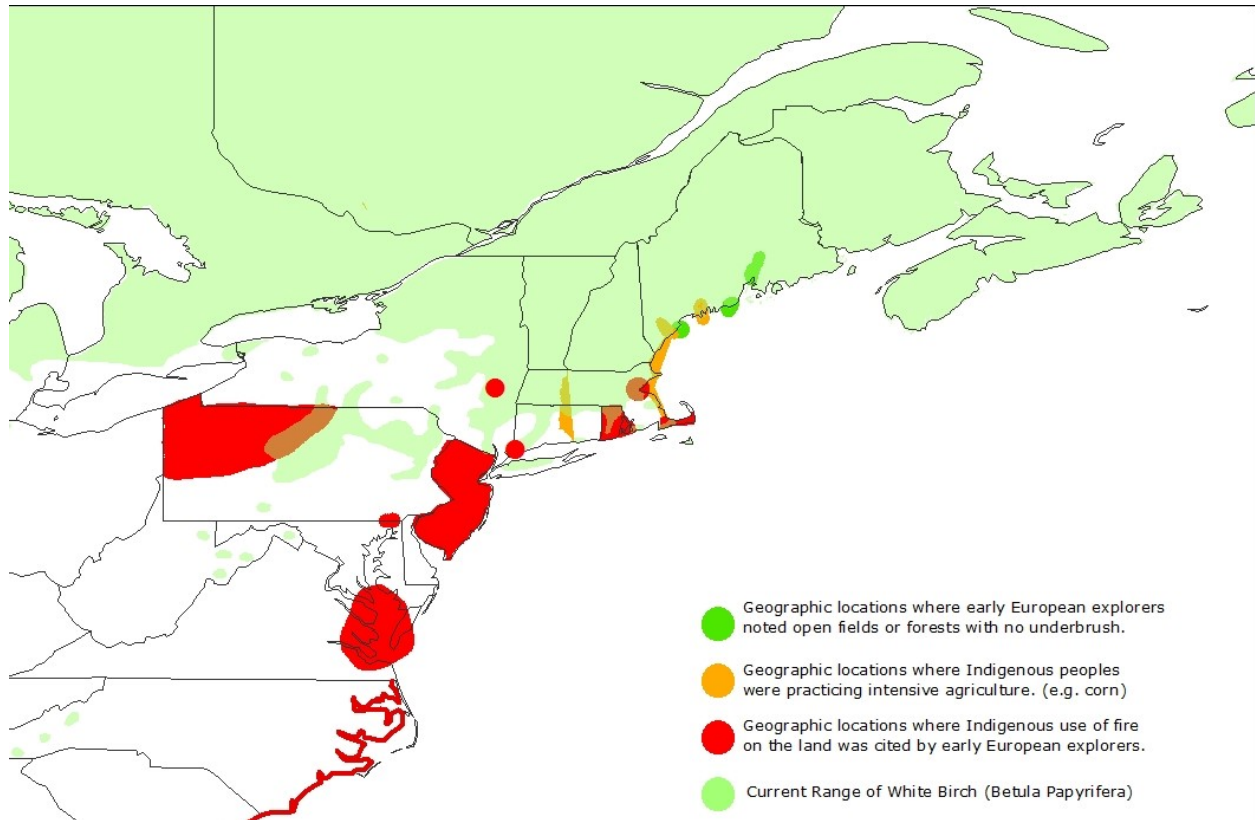


Figure 7 Eastern Indigenous nations' territories used as preliminary juxtapositions of cultures and landscapes for further referencing and inquiry (Map from Encyclopedia Britannica 2008, retrieved August 2, 2016 from: <https://www.britannica.com/topic/Native-American>)

I then mapped the locations of these referenced Indigenous use of fire on large tracts of land overlaid with the current range of White Birch (see Figure 8).⁶⁶

Some of these Indigenous nations, such as the Iroquois (including the Seneca, Cayuga, Onondaga, Oneida and Mohawk), cultivated large tracts of land for growing corn, beans and squash. Nations such as the Pennacooks and Narragansett conducted some agriculture and land clearing (Day, 1953; Speck, 1928). The Indigenous peoples of Delaware (such as the Lenape) and other nations such as the Potomac peoples (not named on the map in Figure 7) were documented by European explorers and colonists as using fire on the landscape for spatial-extensive and long-standing utilitarian activities such as hunting deer and limiting underbrush through the forests (Flannery, 1939 as cited in Day 1953; DeVries, 1853 print of 1632; Smith, 1625 in Smith and Bradley 1910).

⁶⁶ Figures 8-10 were created by Sarah Jermey from this research in 2016.



*Figure 8 Map of Eastern Turtle Island showing the current range of the White Birch (*Betula papyrifera*) (from: <http://gec.cr.usgs.gov/data/little/>) with referenced historical observations of: Indigenous communities or nations using fire on the land, Indigenous agriculture, and further observations of park-like landscapes related to the potential use of fire on the land. Compiled data from Day (1953), Patterson and Sassaman (1988) and Stewart (2002)*

5.6 RE-PRESENTING THE WAPANE’KATI FOREST REGION

When I look again at the maps identifying the distribution of the current Acadian Forest range and the lands of the Wapane’kati (known as the Wabanaki Confederacy), I am again struck by the similarities in the boundaries (see Figure 9).

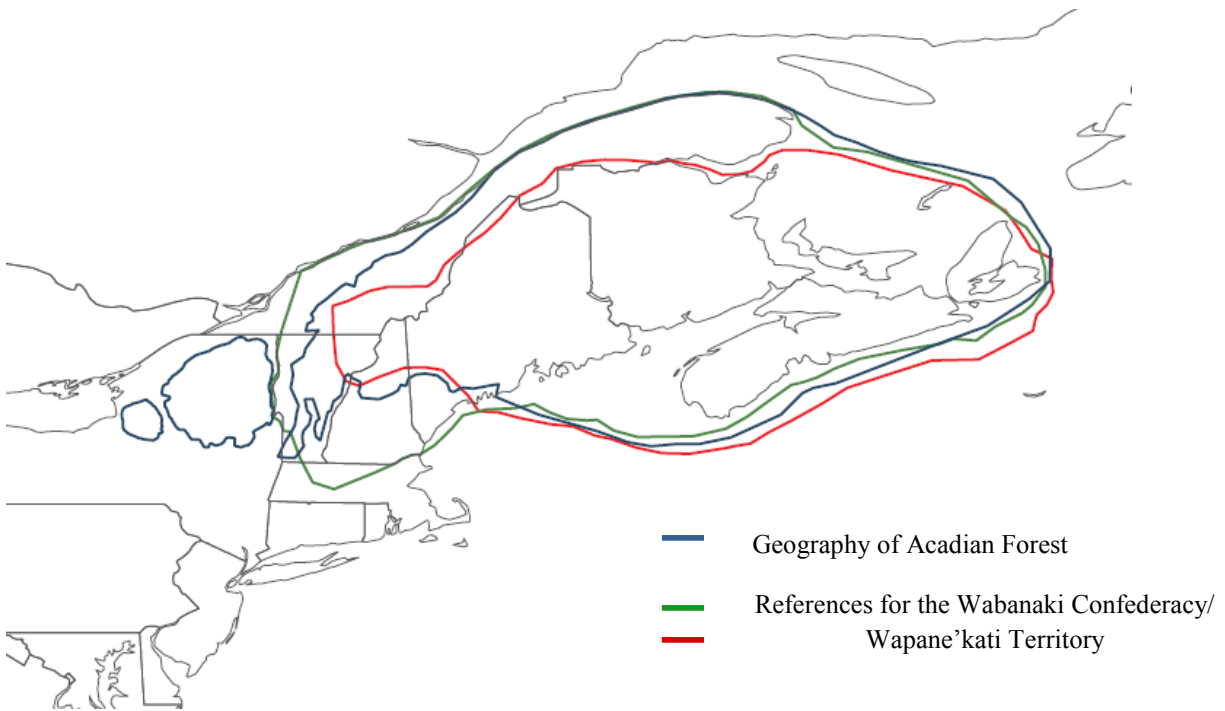


Figure 9 Map of Eastern Turtle Island showing the approximate geographic boundaries of the “Acadian Forest” (from the Nature Conservancy’s delineations in Simpson (2008)) and the Wabanaki Confederacy (from Speck (1915) and Morin (1988))

I believe that it is not by coincidence that these are nearly identical geographies. It makes sense that the practices of the people living in the land would be grounded in and reflective of the characteristics of the land, its plants, animals and ecosystems, its climate and topography. And inversely, the land would in turn reflect the practices of the people. Thus perhaps a more fitting cultural landscape name for the Acadian Forest is in fact the Wapane’kati Forest or Ecoregion.

By layering both map layers of Figure 8 and Figure 9 we can see the interplay of cultures, their livelihood practices, and ecological attributes. These layers are shown in Figure 10.

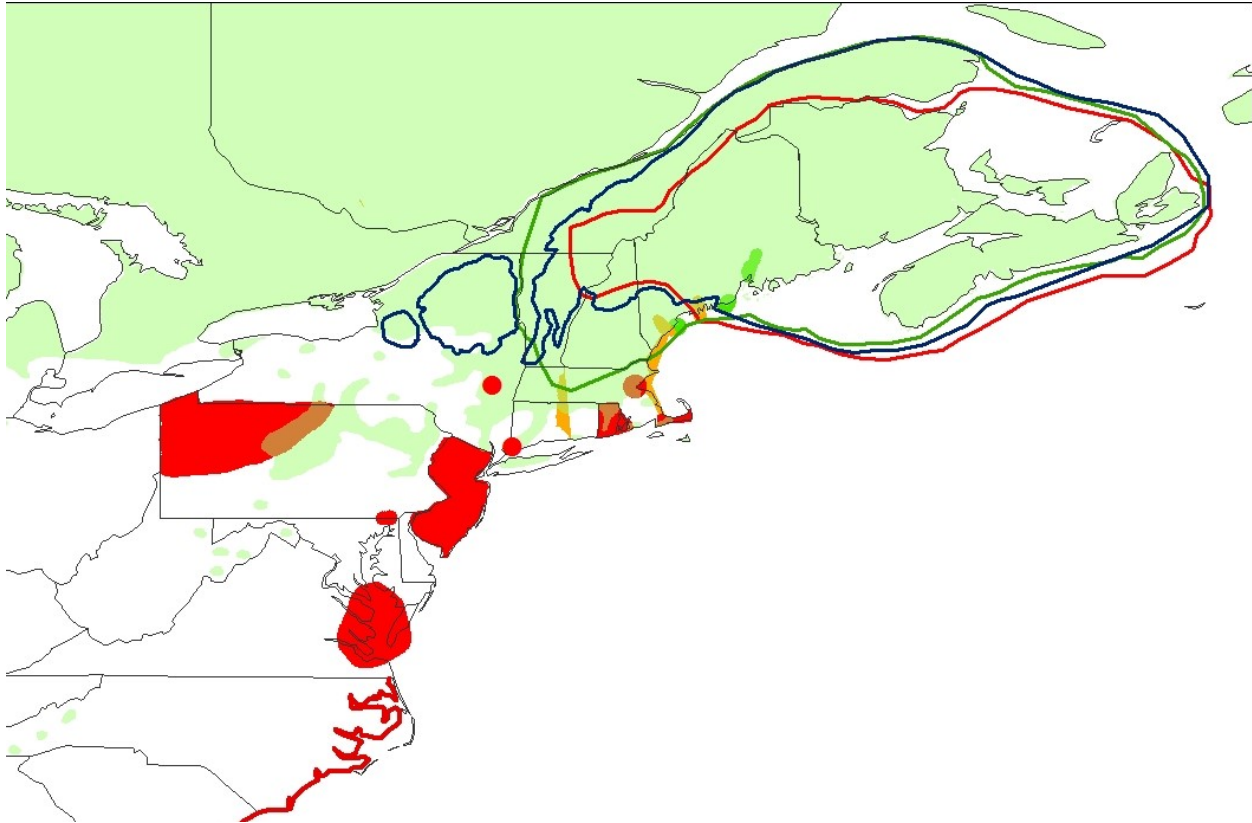


Figure 10 Layering of Figures 8 and 9, showing: the current range of the White Birch and referenced historical observations of Indigenous communities or nations using fire on the land and Indigenous agriculture, and observations of park-like landscapes related to the potential use of fire on the land (from Day (1953), Patterson and Sassaman (1988) and Stewart (2002)); and, the approximate geographic boundaries of the “Acadian Forest” (from the Nature Conservancy’s delineations in Simpson (2008)) and the Wabanaki Confederacy (from Speck (1915) and Morin (1988))

There are two key interacting aspects of cultural-ecological regions. -The first is that the multi-layered web of inter-relating components and processes specific to an ecosystem or ecoregional type influences the cultures of the peoples living with, among, from and upon it. The second is that the processes of the people negotiating the landscape and reacting to its characteristics, influence the ecosystem. Cultural practices of the people affect the distribution of plants and animals and the frequency and extent of processes and functions such as fires, thus contributing to the characteristics of the ecoregion. These two interacting influences are thus important in defining and understanding cultural-ecological regions. Interestingly, “Acadie” or “Acadia” as derived from a Mi’kmaw suffix or locative word participle, “e’kati”, which denotes “place of”, for example where to find certain animals or food. It is thought that the French settlers learned

this word part and either the Mi'kmaq or the new colonists began to refer to the French settlements with their own use of the e'kati later becoming written as Acadie (Sable and Francis, 2012). Today there are subtle variations of that suffix, existing as both aki and e'kati. Acknowledging this, the term “Wabanaki” or “Wapane'kati” Forest Type both combines various cultural roots and captures the cultural-ecological inter-relationships that describe the ecoregion.

5.7 WHAT IS THE NEXT ERA FOR PUKTEW?

The academic study of Indigenous peoples' relationships to land fire has been mainly justified by the correlation with ecological integrity or restoration (e.g., Egan and Howell, 2001). After a period of fire suppression land management agencies such as Parks Canada are grappling with whether and how to re-introduce fire to the ecosystems they manage. Many aim to mimic natural and historical-cultural fire disturbance regimes and as a consequence they want to learn what these are and were. As stated in chapter one, an impetus for this research was encouraged by park ecologists who were interested in Mi'kmaw knowledge of land fire around what is now Kejimikujik National Park, which is both a National Park and a National Historic Site. Ecologists are interested in a diversity of knowledge for interpretive and ecological integrity management purposes.

In my research with Mi'kmaw Elders and Knowledge Holders they spoke about various relationships and knowledge of fire, personally and on the land. When I focused on questions asking about historical fire I was met with counter questions from some participants, those who are looking at the past as not separate from the conversation of today's reality and landscape. This is particularly sensitive when discussing the use of fire on the land as present forest stands have undergone much change since the 1800's, most noted is our loss of Old Growth Forests with cooler, damper forests with little underbrush, now much of our forests having generations of forestry we have much more even-aged, younger stands with more underbrush. Participants in this research understood that our human-fire relationships cannot simply be replicated without considerations to the changed forests, landscapes, climates, as well as human infrastructure.

Mi'kmaw worldview has highlighted for me the teaching that relationships between landscape and people or culture are not only multi-layered but they are also ever-changing through the time of our ancestors, the present, and into the time of our great grandchildren.

Albert, Frank, and Todd all reflected on what we could learn from the historical role of fire in Mi'kma'ki in today's very different landscape. I do not have an answer from this research, however, I find it relevant to continue in the conversations and to continue asking new questions about fire's role in our lives and on the land in this contemporary socio-political landscape.⁶⁷

Understanding, anticipating, planning and managing for present and future ecological integrity may not be as clear as mimicking past landscapes. My thought, after this research, is that our responsibility is to find a suite of indicators of a healthy natural world, and find a way to live within it, not separate from nature. As Mi'kmaq, our Elders are encouraging us to continue to have direct relationships with the landscapes, to nurture our cultural worldview and be part of the ecosystem (Marshall et al., 2010).

⁶⁷ As well, I found it increasingly inappropriate for me as one Mi'kmaw ecologist to suggest viewpoints on such controversial questions about fire management.

CHAPTER 6 LESSONS FROM MY RESEARCH JOURNEY (METHODOLOGY)

6.1 HOLDING THE JI'KOQS

After each round of the story circle I look down to my hands, inspect the lines and curves of the ji'koqs. I take a moment to notice the colour and texture of the edge that would have held onto the tree, broken through bark. I see how tiny the pores are of its seemingly smooth grey underside.

I can imagine after I have talked about fire for some time, other researchers would ask, “Yes, and what have you learned about your action of the researching?” It is now that I think back to the first and second objectives of my study. We wrote them as the first two because they directly set the foundation of what lens this project would take on. Now, we will go back deeper into the project layers itself and talk about methodology, about the journey, and “coming to know”⁶⁸.

I have saved this discussion for later in the thesis as the process of this research has had profound impacts on my own perspectives and views, helping me to shape who I am as a Mi'kmaw ecologist and researcher in my work life.

I'm not sure why we look down to the sharing stone, stick or feather when it's our turn to speak. Sometimes we need that moment to collect our thoughts or let go of them and find our courage instead. I think we realize that after ceremony, all we have left is to speak from our hearts.

6.2 SHARING LESSONS

As I described in the introductory chapter, I will use a creative way to share the lessons of this research. To find a way to speak to other Indigenous or Mi'kmaw researchers I have selected and summarized a series of lessons from my journey and have written them in the form of a letter. Later in this chapter I will add to those thoughts with further discussion about methodology and Mi'kmaw-based academic research results.

⁶⁸ Indigenous academics use the term “coming to know” to mean the learning process that includes strong inter-related relationship-building. Cajete (2000, p. 65) describes this “coming to know” in Native Science as revolving around the creative process, characterized as doing and being with nature and being guided by Elders and by stories as facilitators rather than seeing it as a knowledge-seeking and gaining exercise.

6.3 LETTER TO OTHER RESEARCHERS

To other Mi'kmaw cultural-ecological students who are emerging researchers and scholars, I share my learnings as they are at this time.

Welcome to a difficult but powerful journey in learning more about yourselves, your culture, the landscapes and what it means to be a researcher. Now, most likely you must unlearn a few things in order to prepare.

Here is a selection of some things I have learned about this journey and will keep in mind for my next research project. I'm offering them to you now in hopes you will build on them further, experience your own journey and see what fits for you and your project.

I began with “Decolonizing Research/Methodologies” and “Indigenous Methodologies”. I read the writings of other Indigenous scholars, describing a decolonization process and the importance of finding what Indigenous research means to our communities and nations (e.g., Four Arrows, 2008; Kovach, 2009; Tuhiwai Smith, 1999; Wilson 2008). I urge you to seek out these books and articles. For me, it was a very unsettling process as I was new to these concepts. What I thought I understood about cultural identity was layered in my consciousness. After the readings, I had to think through the assumptions and worldview I had grown to accept as an English-speaking Mi'kmaw descendent in today's mainstream Nova Scotian world. Through the Decolonizing Methodologies and Indigenous Methodologies readings there were times that I felt isolated and confused. This is part of the process of self-discovery. Embrace it, read on, take your time, and talk it through with loved ones around you.

I had Mi'kmaw research guides and invested in that relationship. When you're ready to plan the research, make sure that you find and engage a Mi'kmaw Elder or Cultural Leader to be part of the research planning. This will help ensure that the framework is being influenced by Mi'kmaw worldviews, philosophies and interests. This advisor should also be someone you can approach at times during the research process in order to ask about the next phase, concepts, barriers, and even simply to seek moral support through your academic journey. I believe this

can be someone who will also sit on your academic committee or be a principal participant in the research itself. Without the Mi'kmaw advisors and guides, I may not have completed my research and thesis during times of challenge. They reminded me of the greater purpose of research as it would not only deepen my development, but it would serve a greater community goal of dispersing communal teachings and knowledge about our culture, history, future and world around us. There seems to be a large amount of hope and care in ushering Mi'kmaw students onward. Make sure you have those Elders or Cultural Leaders as part of the academic process and relationships.

I used free-flowing open-ended conversation as an interview style.⁶⁹ If you are interviewing Mi'kmaw participants, just as the research should be open-ended, so too should the conversations be free-flowing (e.g., Archibald, 2008). This way of connecting through two-way conversations and story-sharing allows the participant to share what they feel is necessary for your research. As well, we respect the role of Elders and grandparents to use their expertise to find their own style of interpreting the inquiry and sharing what they are comfortable sharing. This way of interviewing honours our traditional storytelling culture in a modern time.

I conducted multiple visits with Elders and Knowledge Holders. The role of the Elder or storyteller is for them to know how to reinforce or build on the teachings from one visit to subsequent visits. Returning a few times to a conversation with the Elder or Knowledge Holder is part of Mi'kmaw research rigour. Repeat visits and conversations show a commitment and deepen the trust with the participant. It also gives them a chance to rethink what else they might like to share as well as giving them an opportunity to repeat some teachings they feel the researcher needs to hear again in a new way. These are consistent ideas about how Mi'kmaw Elders teach.

I researched through the four seasons. Mi'kmaw worldview about the importance of the life cycle through the year teaches us that you cannot really know about a subject (animal, plant,

⁶⁹ For more information on my interviews as chats, please refer to my methods description in chapter three.

ecological process or landscape) unless you have researched it through the complete year cycle. This is the case even when a particular life, such as a particular flower, does not seem to live through the entire year. Researching through the four seasons is about the ecosystem as a whole and the life and changes it undergoes over that time. The different seasons bring about different moods and memories of people and of our own thinking about the world around us: in the heat, the storms, their houses under the layers snow, or in the melting and regrowing time. If we are researching or deepening our understandings about a topic related to Mi'kmaw culture, we must recognize that these are directly related to the land and its processes. In my research, conversations about fire had to include the land's seasonal inspiration. Looking out the window and thinking about fire in the summer and then fire in the winter was quite varied and purposeful. As well, I needed the time to digest the stories and ceremony to come to my understandings about puktew. Honour the year cycle and make sure to not limit the research time to any less than one full year of inquiry. Meaningful research cannot be rushed.

I learned more of the Mi'kmaw language and made it part of the inquiry. Mi'kmaw language was integral to my research as a distinct source of information unto itself. I made sure fluent speakers understood that I welcomed them to speak about fire in our language. The Mi'kmaw Ethics Watch Protocol (1999) reminds us that it is not only culturally ethical for participants to speak their language, as they are more comfortable, but the language embodies the speakers' way of seeing the world. Teachings based in Mi'kmaw worldview may need to come from within the language. As a non-fluent speaker myself, I created a research plan to help facilitate this aspect. I would audio-record the stories told in Mi'kmaw. These audio recordings were to be sent to a professional translator to transcribe into English. These would still lose some meaning in translation, but at least I was honouring their right to speak in our language, and ensuring that we would still have those recordings in our language for others to hear the full depth of the teachings when shared.

You may find, as I did, that in non-fluent Mi'kmaw regions, such as my home territory of Kespukwitk, or amongst the younger generations of Mi'kmaq everywhere, participants may choose to speak in English. That must be understood as culturally acceptable as well. Don't forget that in these territories and generations, Mi'kmaw-centered teachings were passed from

generations of Mi'kmaw-speakers to generations of English-speaking Mi'kmaq with the ideas and concepts translated in a unique way through an adapted Mi'kmaw lifestyle.

In my research, the fluent Mi'kmaw speakers all tended to share with me in English because they wanted me to understand them right away during our visit, and to not have to wait for a translator and time in between. I was thankful for their thoughtfulness. I then later asked them to speak in our language to make sure some of their teachings or stories were still offered in Mi'kmaw so that other listeners may hear those recordings at the end of this study.

I interrelated knowledge using a direct or experiential relationship. I had often heard Elders say that if you wish to learn about the culture or land you have to participate fully in it.⁷⁰ I was told by an Elder that if I wanted to learn more about or “deepen my relationship to” fire, then I must make fire and sit with fire. And so I did. This direct relationship to fire could assist me in understanding the various stories and teachings shared with me about puktew. Seek guidance from your supervisors and Elders about how direct relationship may fit with your topic.

I used ceremony and aloneness on the land as ways of knowing or interpretation. Some Indigenous scholars have written about dreams and ceremony as legitimate Indigenous ways of receiving knowledge⁷¹. In my research I used ceremony and time alone on the land to reflect on the stories and teachings that had been shared with me. This was very much an important method in my analysis. I deliberately set up some days as those deepening times to integrate the knowledge and make meaning relative to my own experience and worldview. Again, as this requires a cultural background or further teachings, seek guidance from your advisors and Elders about how this may fit your research.

I used story to share some research findings. Our Mi'kmaw culture uses storytelling tradition both as a way for us to learn and as a way for us to teach back. I wanted to honour that tradition and ensure that my research findings went back to the communities in various ways. One way I

⁷⁰ Daniel Wildcat said, “You see and hear things by being in a forest, on a river, or at an ocean coastline; you gain real experiential knowledge that you cannot see by looking at the beings that live in those environments under a microscope or in a laboratory experiment.” (Wildcat, 2001, p. 36)

⁷¹ See examples such as Shawn Wilson 2008, Cajete (2000, p. 66).

did this was by sharing the audio recordings of many of the interview conversations on a Mi'kmaw research website (<http://www.cbu.ca/indigenous-affairs/unamaki-college/mikmaq-resource-centre/>). From these, the listeners will have an opportunity to make their own meanings from the Elders teachings. This also gives credit to these Elders and storytellers, honouring them and their teachings more fully than by quoting them in my thesis alone.

Other types of story I used include my creative writing (such as the opening and closing passages in my thesis), poetry about this process and about fire, this letter as a retelling of my learning journey, and the short story/interpretive signage that some of the Elders and I created during this study.

I encourage you to find your own creative means by which to tell your research story. Embrace all the cultural forms and inspirations, as this is how we deepen our understandings of our research, both in the creation of stories and in the telling or retelling of them.

Balance between thesis for academia and story for community. To be honest, planning the research, conducting it by chatting with Elders, reviewing it and analysing it was all straightforward and rewarding for me. In contrast, figuring out how to write an academic thesis, while also giving my story back to communities, was very challenging. For a while I wasn't sure if there was one version possible that all audiences would appreciate. The technical detail that is required in the university seemed to create barriers to my community members' interest in and enjoyment of the fire stories. Most community members are not accustomed to reading pages filled with references. The layers of introduction to the research might signal that the story was not written for them but for someone outside of the culture.⁷² This was an important struggle to work through as I made sure that I was finding a culturally-meaningful way to give the research findings back to the community both for their interest and to share the knowledge I had gained on behalf of the greater collective.⁷³

⁷² Margaret Kovach describes relevancy of the way you're giving that knowledge back to the community has to be in a way that they can relate to (2009, p. 149). Shawn Wilson also talks about the usefulness of results to the community in order to truly be accountable in Indigenous methodologies (2008, p. 77). Lemesianou and Grinberg remind us to ask ourselves whom this research is for and who it is benefiting (2006, p. 230).

⁷³ Jeannine Carriere spoke of her PhD as only part of that giving back of the knowledge and therefore she had to find other ways to get that new knowledge out to the people (cited in Kovach 2009, p. 149).

After much editing and conversations with advisors I thought perhaps the most crucial parts of this story to give back to community are of my conversations with Elders, both their stories directly, and my story of their stories, what I had learned from the Elders in this research. For this reason chapter four is written in a way that I can share those stories alone or in collection with other sections or the whole.

You may find your own ways to speak to the different audiences or to create thesis outputs that also serve the community. Remember that each of us is meant to take at least one step in a new direction in research. Even if we have a vision of many new steps, that may be too overwhelming. After decolonizing and Indigenizing your thoughts on academia, you may lose your academic focus as you realize that Indigenous research can be conducted outside the university setting. And then you may feel that this Indigenous research is somehow inappropriate as part of a graduate degree. I hope that you find that feeling, as unsettling as it is, and then I hope you remember that we are part of the movement advancing Indigenous methodologies in academia. You can belong here as a graduate student, learning how to be a researcher and working on a topic that is of interest to you, to other scholars, and most importantly, of interest to other members of your cultural nation or community. Even the academy is making statements about creating openings for Indigenous scholars and Indigenous methodologies. As painfully slow and incremental as this may seem, know that you are an important part of this process. Find your courage.

My first and last years were the most challenging along my journey. I stayed with it because my Elders encouraged me to finish. And be prepared that what you end up with may not be what you originally envisioned. Good luck with your journey and your story.

Thank you for listening to mine.

6.4 STUDY LIMITATIONS

I want to acknowledge some of the limitations of this study. This was the first research project investigating Mi'kmaw Knowledge relating to fire and I could only undertake a selected number of regions and participants. Investing in trust relationships with these nine Elders and Knowledge Holders took time and commitment, but it did supply me with a diversity of stories and teachings. Although I found themes that were repeated amongst them, showing consistency in Mi'kmaw relationships or knowledge with fire, there is the possibility that I missed more fire stories by not having engaged other individuals in my study regions or in the other districts of Mi'kma'ki.

A consideration for future research concerns the snowball technique I used for identifying participants. By asking an Elder for the name of another possible participant, I likely ended up with a group of individuals who know each other and have worked together. Through this approach, I increased the chance of missing other Elders and Knowledge Holders who have different kinds of thoughts and experiences to share.

I also wish to acknowledge my own limitation as a non-Mi'kmaw language speaker. There will be worldviews, concepts and ideas that I was not able to fully articulate here relating to fire. I worked very hard to continually challenge my English way of thinking in order to honour the teachings that were coming through Mi'kmaw-language worldview in this study. In a similar cultural backbone I missed was the direct inquiry into Mi'kmaw songs and dances (eg. Metallic, 2008; Sable, 1996) that may relate to fire and related teachings.

6.5 CHALLENGES IN METHODOLOGY

Indigenous research uses reflexivity to cycle through analysis and then continue with the research process along the way. Using such a methodology meant that sometimes I would be able to address my research struggles with a new approach. An example of this occurred when I realized, through reflection, that the fluent Mi'kmaw speakers were not speaking to me in our language. I reflected on this and considered whether or not it was something I wanted to address, and, if so, then how I might address it. I wrote about my experience in my journal.

I had to convince Albert to speak Mi'kmaw today. He thus far has been conversing in English with me. Same with the other few Mi'kmaw-speaking participants. I even tried to introduce myself in the language and I offered a few times for them to tell me if they want me to bring a translator with me next time or they can also speak Mi'kmaw and I can translate it later. Today I was curious and asked Albert why he was not speaking Mi'kmaw. And he said that he is used to teaching in English and although his mind is still in Mi'kmaw, he wants me to understand him now in the meeting so that we can converse. In that moment I felt both relieved that he had a reason himself and had made the conscientious decision rather than feeling I had somehow pressured him to continue to engage in English, but also I felt ashamed to be an anglophone. How could I ever say that I understand Mi'kmaw ecology when I can barely put together a paragraph in the language itself? I wanted to learn. But this is part of the journey and I have to be honest about where I am and how long I have come so far. Albert agreed to give me a story in Mi'kmaw. That is recorded. It made me happy to hear it. I felt honoured. Even if it was only one of the interviews with him. I had that piece.” (reflexive journal entries, February 22 and 23, 2012)

Another personal constraint I felt, as I was understanding the importance of sacred relationships with fire, was that some of the methodology incorporating more intuitive, spiritual aspects of this research didn't seem appropriate to share in a thesis document. I believe that my desire to incorporate these culturally-relevant aspects into the research has a place in this study, even with the discomfort in writing about my experiences. As I wrote in the letter to other researchers, not every Indigenous study will find spiritual relationships suited for academic writing and sharing. For those who wish to accept ceremonial relationships as scholarly practice, they will find their own methods in navigating this possibly conflicting interchange.

Advised by my research advisory team, I occasionally used my creative writing outlet to express complex feelings and thoughts that seem more difficult to articulate academically. One such

feeling/thought is what I heard along this journey of Indigenous research methodology, as described in this writing.

Guiding

breathe, the ancestors plead
breathe life back to it
breathe life back to your relating to the real world
 and all of its forces of nature
breathe life back to your Indigenousness
sit with the water
sit with the fire
sit with the stars
sit with the mountain
let that be your nourishment
it will drown your language and calculating mind
the land speaks to you in wholeness
filling in the voids
where information dissecting has left scraps on the floor

to see the world through Indigenous eyes
is to relate and connect

What I was learning, through watching myself learn and adjust along the way, was that I also had to continually challenge my thinking in order to be able to understand what I was learning in Mi'kmaw worldviews. One day I sat down and wrote about what it was like to start with a certain research plan or framework and then have to open that up through the process of Indigenizing my thoughts and my research methodology.

Journeying

so i carved my thoughts
i chiseled and angled
wore the corners down
until they frayed into something more round
i animated my thoughts
i dreamt up puktew
i told stories about verbs
i sat with the burning
watched things change

The heaviest challenge was trying to figure out how to address both the focused questions of Mi'kmaq relationships with fire but also to think more broadly and answer the research more as a whole, using Mi'kmaw teachings that I was following. This was evident in my journaling that I used to write thesis parts. I reflected deeply, engaged in ceremony and used other forms of analysis in an attempt to reconstruct the research concepts, stories and teachings. I attempted to do this in such a way as to form reflections that aptly answered the questions posed in objective three (i.e., to gain, analyze, and create culturally-relevant knowledge about land fire histories in our region). By following objectives one and two (to learn about and incorporate Mi'kmaw or Indigenous methodologies and to carry out academic inquiry using culturally-relevant and community-centered priorities and ways of knowing), the premises that formed the very framework of objective three seemed to fall apart for a while, along this research path.

Again it was my advising Elder, Albert, who discussed this with me during a visit. We talked for awhile about the thesis writing stage. I spoke about the struggles and how the thoughts I was ending up with were not what I started the research believing that I was going to end up with. After the visit I wrote in my journal.

Today, Albert smiled. I was telling him what I got out of this that was different than I had expected. I don't want to come out of this feeling like I failed mainstream ecologists, not having specific fire stories to share. I told Albert why what I did learn made so much more sense and perhaps had more to offer. I recognize that I'm reiterating what so many co-learners have already stated about Mi'kmaw teachings. But until you go through the transformation

yourself, the theory and the words exist only in the mind. Today, I was able to articulate Mi'kmaw "knowledge" as interrelatedness, not because I heard Albert, Murdena, Annamarie or Cheryl talk about it, but because I experienced it and let it into my being. I was connecting. And Albert smiled. And that was Mi'kmaw research rigor.

(reflexive journal entry, August 10, 2013)

Over the many years and much journeying for this research, I can relate to Shawn Wilson's comment that "Indigenous research is a life changing ceremony" (2008, p. 61). As I think back on this research, I'm not sure if I learned more about and deepened my relationship with fire, or if I learned more about myself and being Mi'kmaw. They have been intertwined. However, as an academic process, the transition from personal conversation with community and family about this research and then writing thesis document drafts to submit to supervisors was also an incredibly tiring challenge.

Veronica, in *Four Arrows* (2008, p. 22-25), also said that the beginning of her dissertation completion was deeply personal. She described how the analysis and writing were in isolation from her supervisors. This included long silences as she resisted some suggestions while needing longer conversations with family. I also experienced this as I needed to ensure that I was following unwritten Mi'kmaw methodologies, being authentic in my learning and in the analysis. I needed to ensure that I was not simply adopting the easiest thesis-writing format to appease my university requirements, but finding something both meaningful for my community and something that felt authentic. Slowly, month by month, conversation by conversation, sitting with the questions and then choosing my direction with the best of my heart, mind, and spirit, my hands wrote the next drafts of this thesis. I have woven the stories so to be able to speak to a diverse audience, still keeping my personal voice alive here, so that you, the reader, may maintain that relationship with me as you are reading my own interpretations of this research.

Again, wela'liq.

CHAPTER 7 FINAL REFLECTIONS

7.1 MILITA'SI (I HAVE MANY THOUGHTS)

Here I sit again with the ji'koqs and I have shared so much with you now. I told you stories about talking with Mi'kmaw Elders and Knowledge Holders. I told you about other fire research and how this study compares in what was found. And I told you about my journey as a researcher. By now my fire has been burning for a while, the coals are deeply settled among the ash. We are all warmed by the heat of it. We are entranced by the light flickering. This is a great way to sit and tell stories.

I have been nervous and anxious about writing this seemingly (in)conclusive end to this story. The last chapter begging to be told, to be crafted and settled into this fire. After many agonizing attempts to write this chapter, my supervisors, family and friends have reminded me that there will be many other stories that I tell about this journey and about puktew.

This is one version of the story. I have more to say that does not fit into this thesis and perhaps in time I would change some of the highlights or themes I have chosen to share here now. I will never stop learning from this experience and will carry it with me the rest of my life.

The longer I speak, the less I have to say and the more questions I realize I'm sitting here with. This last round I wish to share a bit more about the lasting thoughts, concerns, excitement and questions.

7.2 SMOULDERING QUESTIONS OF FIRE

First, I wish to remind us that the interpretations throughout this thesis are my own understandings, subjective and sacred through my research process, at this point in time (Manulani in Four Arrows, 2008, p. 18). Listeners and readers may have different interpretations (Lowan-Trudeau, 2015, p. 15).

A striking contrast between much of the existing fire systems research and what I heard in this study was these Elders did not refer the same way to fire, the land, or history. The difference in perspectives is evident to me, sometimes creating a philosophical challenge in being able to compare and contrast fire teachings in a way that would speak to various readers or audiences. For example, unlike Pyne's (2007, p. 7) statements that the land's longest human ancestors had control over ecosystems by being able to create large scale fires on the land if they desired, my sense from the conversations with Mi'kmaw participants and my own experiences is that fire instead reminds us to be humble and to respect our places as part of -not dominators over- that natural cycle or web.

The dominant science practice does not have a particular acceptance of the spiritual elements of our natural world. This is one example of a barrier or dichotomy between the Eurocentric and Mi'kmaw worldviews about fire. Puktew is not only a physical energy, but a spiritual one, with a role in shaping the land. This perspective may pose differences of opinion when calculating fire management techniques, protocol and planning.

On the other hand, there are areas in which the different worldviews or sciences came together in a common understanding. First, both recognize that, historically, there was very little by way of large scale fire on the land in Mi'kma'ki, and most fire on the land came by way of lightning rather than Indigenous peoples in this region. Second, there are ecological benefits to fire, while understanding and acknowledging the possible threats to human life and infrastructure. And, third, even though it seems that the cultural landscape of southern regions of Turtle Island were greatly influenced by Indigenous cultural fire practices prior to European arrival, this does not mean that the same was true in Mi'kma'ki. From this research I did not perceive there was prevalent use of land fire by Mi'kmaq in forests or across vast geographic scales. Further, there are teachings or confirmations in both realms (Mi'kmaw Elders' stories and science literature) that land fire was not prevalent, regardless of the source of ignition.

This research included the question often asked in other fire studies, "How did the Mi'kmaq of long ago affect fire regimes on the land?" However, after speaking with Mi'kmaw Elders about our relationships with fire, I now wonder what other more Mi'kmaw community-centered questions there might be for future fire research. Such questions might be posed as, "What do we

need to learn from fire's role on this landscape to help us in future relationships with fire? What else do we need to learn from fire? What is the role of fire's spiritual energy when planning fire management? How do we want our children to relate with fire?"

7.3 STRUGGLE IN ECOLOGICAL KNOWLEDGE STUDIES IN ACADEMIA: WHO SETS THE STAGE?

I found Indigenous and fire history research to be a controversial space not only between various opinions about Indigenous peoples historical relationships with land fire (e.g., Kay vs Russell mentioned in chapter six), but in the lack of Indigenous partnerships or methodology involved in conducting the studies. As I entered this research, I found that the power dynamic already formed in fire research in North America is held in the hands and minds of non-Indigenous scholars and professionals (Nadasdy, 2005).

In most of the fire literature the roles of Indigenous peoples were research subjects or informants involved to share the outer layers of physical and mental information. Continuing separately, authors would juxtapose the information with other non-Indigenous sources, analyze these data, and interpret and describe the land's history without the participation of Indigenous community members. It has only been recently that fire studies have involved the local Indigenous peoples in community-based studies. Although my research was not community-participatory-action driven, I am Mi'kmaw and I am community focused. And therefore, my choice to conduct this study using a different framework became an important, but complex struggle. Until Indigenous peoples lead ecological research design, serve as co-creators of new knowledge, and author stories of their cultural landscapes as academic peers, the fullest impact of Indigenous ecological knowledge will never be realized.

Luwan-Trudeau speaks about the excitement of our Indigenous research's beginning phase with positive visions of learning from cultural ways of seeing the world and how to bring them together. But then, later phases of Indigenous research were met with caution (2015, p. 6). I had a similar experience with this research. With the readings and thinking about cultural knowledge being the focus of this research, my thoughts of sharing my findings with the public and

conservation managers brought about a feeling of anxiousness. Warned by other Indigenous scholars, such as Leanne Simpson (1999), I wanted to be careful not to misuse the fire knowledge or Mi'kmaw Ecological Knowledge revealed through this work. I also wished to focus on the positive in conducting this research by using more culturally-appropriate and inclusive ways to encourage the coming together of worldviews and knowledges (Wilson 2008, p. 109). These all represented new challenges for me, and there were no pre-existing Mi'kmaw ecological academic methodologies for me to draw from.

Through conversations, reading, and experience, I now have my own perspective of some of the attributes of Mi'kmaw methodology, which I will gladly offer into the conversation about future research. (Refer to chapter six for some of these thoughts.)

Various kinds of ecological studies are happening in Mi'kma'ki. These studies respect the difference of worldview and reflect an awareness of how the framework sets the stage. Accordingly, we are finding appropriate ways to include many views about the land in ecological study or land use planning. I look forward to entering this new phase of Mi'kmaw methodology, with knowledge as a verb, and knowing as relationship.

7.4 CULTURAL ECOLOGICAL LANDSCAPES

In mainstream non-Indigenous mainstream science worldviews, the natural world has for a long time been viewed as separate from human constructs. This has led to a question that many non-Indigenous North American scholars wrestle with: what should we consider to be a “wild” or “natural” ecosystem when the peoples have affected the landscape/ecosystems before European colonization? (e.g., Lewis and Anderson, 2002, p. 3). In my Mi'kmaw teachings, as in many more-recent ecological science constructs, a natural landscape with a healthy functioning ecosystem in many cases, particularly before European colonization in Mi'kma'ki, involves the human element as part of the web and relationships.⁷⁴ Debates of whether humans are part of nature or wilderness are political ones, not purely ecological. As Indigenous peoples we view the

⁷⁴ What we wrestle with in contemporary times, just as around the world, is the effects of intensive development and permanent human-altered landscapes that now is beyond what a natural system with ecological integrity can handle.

land as being all encompassing as our homeplaces (Merchant, 2004). In response to the debate about whether or not an ecosystem was wild or had pristine qualities if Indigenous peoples were part of a landscape, I wrote a poem. It begins as so.

this land was plotted long ago
Mi'kmaq who saw it full of cuisine and equipment
who knew each vein of flowing water
kept trails for over 250 generations
then why now is it called "wild"
who wild-ed it?
how can something known become unknown?⁷⁵

In the fire literature, this debate about the role of Indigenous peoples on the land is mentioned frequently. Fire on the land is such a strong ecological factor that for non-Indigenous ecologists the landscapes where historical use of fire was used by the local Indigenous nation for long periods of time prior to European arrival creates the standard by which the landscape and fire frequency should be measured. I argue that from my findings that not only does Mi'kmaw worldviews broaden that conversation but that there are other ecological influences that an Indigenous nation makes on the land. Instead of focusing only on regions where the Indigenous peoples use of fire on the land was more intense, I also argue that most ecosystems are cultural landscapes, including those of the Mi'kma'ki. It is not the fire research that will end the debate about defining nature's wilderness and the role or place of humans within it. Rather, it is the conversation about cultural-ecological landscapes. For this reason, I hope that ecologists will recognize the impact that the Wapane'kati ecosystems had on the Alkonquin cultures of the east and then the reciprocal influences these closely related nations had on the landscape. Together, these interacting relationships created and continue to create the kind of qualities that we recognize and attribute to the region. For these reasons, I also hope that in the future the Indigenous peoples are included in naming and defining the landscapes around them in academic and ecological research.

⁷⁵ Poem entitled, "Fabric of the Land" published in my book of poetry, April 2014.

7.5 MI'KMAQ IN FIRE MANAGEMENT

As already stated, I saw little reference to Indigenous communities being part of the fire research analysis or academic inquiry. Christianson (2015) notes missed opportunities in the research with Indigenous communities to ask about their concerns and ideas about fire management. I understand that the communities may be engaged in non-academic fire planning meetings and I encourage more of these partnerships.

As we saw through this research, you cannot separate the people from the knowledge as it is a direct relationship. Increasing Indigenous collaboration in research or conservation planning increases the opportunity for the specialized knowledge systems to be interpreted in culturally-relevant ways (Houde, 2007). As well, the people themselves will have their own thoughts and stories of the living past and present as well as their own interpretations on today's realities and how to consider our future relationships with fire. Not only should Mi'kmaq be part of fire research and planning but we should be facilitating our own conversations about ecological integrity and fire planning in our Mi'kmaw communities and organizations.

7.6 THE FOREST CAN TEACH US

One of the outcomes of this research process was to select a few key messages from the participating Elders and create a short prose to relay those messages onto public for an interpretation panel in collaboration with park staff in Kejimikujik National Park and National Historic Site in 2013. The prose captures the final message I wish to share with you now. This message embodies the spirit and nature of Mi'kmaw Ecological Knowledge practice as well as the understanding of nature's constant transition that must be acknowledged in all Mi'kmaw Ecological Knowledge research. I will leave you with the words I carved from the teachings shared by the research participants.

“Would you like to hear a story about this forest after the Great Fire?” Elder Tree asked Sapling. We give many thanks for the Birches who helped the land become a place where we now enjoy. There are many stories about Those Who Came Before The Fire and Those Who Came Before Them.”

Little Tree looked around and asked, “Elder, why doesn’t our village seem to stay the same?”

“Ah,” replied that Old One, “Our responsibility is to follow the natural laws, weave together with all the others, like the little Medicines that share with us and the Birds who carry our seeds and warn us of danger. We will always be changing, together. Your responsibility is to follow those laws, too.”

“Will you teach me?”

“I can’t. Only you can give shade to that Medicine next to you. Only you can grow your roots to touch the other Trees.”

M̄s̄t̄ No’kmaq. All My Relations.

7.7 REMEMBERING FIRE

Be still now and remember.

Perhaps elements were not 'things', not nouns like we call them now; they were verbs, actions that happened as part of creation. The way the gases burned and spit. The way the cells merged and grew from soil, then broke back into ground. The way water molecules flowed, cut paths upon the landscape. We smell the movements, touch them in friendly states, drink from them, breathe from them. Our bodies becoming detailed excursions for molecules to enter and exit.

Then we named them.

Puktew..

Musikisk..

Wskitqamu..

Samqwan..

Fire, Air, Earth, Water

In the naming, we gave them places to exist as files of our brain.

If we do not return to the elements as simply as they are, connect to them as verbs, then we forget what else they are and can be.

We remember puktew not as heat or light, but as transformation.

It is movement and we are part of it.

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APPENDIX A
ENGLISH CONSENT FORM FOR PUKTEWEI RESEARCH



CONSENT FORM
SIGNATURE PAGE

Researcher: shalan joudry

Title of the project: "Fire History in Mi'kmaki: Learning from Mi'kmaq"

Consent to participate in the study:

I have read the explanation about this study. I have been given the opportunity to discuss it and my questions have been answered to my satisfaction. I hereby consent to take part in this study. However, I realize that my participation is voluntary and that I am free to withdraw from the study at any time.

Signature of research participant

Date

Signature of researcher obtaining consent

Date

Consent for audio recording:

I hereby consent to allow this discussion to be audio recorded.

(Please tick one box) YES NO

I also understand that the researcher, shalan joudry, will return a copy of my recordings to me to review at which time I will inform her as to which, if any, clips or phrases need to be removed before further copies are made or use of the recordings. Only I will hear the raw, unedited audio recordings before the next phase of consent is given.

Signature of research participant

Date

APPENDIX B
MI'KMAW CONSENT FORM FOR PUKTEWEI RESEARCH



ULTE'TAQANEY
WI'KATIKN

Nujipaqamajo'teket: sa'ln ju'tli

Teluisik Lukowaqan: "Fire History in Mi'kma'ki: Learning from Mi'kmaq"

Ulte'taqan apoqonmatmn ula paqamajo'taqan iknmatm:

Kiskitm ta'n tlwekek ula paqamajo'taqan. Ta'n koqwey ketu pipanikesiap aq sespete'tmap tepiaq kistliliusku'tmek. Welte'tm apoqonmati iknmatmn ula paqamajo'taqan. Elk nestasi ni'n kis sutesk ta'n teliapoqonmuey aq kis puntla'teka's ta'n pa tujiw.

Uktwisunm wi'katukna'toq etliapoqonmuet

Ta'n te'sukunit

Uktwisunm wi'katukna'toq nujipaqamajo'teket

Ta'n te'sukunit

Ulte'taqan napketasitn ta'n teluey:

Welte'tm ula ta'n teluey napketasitn.

(mkne'n newte')

E'E

MOQWA'

Elk nestatiek sa'ln ju'tli, ta'n koqwey kis tluey na newt napketew wjit pasik ni'n tmk kis iljisitmn ta'n kistluey. Na tujiw knua'tua's i'k koqwey ta'n pewatm jikla'tasitn aq jikla'tasiktitew ke's mu ap napketasitnuk kisna e'wasitnuk paqamajo'taqaniktuk, aq na, ma' wen piltuey nmituk kisna kis jiksitnuk. Pasik ni'n nutesk na amskwesewey napketaqan ke's mu ap pilu'lukwatasitnuk ulte'taqan.

Uktwisunm wi'katukna'toq etliapoqonmuet

Ta'n te'sukunit

APPENDIX C
ENGLISH PHASE TWO CONSENT FORM

Phase Two of Consent Form

Researcher: shalan joudry

Title of the project: "Fire History in Mi'kmaki: Learning from Mi'kmaq"

I hereby declare that I have reviewed the raw, unedited audio recordings of my interview sessions with the researcher and I am satisfied with the new version with any audio clip removals I requested.

Signature of research participant

Date

Consent for data storage:

I hereby consent to allow my revised recordings to be stored:

(Please tick only ONE box)

- At the Mi'kmaw Resource Centre with public access.
 At the Mi'kmaw Resource Centre no public access. My permission for any other person to listen to my recordings will have to be sought.
 At Dalhousie University for academic integrity purposes with no public access.

I hereby consent to allow my recordings to be destroyed after five years of storage.

YES NO

Consent for use of direct quotations: I hereby consent to allow the researcher to use direct quotations from this interview in the writing of her final papers, and in editing of an audio documentary on CD. I understand that these thesis products (such as but not limited to: written papers and audio CD) may be distributed to Mi'kmaw schools, communities, organizations and federal government agencies such as Parks Canada. I understand that before she sends the final versions of these I will have a chance to review the CD or papers and I have a chance to withdraw my quotes if I am uncomfortable with the quotes or use of audio clips.

YES NO

I agree that the researchers may use my full name in association with the information I provide today in the writing of any papers or other forms of reporting the results.

YES NO, a pseudonym is required

APPENDIX D PUKTEWEI CONVERSATION GUIDE

Questions to be used during interviews-as-chats with Elder/Knowledge Holder to begin conversations or assist them in finding more to reflect on relating to fire:

- Can you tell me any stories about land fires from your own experience or those that were passed on to you?
- What do you know about what happens to the land, the animals and plants before and after fires?
- Do you think land fires (forest, grass, brush) are good or bad for the land? And for the animals? And for the people?
- How are your stories from here different than other Mi'kmaw communities' stories about fires?
- Are there any stories about Mi'kmaq making fires on the land on purpose and can you tell me about that?
- What words or phrases in the Mi'kmaw language do you know of that are about "fire"?
- What do you want to tell me about our (Mi'kmaq) relationships to fire on the land? And how has it changed over time, through history of our people?

APPENDIX E
PLANS FOR STORAGE OF PARTICIPANT INTERVIEW-AS-CHAT
AUDIO RECORDINGS

- For any research conversation that was audio recorded I have given a copy of the recordings to the Elder/Knowledge Holders and asked them to listen to them so that they can insure they are comfortable with the second consent choices for storage as well as the accuracy of the transcriptions or how I cited them.
- Second phase consent forms will be signed before the public availability of this thesis. At the time of reviewing the consent forms I will ask each participant's permission to store the original recordings temporarily (five year period for research ethics) or permanently at the Mi'kmaw Resource Centre:
 - Mi'kmaq Resource Centre, Room CE 268, Cape Breton University
 - P.O. Box 5300, 1250 Grand Lake Road, Sydney, N.S. B1P 6L2.
 - Telephone 902-563-1660
 - <http://www.cbu.ca/indigenous-affairs/unamaki-college/mikmaq-resource-centre/>
- At the time of reviewing this second phase consent I will ask which level of protection or privacy they wish to place on their recording. Private or public access will be their choice. If the participant allows for any level of public access to the recordings, the Mi'kmaw Resource Centre requires additional forms to fill for storage which copies will be made available at that time.
- If participants would like their recordings to be made available online, this will be coordinated through the Mi'kmaw Resource Centre's technical support and be uploaded onto the appropriate section of their website.

APPENDIX F
MI'KMAW WORDS RELATING TO FIRE

Mi'kmaw word	English translation
puktew (plural = puktal)	fire (noun)
pukte'j	small fire/ spark
puksuk (plural = puksukul)	Firewood
puksetew	Soot
puksaqatew	ember of firewood
lu'sekn	fire poker
puktewei	of fire/relating to fire
puktek	in the fire
puksuku'jl	splints (for kindling)
nuksaqatew	Charcoal
pukteweie'ji'j	Match
puktewa'lek	I set it (animate) on fire
puktewa'tekei	I make a fire
puktewekei	to light a fire
puktewapsk'tekei	I draw fire (from flint)
puktewa'tu	I put fire on it
saqtai	I make fire with flint
saqsikwei	I hunt/fish by torchlight at night
nu'kwa'tekei	I make/set a fire / I burn things in the fire
mawsaqate'm	activate/stimulate/accelerate a fire
mawsa'tekei	I make a fire in a stove
pewksaqate'm	to arrange/adjust/control/regulate a fire
kaqsatl, kaqsək, kaqsit, kaqtek	burn (verb)
kaqamklekt, kaqamklek	finished burning
kaqa-nu'kwa'lək	finish burning up
ketmoqsit	burned completely out (an)
elamklek	the fire burns to there/that point
kaqsək	s/he/it burns it (inan)
ketmoqtek	burned completely out (in)
pitoqtek	burn underneath

Mi'kmaw word	English translation
puk tewulkw	steamboat/ship (DB book)
pukto'kuwome'j	cricket, chimney beetle (DB book)
puktaqan	snare (DB book)
puk tewijk	whiskey (DB book)
etlikpətaq	smoke/steam
mtlu'tew	smoke
puk tew'e'j	cricket
pukətli'kej	starling (black robin, ESK - DB book)
puk tewikan	hearth (DB book)

APPENDIX G

“THE FOREST CAN TEACH US” PUBLIC INTERPRETATION PANEL IN KEJIMKUJIK NATIONAL PARK AND NATIONAL HISTORIC SITE

A product generated by this research process that was incorporated into an interpretation panel with park staff for Kejimikujik in 2013. Credits to the Mi'kmaw Elders. Special artwork by Gerald Gloade and Todd Labrador. Mi'kmaw translation by Diane Mitchell.

The Forest Can Teach Us

La forêt peut nous apprendre

Kisikina'muksitesnu Nipukt

The Forest Can Teach Us

“Would you like to hear a story about this forest after the Great Fire?” Elder asked Little Tree. “He give many thanks for the Birchies who helped the land become a place that is now empty. There are many stories about those Who Came Before The Fire and those Who Come Before Them.”

Little Tree looked around and asked, “Elder, why doesn’t our village stay the same?”

“Ah,” replied that Old One. “Our responsibility is to follow the natural laws – always together with all the Others, like the little Beavers that share with us and the Birds who carry our seeds and warn us of danger. We will always be changing, together. Your responsibility is to follow these laws too.”

“Will you teach me?”

“I can’t. Only you can give thanks to that Medicine man to give. Only you can give your name to teach the other Trees.”

This story comes from Mi'kmaw Elders.
Mikmaqut Innuksit, “Great Stories”
©1999, Gerald Gloade, Todd Labrador, Mike Labrador, and Todd Labrador.

La Forêt peut nous enseigner

« Vous-ty aimeriez l'Histoire de cette forêt après le Grand Feu? » Aelres-Aino demanda à Petit-Arbre. « Nous honorons les Bénévoles qui ont aidé ce lieu à devenir la terre qui nous sommes. Les Animaux de Cerve Qui Partout les Envoies et les Qui Passent Avant Lui sont nombreux. »

Petit-Arbre regarda autour de lui et dit : « Arbre-Aino, pourquoi notre village ne reste jamais pareil? »

Arbre-Aino répondit : « Ah ! Nous devons suivre les lois de la Nature – toujours l'ensemble avec tous les Autres, comme les Petits Castors qui partagent avec nous et les Oiseaux qui portent nos graines et nous avertissent du danger. Nous changerons toujours et ensemble. Tu dois, toi aussi, suivre ces lois. »

« Me les enseignerez-vous ? »

« Je ne peux pas. Toi seul peux faire de l'ombre aux Bénévoles qui poussent près de toi. Toi seul peux faire pousser les racines pour toucher les autres Arbres. »

Credits: Aino's writing
Todd Labrador, Mike Labrador
Art by: Gerald Gloade, Todd Labrador, Mike Labrador, and Todd Labrador.

Kisikina'muksitesnu Nipukt

“Pawuktoq i'kikukitunnit ta'i' i' Innuksit. Meentak'itak. Nipukt i'kikukitunnit?”
Oqokim ipisimattak Weeski'ik. “Me'si'tannu'itak'itunnit Meantak'itunnit
Mekimik qisimattak'itunnit i'kikukitunnit qisimattak'itunnit me' i'kikukitunnit
me' i'kikukitunnit i'kikukitunnit i'kikukitunnit me' i'kikukitunnit i'kikukitunnit
ke' i' Me Meentak'itunnit Nipukt oq. Tu' i'kikukitunnit ke' i' Me Nekimik.”

Weeski'ik i'kikukitunnit ta'i' i'kikukitunnit. “Oqokim, i'kikukitunnit ke' i' Me
pawuktoq i'kikukitunnit?”

“Ah,” antak'itunnit Oqokim. “Kimi ta'i' i'kikukitunnit i'kikukitunnit i'kikukitunnit
i'kikukitunnit i'kikukitunnit me' i'kikukitunnit i'kikukitunnit i'kikukitunnit
i'kikukitunnit i'kikukitunnit i'kikukitunnit i'kikukitunnit i'kikukitunnit
i'kikukitunnit i'kikukitunnit i'kikukitunnit i'kikukitunnit i'kikukitunnit
i'kikukitunnit i'kikukitunnit i'kikukitunnit i'kikukitunnit i'kikukitunnit.”

“Kisikina'muksitesnu?”

“Me' i'kikukitunnit me. Pawuk i'kikukitunnit i'kikukitunnit i'kikukitunnit
i'kikukitunnit i'kikukitunnit. Pawuk i'kikukitunnit i'kikukitunnit i'kikukitunnit
i'kikukitunnit i'kikukitunnit.”

This story comes from Mi'kmaw Elders.
Mikmaqut Innuksit, “Great Stories”
©1999, Gerald Gloade, Todd Labrador, Mike Labrador, and Todd Labrador.

APPENDIX H
STORY ON INTERPRETATION PANEL IN KEJIMKUJIK

This story was generated by this research process that was incorporated into an interpretation panel for Kejimkujik in 2013. Credits to the Mi'kmaw Elders. Translation by Diane Mitchell.

The Forest Can Teach Us

“Would you like to hear a story about this forest after the Great Fire?” Elder Tree asked Sapling. We give many thanks for the Birches who helped the land become a place where we now enjoy. There are many stories about Those Who Came Before The Fire and Those Who Came Before Them.”

Little Tree looked around and asked, “Elder, why doesn't our village seem to stay the same?”

“Ah,” replied that Old One, “Our responsibility is to follow the natural laws, weave together with all the others, like the little Medicines that share with us and the Birds who carry our seeds and warn us of danger. We will always be changing, together. Your responsibility is to follow those laws, too.”

“Will you teach me?”

“I can't. Only you can give shade to that Medicine next to you. Only you can grow your roots to touch the other Trees.”

Kisikina'muksitesnu Nipukt

“Pewalin a'tukwatmulin ta'n teliaqap Mestamklekek Nipukt kisipmiaqek?” Qokm pipanimatl Weskikji'jkl. “Ma'munimi'walkətəpnik Maskwiaq muta nekmow apoqonmatmi'tip maqamikew apajipensin aq na wejipensikəp ula ta'n nike' kisitlulo'lti'kw. Pukwelkl a'tukwaqann eikl weskumujik Ta'nik Eimu'tipnik Ke's Mu Mestamklenukwek Nipukt aq Ta'nik Eimu'tipnik Ke's Mu Nekomow.”

Weskikji'jk alapa'sit aq pipanimatl, “Qokm, talkis ta'n weskowitai'kw mu punisa'se'wa'sətnuk koqwey?”

“A',” asitemtl Qokmal, “Kinu ta'n amujpa tela'taqati'kw, majulkwatmu'kl uksətqamue'l tplutaqann, mawisknualsultikw msət eik, stəke npisunji'tl ta'n iknmuksi'kul unpisunmuow aq Jipji'jk ta'n alse'so'tuksi'kul ktskinminminal aq keknuatuksi'kw nsanoqon kikja'sək. Apjiw maw sa'se'wita'tesnu. Ki'l elk amujpa mlkimajulkwatesk nekla tplutaqann.”

“Kisikina'muitesk?”

“Ma' ni'n kistla'tekew na. Pasək ki'l kisiaqjikatesk npisunn etlikwekl kmetuk ta'n eimn. Pasək ki'l kisilikwentesk kjipəskl sama'tun iktikl kmu'jl ukjipəskmual.”

APPENDIX I
 POSTER PRESENTED AT THE 27th INTERNATIONAL CONGRESS FOR
 CONSERVATION BIOLOGY
 (Presented August 2-6, 2015 in Montpellier, France)

**Indigenous methods, knowledge and voice:
 Mi'kmaw First Nation approach to learning about fire's relationships to the land**

Chalan Joudry,^{1,2} Karen Beazley,² Annamarie Hatcher²
¹ Keqpukwik Mi'kmaw Territory, ² School for Resource and Environmental Studies, Dalhousie University, ³ Cape Breton University

Methodology Journey

I carved my thoughts
 created and angled
 wore the corners down
 until they flayed
 into something more round

I animated my thoughts
 created up puzzle
 told stories about verbs
 I sat with the burning
 watched things change

Chalan Joudry 2016

Begin (or continue) research process: next steps

Telusi shalan joudry
 Tayawil Keqpukwik ag
 wili Qalukuk

My name is shalan joudry. I am of the Mi'kmaw nation of Nova Scotia, Canada. I work as a community ecologist in my home territory of the Keqpukwik district.

Study Area

Keqpukwik (1), Pilduk (2), Unama'oti (3)

Share learning: at home, in community, with colleagues

- Bring others into conversations or research methods
- Create stories and share ongoing lessons
- Make presentations and posters for the study communities and scholarly audiences
- Write and read poems
- Design national park interpretive panel

Review reflexive journal of experiences

Learning from experiences:

- Being in forest ecosystems with or without fire
- Yielding to special connectivity or camp fires
- Acknowledging Mi'kmaw language relating to fire, "pukitaw"
- Reflecting on how these experiences benefit my research process

Input from community members, university advisors, and cultural leaders/Elders

- Knowledge in Mi'kmaw is a vast, a process of cycling from outer to inner rings of relationships to your subject
- Research design should meet the needs of the community and should be updated as these become better understood - flexible methodology is key
- Participants' stories, Mi'kmaw language, fire itself, reflexive journaling, storytelling, and relating are all modes of the journeys of understanding fire and Mi'kmaw research methodology

Input from Elders/participants about methodology

- Interviews are free-flowing chats
- Offer sacred medicines or other small gifts each visit
- Listening is focusing
- Audio record instead of taking notes

Acknowledgements

When we begin our thanks we are reminded to honour the land and its own history that came before us. I give thanks to the elements, I give thanks to all of the plants, animals and human ancestors around the world who made it possible that we are here today. We thank you to our families, friends, and communities. May our research endeavor to bring more understandings within Mi'kmaw so that we can continue to live on the land in peace and reconciliation among the people and ecosystems.

Funding for this research came through Dalhousie University from Parks Canada, the Confederacy of Maritime Mi'kmaw, and the Social Sciences and Humanities Research Council (Canada) Insight Development Grant.

For more information about Mi'kmaw language and grammar, please read "The Mi'kmaw Grammar of Pictou, Pictou, a Re-Translation" by Bernice Francis and John Havelock, 2012.

Storying as Analysis and Dissemination:

"The Forest Can Teach Us"
 (inspired by participating Mi'kmaw Elders)

We give very thanks to the Elders who helped. The land became a place where we can enjoy. There are many stories about Those Who Came Before The Fire and Those Who Came Before Them:

"Would you like to hear a story about this forest after the Great Fire?", Elder Tree asked Joudry.

Little Tree looked around and asked, "Elder, why doesn't our village seem to stay the same?"

"Ah," replied that Old One, "Our responsibility is to follow the natural laws, we live together with all the others, like the little medicines that share with us and the birds who carry our seeds and warn us of danger. We will always be changing, together. Your responsibility is to follow those laws, too."

"Will you teach me?"

"I can't. Only you can give shade to that Medicine next to you. Only you can give your roots to touch the other Trees."

Contributing Elders and Knowledge Holders

By the nature of being a Mi'kmaw cultural research topic, the stories, teachings, and new ideas are the intellectual rights of the Mi'kmaw as a collective. This research would not have been possible without the care and willingness to share by the following Elders and Knowledge Holders:

Albert Marshall
 Mudeen Marshall
 Frank Meuse
 Todd Lachford
 Lillian Marshall
 Bernice Francis
 Gerald Gicoge
 Clave Denny
 Brian Purdy

Other Mi'kmaw and ecological colleagues also offered their time and expertise to help guide and inform my process. Wee'looc

Images

Photo of shalan by Rose Meuse
 Map of Mi'kmaw by Native Council of Nova Scotia
 Diagram of Mi'kmaw Coming to Know Clones by Mudeen Marshall
 Photo of Bernice Francis by Paul Bennett
 Photo of armoire bowl and medicine pouch by shalan joudry
 Photo of shalan in old growth forest used with permission
 Photo of cultural retreat workshop by shalan joudry
 Photo of shalan's daughters (Mi'kmaw and Metis) Joudry/Mattel helping preparing for ceremony at a sacred fire by shalan joudry
 Center photo of fire in forest by Pierre Marlet
 Background photo of log used with permission