Informing Disaster Resilience through a Nuu-chah-nulth Way of Knowing

By

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MSc, Oxford University, 2007
BSc, University of Victoria, 2004

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ABSTRACT

Over the course of history, and to this day, Indigenous peoples around the world have used their traditional knowledge to prepare for, cope with, and survive disasters (Hasan, 2016). For Indigenous communities, this locally bound knowledge is acquired from intergenerational experience, study, sharing and observation, and as such, it becomes a critical component in the development of a strategy for disaster resilience (Chakrabarti, 2009; Resture, 2009; Rotarangi and Russell, 2009; Trosper, 2003). The purpose of this dissertation is to work with the Nuu-chah-nulth First Nation, which consists of several Indigenous communities on the west coast of Vancouver Island, British Columbia, Canada to understand Nuu-chah-nulth knowledge and strategies for disaster resilience, and how they can inform a shift in cultural understanding within the field of practice of emergency management.

Given the exploratory nature of this research project, a descriptive approach is used based upon Indigenous methodologies and the methodologies of narrative analysis to explore: a Nuu-chah-nulth way of knowing that informs disaster resilience as well as the impacts of colonialism on the disaster resilience of the Nuu-chah-nulth people.

From oral histories to traditional governance, and to the impacts of colonialism, the findings of this research describe the ways that a Nuu-chah-nulth way of knowing informs and reflects their own capacities towards disaster resilience. Ultimately, this dissertation supports a call to action for emergency management practitioners to embrace an Indigenous approach to emergency management when working with First Nation communities. By advocating for the inclusion and the importance of bringing an Indigenous worldview into the lexicon of emergency management practices and the

dialogue on disaster resilience, this research supports the Nuu-chah-nulth First Nation

recognizing that their own knowledge is a powerful tool for supporting and enhancing

their communities' resilience to disaster.

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BCEMS	British Columbia Emergency Management System
CDD	Canadian Disaster Database
DFA	Disaster Financial Assistance
DIAND	Department of Indian Affairs and Northern Development
EMBC	Emergency Management BC
FNESS	First Nations Emergency Services Society
LOU	Letter of Understanding
OCIPEP	Office of Critical Infrastructure Protection and Emergency Preparedness
PEP	Provincial Emergency Program
SF	Sendai Framework
TRCC	Truth and Reconciliation Commission of Canada
INAC	Indigenous and Northern Affairs Canada
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples
UNISDR	United Nations International Strategy for Disaster Reduction

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To my Mom, Dad Brent and Anne, you have always let me believe that anything was possible. It is because of your love and support that I have been able to navigate this challenging and inspiring academic journey. To my brothers, my Nan, and my entire extended family, thank you for always having a kind ear and a loud cheer.

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DEDICATION

To my sonshines,

Keegan and Bowen,

you both make the world a very bright place…

CHAPTER 1: INTRODUCTION

INTRODUCTION

Over the course of history, and to this day, Indigenous nations and communities have relied on locally specific forms of knowledge to prevent, mitigate, prepare, respond and recover from disasters. For these communities, this locally bound knowledge is acquired through intergenerational experience, study, sharing and observation, and as such, it becomes a critical component in the development of a strategy for disaster resilience in Indigenous communities (Chakrabarti, 2009; Resture, 2009; Rotarangi and Russell, 2009; Trosper, 2003).

For the Nuu-chah-nulth First Nation, this interplay between Indigenous knowledge and disaster resilience is no exception. The people of the Nuu-chah-nulth First Nation, which is comprised for fourteen autonomous communities, have been living in communities along the Pacific Coast of Vancouver Island, British Columbia, for thousands of years. From earthquakes to climate change and colonization to state-constructed present day policy, the Nuu-chah-nulth communities have experienced countless natural and human induced disasters. Although many of these events have challenged the communities' capacity to cope, each event has invariably added to the depth of Nuu-chah-nulth knowledge that is bound within and between these communities (Cliff Atleo Sr., personal communication, March 5, 2015).

Perhaps the most significant of these events has been the past and present impacts of colonialism that represent the edifice of a catastrophic and enduring disaster that has spanned generations for the Nuu-chah-nulth First Nation (Howitt, Havnen, & Veland,

1

2011; TRCC, 2015). Indeed, the decidedly human induced disaster of colonialism, which entails systematic community depopulation, impacts of residential schools, loss of land, amongst many other impacts, has eroded the social, cultural and spiritual infrastructure of these communities and represents a painful chronicle of invasive illness, broken treaties, stolen lands, Indian residential schools, and the Indian Act (Howitt et al., 2011). The impacts of colonialism have been traumatic and have burdened the Nuu-chah-nulth people with unimaginable cross-generational physical, social, economic and cultural challenges (George, 2003). And yet, in spite of colonial attempts at occupation and assimilation, the Nuu-chah-nulth First Nation have exercised and reflected an inherent resilience by holding onto an extraordinary amount of cultural knowledge (Atleo, 1997; Atleo, 2010; Trosper, 2003, 2009). The purpose of this dissertation is to offer an interpretation of a Nuu-chah-nulth approach to disaster resilience.

Based on the knowledge and experience of both natural and human induced disaster amassed by the Nuu-chah-nulth First Nation, this dissertation explores a Nuu-chah-nulth way of knowing that is connected to disaster resilience. Consistent with the principles of an Indigenous methodology, and through the qualitative approach used to guide this research, a narrative is developed to give further attention to colonialism as an enduring disaster. This is a critical point of intersection, because when faced with a disaster, it is possible to infer that the Nuu-chah-nulth people are not only affected by the immediate impacts of specific current events, but also by the underlying and ongoing trauma caused by the impacts of colonialism.

According to Public Safety Canada's Disaster Database (CDD) there were 281 significant disasters in Canada between the years 2000 and 2014 (Ibrahim, 2016). These

disaster events identified: severe winter storms, extended power outages, floods, tornadoes, hurricanes, wildfires and industrial/transportation accidents (Ibrahim, 2016). In drawing on the pioneering work of geographer Gilbert F. White and sociologist J. Eugene Haas, to fully understand the impacts of disasters, it is critical to look beyond the physical impacts of natural events and explore the complex connections between the economic, social and political dimensions (White & Haas, 1975). For the purposes of this research, disasters are understood as a combination of the exposure to a hazard; the conditions of vulnerability that are present; and the insufficient capacity or measures to reduce or cope with the potential negative consequences (UNISDR, 2009).

From the local level, to the international level of state-centric governance models, the formal management of natural, technological and human induced disaster resides within the field of emergency management (Perry, 2007; Mileti, 1999). Across the discipline, the goals of reducing harm to life, property, and the environment remain a universally motivating concept (Coppola, 2011). From its military roots, the command and control frameworks that guide emergency management have traditionally been approached through values and understandings that often align with that of the dominant culture (Quarantelli, Lagadec & Boin, 2007; Veland, Howitt, & Dominey-Howes, 2010). For First Nation communities across British Columbia, emergency management is a legislated responsibility of Indigenous and Northern Affairs Canada (INAC) and, through a bi-lateral agreement, emergency management services are delivered to communities by Emergency Management BC (EMBC) (Emergency Management Services Funding Agreement, 2017). Through this funding agreement, EMBC works with on-reserve First

Nation communities to deliver mitigation, preparedness, response and recovery programming to support community based emergency management programs.

The concept of disaster resilience is central to this dissertation and emerges from within the hazards and disaster literature that encompasses emergency management. Residing within the inherent conditions that allow a social system to respond and recover from adverse events, the foundations of disaster resilience take shape within the foundations of society (Cutter, Barnes, Berry, Burton, Evans, Tate & Webb, 2008; Kirmayer et al., 2009; & Rotarangi and Russell 2009). Additionally, a disaster resilience approach includes the pre-event measures that aid in preventing hazard-related impacts as well as the post-event strategies that support the ability of individuals and communities to cope with and minimize the impacts of disaster (Cutter et al., 2008; Tierney & Bruneau, 2007).

Rationale

Although Indigenous knowledge and disaster resilience have been explored in parts of Asia and the South Pacific (Shaw et al., 2009; Mercer, Kelman & Dekens, 2009; Baumwoll & Krishnamurthy, 2009; Veitayaki, 2009), there are few other guiding studies within the Canadian context specific to the incorporation of Indigenous knowledge into disaster resilience and emergency management literature (Andersson, 2008; Kirmayer et al., 2011). This dissertation aims to address this gap as well as to create a space for increased awareness and to encourage a cultural evolution within the field of practice of emergency management.

Purpose

Working with Nuu-chah-nulth communities, the purpose of this dissertation is to develop an understanding of how Nuu-chah-nulth knowledge contributes to approaches and applied strategies for disaster resilience.

RESEARCH QUESTIONS

This research is positioned at the intersections between Nuu-chah-nulth knowledge, disaster resilience, and emergency management. Two primary research questions have guided this research process (Research Question 1 and Research Question 2), followed by a third question that evolved throughout the fieldwork (Research Question 3). These three research questions are:

Research Question 1: What are the Nuu-chah-nulth ways of knowing that inform disaster resilience?

Research Question 2: How are these Nuu-chah-nulth ways of knowing applied in a way that demonstrates disaster resilience?

Research Question 3: How has colonialism influenced the disaster resilience of the Nuu-chah-nulth First Nation?

DISSERTATION FORMAT

This dissertation is organized into seven chapters. The first chapter includes the introduction, while the second chapter addresses the complex research context by providing background detail on the foundational elements of this research: the nature of Nuu-chah-nulth communities, the historical legacy of colonialism in the Canadian

context, and finally practices and principles of emergency management and disaster resilience. Chapter three situates this research within a theoretical framework and highlights the methodologies that guide this work. Chapter Four addresses the findings regarding Nuu-chah-nulth knowledge and disaster resilience, while Chapter Five addresses the findings specific to the colonial experiences of the Nuu-chah-nulth peoples as an enduring disaster. Chapter Six draws the findings of this research together through a discussion. Conclusions are then drawn in Chapter Seven in relation to the three research questions that guided this work. Additionally, this chapter also address the limitations of this research, its scholastic and applied contributions as well as possibilities for future research within this area of study.

CHAPTER TWO

RESEARCH CONTEXT

INTRODUCTION

Immediately following a disaster, communities are at the frontlines of both the initial impact of an event and the lifesaving actions required for response. One way to reduce the impacts of disaster on community is to invest in enhancing resilience (Jenkins, 2013; Ronan & Johnston, 2005). For Indigenous nations like the Nuu-chah-nulth First Nation, this is no exception. To better situate this research within existing literature, Chapter 2 provides important contextual information for the foundations of this work (Andersson, 2008; Kirmayer et al., 2011). Beginning with an overview of the Nuu-chah-nulth First Nation, attention is paid to the pre-contact and colonial histories as well as to profile the hazards and disasters that have impacted these communities. This is followed by a section on colonialism which is situated within the Canadian context. To support this understanding, this section also addresses the contemporary governance frameworks outlined by the Truth and Reconciliation Commission of Canada and the United Nations Declaration on the Rights of Indigenous Peoples, as well as providing additional context on reconciliation. As a final foundational element to this research, emergency management and disaster resilience are addressed. Within this area of the literature, an overview of emergency management is provided, followed by specifics on First Nations emergency management in British Columbia. An overview of the Sendai Framework is then used to bridge the literature between emergency management and disaster resilience. With these points of connection made, the literature on disaster resilience is then

explored, followed by an overview of how the concept of Indigenous resilience is used in this research.

NUU-CHAH-NULTH FIRST NATION

Located along the west coast of Vancouver Island, the Nuu-chah-nulth people are a group of interconnected communities, who share a common language as well as collective cultural, social, and spiritual practices (Atleo, 2010). With a population of over 8,000 the fourteen Nuu-chah-nulth First Nations are often identified within three geographic regions: Southern Region – Ditidaht, Huu-ay-aht, Hupacasath, Tse-shaht, and Uchucklesaht; Central Region – Ahousaht, Hesquiaht, Tla-o-qui-aht, To-quaht, and Ucluelet; and Northern Region – Ehattesaht, Kyuquot/Cheklesahht, Mowachat/Muchalaht, and Nuchatlaht. By relation, the Nuu-chah-nulth also have strong ties to the Makah, on the tip of the Olympic Peninsula in Washington State (NTC, 2013) (Figure 1).

It is the shared tradition of whaling that sets these closely connected Indigenous communities apart from other northwest coast peoples. Known as the 'Whaling People', extensively detailed within the writing of Arima and Hoover (2011), each community can be identified as 'tribes' or 'confederacies', each of which still have an intimate relationship with the sea. Although the Nuu-chah-nulth people have not whaled for many generations, they still maintain a special relationship with whales (George, 2003). The Makah have revitalized these traditions and have practiced whaling as recently as 1999 (Atleo, 2010).

Figure 1: Map of Nuu-chah-nulth Communities
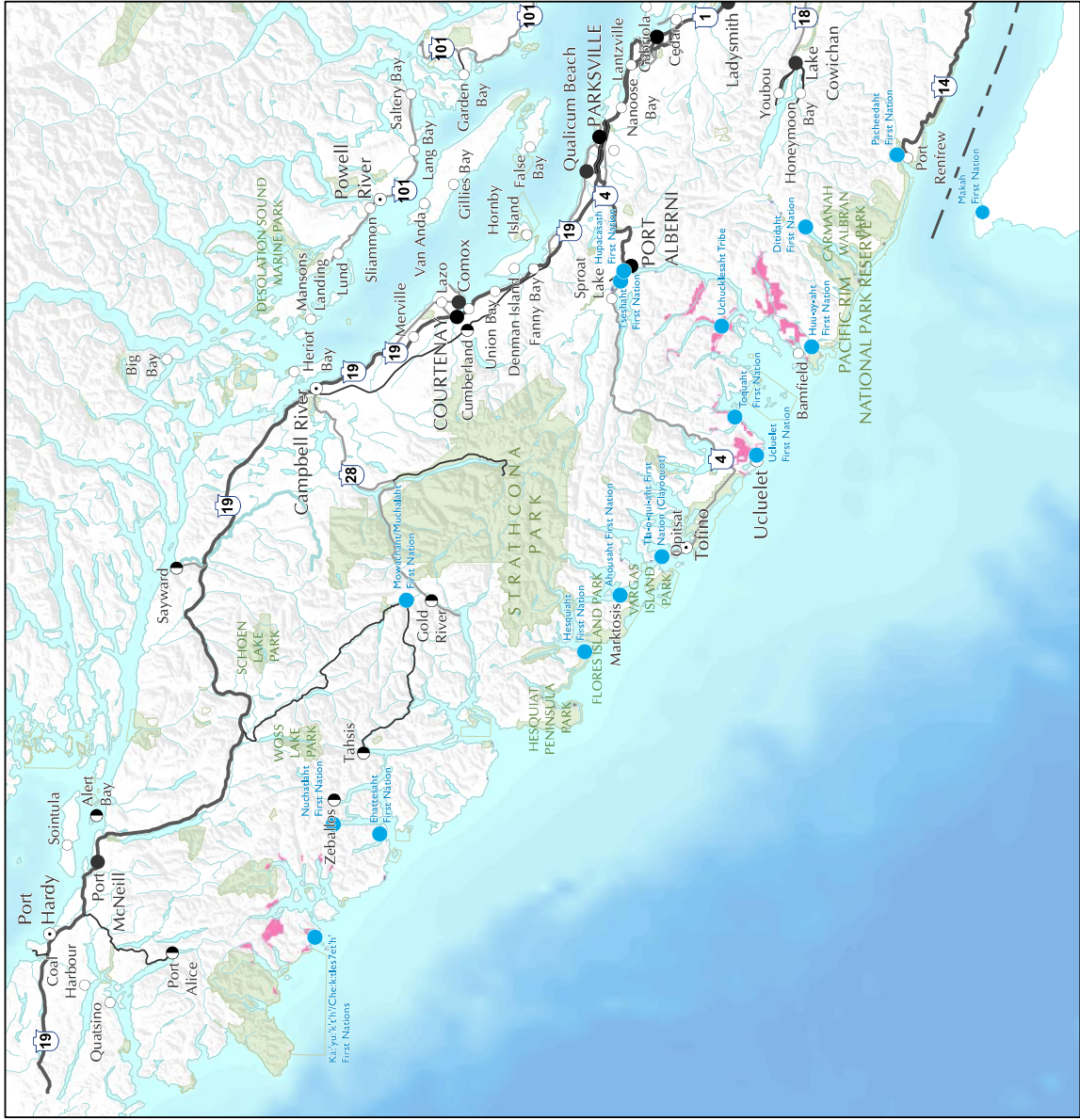
Source: GeoBC, 2017

Identified by Atleo (2010) as 'salt water people', he highlights the dynamic settlement patterns of Nuu-chah-nulth communities in concert with seasonal seafood harvests. Moving between the coast in the warmer months and the calmer waters in the colder months, the Nuu-chah-nulth people demonstrated a strong practice of seal hunting and gathering shellfish. Even following occupation and settler encroachment, the Nuu-chah-nulth still maintained a deep relationship with the sea, participating in the commercial salmon, halibut, and cod fisheries (Atleo, 2010).

Central to the Nuu-chah-nulth is their worldview and value system, which is intimately expressed through the Nuu-chah-nulth language. Foundational to this research and core to a Nuu-chah-nulth worldview, is *heshookish tsa'walk*, meaning 'everything is one' or 'everything is connected' (Atleo, 2004). Tied to both physical and metaphysical realities, *heshookish tas'walk* is a fundamental concept that reminds Nuu-chah-nulth people that all life is connected and nothing exists in isolation (Atleo, 2010). Other Nuu-chah-nulth words that speak to their worldview and value system include: iisaak (respect), iistaakstalth (respectfulness), ya'akstalth (lovingness), ha'hopstalth (wisdom), hopiitstalth (helpfulness/caring), and ap-haystalth (kindness). For the Nuu-chah-nulth, this worldview and value system is intrinsically balanced between principle and practice. Atleo (2010, p.12) states "our principles are envisioned to be unchanging, regardless of changing circumstances. Practices, on the other hand, are assumed to change over time, so long as they uphold our principles".

To fully situate the Nuu-chah-nulth people at the heart of this research about disaster resilience, it is important to address Nuu-chah-nulth pre-contact history, Nuu-

chah-nulth colonial history, and the hazard and risk profile that affects Nuu-chah-nulth communities.

Nuu-chah-nulth Pre-Contact History

For the Nuu-chah-nulth, the 'beginning' is not a place in time, rather it is a place in the heart; a place of spirituality. Acknowledged within the work of Atleo (2010), it is very challenging, if not impossible, to accurately determine pre-contact Nuu-chah-nulth practices. Much of the literature on pre-contact Nuu-chah-nulth life is derived through the early colonial and settler texts of Richard Inglis and James Haggarty (2010), who chronicled Nuu-chah-nulth life based on the early recordings of Captain James Cook and John Jewitt. The challenge with this literature is that it is often rooted in misrepresentation and misinterpretations through the hands of colonial authors. Other historical accounts, as detailed by Arima and Hoover (2011) look to archeological records for the excavation of the Nuu-chah-nulth villages of Yuquot, Hesquiaht, Toquaht and Makah. Atleo (2010) suggests that a more meaningful and accurate point of reference in understanding pre-contact Nuu-chah-nulth life resides in the oral histories of the lives and lessons of Nuu-chah-nulth ancestors. Similarly, this approach is also identified within the autoethnographic work of Hereditary Ahousaht Chief Earl Maquinna George (2003) as well as of Green (2013), where she explores an understanding of pre-contact Nuu-chah-nulth life through oral records, origin stories, *yakwiimat* (most distant ancestors) and by acknowledging the spiritual beliefs that form a central core of Nuu-chah-nulth cultural practices.

Like other First Nation peoples, the Nuu-chah-nulth people have always maintained a close relationship with their natural environment. Based on the richness of the landscape, historically, the Nuu-chah-nulth traditional territories had abundant marine and land-based resources. Due to this natural abundance of resources, the Nuu-chah-nulth did not engage in the domestication of animals or plants. Anthropologist Wilson Duff (1977) notes that their cultural history is distinguished by a creative richness that is witnessed through the inventive production of beautifully crafted animal skin, cedar bark, and woven grass clothing and regalia (Arima & Dewhirst, 1990). To enhance this ceremonial regalia, the Nuu-chah-nulth looked beyond their own environmental offerings and engaged in complex trade networks with other west coast Indigenous groups. During post-contact encounters, this long tradition of trade served the Nuu-chah-nulth well as they were often seen as shrewd trading partners (Green, 2013).

Formed around the importance of kinship and class rank, the Nuu-chah-nulth had established complex social and organizational structures that included elements of economy, technology, and ceremonialism (Atleo, 2010). As identified in the work of Drucker (1951), the chiefly classes traditionally held absolute ownership over all important economic and ceremonial rights, yet the *maschim* (commoner class) were relatively mobile and could affiliate themselves with whatever chief they pleased. Within Nuu-chah-nulth communities, the display of ceremonial and economic rights was a collective undertaking, with the chiefs relying on the support of family members. Of critical importance within Nuu-chah-nulth ceremonial rights were the social and economic systems engaged in through potlatch ceremonies. Derived from the Nuu-chah-nulth word *pachitl* (to give away), a potlatch is a form of both social and economic

engagement where the wealth of the host family is redistributed among a larger community of witnesses (George, 2003). By attending a potlatch and accepting the gifts of the host family, the attendees are committed to remembering the business that occurred, the oral histories presented, and the rights that were witnessed; thus, the attendee becomes a socially indebted witness to the knowledge that is imparted (Green, 2013).

Identified within the writing of George (2003), extreme levels of conflict and war occurred between Nuu-chah-nulth communities. He identified that the conflict was often land and resource based and usually resulted in a hostile and deadly takeover. Nuu-chah-nulth warriors were generally armed for hand-to-hand combat with knives, spears and clubs. Following contact, weaponry swiftly shifted to guns. In preparation for battle, George (2003) details Nuu-chah-nulth values of *uusimch* (cleansing and praying) that were always present and that were a critical component of personal protection.

Exploring pre-contact Nuu-chah-nulth life, Atleo (2010) makes a conscious effort to acknowledge that he is not approaching this historical narrative through a utopian lens. Within Atleo's work, he references an interview with Chuuchkamalthnii (a member of the Opetchesaht tribe of the Nuu-chah-nulth First Nation) who states, "Our own ways of being and beliefs are one hundred percent appropriate to this place". Atleo elaborates on this statement by acknowledging that the Nuu-chah-nulth people have lived in their present territory for thousands of years and although they may not have always made the best decisions or acted according to Nuu-chah-nulth societal norms, these decisions and actions have become the historical narrative that have shaped Nuu-chah-nulth oral tradition and have been told and retold to generations of Nuu-chah-nulth as a reminder of

the right way to live. It is arguably these oral histories that provide the best understanding of pre-contact Nuu-chah-nulth life through both true accounts and mythological journeys that still serve as a point of historical reference within Nuu-chah-nulth communities to this day (George, 2003).

Nuu-chah-nulth Colonial History

Life for the Nuu-chah-nulth First Nations has changed dramatically in the last 240 years due to colonization, settlement, the *Indian Act*, industrialization, loss of language, resource extraction, and capitalism (Atleo, 2010; Green, 2013). The Nuu-chah-nulth were among the first Pacific peoples north of California to encounter Europeans. The first documented contact between the Nuu-chah-nulth people and *Maatmalthnii* (people floating around on the water without a home) occurred around August 7, 1774 when Spaniard, Juan Perez and his ship, the Santiago was met with skepticism by the Nuu-chah-nulth people who initially refused to make contact (Beals, 1989; Green, 2013). Over time the Nuu-chah-nulth ventured out in their canoes and engaged in trade. Although the Santiago never came ashore engagement with Perez and his crew is acknowledged as the first point of colonial contact within Nuu-chah-nulth traditional territory.

Four years later in March of 1778, the Resolution and the Discovery, captained by James Cook, anchored outside of Friendly Cove on Nootka Island, in what is known today as the community of Yuquot, the traditional territory of the Mowachaht/Muchalaht people. Upon initial contact, the Nuu-chah-nulth instructed Cook to "come around" (Nuu-chah-nulth *nuutkaa* is "to circle around") with his ship in the harbour. Cook interpreted *nuutkaa* as the name of the inlet, which upon conquest, he identified as

Nootka Sound. According to the ships journals, the Nuu-chah-nulth engaged in trading immediately and were skilled and uncompromising traders as noted above in their pre-contact trade relationship with other communities (Cook & Beaglehole, 1968).

In a time known as the Sea Otter Epic (1780-1824), colonial exploitation of sea otter pelts became the dominant economy along the northwest coast (Green, 2013). Ships from Europe and the United States engaged in trade with Nuu-chah-nulth communities. However, this was not a one-sided exploitative relationship; rather, due to the savvy trading skills of the Nuu-chah-nulth, not only did the communities profit, but they also demanded that the trade ships accommodate their seasonal schedules and ceremonial protocols. By the mid-1820's, the sea otter population had been hunted to near extinction and the West Coast became known as the "Graveyard of the Pacific" (Green, 2013). It was also during this time that several 'slave captivity narratives' had been written, identifying the Nuu-chah-nulth as ruthless, violent, and inhospitable traders; these sensational narratives further deterred trading engagement (George, 2003; Green, 2013).

Following the era of the Sea Otter Epic, the Hudson's Bay Company (HBC) dominated much of the colonial power of the mid-20th century on Vancouver Island. In 1849, Vancouver Island was officially named a colony, with the HBC placed in charge of trade, the sale of land, and the development of industrial capital through resource extraction (Newman, 1989; Royle, 2011). Along with its new colony status, James Douglas was identified as the first governor. Alongside his political role, Douglas was also the 'chief factor[1]' for HBC (Royle, 2011). In many ways, the HBC corporation was itself acting the role of colonial government (Wiart, 2016).

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[1] Chief Factor was a rank for commissioned officers within the Hudson's Bay Company

The latter half of the 19th century brought about dramatic changes that took place on the West Coast with a major economic shift brought about by the capitalist exploitation of gold, coal, timber and salmon (Atleo, 2010). It was this emerging capitalist economy that set rapid industrialization in motion. The Nuu-chah-nulth played a critical role in this early industrial economy as their labour was critical for its success. At a time when the settler population was still relatively low, the Nuu-chah-nulth found themselves in an economic position of power and negotiation. While still maintaining their own seasonal subsistence economies, the Nuu-chah-nulth began to participate in wage labour, bringing about new forms of wealth that extended into the commoner class within their society (Lutz, 2008). This wage-based economy enhanced Nuu-chah-nulth ceremonial life, allowing wealth to be accumulated over the late-spring, summer, and early-fall months in preparation for redistribution through the potlatch system, which occurred throughout the winter months.

It was also during this period that British Columbia joined the Canadian confederation (1871). At this time, the government of Canada began aggressive assimilationist policies through the drafting of the Indian Act in 1867 (Atleo, 2010). For the Nuu-chah-nulth people, the latter half of the 19th century and the early part of the 20th century were marked by a period of deepening colonial oppression (George, 2003). In 1885, the Nuu-chah-nulth were stripped of their ceremonial rights as a federally imposed ban on potlatches came into effect and in 1920, the Indian Act ritualized attendance at Indian Residential Schools as a mandatory practice for Nuu-chah-nulth children (Atleo, 2010; Green, 2013). Through this legislation, Nuu-chah-nulth children were forcibly removed from their homes, alienated from their families and communities, and forbidden

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to speak their language or practice their cultural traditions (Green, 2013). In addition, this era was also marked by a dramatic decline in First Nation population numbers through the often-intentional exposure by settler populations to diseases such as small pox and tuberculosis (George, 2003). With high rates of death due to disease and the removal of children into the Residential School system, this was a period of dramatic cultural upheaval within Nuu-chah-nulth communities, the intergenerational effects of which persist throughout these communities today (George, 2003; Atleo, 2010).

Throughout the 20th century, the Nuu-chah-nulth traditional territory was inundated by a significant settler population who relocated to engage in the industrial economy which was now thriving in the Alberni Valley of British Columbia, Canada. Through the Reserve section of the Indian Act and a thriving capitalist resource-based economy, the Nuu-chah-nulth experienced major losses through the dispossession of their land and other natural resources, along with a loss of access to commercial fishing rights due to federal legislation (George, 2003). As a result, the Nuu-chah-nulth found themselves experiencing newfound levels of poverty (Atleo, 2010).

Spanning four centuries, the impacts of colonialism have eroded the social, cultural and spiritual fabric of the Nuu-chah-nulth First Nations and these effects continue to persist today in the form of settler colonialism; a distinct type of colonialism that functions through the replacement of Indigenous populations with an invasive settler society that, over time, develops a distinctive identity and sovereignty (Baker, Battell & Lowman, 2015). Through the challenges of the modern-day treaty process (George, 2003), to the difficulties in building strong and transparent Nation to Nation relationships

(Mack, 2007), colonial realities are still very present in Nuu-chah-nulth life (Atleo, 2010).

Hazards and Disasters that Affect Nuu-chah-nulth Communities

The number and severity of disasters along British Columbia's coastline continues to increase due to the diversity of natural and human-caused hazards, climate change impacts and the ongoing expansion of the urban environment (EMBC, 2014; Hutchinson & McMillan, 1997). Given that the Nuu-chah-nulth live in communities near the ocean, there is the ever-present increased risk of coastal hazards. Due to geophysical make-up, investments in critical infrastructure, economic viability and social cohesion, the impacts of a given hazard will vary within each Nuu-chah-nulth community; however, the types of hazards each community is exposed to remain fairly consistent (Trosper, 2003). According to Emergency Management BC (2014), the most notable hazards of concern that impact all Nuu-chah-nulth communities include: earthquake, tsunami, interface fire, flood, severe weather, power interruptions, disease outbreaks and hazardous materials spills. For the Hupacasath and Tseshaht First Nations, the risk of a dam breach is an additional hazard that must be considered (EMBC, 2014).

For the Nuu-chah-nulth, the presence of hazards and the catastrophic impacts of disaster date back over 3,000 years (McMillan & Hutchinson, 2002). Using archaeological evidence, coupled with oral traditions, Hutchinson and McMillan (1997) assess the concurrence of earthquake events and phases of village abandonment to chronicle seismic occurrence along the Cascadia fault. They find that village abandonment not only occurred because of earthquakes and the secondary impacts of

tsunami, but also due to other factors such as warfare, flooding, disease and depletion of resources. These findings are additionally supported through the work of Ludwin, Denis, Carver, McMillan, Losey, Clague, Jonientz-Trisler, Bowechop, Wray and James (2005), where they acknowledge the contributions of oral histories, in concert with scientific understanding to gain insights into the 1700 Cascadia subduction zone seismic event. Through these publications and others, the authors present Nuu-chah-nulth narratives that speak to the myth and ceremony surrounding seismic events. However, for the purposes of this work, these stories will not be reiterated within this dissertation due to a fear of misrepresentation.

In recent memory, the tsunami event of 1964 had a significant impact on several Nuu-chah-nulth communities, including Ehattesaht, Hesquiaht, Tse-shaht, and Hupacasath (Titian, 2014). With the tsunami arriving late in the night between 10:30 to midnight depending on the location (earlier to the north in Ehattesaht and midnight to the south in Tse-shaht), the response was chaotic and difficult. Although no lives were lost, the hardest hit and most remote of the Nuu-chah-nulth communities, the Hesquiaht, saw almost all the homes in its old village site destroyed (Titian, 2014).

More recently, in 2016, a number of Nuu-chah-nulth leaders came together with Emergency Management BC to engage in a dialogue related to the disastrous impacts of suicide in Nuu-chah-nulth communities (personal communication, March 15, 2017). In an open letter to the Standing Committee on Indigenous and Northern Affairs, the Nuu-chah-nulth Tribal Council (2016) detailed the suicide crisis in Nuu-chah-nulth communities. Factors that influence this crisis have their roots in cross-generational historical trauma, the challenge of reclaiming identity, minimal community size and

isolation, and a lack of culturally safe services. Consequently, the suicide rate is 4.5 times higher for First Nations than it is for non-First Nations populations (NTC, 2016). The Nuu-chah-nulth are not alone in experiencing higher rates of suicide than other populations. In 2016, the Pimicikamak Cree Nation, followed by the Attawapiskat First Nation both declared a state of local emergency following an overwhelming rate of suicide attempts (Puxley, 2016; Rutherford, 2016). In these cases, community leadership identified that the impacts of these suicide events exceeded the capacity of their community to manage the situation.

For Nuu-chah-nulth communities, it seems evident that the past and present impacts of disaster are woven through experiences linked to both pre-contact history and contemporary colonial times. In drawing the above accounts of disaster together, it must be recognized that responses to these events rely on elements of Nuu-chah-nulth knowledge in concert with scientific understanding. In understanding the significance and effect that hazards and disasters have on Nuu-chah-nulth communities, these two forms of knowledge afford a critical point of intersection.

COLONIALISM IN CANADA

In this dissertation colonialism is understood as a political ideology that legitimated the modern European invasion, occupation and exploitation of inhabited Indigenous lands throughout the world (Coates, 2004). Colonization was undertaken to meet the perceived economic and political needs of the imperial powers and was rationalized by these powers to bring Christianity and 'civilization' to the Indigenous peoples of the world. Central to the colonial ideology was the justification of universalizing a specific set of European beliefs and values and imposing them on Indigenous peoples (Deloria, 1969;

Howe, 2003; McMillian & Yellowhorn, 2004). This underlying belief system rested on an idea of the racial and cultural superiority of Europeans and Christians exercised through a 'civilizing mission'. Colonizers aimed to bring civilization to savage people who could never civilize themselves (Coombes, 2006). In short, it was asserted that Indigenous peoples were being colonized for their own benefit and salvation.

The enduring disaster of colonialism was experienced as a local and global catastrophe for Indigenous populations as long ago as the sixteenth century, when European colonial settlers gained control of Indigenous peoples' lands in nearly every part of the world (UNDRIP, 2016). Led by Spain and Portugal, the growth of the European-dominated global economy was directed by Holland, France, and, in the end, most notably by Britain (Wolfe, 1999). During this time, the activities of explorers, farmers, prospectors, trading companies, and missionaries set the stage for expansionary wars, the negotiation and the breaking of treaties, attempts at cultural assimilation, and the exploitation and marginalization of the original inhabitants of the colonized lands (Bishop, 2003; Howe, 2003). Often established through military involvement, extensive and violent wars were waged between the imperial colonial powers as well as with Indigenous populations to maintain control over the newly established colonies (Coombes, 2006).

The outcomes of colonialism have been disastrous for Indigenous people. Rapid depopulation and large scale forms of physical, mental, and social abuse contributed to substantial losses of identity, language, cultural practice, religious belief and property (Howitt et al., 2011). The colonists and their decedents were the chief beneficiaries of these newly formed empires, as many of the colonies that were settled grew to be among

the most prosperous societies in the late nineteenth- and early twentieth-century (Howe, 2003). Once established and under imperial control, settler colonies often went on to gain political independence, as is the case for Canada.

The Canadian state was established in 1867 and during the early years of confederation, a priority of the government was to settle newly acquired lands in western Canada. Identified as some of the earliest elements of Canadian Aboriginal policy, the Rupert's Land Order (1870) and prior to that, the Royal Proclamation (1763) came into effect and placed limits on the conditions under which Aboriginal land could be transferred (Royle, 2011; TRCC, 2015). These policies essentially marked the beginning of the treaty making process within Canada.

Indigenous peoples saw the treaty process through a lens of reciprocity in building lasting relationships with the Canadian government (Ray, 2010). Although the exact provisions varied from treaty to treaty, in exchange for traditional land, they were seeking funds for hunting and fishing supplies, agricultural assistance, yearly payments for band members (annuities), access to on-reserve education for children, and an amount of reserve lands based on the population of the band (McMillan & Yellowhorn, 2004; Ray, 2010). From the Canadian government's perspective, the most important element in the Treaty process was for the Indigenous peoples to "cede, release, surrender, and yield" their land to the Crown (Miller, 2009; TRCC, 2015). However, despite the colonial pressures to acquire land, the government of Canada took a slow and piecemeal approach to treaty making and was slow to live up to its treaty obligations, with some obligations remaining unfulfilled to this day (Miller, 2009).

In 1876, the federal government developed the Indian Act, giving Canada a coordinated approach to 'Indian policy' rather than the pre-Confederation piecemeal approach. With the intent of assimilation, the priorities of the Indian Act addressed three main areas of legislation: land, membership and local government. Essentially, this legislation defined who was and who was not an 'Indian' under Canadian law, as well as defining the process through which a person could lose their status as an Indian (Morris, 1880; Reading and Wien, 2009). This oppressive legislation was met with resistance by First Nations people who were unwilling to surrender their Indigenous identity in this manner. As a further act of oppression, the federal government amended the Indian Act in 1920 to give it the authority to strip individuals of their status against their will (McMillan & Yellowhorn, 2004). As explained by Duncan Campbell Scott, Indian Affairs Deputy Minister from 1913 to 1932, "our objective is to continue until there is not a single Indian in Canada that has not been absorbed into the body politic, and there is no Indian question, and no Indian Department that is the whole object of this Bill" (TRCC, 2015, p. 54).

The Indian Act also undermined the ability of First Nations to self-govern. Through the legislation, the federal government was given the authority to over-turn decisions made by band councils and to strip the power of chiefs and councilors. As this legislation became further entrenched in government First Nations relations, the government also began to assume greater authority as to how reserve land could be allocated (Reading & Wien, 2009; TRCC, 2015). Under this paternalistic approach entire reserves were relocated against the will of the residents.

At the level of the family, further policies on assimilation contained in the Indian

Act empowered the federal government to compel parents, in many cases forcibly, to

send their children to residential schools. Deemed unfit by the federal government to care

for and educate their own children, the implementation of residential schools was based

on the assumption that European civilization and Christian religions were superior to the

'savage and brutal' ways of Indigenous life (McMillan & Yellowhorn, 2004; TRCC,

2015). Much more than simply providing education to Indigenous students, residential

schools were an intentional component of Canadian legislation enacted to further cultural

genocide. By separating Indigenous children from their families, community ties and

cultural linkages, an understanding of their own personal Indigenous identity was

minimized and weakened. Based on the findings of the Final Report of the Truth and

Reconciliation Commission of Canada (TRCC, 2015), institutional life for the children in

residential school was lonely and alienating. Further, the environment was one where

discipline was harsh and a lack of supervision created situations where students were

prey to sexual and physical abusers (McMillan & Yellowhorn, 2004). Moreover, through

the guidance of residential school administrators, the federal government enforced a ban

on Aboriginal cultural and spiritual practices which most prominently included the west-

coast Potlatch and the Prairie Thirst Dance (often referred to as the "Sun Dance") (Cole

& Chaikin, 1990). In short, the colonial history and goals of Canada's Aboriginal policy

were to eliminate Indigenous governments, ignore Indigenous rights, terminate the

treaties and, through a process of assimilation, cause Indigenous peoples to cease to exist

as distinct legal, social, cultural, religious, and racial entities in Canada (Bracken, 1997;

Inglis, Haggerty & Neary, 2000; TRCC, 2015). Shaped by Canadian history and

entrenched in present day society, colonialism remains on ongoing process, with a continuous influence on both the structure and the quality of the relationship between the Settlers and Indigenous peoples.

Contemporary Governance Frameworks

Truth and Reconciliation Commission of Canada

The Truth and Reconciliation Commission of Canada (TRCC) was established in 2008 as part of the Indian Residential Schools Settlement Agreement. As part of its five-year mandate, the TECC must inform all Canadians about what happened in residential schools by documenting the shared stories of survivors, families and communities. The goal of the final report is to guide and inspire Indigenous peoples and Canadians to work together toward reconciliation and a renewed relationship based on mutual understanding and respect (TRCC, 2015).

More than 6,000 witnesses came forward to share their stories. Many of these stories documented a dark history of physical and sexual child abuse, with some marked by death (TRCC, 2015). Although the goal of this report is to build a path towards reconciliation, criticism regarding the process and outcome of the commission have surfaced. Identified within the work of Corntassel, Chaw-win-is and T'lakwadzi (2009) the TRC framed much of the witness narrative in a narrow way, negating a full appreciation of the ongoing, intergenerational impacts of residential schools that persist in communities, families and with individuals to this day. Corntassel et al. (2009) highlight that the TRC is not just about sharing the stories of the impacts of residential

schools, but about re-storying an Indigenous version of Canadian history, through an approach that privileges the Indigenous narrative.

As an outcome of the TRCC final report on the history and legacy of Indian Residential Schools, 94 Calls to Action were published. Urging all levels of government to work together to repair the harm caused by residential schools and move forward toward reconciliation, the government of Canada made a commitment to fully implement each of the calls (TRCC, 2015). As a starting place to implement the Calls to Action, the Government of Canada began this work towards reconciliation in May 2016 with the adoption of the United Nations Declaration of the Rights for Indigenous People.

United Nations Declaration of Rights for Indigenous People

The United Nations Declaration of Rights for Indigenous People (UNDRIP) was adopted by the United Nations General Assembly in September of 2007[2] and fully embraced by Canada in May of 2016 and British Columbia in 2017. As a global declaration, UNDRIP speaks to the individual and collective rights of Indigenous people around the world. In addition, it offers guidance on cooperative relationships with Indigenous people based on the principles of equality, partnership, good faith and mutual respect. Laid out in 46 Articles, UNDRIP was developed to ensure a global set of human rights standards that would protect Indigenous peoples from discrimination and inequality (United Nations, 2008).

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[2] The September 2007 vote that witnessed a majority of 144 states in favour, 4 votes against (Australia, Canada, New Zealand and the United States) and 11 abstentions (Azerbaijan, Bangladesh, Bhutan, Burundi, Columbia, Georgia, Kenya, Nigeria, Russian Federation, Samoa and Ukraine).

For nearly a decade, Canada was absent as a signatory to UNDRIP. Canada's main objection to the declaration resided with Article 32 that addresses the provisions dealing with lands, territories and resources, and free, prior and informed consent (Wiessner, 2011). With a change in federal leadership, Prime Minister Justin Trudeau mandated all federal ministers to implement UNDRIP and build nation-to-nation relationships "based on recognition, rights, respect, co-operation, and partnership" between Canada and Indigenous peoples (Smith, 2015).

As a start, Canada's commitment to UNDRIP expresses the political will to implement change (Bonnett, 2017). According to the United Nations Human Development Index, Canada ranks as one of the world's top countries in which to live. With this same quality of life index applied to Indigenous peoples in Canada, the nations ranking drops to sixtieth place (Cook, Mitrou, Lawrence, Guimond & Beavon, 2007; Strategic Research Directorate Aboriginal Affairs and Northern Development Canada, 2015). A clear example that significant work on the rights of Indigenous peoples remains to be done in Canada.

Reconciliation

"Reconciliation…towards a new relationship", these are the words that frame the dialogue on reconciliation for the Truth and Reconciliation Commission of Canada (TRCC, 2015). As defined by the TRCC, reconciliation is about establishing and maintaining a mutually respectful relationship between Indigenous peoples and non-Indigenous Canadians. For this to happen, the TRCC argues that there must be awareness of the past, acknowledgement of the harm that has been inflicted, atonement for the

causes, and action to change behaviour (TRCC, 2015). For Reconciliation Canada (2017), three central themes frame the concept of reconciliation: 1) creating greater equality between both populations; 2) working together to create opportunities and reduce barriers; and 3) moving beyond the past and away from a dependency on government (Reconciliation Canada, 2017).

As the Chair of the Truth and Reconciliation Commission of Canada, Murray Sinclair emphasizes that to move towards reconciliation, we must look to the educational system; for it was this system that has contributed to the problems within Canada, whether through the residential school system, or the misrepresentation of Canadian history provided to non-Indigenous learners (TRCC, 2015). Building reconciliation will require Canada to change its approach to education by honouring the histories and experiences of Indigenous peoples.

Within the work of Corntassel et al. (2009), they provide a critique of the work undertaken by the Truth and Reconciliation Commission of Canada and acknowledge the challenging nature of reconciliation. As with many truth commissions, Corntassel et al. (2009, p.144) highlight the false sense of reconciliation through the desire to "put the events of the past behind us". By drawing on the work of Irlbacher-Fox (2009), she highlights that reconciliation must be much more that moving beyond unjust events drawn from history. In approaching reconciliation in this way, Irlbacher-Fox (2009) identifies that the responsibilities to bring about change will forever remain in an unchangeable past, temporally separate from the present.

It must be recognized that reconciliation is a lengthy process, one that will take many generations to realize. In a report published by Reconciliation Canada (2017), they

surveyed Indigenous peoples and non-Indigenous Canadians to understand the 'reconciliation landscape in Canada'. The findings suggest that Indigenous peoples and non-Indigenous Canadians share a remarkably similar perspective on most aspects of reconciliation, including the importance of achieving reconciliation, how it is currently perceived, barriers to achieving it, and the types of actions that are required (Reconciliation Canada, 2017).

According to the TRCC (2015, p.114), "the urgent need for reconciliation runs deep in Canada". It is necessary to expand the public dialogue on reconciliation beyond residential schools and reflect on reconciliation across all areas and actions that impact the relationships with Indigenous peoples. This will require an all of society approach and "will take many heads, hands and hearts, working together, at all levels of society". In addition, it will also take sustained political will at all levels of government to guide Canadians through a path of reconciliation (TRCC, 2015, p.114).

EMERGENCY MANAGEMENT AND DISASTER RESILIENCE

Emergency Management

To reduce exposure to the consequences of disaster the practice of emergency management is guided by the motivating concepts of reducing harm to life, property and the environment (Perry, 2007; Quarantelli, Lagadec & Boin, 2007). Formally emerging during the Civil Defense era in the mid-twentieth century, Canada's emergency management programming began its operations through the Office of Critical Infrastructure Preparedness and Emergency Preparedness (OCIPEP). This was an era within emergency management that was defined by two underlying conditions: firstly, an

emerging shift in social philosophies that saw an increasing role for the centralization of government programs and oversight; and secondly, the emergence of legal frameworks and legislation that provided the statutory authority for this work to occur (Coppola, 2011).

Within Canada and British Columbia, emergency management legislation not only provides legal guidance and authority for action, it also outlines the responsibilities and powers for all levels of government pertaining to mitigating, preparing for, responding to, and enabling recovery from disasters (BCEMS, 2016). As outlined by the British Columbia Emergency Management System (BCEMS) (2016), the following table provides an overview of the key legislation and regulations that guide emergency management practices:

Table 1: Legislated Levels of Responsibility in Emergency Management (BCEMS, 2016)

Level of Government	Legislation/Regulation	What it does
Federal	Emergencies Act	Authorizes special temporary powers for federal agencies to ensure safety and security during a national emergency. These measures are extraordinary and specific to the four types of national emergencies: • Public welfare emergencies (natural or human disasters) • Public order emergencies (threats to internal security) • International emergencies (external threats) • War

		Establishes the legislative foundation for an integrated approach to federal emergency management activities:
	Emergency Management Act	• Recognizes the roles that all stakeholders must play in Canada's emergency management system • Clarifies the leadership role and responsibilities of the minister responsible for public safety, including coordinating emergency management activities among government institutions and in cooperation with the provinces and other entities • Clarifies the emergency management responsibilities of all other federal ministers
Provincial (BC)	Emergency Program Act	• Clarifies the roles and responsibilities of the provincial government and local authorities (municipalities or regional districts) • Provides extraordinary powers to the provincial government and/or local authorities where required • Requires local authorities to create and maintain an emergency management organization • Allows for the provision of support to victims of disasters through the Disaster Financial Assistance (DFA) program • Exempts emergency service workers from civil liability
	Emergency Program Management Regulation	• Tasks government ministries with developing emergency plans and procedures • Identifies the ministries responsible for coordinating government response to

		• specific hazards • Lists the duties of ministries and Crown corporations in an emergency/disaster
	Other provincial legislation and regulations, including: • Environmental Protection Act • Public Health Act • Water Act • Wildfire Act • Transportation regulations	• Identifies the responsibilities and tasks assigned to provincial ministries, Crown corporations, and stakeholders that relate to the role/function addressed in the legislation/regulation
Local authority (municipality, regional district, or Treaty First Nation)	Local Authority Emergency Management Regulation (This regulation is part of the Emergency Program Act)	• Tasks each local authority with establishing and maintaining an emergency management organization • Empowers the local authority to appoint committees and a coordinator of the emergency management organization • Authorizes the local authority to delegate its powers and duties under the Act as may be required • Requires the local authority to prepare local emergency plans

At the core of emergency management there are critical definitions that guide both theory and practice. For the purposes of this research, the following definitions will be used throughout. These definitions are aligned and identified with the United Nations International Strategy for Disaster Reduction (UNISDR, 2009):

Disaster: Disasters are often described as a combination of: the exposure to a hazard; the conditions of vulnerability that are present; and insufficient capacity or measures to reduce or cope with the potential negative consequences. Disaster impacts may include loss of life, injury, disease and other negative effects on human physical, mental and social well-being, together with damage to property,

destruction of assets, loss of services, social and economic disruption and environmental degradation.

Emergency Management: The organization and management of resources and responsibilities for addressing all aspects of hazards and disasters. Emergency management involves plans and institutional arrangement to engage and guide the efforts of government, non-government, voluntary and private agencies in comprehensive and coordinated ways to respond to the entire spectrum of needs resulting from a disaster.

Hazard: Natural, technological or intentional events or physical conditions that arise from a variety of geological, meteorological, hydrological, oceanic, biological, and technical sources, sometimes acting in combination. In technical settings, hazards are described quantitatively by the likely frequency of occurrence of different intensities for different areas, as determined from historical data or scientific analysis.

Resilience: The ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions. The resilience of a community in respect to potential hazard events is determined by the degree to which the community has the necessary resources and ability to organize itself both prior to and during times of need.

Risk: The combination of the probability of an event and its negative consequences. For further detail, the work 'risk' has two distinctive connotations:

in popular usage the emphasis is usually placed on the concept of chance or possibility, such as in 'the risk of an accident'; whereas in technical settings the emphasis is usually placed on the consequences, in terms of 'potential losses' for some cause, place or period. It should be noted that people do not necessarily share the same perceptions of the significance and underlying causes of different risks.

Vulnerability: The physical, social, economic and environmental characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard.

As a comprehensive approach to emergency management, professional practice is based on an approach that is shaped by a continuous process consisting of four interconnected phases: mitigation, preparedness, response and recovery (BCEMS, 2016). It is important to note that these four phases are not independent of each other and even though they often occur sequentially, there are many cases where they occur concurrently (Coppola, 2011). For the purposes of this dissertation, they are defined as the following:

Mitigation: The structural and non-structural measures taken to identify, prevent, eliminate or reduce the risk and impact of hazards for the purposes of protecting lives, property, and the environment as well as reducing the economic and social disruptions.

Preparedness: Preparedness is defined by two parts – firstly, the preparedness activities that support individuals, families, and neighbourhoods with measures to prepare for and cope with the immediate impacts of disaster; and secondly, the

actions and creation of plans that support the continuity of emergency operations

and other mission critical services.

Response: The actions taken in direct response to an imminent or occurring

emergency or disaster in order to manage its consequences by limiting the loss of

life, minimizing suffering, and reducing personal injury and property damage.

Recovery: Following the actions of immediate response, recovery includes the

steps taken to return and restore the conditions of an impacted community back to

an acceptable level or, when feasible, to improve them.

First Nations Emergency Management in British Columbia

For First Nations communities across Canada, emergency management is a

responsibility shared by federal, provincial, territorial and First Nation governments, as

well as individual citizens who hold the personal responsibility for household

preparedness (INAC, 2016). As legislated through the Canadian Federal Emergency

Management Act (2007), the initial response to any disaster is almost always led by the

First Nations or local authorities. If the capacity to act exceeds that of the local authority,

the provincial or territorial level of government will assist or lead the response and/or

recovery activities. Should a provincial or territorial government require additional

support to manage the event, the federal government will assist where required.

Under federal legislation, Indigenous and Northern Affairs Canada (INAC)

supports and funds First Nations emergency management across Canada. Through a four

pillars approach to emergency management – mitigation, preparedness, response and

recovery – as well as forest fire suppression activities, INAC works to ensure First

Nations communities across Canada have access to comparable emergency assistance services available to other residents in their respective jurisdictions (INAC, 2017).

Through INAC's Emergency Management Assistance Program, financial reimbursement for the delivery of emergency management services to First Nations communities is made directly to provincial and territorial governments as well as First Nations and non-governmental organizations. The only exception to First Nations emergency management funding is with regards to enhancements to structural mitigation; this funding stream is delivered through INAC's Capital Facilities and Maintenance Program (INAC, 2017).

Specific to British Columbia, emergency management services were first formalized for on-reserve First Nation communities in 1993 through the signing of a Letter of Understanding (LOU) between the Provincial Emergency Program (PEP)[3] and the Department of Indian Affairs and Northern Development Canada (DIAND)[4]. The LOU mandated the Province to provide emergency response and recovery services for First Nation communities on reserve, with the expenses for the delivery of the services to be reimbursed to the Province by the Federal Government.

To support the delivery of these services, the First Nations Emergency Services Society (FNESS) was established in British Columbia in 1994. As a not-for-profit emergency services provider for First Nation communities, the objectives of FNESS were to promote and improve emergency response services to First Nations; provide education, skills, and techniques which improve safety and emergency services in First Nation communities and to promote or provide support services which assist First Nations to

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[3] Now known as Emergency Management BC
[4] Now known as Indigenous and Northern Affairs Canada

improve and provide safety and protection for their communities (FNESS, 2013). To meet these objectives, FNESS approached its work through services delivery within three major areas: fire and emergency services; community development related to emergency services; and, projects and infrastructure related to emergency services.

Between 1994 and early 2013 FNESS received direct funding for all emergency services programming from DIAND. However, following the release of the 2013 federal budget, the funding allocated to the FNESS emergency management programming was cut. FNESS still received funding to provide fire services training and forest fuel management programming to First Nation communities, but a significant void developed concerning the accessibility of emergency management support for First Nation communities outside of the response and recovery provisions supported by Emergency Management BC.

On April 1, 2017 Emergency Management BC (EMBC) began the implementation of a $30 million, 10-year bi-lateral service agreement with Indigenous and Northern Affairs Canada (INAC) to provide emergency management services to on-reserve First Nation communities. This agreement replaces the 1993 LOU and allows EMBC to increase its capacity to better support First Nation communities. Under the agreement, EMBC expanded its emergency management activities of response and recovery to include mitigation and preparedness through the activities of planning, training and public education. Even with this service agreement in place, the legislated authority for emergency management for on-reserve First Nations remains a federal government responsibility.

At the Nation level, emergency management capacities and programming vary for First Nations from community to community. As identified in the 2013 Fall Report of the Auditor General of Canada (2013) in Chapter 6 – Emergency Management on Reserve, financial availability and the level of emergency management services offered has been inconsistent and inadequate. Also revealed within the audit, many Nations feel the agreements between the INAC and the supporting agencies (for British Columbia this consists of EMBC and FNESS) creates a lack of clarity regarding roles and responsibilities. As a result, during times of disaster, significant time and energy is spent on clarifying areas of responsibility as opposed to meeting immediate needs (OAGC, 2013).

Sendai Framework for Disaster Risk Reduction

The Sendai Framework (SF) for Disaster Risk Reduction 2015-2030 was adopted by the United Nations in March of 2015 as a framework for collective action towards reducing the risk of disaster (UNISDR, 2015). As a 15-year, voluntary agreement, SF guides states, local governments, the private sector and other stakeholders towards a model of shared responsibility with the goal of reducing the risks of disaster. Through a progressive shift, the SF denotes a move in priorities from action specific to emergency and disaster management, to that of disaster risk reduction, with special attention paid to factors such as inequality and poverty (Aitsi-Selmi, Egawa, Sasaki, Wannous & Murray, 2015).

As an action based framework, the SF grew from its predecessor, the Hyogo Framework for Action 2005-2015 Building the Resilience of Nations and Communities to Disasters. For further historical orientation, these frameworks emerged because of the

global work that contributed to the 1994 Yokohama Strategy for a Safer World:

Guidelines for Natural Disaster Prevention, Preparedness and Mitigation and its Plan for

Action as well as the International Framework for Action for the International Decade for

Natural Disaster Reduction in 1989 (Aitsi-Selmi et al., 2015).

Fundamental to the SF are the four priorities for action. These four priorities

include: (1) understanding disaster risk; (2) strengthening disaster risk governance to

manage disaster risk; (3) investing in disaster risk reduction for resilience; and (4)

enhancing disaster preparedness for effective response and to 'build back better' in

recovery, rehabilitation and reconstruction (UNISDR, 2015). The SF outlines 13 guiding

principles for achieving the four priorities for action. Although all of the guiding

principles align with this research at some level, the principles that most resonate include:

engagement from all of society; protection of persons and their assets while promoting

and protecting all human rights including the right to development; accounting of local

and specific characteristics of risk when determining measures to reduce risk; and

addressing underlying risk factors cost-effectively through investment versus relying

primarily on post-disaster response and recovery (UNISDR, 2015).

With the aim to guide the multi-hazard management of disaster risk within

development at all levels as well as within and across all sectors, the SF takes an

integrated approach that cross-cuts economic, structural, legal, social, health, cultural,

educational, environmental, technical, political and institutional measures. As an

overarching goal, the SF aims to prevent and reduce hazard exposure and vulnerability to

disaster, increase preparedness for response and recovery, and thus strengthen resilience.

Disaster Resilience

Emerging within the study of ecology, Hollings (1973, p. 14) first used the term resilience to describe a "measure of the persistence of systems and their ability to absorb change and disturbance and still maintain the same relationships between populations or state variables". As a heavily referenced and ill-defined word within the academic literature (Kirmayer, Sehdev, Whitley, Dandeneau & Isaac, 2009), the term resilience has also been used within the fields of material science, economics as well as psychology and psychiatry. Beyond diverging definitions, the study of resilience has also been used at varying scales, including: individual (Barton, 2005; Richardson, 2002), family (Patterson, 2002; McCubbin & McCubbin, 2005; Walsh, 2006), community (Breton, 2001; Richardson, 2002), country, and the macro levels of society (Berkman & Kawacho, 2000). Within this research, the concept of resilience will broadly be explored through the lens of disaster resilience within the context of community. To further refine the discussion on disaster resilience, it will be explored within the context of Indigenous community resilience.

Within the study of disaster resilience, this research is framed by the work of Berke and Campanella (2006), Buckle et al. (2000), Cutter et al. (2008), Manyena (2006) and Tierney and Bruneau (2007) and defines disaster resilience as the ability to survive and cope with a disaster with minimum impact and damage, while incorporating the capacity to reduce or avoid losses, contain the effects, and recovery with minimal social disruptions. Within the disaster resilience literature, additional focus is placed on both engineered and social systems, which include the pre-event preparedness measures to

prevent hazard-related damage and losses and post-event strategies to help cope with and minimize disaster impacts (Cutter et al., 2008).

Although the term 'community' has many meanings, it can be loosely understood to refer to a group of people linked by common identity, geography, commitment, interest or concern (Jewkes & Murcott, 1996). Importantly, it is acknowledged within the work of Cornell (2015), that there are many diverse and distinct communities within that of Indigenous nations. For the purposes of this research, I refer to Nuu-chah-nulth communities to reflect people living within a geographically bounded area, involved in ongoing social interactions, and with psychological ties to each other and to the place in which they live (Christenson & Robertson, 1980). By exploring this research within the context of community, it is placing emphasis on the importance of human beings as being fundamentally social and often seeking to live in closely knit groups (Kirmayer et al., 2009). At the same time, I recognize that there is tremendous diversity among each of the Nuu-chah-nulth communities that I visited.

Within the context of community, disaster resilience not only explores the resilience of the community itself, but how people overcome stress, trauma and other challenges by drawing from the social and cultural networks and practices that constitute communities (Kirmayer et al., 2009). It acknowledges capacity at many levels, including individuals, families, institutions and systems within a community and how, as a

collective, they survive, adapt and grow regardless of the chronic stresses[5] and acute

shocks[6] they experience (Rockefeller, 2015).

Indigenous Resilience

"To be Indigenous is to be resilient" (Rotarangi & Russell, 2009, p.209). In their

manuscript titled *Social-ecological Resilience Thinking*, Rotarangi and Russell (2009)

draw on the understanding that for Indigenous people and communities, the maintenance

and evolution of identify and culture is premised on how community resilience has been

defined scholastically. The work of Kirmayer et al. (2009, p.62) further supports this

perspective by stating that "community resilience is a concept that resonates with

[Indigenous] perspectives because it focuses on collective strengths…" rather than

deficits which is the chronic position that First Nation communities are put in.

Within the context of Indigenous communities, Indigenous resilience builds on the

above definition of disaster resilience, but also recognizes the existence of specific

Indigenous rights, the relevance of Indigenous knowledge and language, the persistence

of Indigenous institutions of governance and cultural values, and the anthropogenic

disasters caused by colonization, dispossession and exclusion (Howitt, Havnen, &

Veland, 2011; Kirmayer et al., 2009). Sonn and Fisher (1998) recognized that it is the

social and cultural resources offered by Indigenous communities that provide an

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[5] Chronic stresses weaken the fabric of a city on a day-to-day or cyclical basis. Examples include: high unemployment, endemic violence, chronic food and water shortages and inadequate housing.
[6] Acute shocks are sudden, sharp events that threaten a community. Examples include: earthquakes, flooding and disease outbreaks.

'alternative' or 'Indigenous' model to the mainstream understanding of community resilience by recognizing 'cultural competence'.

Much of the focus of disaster resilience has centered around the impacts of natural events such as flooding, hurricanes, tsunamis or earthquakes (Berke and Campanella (2006), Buckle et al. (2000), Cutter et al., (2009)). While there are many elements of disaster resilience that are relevant to the concerns of Indigenous communities, Kirmayer et al. (2009) identify that there are fundamental differences that need to be addressed. Foundational to the work of Kirmayer et al. (2009) and Rotarangi and Russell (2009), is the understanding that the adversities experienced by Indigenous communities are rooted in a long historical process (Colonialism) that resulted from deliberate human action and policies aimed at cultural suppression, oppression and marginalization, as opposed to the sudden and impersonal impacts of a natural disaster. It is this critical disjuncture that speaks to the need to address Indigenous resilience as a specific area of study nested within the broader study of disaster resilience.

Furthermore, it is with considerable caution that I invoke the terminology of Indigenous resilience being concerned about it being mis-applied as yet another oppressive colonizing model to misrepresent and misinterpret Indigenous knowledge beyond the intent with which it was shared (Rotarangi and Russell 2009). This concern for misrepresentation was a central theme addressed at the meeting of the Resilience Alliance Working Group on Indigenous Peoples and Social-Ecological Resilience in 2009 in Hinchinbrook, Australia where they raised a key question for resilience thinkers, "how do we interconnect the Western notion of resilience with Indigenous understanding of tradition?" (Kofinas, 2009). Some of these questions can be taken up further in

consideration of the philosophical framework guiding this research, and the

methodologies and methods applied, the subject of the next chapter.

CHAPTER 3

THE RESEARCH DESIGN: PHILOSOPHICAL FRAMEWORK,
METHODOLOGIES AND METHODS

INTRODUCTION

This research design consists of three distinct sections that outline the philosophical framework guiding the research, and then on to the specific methodologies and methods employed. It is with considerable intent that all three of these elements are linked to the research questions. As the researcher, the philosophical framework was integral to informing the structure and application of the methodologies, which shaped and framed the methods.

For heuristic purposes, the methods within this dissertation are understood as a set of tools for generating data, while the methodology is conceptualized as a higher order system that affects the selection of methods in any one instance. Viewed this way, the methodology reflects a set of principles regarding the nature of knowledge and information and the suitable sources from which such information might be derived, which for the purposes of this work have been developed through the philosophical framework (Bochner & Riggs, 2014).

From initial thoughts to final outcomes, I have attempted to ensure a culturally appropriate approach throughout this dissertation. To develop and guide this approach, which includes considerations of researcher positionality, the research is framed with an Indigenous paradigm. The second part of this chapter provides an overview of Indigenous

methodologies and the method of narrative analysis, followed by a discussion of standard

research design elements such as: study area, study participants and recruitment strategy,

ethical considerations, data collection, and data interpretation.

PHILOSOPHICAL FRAMEWORK

A philosophical framework guides the understanding of 'how to know', 'what to

know', and 'who will know' regarding the range of beliefs and knowledge emerging

within the research (Evans, Miller, Hutchinson, & Dingwall, 2014). The writings on

Indigenous Methodologies from Hart (2010) and Wilson (2008) were instrumental in

shaping the theoretical framework for this dissertation. In drew on their work, in concert

with the specific Nuu-chah-nulth Tribal Council Research Ethics and Protocols

(NTCREC, 2008). Taken together these frameworks and principles informed all aspects

of this research from the topic selection to the final presentation of the research findings.

Indigenous methodology is framed around a belief system that honours and

privileges an Indigenous perspective by subscribing to a 'relational understanding' and

sense of accountability to the world (Evans et al., 2014; Hart, 2010; Wilson, 2008). This

relational dynamic extends between one's self, others and the natural world, implying

non-objected parallels between all elements of the research. In learning from the

academic work of Atleo (2010) and Mack (2007), exploring the relational understanding

within this research required me to deeply understand my own positionality as a non-

Indigenous, white, female researcher and what this meant to all the relations of this work

– Nuu-chah-nulth knowledge, the participants who shared their knowledge with me, the

communities who opened their doors to me and the lands on which I conducted this work.

The aim of using an Indigenous methodology framework is to self-consciously ground this research in the values and principles embedded within Nuu-chah-nulth ways of knowing (Mack, 2007). It is also to find a sense of truth and accountability about myself through my own positioning within this research. In learning from the work of Bastien (2005), honouring identities (of researcher and researched) is a critical element in the process of developing knowledge within Indigenous methodologies. As a guide to this framework, I was encouraged to become critically self-reflective of my own positionality, my own grounding within an Indigenous research paradigm and my own reflections about Nuu-chah-nulth ethics and protocols.

Researcher Positionality

I approached this research through values of honesty and integrity. In this, I felt it was paramount that I, as a researcher understand my own positionality within this work through the exploration of my own identity and a consideration of what role that may play in how the research was conducted and how the results are interpreted (Kovatch, 2005). By considering my own positionality, I am referring to my race and gender as a woman of European descent, my level of education as a PhD candidate at the University of Victoria, my professional background as an emergency manager with the provincial government of British Columbia, and most importantly, my personal identity as a daughter, wife and mother. All of these personal and experiential attributes have a bearing upon who I am, how my identity is formed, how I perceive the world around me, and how I conduct my research and interpret my findings (England, 2006).

Working within an Indigenous research paradigm and being a white female who identifies strongly with being "Canadian" has played an important role in the relationships I was able to establish during my research. For example, as I engaged with various members of the Nuu-chah-nulth First Nation, I was received by the individuals, families and communities in different ways. In some instances, it seemed as though some participants felt obligated to talk to me based on an encultured sense of deference; while others were reluctant to share their stories with me because of my cultural history representing a negative and exploitative past. Throughout the research process, I aimed to continually approach this project with an open mind, a gracious heart, and a willingness to share. As a consequence, throughout this journey, I felt as though I have been able to be fully engaged in deeply meaningful dialogue. I also felt that I was truly welcomed within each of the communities I could visit.

Beyond my experiences of engaging with the participants in meaningful ways was the ever-present positionality of me being an outsider to the Nuu-chah-nulth First Nation. From this position, I came to appreciate that there are intimate details of Nuu-chah-nulth knowledge systems held by the communities which I will never understand. Through the specific subject matter of this research, I believe there were some aspects of knowledge that were intentionally withheld, some that have been shared with me on a very superficial or surface level, and other areas of knowledge that were shared with me in the truest sense that sharing can take place. As a community outsider, it is not my role to analyze or frame this knowledge in any way, other than with the intention in which it was shared; rather, my role is to see this knowledge as a gift in which to explore a broader

understanding of how it may be applied to the understanding of disaster resilience and add to a dialogue on understanding legacies of colonialism as an enduring disaster.

An essential element in cross-cultural research is recognizing the interface between positionality and power (Kovach, 2010; Lavallee, 2009). As a PhD student, there can be an assumed sense of power associated with knowledge that has been gained over the course of one's academic history. These assumptions can resonate at many levels from within the research community or be reinforced through actions demonstrated by the researcher (Kovach, 2005). Throughout the research process I have tried to be cognizant of the power dynamics of knowledge production and I have approached this fieldwork by working to uphold the values of Indigenous methodologies, seeking to minimize power differentials by working with the community. By being reflexive of my own position, my approaches, and who I represent through my multiple roles of: mother, PhD student and professional in the field of Emergency Management, I feel that I have been able to achieve a greater understanding of the complex issues associated with power structures, and have been able to navigate through them as opposed to seeing them strictly as barriers.

As an emergency manager by profession and training, I am in a privileged position to conduct research within this area. Although identified as an outsider to the Nuu-chah-nulth First Nation, my professional standing allows me to have a deeper understanding of the principles and practices of emergency management. As an insider to the profession of emergency management it was a time of invaluable professional growth, it was challenging for me to bracket past assumptions, and aim as far as possible to maintain an open, unbiased approach to both emergency management perspectives and institutions

and the acquisition of Nuu-chah-nulth knowledge. Throughout this work my goal has not been to assume that I can obtain neutrality within my understanding of emergency management, but by being as aware as possible of my own biases, I have positioned myself to objectively explore the role that Nuu-chah-nulth knowledge plays in enhancing disaster resilience, as well as in understanding the range of impacts of colonialism on Nuu-chah-nulth disaster resilience.

By engaging in this cross-cultural research, I have also accepted that I am not a neutral observer, untouched by the emotional, spiritual, cultural and political contexts that shape this work (Wilson, 2008). In essence, I am an amalgamation of my life history and lived experience, both of which have shaped my ability to begin this research, to evolve as it progressed, and to be forever changed by the overall experience.

Indigenous Research as a Paradigm

As a non-Indigenous researcher, it is with considerable personal intent that I have framed this research within Indigenous methodologies and explored my own positioning with an Indigenous research paradigm, examining my own underlying beliefs that include: the way I view reality (ontology), how I think about or know this reality (epistemology), how I go about gaining more knowledge about reality (methodology), and how I frame my own ethics and morals (axiology) (Wilson, 2008). Through the work of Creswell and Clark (2011), Hart (2010) and Wilson (2008), the importance of consciously framing one's work within a compatible worldview allows for the development of a research paradigm that truly guides the actions and outcomes for a researcher.

Ontology is an important foundational element in working within an Indigenous paradigm and methodology. Ontology refers to one's beliefs about the nature of reality. It is through ontology that one develops an awareness and sense of self, which, according to Wilson (2008), is a fundamental element in an Indigenous research paradigm (Hart, 2010). For scholars working within an Indigenous paradigm, the question of 'what is real?' may extend beyond the physical realm to include an ontological set of beliefs that also embrace the emotional and spiritual elements of one's reality (Kincheloe, 2011). As noted by Hart (2010), the recognition of the spiritual realm as being interconnected to the physical world is a dominant aspect of an Indigenous ontology.

When fully explored, ontology raises questions concerning the definition of reality (Meyer, 2008; Rice, 2005). For example, "is there one 'real' world that each of us observes differently through our own senses, or do various worlds exist, depending on the point of view of the observer?" (Wilson, 2008, p. 33).

By drawing on my own physical, emotional and spiritual beliefs, the ontological foundations of this research have shifted often as a product of my own learning and life experience. At the onset of this research, I would describe my ontology as linked to a generalized-mainstream Amer-European orientation. I subscribed to an ontology that set out to explore Indigenous knowledge through the dominant cultural worldview of a Western, more positivistic-perspective. This dominant orientation had been unconsciously developed throughout my lifetime and was reinforced through academic approaches that I was utilizing in my professional life. Through my studies, I became exposed to the work of many Indigenous academics such as Shawn Wilson and Linda Tuhiwai Smith. These individuals have worked arduously to recognize alternatives to the

dominant cultural worldview. Through this exposure, I have tried to consciously expand my cognitive and perceptual landscape by embracing an Indigenous research paradigm, and with that, I have attempted to create a space for the physical, emotional and spiritual elements that were shared with me by the Nuu-chah-nulth participants.

Epistemology examines how we gain knowledge, or how we know what we know, and how we think about that reality. Derived from teachings transmitted across generations, Indigenous epistemology describes a more fluid way of knowing that arises from a consideration and underlying belief system about the interconnections between the physical, emotional and spiritual worlds (Hart, 2010; Kovach, 2005). Accepting both physical and metaphysical realms of knowing, engaging in an Indigenous research paradigm means that one must accept that outcomes may not always be quantifiable (Lavallee, 2009). Rooted in traditional language and conveyed through the nuances of storytelling, Indigenous epistemology is developed through perceptual experiences and shared by Elders and other knowledge holders in the form of experiential insight (Ermine, 1995).

Considering the physical, emotional and spiritual interconnections of Indigenous knowledge suggests a fundamental element of Indigenous epistemology in which neither the research nor the researcher can achieve objectivity, neutrality or remain free from bias (Lavalle, 2009). This understanding further reinforces the importance of interconnections, not just between the human world, but extending to all living and inanimate things as well as the spiritual realm (Berg, 1995; Kovach, 2005; Lavallee, 2009).

By remaining reflexive about my own position, I acknowledge that it is impossible for this research to be free from my own subjectivity and biases. I also acknowledge that

my experiences and my interpretations have been shaped and changed through my interactions with the research participants. In recognizing this, I have taken on the responsibility of utilizing research methods that allow for the voices of the participants to be privileged within the findings to the extent possible.

Epistemology and research methodology are tightly bound in a complex partnership (Kovach, 2010). Defined as how one goes about gaining more knowledge in relation to their own reality, Indigenous methodologies acknowledge and enable a researcher to authentically be who they are, while actively engaging as a participant in the research process (Weber-Pillwax, 2010). It is this 'self-in-relation' quality of Indigenous knowledge systems that fundamentally differentiates Indigenous research from both quantitative, as well as mainstream qualitative methodologies (Wilson, 2008). Hart (2010), Mack (2007) and Wilson (2008) reiterate the importance of this relational accountability, meaning that the researcher is fulfilling his or her relationship with the world around them and extending "beyond the idea of individual knowledge, to the concept of relational knowledge…"; "[a] knowledge [that] is shared with all creation" (Wilson, 2008, p. 177).

Kovach (2005) also identifies another critical element of Indigenous methodologies which she calls 'the collective', meaning an acknowledged commitment to the people of Indigenous societies. Within Indigenous communities there is an inherent understanding of reciprocity and accountability in the exchange of knowledge, whether between people, between all living things, or within the cosmos. Through this 'accountability to knowledge' Indigenous methodologies can be approached from the understanding that

knowledge gained is to be utilized in a practical way, meaning that "one seeks knowledge because one is prepared to use it" (Kovach, 2005, p. 114).

As a researcher, 'accountability to knowledge' has been a fundamental component of my philosophical orientation. Throughout this research, I have worked to balance both the theoretical and applied or practical elements of this project. As a result, I hope that the research will have meaningful outcomes at the community level as well. I feel fortunate to have had Nuu-chah-nulth participants share some of their knowledge with me and through this sharing, my hope is that this research can be practically applied within the community to enhance disaster preparedness and contribute to overall public safety.

Not surprisingly, elements of one's axiology will transect and greatly influence their ontology, epistemology and methodology. Axiology is defined as the values, ethics and principles that inform and guide one's research paradigm (Hart, 2010; Wilson, 2008). Given that values, ethics and principles are diverse and unique to those who hold them, it can be difficult to distill a single definition for the purposes of understanding Indigenous axiology. Rather, the work of Wilson (2008) and Hart (2010) identify a spectrum of values that transect much of the literature written within an Indigenous research paradigm. These key elements include, but are not limited to: Indigenous control over research, respect, reciprocity, non-intrusive observation, reflective non-judgement, honouring knowledge, researcher subjectivity and self-awareness, and an awareness and connection between all things.

When working with Indigenous communities, one's axiology is not only guided by their own moral and ethical code, but can also be influenced by more formal ethical arrangements outlined by the academic institution, researching bodies and possibly by the

communities themselves. These formal ethical guidelines provide direction to the researcher, protection to the research participants in aiming to minimize the risk of participation, and aid in addressing ethical misconduct (Kovach, 2010).

Partnership, protection, ownership, control and respect; these are some of the guiding principles within the Nuu-chah-nulth Tribal Council Research Ethics and Protocols guide, as well as the axiological values in which I have framed my work (NTCREC, 2008). The following section addresses the philosophically framed ethical considerations specifically details each of these values and their importance in grounding my work within an Indigenous research paradigm. However, for the purposes of exploring this brief personal narrative, I want to further highlight that community benefit is at the core of each of these personal values. In essence, the ethical foundations of this work are to benefit the communities, while serving and honouring the knowledge shared between the Nuu-chah-nulth participants and myself.

Philosophically Framed Ethical Considerations

To protect against ethical misconduct, an application for ethical approval was sought through the University of Victoria Human Subjects Ethics Review Board prior to conducting work with the Nuu-chah-nulth First Nation (Appendix A).

In working with the Nuu-chah-nulth First Nation, I have drawn guidance from the Protocols and Principles for Conducting Research in a Nuu-chah-nulth Context as a guide to respecting an Indigenous ethical approach to research (NTCREC, 2008). Through this approach, I have navigated this work within Indigenous ethical protocols to protect the sacredness of Indigenous knowledge, community control of sharing, recognition of

cultural protocols, and community involvement in the interpretation of findings (Wilson, 2008). In doing so, I have framed my ethical approach through the values of partnership, protection, ownership, control and respect. In adhering to this ethical approach, I have gained a deeper appreciation for the holistic qualities that are framed within an Indigenous research paradigm.

In an effort to provide a counter to historically dominant and exploitative Western research practices, I employed the five principles of: partnership, protection, ownership, control and respect which enabled me to ethically frame this research through mutually beneficial engagement between the Nuu-chah-nulth First Nation and myself (NTCREC, 2008). I viewed these five ethical values, not as a defined framework or set of rules but as an ethical foundation that embodied my axiology. Beginning with partnership, this ethical value is based on a two-way exchange of trust between the communities and myself. By engaging in a partnership with each participant and collectively within the broader community, this research aimed to honour the knowledge, presence and spiritual engagement between the participants and myself (NTCREC, 2008). The value of protection extended not only to the rights of the participants, but also to the knowledge that was shared, compiled and disseminated throughout this research (NTCREC, 2008). Ownership became an extension of protection and although I sought to understand the application of Nuu-chah-nulth knowledge through the lens of disaster resilience, I felt that this knowledge belonged to those that held it within the Nuu-chah-nulth communities. The value of control extended to each of the participants and the Nuu-chah-nulth First Nation as a whole, and has been reflected throughout this research process, starting with the design, to the data collection, interpretation, and finally to the

dissemination of results (NTCREC, 2008). Perhaps, the most important and fundamental value guiding my engagement with each participant and with the communities as a whole was that of respect. It is important to note that respect also extended to upholding the safety, confidentiality and anonymity of participants (Hart, 2010).

As a practitioner and researcher in the field of emergency management, I believe that no one who sees a disaster remains untouched by it (PHSA, 2015). Stress and grief are normal reactions during times of crisis and even though the dialogue within this research was not specific to any one disaster event within the Nuu-chah-nulth communities, there was the possibility that by engaging in dialogue around the legacy of disaster, some participants would become more aware of the risks that impact their communities, and as a result exhibit increased levels of fear around their exposure to hazards. In an attempt to minimize this reaction and do no harm as a researcher, participants were provided with information on how to prepare themselves, their families and their communities against disaster. Additionally, once this research is complete, it is my intention to share the specific learnings with the participants through resources that reflect the existing capacities of the Nuu-chah-nulth First Nation in order to support and enhance their resilience to disaster.

Integral to sharing and protecting knowledge is the ethical consideration of confidentiality (Kovach, 2010). In conforming to the Tri-Council Policy Statement on the Ethical Conduct for Research Involving Humans through the Human Research Ethics Board at the University of Victoria, I embarked on this work with the intent to maintain confidentiality by generalizing the findings as a collective data set and altering any identifying information. As a researcher, I achieved what I set out to do. As a participant

engaged in dialogue about this research, my position on confidentiality shifted. I realized I faced an internal conflict during the research process to the extent that I felt that I was no longer confident that in generalizing the outcomes I was truly able to honour the participants who shared their knowledge. From an Indigenous approach, when a participant shares, they are sharing their own truth and knowledge (Wilson, 2008). As a qualitative researcher, by generalizing their voices, I believed that I have removed or reduced the truth and integrity that was bound to the individual who brought life to those expressions of knowledge. In reflecting on the work of Bastien (2005), Kovach (2010), Stevenson (2000) and Wilson (2008), I shared their perspective that this was an important ethical disjuncture between Western and Indigenous approaches.

METHODOLOGY

A qualitative research approach has guided this study. Beginning with an overview of Indigenous methodologies and narrative analysis, these sections set the stage for the qualitative methods utilized in this research.

Indigenous Methodologies

"Start where you are, it will take you where you need to go" (Kovach, 2010, p. 10). It is these guiding words written by Kovach (2010) in her book *Indigenous Methodologies: Characteristics, Conversations, and Contexts* that sets that stage for the learning journey that one can take when embracing Indigenous methodologies. As an approach that is most aligned with qualitative research, a fundamental goal of Indigenous methodologies is to facilitate a space where Indigenous people can "develop knowledge

and speak for, and of themselves, and about any and all elements of the worlds they inhabit" (Evans et al., 2014, p. 181). Used by Indigenous and non-Indigenous academics, this approach seeks to honour, privilege and protect Indigenous knowledge systems (Kovach, 2010).

As a non-Indigenous researcher working with the Nuu-chah-nulth First Nation, it was critical for me to find a methodology that allowed me to navigate through this research in a good way (Ball and Janyst, 2008). As part of my Nuu-chah-nulth education, 'working in a good way' means honouring all voices, hearing all that is shared, allowing a space for silence and tension and above all, privileging the Nuu-chah-nulth perspective. In utilizing Indigenous methodologies, I feel like I have not only done this work in a good way, but in a way that honours the Nuu-chah-nulth way.

In an effort to decolonize Western research paradigms, I have intentionally approached this research through the use of Indigenous methodologies which is derived from the Indigenous perspectives, language and culture of the research participants in a way that is designed to be non-extractive, meaning that the knowledge is not appropriated or altered from the way in which it was shared (Evans et al., 2009). As noted, grounded in an Indigenous belief system where 'all is connected', Indigenous methodologies subscribe to a 'relational understanding' and sense of accountability to the world (Wilson, 2008). This methodology represents a holistic approach that acknowledges the entirety of the research process, from theoretical perspectives, as identified in the theoretical framework section below, to data analysis. With this culturally comprehensive approach to research, Indigenous methodologies aim to protect Indigenous knowledge from misrepresentation, to tell Indigenous peoples' stories in their own voice, and to give

credit to the true owners of Indigenous knowledge (Prosanger, 2004). This approach creates a research space where Indigenous people are central to the development of their own knowledge, and can speak for, and about, themselves regarding any and all elements of the world they see as theirs (Evans et al., 2009)

The development of Indigenous methodologies has been shaped by the complex interface between knowledge and power (Evans et al., 2014). Even in the early scholarly work of Said (1978), a Western discourse about 'the Other' was identified citing the struggle between the Western interests and ways of knowing and the interests and ways of resisting of the Other (Smith, 1999). This complex power dynamic reinforces the importance of Indigenous methodologies as an approach to facilitate an empowering space where Indigenous peoples can develop, determine and control their own approach to research (Porsanger, 2004; Wilson, 2008).

As Indigenous critics of Western knowledge systems, Deloria (1969; 1973), Alfred (1999), Battiste (1986), Churchill (1997), and Ermine (1995) developed many of the foundational works in Indigenous methodologies. However, it was the seminal work of Smith (1999) that framed Indigenous methodologies through the lens of decolonization; acting as a moral guide for scholars to decolonize their own practices. It is these works that not only defined what Indigenous methodologies are, but also identified what they are not (i.e., colonial/European/Western, etc.).

Indigenous methodologies feature a proactive process through which Indigenous peoples create their own varied and diverse images and stories. At the heart of Indigenous methodologies, knowledge is created directly, rather than as a result of disputation or opposition, as is often the case with Western approaches to knowledge generation

(Attwood & Arnold, 1992). As an Indigenous critic of Western knowledge systems, Tuhiwai L. Smith wrote her seminal work, *Decolonizing Methodologies: Research and Indigenous Peoples* (1999) as an attempt to decolonize colonial processes throughout academic disciplines. For me, Smith's work extends beyond being a methodological resource and was a moral guide that encouraged me to decolonize my own positionality and navigate a culturally appropriate and respectful approach to research with Indigenous communities.

As this research involves working with the Nuu-chah-nulth First Nation, it must remain vested in the goals of Indigenous methodologies: healing, mobilization, transformation and decolonization (Smith, 1999). As a non-Indigenous researcher, I must be vigilant about these goals, and in acknowledging any power relationships that may be present, such as monolingualism, epistemological racism, hegemony, assimilation and/or dominance (Bishop & Glynn, 1999). As the researcher, this approach has required me to be an active, present and engaged part of the research.

Storytelling as a Method of Narrative Analysis

Narrative analysis creates a space for people and meaning through a reflexive method that not only explores the actual, but also the possible (Bochner & Riggs, 2014). Aiming to minimize the power differential between researchers and participants, Indigenous epistemologies fit nicely within the methodological underpinnings of narrative analysis (Denzin & Lincoln, 2004; Kovach, 2009). In the 1980's, scholars such as Donald Spence (1982) and Theodore Sarbin (1986) sought to understand how individuals were shaped and changed by the stories in which their lives are set and in

which they live and act. By the 1990's, narrative analysis was widely utilized in research across the human sciences to provide a voice to historically silenced narratives and marginalized groups, promoting a commitment to social justice and equality at the same time (Bochner & Riggs, 2014).

It is in this space of social justice, followed by a hope for social change that Indigenous academics like Jo-ann Archibald speak to the importance of storytelling through her seminal research on 'storywork'. She speaks to the holistic nature of storytelling with its transformative ability to address emotional, physical, spiritual, and intellectual learning. Acknowledging both traditional stories and contemporary life-experience stories, Archibald iterates that it is simply the act of sharing narrative that supports resilience, overcoming problems, making connections and building family and community relationships (Lougheed, 2016). It is through this intimacy of relationships that the storytelling work of Corntassel, Chaw-win-is and T'lakwadzi (2009) speak about the connections to place that are central to Nuu-chah-nulth storytelling. For the Nuu-chah-nulth, *haa-huu-pah* (teaching stories or sacred living histories) are part of the core values and teachings that are passed between families and are transmitted to future generations (Corntassel et al., 2009). As a supporting point of connection that grounds the research of Corntassel et al. (2009, p. 139) to the work undertaken as part of this research, they state "we anchor our discussion in haa-huu-pah as a form of truth-telling in order to demonstrate how Indigenous stories of resilience are critical to the resurgence of our communities".

As an outsider to Nuu-chah-nulth ways of knowing, storytelling as a method of narrative analysis allowed me to academically navigate this communicative activity,

where the emphasis could be placed on understanding how people use language to find meaning within life experience. Utilizing a mixed approach of both hyperorthodox and exceptionalist forms of storytelling narrative analysis, this research sought a balance between using narrative inquiry to identify key themes within stories, as well as to understand stories by exploring the deeper meaning within them. Hyperorthodox narrative analysis uses storytelling as a methodological tool to thematically break a story down into its discrete findings. Bochner and Riggs (2014, p.205) argue that "the themes of a story don't necessarily tell us what the story does, how it works, what relationships it shapes or animates, or how it pulls people together or breaks them apart". Thus, to truly privilege the position of the storyteller and better align with an Indigenous methodology, this research also aimed to utilize an exceptionalist approach. Through the narrative process, I aimed to engage with the storyteller as wholeheartedly as possible, seeing the narrative as more than just a collection of data, but as an opportunity to develop caring relationships based on the ability of the researcher to be present with an open heart and mind, while listening attentively to what was being shared (Bochner, 2012; Bochner & Riggs, 2014). Employing both approaches, this research utilizes storytelling to establish a thematic 'data-set' for analysis, as well as to engage more deeply with the research participants in a fully relational way.

METHODS

Informed by Indigenous methodology and narrative analysis, this methods section details research design elements such as: the study area, followed by details of the

selection of study participants and recruitment, ethical considerations are then addressed, followed by a consideration of methods of data collection and data interpretation.

Study Area

The Nuu-chah-nulth First Nation is comprised of fourteen autonomous nations whose traditional territory spans approximately 300 kilometres along the Pacific Coast of what is now known as Vancouver Island in British Columbia, Canada (see Figure 1). With its name meaning "all along the mountains and sea", the Nuu-chah-nulth have lived and thrived on the lands and waters in their home territories since *iikmuut* (the time before time) (NTC, 2013). In 1958, these autonomous Nations formed the entity known as the West Coast Allied Tribes and on August 14, 1973 and were incorporated as a non-profit society called the West Coast District Society of Indian Chiefs. Since April 2, 1979 they have been known as the Nuu-chah-nulth Tribal Council, with the fourteen[7] Nations divided into three regions (NTC, 2013) (Table 1).

Table 2: Nuu-chah-nulth Communities in British Columbia (BC)

Communities of the Nuu-chah-nulth First Nation	
Southern Region	Dididaht, Huu-ay-aht, Hupacasath, Tse-shaht, and Uchucklesaht
Central Region	Ahousaht, Hesquiat, Tla-o-qul-aht, Toquaht, and Yuu-chuch-aht
Northern Region	Ehattesaht, Kyuquot/Cheklesaht, Mowachaht/Muchalaht, and Nuchatlaht

Source: NTC, 2013

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[7] The sixteenth Nuu-chah-nulth Nation is the Makah who are located on the Olympic Peninsula in Washington State, USA.

Presently, there are approximately 9,500 registered Nuu-chah-nulth members, however only about 3,200 of these members are living on reserve (NTC, 2013). For all of its members, the Nuu-chah-nulth Tribal Council has set a vision of self-government while aiming to provide equitable social, economic, political and technical support to each of the Nations.

Study Participants and Recruitment Strategy

In following a qualitative research design framed within Indigenous methodologies, this research utilizes purposive sampling and theoretical saturation rather than the probabilistic sampling recognized within quantitative research (Bradshaw & Stratford, 2010). Non-probability or purposive sampling selects participants from a population to interview on the basis of specific traits and knowledge sets that exist within that individual or group. A core characteristic of non-probability sampling techniques is that samples are selected based on the subjective judgment of the researcher, drawing on theory (i.e., academic literature) and practice (i.e., the experience of the researcher and the evolutionary nature of the research process) (Bradshaw & Stratford, 2010; Flowerdew & Martin, 2005).

Within the non-probability sampling method, snowball sampling was utilized (Noy, 2006). This recruitment strategy aimed to explore the diversity that exists within and across the sample of six Nuu-chah-nulth communities. In working with the Nuu-chah-nulth First Nation, purposive sampling was identified as the preferred approach for initial outreach because of its ability to select specific participants based on their knowledge and

expertise. Snowball sampling was then utilized to elicit further study participants who may not have otherwise been identified.

Six of the fourteen Nuu-chah-nulth communities from three regions were sampled in this research: Nuchatlaht, Ehattesaht, Ahousaht, Huu-ay-aht, Hupacasath and Tse-shaht. All interviews were conducted face to face within each community, but sometimes included community members who may or may not have been living on that reserve at the time.

Initial engagement with the communities was achieved in partnership with the First Nations Emergency Services Society[8] (FNESS) in the summer of 2013. FNESS provided the original points of contact for the community representatives who hold responsibility for emergency planning in each of their respective communities. Throughout this dissertation, these points of contact are referred to as the 'community liaison'. Following this initial contact with the community liaison, partnerships were developed directly between the primary researcher (Dicken) and the community, allowing the research process to evolve in a way that was directed by each community.

In each of the sample communities, an initial community meeting was held where a large group of community members was invited to attend. The participants for this initial meeting were purposively selected by the community liaison and not by myself. In respect for a 'community guided' process, the time and location of each gathering was determined and set up by the community liaison. Following these initial group meetings, snowball sampling was utilized and smaller, more intimate interviews took place. These

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[8] FNESS no longer provides emergency management services, in 2013 FNESS work on behalf of Aboriginal Affairs and Northern Development Canada to provide emergency management services to BC First Nations.

interviews were conducted either one-on-one or in small intergenerational family settings

and were conducted based on the interest and engagement of each community member.

Table 2 outlines the type of interviews that occurred within each community.

Table 3: Community and Participant Engagement

Nuu-chah-nulth Community	Interview Type/Duration/Participation
Nuchatlaht First Nation	1 group interview 5 participants (133 mins)
	1 family interview 4 participants (97 mins)
	1 individual interview (30 mins)
Ehattesaht First Nation	1 group interview 18 participants (146 mins)
	2 family interviews 3 participants and 5 participants (42 mins/67 mins)
Tseshaht First Nation	1 group interview with 6 participants (183 mins)
Ahousaht First Nation	1 group interview 13 participants (198 mins)
	2 personal interviews (60 mins/76 mins)
Hupacasath First Nation	1 group interview 3 participants (68 mins)
Huu-ay-aht First Nation	1 individual interview (87 mins)
Total Interviews	5 group interviews (727 mins)
	7 individual or intergeneration family interviews (459 mins)

Ethical Considerations

As a way to protect against ethical misconduct, an application for ethical approval

was sought through the University of Victoria Research Ethics Board prior to conducting

work with the Nuu-chah-nulth First Nation (Appendix A). Earlier in this chapter, the

section on *Philosophically Framed Ethical Considerations* speaks to the way this

research was approached through ethics that align within an Indigenous methodology.

The following speaks to the actions that were taken to upholding the ethical considerations as they were outlined by the University of Victoria Research Ethics Board.

As a means of obtaining and documenting consent, consent forms were provided, reviewed and signed by all participants. Any questions that were brought forward by the participants pertaining to the consent form or to the research, were addressed through dialogue prior to the interviews taking place. No deception, misdirection, or nondisclosure were used in the study. There was no physical risk to participants, and issues of a sensitive nature were not intentionally included in the questions. I reminded the participants that they were directing the topics of conversation. As an example, in 11 of the 12 interviews that were conducted (in single or multiples), participants shared their experiences about the residential school system. This was an unintended and inadvertent topic of discussion and one that elicited dialogue of a sensitive nature. Additionally, participants were reminded that this study was voluntary and they were able to withdraw at any point. If the participants wanted to follow up or had additional questions following the interview, they were provided with my contact information as well as that of my supervisor; however, at this point, there has been no additional follow up from participants.

Data Collection

Data collection occurred during the summer and fall of 2013 in the six Nuu-chah-nulth communities identified in Table 2. As noted in the section above under *Study Participants and Recruitment Strategy*, data were collected through in-depth large group interviews as well as in small intergenerational, family settings, or one-on-one interviews.

All of the interviews were conducted in person, face-to-face and on reserve, in each of the identified Nuu-chah-nulth communities. To visit with community members, I travelled by car and/or boat to meet with them on a date of their choosing. The interview dates, times and locations were selected at the communities choosing. As a small token of appreciation for their participation, I offered a small, personal emergency preparedness kit to each individual prior to their engagement. The interviews began with a review of the interview consent form (Appendix B) and both the participant and researcher received a copy of the signed form. The length of the interviews ranged from thirty minutes to three and a half hours, with most interviews lasting just over an hour and a half. The nature of the interview questions centered on knowledge of hazards, Nuu-chah-nulth specific knowledge regarding hazards and disasters and the points of inclusion for that knowledge within planning for disaster events. For an understanding of the type of questions that guided the discussion, the semi-structured interview guide came be found in Appendix C.

Approaches that apply an Indigenous methodology and narrative analysis are both synergistic and focused on the development of strong researcher/participant relationships centered on trust, respect and reciprocity. In developing these relationships, I worked from the outset to maintain a friendly and informal interview demeanor in the familiar surroundings of their choosing. Even though I was a guest in their homes or other environments, I brought the participants light snacks and beverages. Each interview was taped and transcribed with the permission of the participant. As noted, interviews lasted from 30 minutes to 3 hours and 18 minutes.

The bigger group interviews were initiated with a welcome from the community liaison, followed by a short personal introduction from myself, while the family and one-on-one interviews were simply started with my personal introduction. Having the opportunity to introduce myself and provide a bit about my background was an opportunity for me to share some personal insights about myself before expecting others to share their personal insights with me. Prior to starting the audio recorder, I always asked permission from the participants and explained how the recordings would be stored and why I was hoping to record the dialogue. Once approval to record was granted, I then placed the recorder in an inconspicuous location to reduce any insecurities that participants may feel regarding the recording. I then provided a general overview of the themes and structure of the interview and asked if anyone had questions before starting.

In all the interviews, I allowed for the natural flow of conversation and therefore the dialogue often diverged from the interview guide. As this occurred, I refrained from interjecting and shifting the dialogue back to my initial focus and instead, remained aware that within an Indigenous research paradigm the values of non-intrusive observation and deep listening are critically important (Hart, 2010). As an active listener, I attempted to follow the participant's train of thought and honour the new dialogue as an emerging insight that the speaker brought forward. Following shifts in each dialogue, I made amendments to the interview guide regarding the additional information that had been shared with me in previous interviews to get a sense of what others believed about these same ideas. For example, after several individuals talked about their experiences in residential schools in relation to their experiences during disaster response, I asked others

in future interviews about their thoughts on colonial legacies and disasters to gauge whether they held similar or different points of view.

In many ways, the interviews were the beginning of the data analysis (Miles & Huberman, 1994). Throughout the dialogue, when a conversation was coming to an end, I would often summarize in my own words, what I understood the conversation to be about, i.e., I paraphrased or reflected what I felt I had been told, and then would ask the participants if I had understood them correctly. This period of reflection also provided participants with an opportunity to include any final thoughts they may have had. At the end of each interview, I asked participants if there were any other ideas they would like to talk about, or if there were any further questions that I could answer. I also provided a timeline for the research project and let participants know that they would receive a copy of the interview transcript for their further review and comment. At the end of each interview, I always let the participants know how grateful and appreciative I was for the time they spent sharing their knowledge and insights with me.

Immediately following each interview, I transcribed the recordings verbatim. During the transcription process, the interviews were 'cleaned' to remove any personal identifiers that could compromise participant confidentiality and pseudonyms were used (Kvale, 1996). As noted earlier in this chapter in the section on Philosophically Framed Ethical Considerations, participant confidentiality remains an ethical disjuncture between Western and Indigenous approaches to research. Once each transcript was typed, I listened to each interview a second time from beginning to end, noting any points of emphasis, pauses, or expressions I deemed important to the overall context of the interview. During this initial analysis phase, I was also making note of possible themes

(open coding) that were emerging as well as identifying interesting quotes (i.e., invivo themes) (Cope, 2010).

In following an Indigenous methodology, researcher-participant engagement throughout the analytical process is highly encouraged (Smith, 1999). Each participant was sent their transcript via email with a personal note expressing my gratitude, thanking them for their participation, and encouraging them to read my transcript and share their further thoughts and comments regarding any content changes, additions or clarifications. For those participants who did not have access to email, I arranged with their family members to ensure that the transcripts would be shared as hard copy documents. While several of the participants responded to the email and expressed appreciation about being engaged in the process and/or about being asked to find out additional information on household preparedness, I did not receive any additional comments or suggested revisions.

As an additional source of data, I also maintained a reflective journal where I could record my own personal insights on interview experiences, highlighting the nature of the dialogue, the atmosphere of the interview and the comfort level between all the participants and myself. In this journal, I have documented my successes and challenges in navigating an academic space, as well as my thoughts and reactions while engaging with participants in the field. While visiting communities I also spent time exploring local historic sites of cultural significance, as well as trying to take in archives and artifacts housed in the Band Offices. These experiences, as well as others, were recorded in my personal research journal and reflected upon to support my data interpretation and development of findings.

Data Interpretation

Qualitative data analysis is often a search to understand multiple rather than singular "truths" (Bengtsson, 2016). Utilizing Indigenous methodology and qualitative research, it is critical to understand that this process departs widely from positivistic viewpoints that believe in scientific objectivity. Instead, this analysis aimed to develop knowledge based upon the shared positionality and subjectivity of both the researcher and the research participants (Bastien, 2005; England, 2006; Kovatch, 2005; Mack, 2007). Following data collection, the analysis began with a careful review of the primary data transcripts, that is the 12 group, and one-on-one interviews.

Coding and Narrative Thematic Analysis

Following a thorough review of the transcripts, I began the coding process by identifying a series of key themes that captured the major ideas or concepts being described in each of the interviews (Cope, 2010). Identified in the work of Riessman (2001) and Glaser and Laudel (2013), this process is defined as axial coding. It is important to note that in framing my work within an Indigenous methodology, I have identified these categories as 'themes' rather than 'findings' as the latter may imply a sense of conclusiveness that does not align with exploring multiple ways of knowing (George & Stratford, 2010). By referring to Riessman's (2001) work on the analysis of personal narratives, thematic coding allows for substantive concepts to emerge from the researcher's macro-level exploration of a given topic, and not necessarily the themes that the participants would have highlighted in their individual experience. My rationale for

coding the transcripts in this manner was to organize the data into more manageable

chunks, and make it easier to compare and contrast the datasets (Miles, Huberman &

Saldana, 1994). This was a difficult process that weighed heavily on me particularly in

identifying findings related to health and spirituality as well as spirituality and religion.

As will be discussed within the findings (Chapter 4), the Nuu-chah-nulth people would

not see these themes as discrete categories, but as part of a whole. In many ways, the

approach of thematic analysis is a significant departure from a Nuu-chah-nulth approach

to research. An additional finding titled Heshook-tas'walk: Cross-Cutting Points of

Intersection attempts to recognize this.

Table 4: Example of Narrative Analysis Process

Participant Pseudonym	Full Text of Conversation	Emergent Themes	Researcher Notes/Reaction
Andy	Maybe it is time that we can act beyond the manuals and procedures. Act is a way that is meaningful to our community and this moment in time. This is what I find troubling. When I talk to people from government, you follow a manual or your legislation, with us, we have our own ways and we know what to do.	Colonial Legacies Settler Colonialism	She feels inspired to see change within her community. She knows that the knowledge she/they hold is meaningful to building community resilience. As a practitioner, I feel compelled to change this. How do 'we' create a space for an Indigenous worldview within the field of emergency management?

With the key themes identified, the data analysis occurred both within and across

the transcripts. In addition to the interview transcripts, relevant excerpts from my

personal journal and other secondary data related to the interview discussion topics (The

Final Report of the Truth and Reconciliation Commission of Canada (2015) assisted me greatly in developing a deeper understanding of the dialogue on residential schools for example). Table 4 illustrates the data interpretation process using an excerpt from one of the interviews.

Many of the themes appeared multiple times within and across the transcripts. In following Reissman's (2001) analysis of personal narratives, data saturation is deemed a necessary and a conclusive step in the analysis process. However, as a researcher following an Indigenous methodology, I resisted this notion of saturation as I felt that it artificially limited the endless thematic possibilities that could exist in the data. Rather than seeking a conclusive state of saturation, I chose to acknowledge that each and every word that was shared with me was shared for a reason.

CHAPTER 4

FINDINGS: PART 1

INFORMING DISASTER RESILIENCE THROUGH A NUU-CHAH-NULTH

WAY OF KNOWING

A THEMATIC ANALYSIS OF A NUU-CHAH-NULTH WAY OF KNOWING THAT INFORMS DISASTER RESILIENCE

The Nuu-chah-nulth First Nation hold a wealth of knowledge, values, and customs that have developed intrinsically within each of the individual families and communities. In this chapter, the central concept of disaster resilience was explored through the approach of an Indigenous methodology. The findings emerged inductively from reading the transcripts and taking multiple passes through all the interview transcripts (Reissman, 2001). From this process, eight overarching themes were identified as follows: 1) hunting, gathering, food preservation and storage; 2) oral traditions and histories; 3) environmental connections and cues; 4) healing, health and wellness; 5) spirituality; 6) family and community relationships; 7) traditional governance; and, 8) historical resettlement and colonial legacies. Following the identification and explanation of these themes, a concluding section explores cross-cutting, points of intersection between the eight thematic areas.

The results from this qualitative study constitute Nuu-chah-nulth ways of knowing. Although these findings are thematically summarized into eight overarching categories, it is important to acknowledge that a critical aspect of Nuu-chah-nulth knowledge is that it is not meant to be fragmented into isolated and discrete concepts. Rather, it is based on

the belief that the "basic character of creation is a unity expressed as *heshook-ish tsa'walk…*" meaning that all things are connected and must be considered within the context in which they interrelate (Atleo, 2004, p. 117).

Another important aspect of the findings that should be understood is that each individual, family or community may embody these themes in a way that is uniquely meaningful to them. For example, as one respondent said "each of the Nuu-chah-nulth communities all hold different aspects of knowledge that reflect their families, values, size and remoteness. So, even though we have a lot of similarities, each of the communities is very different". Thus, the eight themes are broadly conceptualized and reflect an overarching vision for disaster resilience with the realization that it is important that each individual, family and community use their own knowledge sources to exercise their own vision of resilience.

As a point to the reader, you will note that I have not included any specific Nuu-chah-nulth stories within these findings. This is because, as the researcher, these oral traditions, histories and stories are not mine to share. They belong to those who know them and hold them within their family histories. For me to write them into this dissertation, is to remove them from their community and cultural contexts and diminish their true and authentic voice.

Hunting, Gathering, Food Preservation and Storage

Historically and to this day, the Nuu-chah-nulth, "salt water people" are hunter-gatherers, whose economic base and subsistence lifestyle are highly reliant on the oceans and the rich West Coast fishery (Atleo, 2010). Fish, particularly salmon and halibut, as

well as sea mammals and shellfish are mainstays in their diet, which is also supplemented by fowl, deer, elk, bear and plant foods. Historically known as the Whaling People (Arima and Hoover, 2011), the Nuu-chah-nulth people traditionally hunted *ma7ak* (grey whale), not only as a practice for subsistence, but also as a source of ceremony (George, 2003). Today, even though the Nuu-chah-nulth have access to Western dietary staples, traditional foods are still a major component of ceremonial feasts and as research participant Clarence Chance (pseudonym) identified, many Nuu-chah-nulth, "have a strong desire to move back towards a more traditional diet within [their] daily life".

"When the tide is out, the table is set" research participant, Sharon Adams (pseudonym) said with a chuckle. This common Nuu-chah-nulth phrase speaks to the plentiful and sustainable access to seafood that Nuu-chah-nulth have enjoyed for generations. However, throughout the latter half of the 20th century and extending into the present part of the 21st century, Nuu-chah-nulth subsistence patterns have changed as a result of the commercial fishery. In following the work of Atleo (2010), he chronicles his families' challenging experiences in navigating the commercial fishery. He identifies oppressive federal fisheries policy as the source for the decline in both the fish populations as well as Nuu-chah-nulth participation in the industry.

Atleo (2010) provides a dramatic insight into the historical shifts that have taken shape within the Nuu-chah-nulth fishery. He writes that "prior to the commencement of modern treaty negotiations, and going back to the peak [of the fishery] in the 1950's, there were more than two hundred Nuu-chah-nulth owned and operated fishing vessels" (Atleo, 2010, p. 58). In 2004, it was announced that there were only 10 left making a living from fishing alone". Atleo (2010) identifies that this decline is even more dramatic

when you consider that the Nuu-chah-nulth population has more than doubled over this same time period.

While it must be recognized that the commercial fishery is not strictly a traditional activity, it can be argued that it is a highly adaptive practice that continues to enrich the connection between the Nuu-chah-nulth people and a life on the ocean (Atleo, 2010). Trosper (2003) and Turner (2004, p.2) note that adaptive cultural processes are a necessary element of "cultural continuity". As well, from the perspective of disaster resilience, the act of fishing as well as hunting, gathering, food preservation and storage forms a direct link to community disaster preparedness. Many traditional and adaptive approaches to food preservation allow goods to be smoked, dried or canned, eliminating the requirement for refrigeration or cooking. "We are 'doing' preparedness right now" excitedly exclaimed research participant James Rogers (pseudonym) as he was cleaning salmon and preparing it to be smoked. He went on to explain that "this salmon will not only feed my family and community through the winter, but it would sustain us through a disaster when we would need it the most".

Oral Traditions and Histories

"We are oral people and we have our stories. These stories help us share our history, culture and knowledge through our oral traditions or oral histories" explained research participant Rain Miles (pseudonym). Oral traditions are often related to the stories transmitted down through the generations, while oral histories are usually connected to personal recollections. Within the Nuu-chah-nulth communities, different families hold different stories that are unique to them and are passed down throughout

their lineage. These oral traditions extend into the space of mythology, spiritualty and environment, and speak to historical truths within the family context.

"When we first started to talk today, I was not sure why you would want to know about stories from way back when," stated research participant Sharon Adams (pseudonym). She went on to say, "I was wondering how they would be applicable to a conversation that takes place today, but it is applicable and it is in here [tapping her heart], I just know that. These stories, my stories, our stories, they teach us how we take care of each other during the hard times and guide us to wise choices".

Oral traditions and histories have many benefits and uses. Through stories, today's generation is linked to the beliefs and traditions of their ancestors. However, research participant Chris Daniels (pseudonym) stated that, "maintaining our history, culture and traditions takes real work. Even though we live this life, we must continue to work on our own learnings". Within Nuu-chah-nulth communities, storytelling inspires communal sharing that binds families and communities together, both relationally and spiritually. The Nuu-chah-nulth use their oral traditions and histories for communication, education, relationship building, preservation of culture, entertainment, historical memory, and as a coping mechanism to deal with death, illness and tragedy. It is these elements of oral traditions and histories that support a Nuu-chah-nulth approach to disaster resilience.

Environmental Connections and Cues

For the Nuu-chah-nulth First Nation, environmental connections and cues are closely tied to oral traditions. As research participant Scott Turner (pseudonym) expressed, "for people that are tied to their environment, they know how to read their

environment". Throughout Nuu-chah-nulth oral histories, there is deep meaning in seeing animals and the environment act and respond in certain ways. As an example, there are Nuu-chah-nulth families that hold stories depicting birds and fish flying inland shortly before the sea meets the mountains. These families acknowledge this oral narrative as an account of a historical tsunami or what they call 'the great flood'.

"Animals teach us how to live right. The land teaches us how to live right". In his work, Atleo (2010, p.61) identifies how learning from animals and the land is manifest in Nuu-chah-nulth learning in two ways:

> "First, we learn through simple observation of our animal relatives as they live their lives, go through their cycles of birth, life and death. We also learn how they interact with all our relatives, every creature playing a part. Second, we learn from our stories that are told from generation to generation that involve our animal relatives as key figures. This is important because it places them in a context that allows the listener/learner to appreciate the animals as equal to us".

"You have to remember that as First Nations people, we are used to navigating these waters without a compass, radar or radio. We know how to read the sun, the moon, the tides, but most importantly, we know the sea. This knowledge is naturally in the hearts of all of us. It comes to us from our ancestors and is taught to us through our entire lives" stated research participant Stanley Rogers (pseudonym). During my boat ride home out of the study area from Ahousaht, these words resonated deeply with me as the small fishing boat I am in skips over the rough waters between Ahousaht and Tofino. As I watch the young man who is driving this boat, I see a quiet confidence in the way he navigates his boat through a somewhat challenging sea and I know that what I am seeing

is a small glimpse into the depth of his knowledge, and the relationship that he has with his environment.

By sharing these narrative accounts of environmental connections and cues, the Nuu-chah-nulth First Nation are transmitting cross-generational knowledge of risk, warning and seasonal/annual environmental variations. Although many of these narratives extend into the mythological realm, they hold physical truths that we know to be accurate regarding disaster behaviour. Through the sharing of these stories, the Nuu-chah-nulth are enhancing their disaster resilience by practicing culturally specific approaches to public safety education.

Healing, Health and Wellness

Traditional approaches to healing, health and wellness are central to the Nuu-chah-nulth First Nation. Each family and community may exercise a unique approach to healing, which is often guided through elements of spirituality. For generations, the Nuu-chah-nulth have advocated the importance of traditional health and healing practices. Today, the existence of the British Columbia First Nations Health Authority allows for a more formalized space for these practices to be exercised within and outside of the community.

"We cannot lose our traditional ways of healing. We all heal differently and that needs to be honoured," said research participant Roy Perry (pseudonym) during a group dialogue. Furthering this thought, respondent Chris Daniels (pseudonym) added, "how people heal is up to each one of them. Call it cleansing, a sweat lodge, smudging, call it

want you want. But the practice of healing, it is important to each individual and each family".

When looking across the themes, healing, health and wellness have strong ties to family and community relationships. When a member of the Nuu-chah-nulth First Nation falls ill, they are supported by their immediate family and the broader community. When extended care is needed, certain members within the community facilitate specific healing roles that contribute to wellbeing. This is a strong aspect of Nuu-chah-nulth community life that was historically practiced, and that is still experienced today.

Through the lens of formalized psychosocial planning as well as community recovery, health is a central concept to address in ensuring a comprehensive approach to disaster resilience. Through their strong knowledge of health, healing and wellness, the Nuu-chah-nulth can significantly influence how community recovery and psychosocial planning is approached and this would support meeting their unique health and spiritual needs following a disaster.

Spirituality

The Nuu-chah-nulth are very spiritual people and since time immemorial, the 'Creator' has played a central role in daily life. Alongside this traditional understanding of spirituality, is a deeply rooted, post-colonial commitment to Christianity which is practiced within many Nuu-chah-nulth families. Through both spirituality and religion, prayer remains an important practice in Nuu-chah-nulth daily life. For the Nuu-chah-nulth people, spirituality acts as a point of connection to their ancestors, extending into the practice of oral traditions across generations.

For the Nuu-chah-nulth First Nation, healing, health and wellness, and spirituality are seamlessly integrated. As identified by research participant Sharon Adams (pseudonym), "our community gatherings and celebrations are around the hope of personal and community wellness, but perhaps most importantly, I believe they are about creating a space of spiritual betterment".

"In modern days, there is disaster debriefing after an event. But we have our own way of debriefing. It is a spiritual debriefing, and it is different for everyone. We must honour and respect everyone to practice their own spiritual connections after a disaster" stated research participant Alton Daniels (pseudonym) during a group interview. As with healing, health and wellness, spirituality and religion are critical to effective psychosocial planning and comprehensive community recovery. The findings from this research reveal that both spirituality and religion are important coping strategies within the Nuu-chah-nulth communities when dealing with disaster.

Intergenerational Family and Community Relationships

Strong partnership and kinship ties exist within and between Nuu-chah-nulth communities. From Elders to children, relationships are fostered and knowledge is shared cross-generationally within families and across the community. During a group interview, research participant Alton Daniels (pseudonym) voiced the view that "traditionally all of our families have their roles and responsibilities within their culture and it is just a part of us to know what we need to do when we are in times of trouble". Due to the isolated nature of many Nuu-chah-nulth communities, different members will develop and hold specific aspects of family or community knowledge which is exercised through unique

skillsets and/or responsibilities. For example, by diversifying the knowledge and skillsets that different members hold, it allows the community to collectively work together, relying on each other to navigate through complex challenges. This understanding is further highlighted within the work of Green (2013, p. 183), who noted that "one of the most distinct aspects of Nuu-chah-nulth culture is the complex social organization. This complex organization exists because every family group as its own unique rights and privileges".

"I think that our Elders/Youth program is a way that our community can talk about disaster preparedness from our traditional ways. During this program, our Elders share stories and skills and when I think about what we are talking about today, I see many great opportunities" stated research participant Tony Joe (pseudonym). In each of the participating communities, Tony's statement was emphasized many times regarding the importance of knowledge translation between Elders and youth.

"The one thing I know about our communities, is that we are all big families. If something happens, family communication is always there and we all pull together. We are born into this understanding. This is just part of Nuu-chah-nulth life". Through this statement, research participant Sharon Adams (pseudonym) beautifully articulated the strong extended family system, as well as community relationships, that serve as a foundation with the Nuu-chah-nulth First Nation and which provide a critical element of support following a disaster. By fostering these relationships, through initiatives like Elder/youth programs and community feasting, the Nuu-chah-nulth have intuitively improved the coordination of disaster response and enhanced their overall coping strategies that speak to disaster resilience.

Nuu-chah-nulth Governance

All evidence suggests that Nuu-chah-nulth governance practices were unique (Green, 2013). The Indigenous governance system of the Nuu-chah-nulth communities still exists today, although not in every community. Where they do, they are represented by a *Ha'wiih* (Hereditary Chief) who is responsible to the people of the community and the *hahuulthi* (ancestral territories and resources). As identified by research participant Tracy Joe (pseudonym), "the existence of governing has always been there. [In] December and January our people would get together and the ceremonies would take place. This was governing at its best. Our chiefs would bring out their wolves as it's called. These wolves were the law and order of governance". Indigenous governance broadly speaks to the culture-based laws, traditions, rules, values, processes and structures that have been in place within First Nation communities for countless generations, and which nations, clans and families continue to adapt and use for collective organization (AIGI, 2017). Indigenous governance provides a space where traditions and culture are intimately connected into the governance structure.

Today, the role of *Ha'wiih* has been largely tokenized (Atleo, 2010). This change to the hereditary governance system is due to the imposition of the Indian Act as well as a greater emphasis on liberal democratic principles and bureaucratic and capitalist institutions. Through the Canadian Indian Act of 1876, the legislation states that each community must also operate with an Elected Chief and Council system. These members of council are responsible for the day-to-day administrative operations of the Nations.

For some of the Nuu-chah-nulth communities who have worked to maintain an Indigenous governance structure, the elected chief and council exercise political authority, which the *Ha'wiih* act in a ceremonial and consultative capacity. Through engagement with the federal and provincial governments, the *Ha'wiih* are allowed to fulfill advisory roles, but the official power and jurisdiction rests with the elected chief and council. Based on this colonial imposition of governance structure, Atleo (2010) identifies the following challenges as arising for Nuu-chah-nulth traditional governance structures: 1) traditional decision making and accountability mechanisms have been broken and abandoned and the federal and provincial governments have no interest in seeing them returned; and, 2) the revival of certain aspects of Nuu-chah-nulth traditional governance practices are severely hampered by colonization. Not only are the Nuu-chah-nulth challenged in remembering how they did things, but they are hard pressed to implement their Indigenous governance practices in a contemporary context (Atleo, 2010).

Understanding and incorporating the roles and functions of Nuu-chah-nulth governance structures into emergency management programs is a critical component of enhancing disaster resilience within Indigenous communities. As research participant Rain Miles (pseudonym) states, "our chief and council need to hear the needs of our communities. For anything to be done within our community, we need the support of our chief and council". The role of hereditary and elected leadership as well as the active involvement of local and regional governance cannot be underestimated or ignored. Their involvement in the planning and implementation of emergency management programs is essential to ensure that Nuu-chah-nulth knowledge and culturally appropriate approaches

are applied, and that there is community buy-in and support for activities linked to disaster resilience.

Historical Resettlement and Colonial Legacies

"Sometimes history makes it hard to have a strong voice in the present" stated research participant Kelly Simms (pseudonym) during a group interview. For the Nuu-chah-nulth people, colonialism represents a painful chronicle of broken treaties, stolen lands, Indian residential schools, and the Indian Act. Traditionally, Nuu-chah-nulth communities lived in multiple settlement sites that were utilized at different times of the year. These sites were dependent on seasonal hunting/fishing practices and environmental determinants such as weather and access to fresh water. Through the Indian Act of 1876 under the Reserve section, communities were required to settle and remain in one location. Although the Nuu-chah-nulth did not surrender their land, through federal legislation, the Canadian government created small reserves for each community in the late 19th century. However, by limiting access to land, this act also curtailed hunting and fishing, including a prohibition on salmon, which essentially deprived the Nuu-chah-nulth of their traditionally rich economic base. The oppressive nature of colonialism was captured by research participant Stanley Rogers (pseudonym) in this way:

> "Look at that map on the wall. That map is our traditional
> territory. Our history was in our movement. We were not
> restricted and could move freely across our land. We could go and
> prepare what we needed because we could access our resources in
> the best way that worked for us. Today, we don't have the
> freedom to do that any-more. Our freedom is only this little box
> of land that we live on that they call our Reserve. This is the land
> they gave us to live on and really, it doesn't give us everything we

need to live the life we used to. In the past we could migrate
across our land and use the land and do what was natural to us."

Colonial legacies and forced relocation have disrupted Nuu-chah-nulth settlement patterns that used to accommodate seasonal opportunities and hazards (e.g., winter villages). Today, standard emergency management practices inadvertently also bring about forced relocation should an evacuation order by presented. The experience of forced relocation speaks to the importance of pre-event disaster planning to minimize disruption and preserve the Nuu-chah-nulth sense of place, maintaining their intrinsic attachment to the land as far as possible and thereby supporting the connections that foster community well-being.

Heshook-ish tas'walk: Cross-Cutting Points of Intersection

Heshook-ish tsa'walk. All is one. The points of intersection between these findings bring a depth and richness that speaks to the interconnection between Nuu-chah-nulth knowledge and disaster resilience. Indeed, it is this Nuu-chah-nulth value of interconnectedness and wholeness that lends itself to the study of disaster resilience. The work of Kirmayer et al. (2009), Simonsen et al. (2014), and Trosper (2003) all subscribe to elements of connectivity within Indigenous knowledge systems that support community resilience. The following section draws on these points of intersection to paint a better picture of disaster resilience as explored through a Nuu-chah-nulth way of knowing.

When exploring connections across the eight themes, perhaps the most fundamental theme that transects all others is that of oral traditions and histories. The Nuu-chah-nulth

are an oral people and for generations, their knowledge of all aspects of life has been

shared through dialogue. It is this sharing of knowledge that has allowed for cross-

generational resilience to occur. All of the Nuu-chah-nulth knowledge that was shared

with me as the researcher was done so orally. Their narrative reflected knowledge and

experience through both oral traditions and histories and spoke to all the eight themes that

emerged from the data interpretation phase of this work. That said, this knowledge was

shared with me through the English language rather than through the Nuu-chah-nulth

language. Therefore, due to limitations in translation, the narrative is never fully

complete.

Family and community relationships act as a foundational element and cross-

cutting point of connection as a critical element in enhancing disaster resilience. Like

many other Indigenous peoples, for the Nuu-chah-nulth people, strong family and

community relationships support the sharing of oral traditions and histories, the collective

activities associated with hunting, gathering and food preservation, the interpersonal

support required for healing, health and wellness as well as spirituality. Kirmayer et al.

(2009) speak of the 'family systems perspective' within their research on community

resilience. Employing this same understanding, the findings of this research support

similar conclusion that culture and ethnicity are tightly bound and positively influence

family resilience.

Traditional approaches to hunting, gathering and food preservation also

demonstrated clear linkages to fostering strong family and community networks, with

workloads being shared within and between families and communities. Further, linkages

between hunting, gathering and food preservation can also be made to environmental

connections and cues, where accessibility to fish, meat and vegetation can serve as an indicator for both anthropogenic and natural environmental variations. Upon deeper personal reflection, I have also come to see a profound connection between hunting/food preservation and ceremony as well as spirituality similar to the reflections of George (2003), who draws deeply on the spiritual and cultural presence and meaning of salmon for the Nuu-chah-nulth people.

In understanding the interplay between historical resettlement and colonial legacies, these cross-cutting points of connection actually reflect a disturbance to the foundations of enhancing disaster resilience that is longstanding and systemic in nature. Colonial legacies have had deep and lasting, and arguably catastrophic impacts on the Nuu-chah-nulth First Nation. As a result, they have experienced cross-generational physical, social, economic and cultural challenges. As noted, some of these challenges have impacted their ability to engage in traditional subsistence lifestyles, the sharing of oral traditions and histories, practicing traditional approaches to health, health and wellness as well as spirituality, fostering health in family and community relationships, and the loss of traditional governance structures. Despite the magnitude of the impacts of colonization, the findings from this research reflects an argument for how the Nuu-chah-nulth people continue to exercise an inherent resilience, and how they have been able to hold onto an extraordinary amount of cultural knowledge.

CHAPTER 5

FINDINGS: PART 2

THE IMPACTS OF COLONIALISM ON THE DISASTER RESILIENCE OF THE NUU-CHAH-NULTH FIRST NATION

Over the past 240 years, the Nuu-chah-nulth First Nation have experienced a spectrum of environmental and social impacts that reflect a disaster of epic proportions; the slow moving, but deeply consequential disaster wrought by colonization. In this dissertation, the impacts of colonial legacies and contemporary Settler relationships are explored through dialogue with members of the Nuu-chah-nulth First Nation. In undertaking this research, it became evident that the subject of disaster resilience among the Nuu-chah-nulth First Nation cannot be fully understood without reference to the impacts of colonialism. These were unintended findings that emerged during the research process through interviews with participants. As a result, an additional series of findings had to be developed to better reflect the depth of the dialogue, and to honour the information that was shared. The analysis of the themes related to the impact of colonialism are thematically summarized into four overarching categories: 1) community depopulation; 2) loss of land and the establishment of Reserves; 3) the residential school system; and, 4) Settler colonial relationships.

As before, as the primary researcher for this work, I have developed these four thematic headings and I must again recognize that a critical aspect of Nuu-chah-nulth knowledge is that it is not fragmented into isolated and discrete concepts. Rather, it is

based on the concept of *heshook-ish tsa'walk* (everything is one and everything is connected). (See Chapter 4)

Another important piece of context is that though I did not ask individuals and families to discuss the impacts of colonialism, the subject found its way into virtually all the interviews that were conducted. Much of the information shared by participants was of deeply personal accounts reflecting the often-painful impacts of colonialism as a longstanding and oppressive legacy. Thus, the four themes are broadly conceptualized and reflect the overarching nature of the dialogue around this highly complex issue. In addition, it is important for me to note that the examples highlighted in these findings do not reflect an exhaustive assessment, and are not intended to be prescriptive in any way.

Community Depopulation and other Traumas

In positioning colonial legacies as a human induced disaster, it was evident that community depopulation through disease ranked among the most catastrophic events to be experienced. In the century that followed initial colonial contact, about 85 percent of the Nuu-chah-nulth population succumbed to diseases such as smallpox, tuberculosis, malaria, measles, influenza and typhoid fever (Atleo, 2010; Green 2013). By the end of the 19th century, there were only about 3,000 Nuu-chah-nulth people remaining across its traditional territory (Atleo, 2010). As identified in the writing of Atleo (2010):

> "Words cannot describe the trauma that our communities experienced in a very short period of time. We lost women, children, men, elders, leaders, warriors, healers, hunters, fishers, artists, historians, musicians; the list goes on and on and I can hardly fathom how anybody recovers from such tremendous loss".

The accommodating nature of the Nuu-chah-nulth First Nation could have been one of the potential conditions that heightened their exposure to disease outbreaks. As was identified in Chapter 2 in the section on *Nuu-chah-nulth Colonial Experiences*, the chronicles of Captain Cook and James Jewitt speak to the levels of trade with Nuu-chah-nulth community members. During a group interview, the disturbing impact on Nuu-chah-nulth people was explained by research participant Alton Daniels (pseudonym) in this way:

> "When our people went off to trade, they had intentions that were honest and true, but they were not confronted with the same. When our people engaged with the outsiders, they were intentionally exposed to diseases. The traders knew that this exposure happened and rather than helping our people to remain isolated, they intentionally sent them back into our communities to spread these diseases to even the most vulnerable people of our community, to women, to children to elders. They had the opportunity limit the spread of these diseases, but they chose to kill our communities and essentially tried to erase us".

To compound the loss experienced through disease outbreaks in the 19th century, the 20th century saw further impacts to Nuu-chah-nulth depopulation at the community level with the forced removal and relocation of children into residential schools. To convey this impact on the Nuu-chah-nulth people, poet Lee Maracle (1990) encouraged readers to think of what a village would be like without school-aged children for more than eighty years. In many ways, these villages would appear dead. Not only did the forced removal of children from Nuu-chah-nulth communities alter the demographic dynamics within communities, it also altered traditional family structures, which are a fundamental aspect of Nuu-chah-nulth life and identified in the above findings as a fundamental building block of disaster resilience.

The intergenerational trauma of residential schools, the erosion of family structures, isolated community settings, and challenges with addiction, domestic abuse and mental health have spurred an unparalleled rise in suicide which is having a devastating impact in many Nuu-chah-nulth communities today (NTC, 2016). On my first day of field work, I was conducting my second series of interviews in a family home. As I entered the home, four small children were playing out front of a neighbouring house and as we settled in to the interview, I commented to my hosts on how lovely it was to hear such pure joy and excitement. My comment was met with a response from research participant Rain Miles (pseudonym) that I was not prepared to hear:

> "What you see outside is just a small piece. It is nice to see these children so happy, but this is not the case. Their mothers'[9] committed suicide just a few weeks apart. There is so much sadness, trauma, and loss. So much loss. Yes, it is nice to hear the children so happy because the silence is too much. Our communities are becoming silent and we are losing more young people. First, it was residential schools that took us, now we are taking ourselves. There is just too much pain and sadness."

Today, although less catastrophic than the impacts of disease, residential schools and suicide, Nuu-chah-nulth communities are also faced with modern community depopulation challenges as members often leave to receive formal education or in pursuit of professional endeavors. Leaving for education and employment are important. However, many of these individuals then fail to return. This leaves communities grappling with challenges related to fulfilling administrative, and operational band responsibilities. As it relates to the functions of emergency management and disaster response, Nuu-chah-nulth communities often struggle to maintain emergency

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[9] The four children were comprised of two different families.

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management programs within their communities. This lack of capacity directly impacts a communities' ability to formally engage with the regional and provincial emergency management structure.

These experiences speak to the intergenerational impacts of community depopulation in Nuu-chah-nulth communities. This legacy of depopulation has seen Nuu-chah-nulth community's transition from a thriving pre-contact state, to significantly smaller populations. To understand this notion of depopulation within the context of disaster, it is possible to look to the work of Caldera, where she rates the severity of disaster based on several indices, one of which is fatalities (Hassanali, 2015). This form of disaster metrics is also supported in the work of Bayram, Kysia & Kirsch (2012), who proposed a quantitative assessment tool to understand the severity of complex humanitarian emergencies. They too rank human fatality as the most common characteristic that defines the severity of an event.

The Residential School System

In an interview with Rain Miles (pseudonym), she stated,

> "When my grandparents were around, it felt as though we were surrounded by culture. They were the last in our family who did not attend residential school. When they passed away, it felt like our culture went with them. Yes, we have our culture, but for my parents, me and my children, residential school changed us. Even though my grandchildren did not attend residential school, their culture is not the same because our culture was changed forever."

As identified in the Final Report on the Truth and Reconciliation Commission of Canada (2015), the residential schools were designed for the intentional purpose of separating Indigenous children from their families, and with the goal of destroying

cultural linkages to community, and indoctrinating children into Euro-Christian Canadian society. In each of the six participating Nuu-chah-nulth communities, stories were shared of the horrific events that detailed the courage and survival of the childhood experiences of being educated within the residential school system. Not only did this appalling system destroy the lives of children, families and communities, it created cross-generational trauma that persists in Nuu-chah-nulth communities today. As research participant Shannon Adams (pseudonym) identified,

> "There are many things that trigger pain and trauma. Sometimes it can be just how people talk or where they stand in a room. When I am in a room with government people, I often feel like a small girl starting residential school again. I wonder how they see me and if they hear me. When we meet, I welcome them to join me, but I often feel like they are looking down on me or not wanting to join me in where I am at".

There is no debate about past and present colonial practices, especially those of residential schools, which have resulted in culturally entrenched, intergenerational trauma. When drawing upon points of connection to the field of emergency management, such as community evacuation during disaster, these powerful Nuu-chah-nulth narratives detail how historical trauma can resurface and how the failure to recognize this trauma will likely result in emergency management programs perpetuating faulty pathways for supporting disaster resilience.

In my journey to truly hear the messages being conveyed by the Nuu-chah-nulth voices throughout my research, I began to see how a paternalistic, command and control approach, that is so embedded in emergency management can seem oppressive to First Nation community members during times of disaster. This same paternalistic foundation was evident within the residential school system (Alfred, 1999; Simpson, 2004). As a

field of practice, emergency managers must strive to understand how the complexities of colonial legacies, especially those of residential schools, impact Indigenous communities today and consider different solutions and approaches to support disaster resilience in traumatized First Nation communities.

Loss of Land and the Establishment of Reserves

As already discussed in Chapter 4, colonial legacies and forced relocation of entire communities through the Reserve section of the Indian Act was highly disruptive to Nuu-chah-nulth communities. Tied to the loss of traditional lands is the lack adequate of housing in Nuu-chah-nulth communities. This lack of adequate housing is due in part to the limited capital funding that First Nations communities receive from the Canadian federal government. However, this housing crisis is also perpetuated by the fact that some Nuu-chah-nulth reservations are so small that they lack the necessary space to support appropriate community infrastructure. In a report by Harris (2008), he identified that many West Coast reservations, including those of the Nuu-chah-nulth, ware particularity small because colonials believed coastal First Nations did not need a large land base due to their reliance on seafood for subsistence as opposed to agriculture and domestic farming practices.

Today, much of the Nuu-chah-nulth territory (reserve land) is exposed to and experiences a disproportionate level of risks and hazards, compared to their neighbouring non-First Nations communities. This is due to historical and present day complexities associated with lack of infrastructure, marginalized lands and other socio-economic factors (OAGC, 2013). The loss of land and the establishment of reserves speak to the

importance of sense of place and connection for community well-being. Through disasters such as flood and fire, standard emergency management practices can inadvertently bring about forced evacuation or relocation for the purposes of public safety. Identified in the work of Howitt et al. (2011), both evacuation and relocation place disaster resilience at risk and can cause irreparable damage to members of Indigenous communities when they become separated from their traditional lands. Forced evacuation, in concert with colonial legacies associated with loss of land, speaks to the imperative need for pre-disaster recovery planning that supports the cultural needs of Indigenous people, which needs to be informed by both history and present day needs.

Settler Colonial Relationships

As this chapter has argued, within Canada, colonialism remains an ongoing process, shaping both the structure and quality of the relationship between the settler society and Indigenous peoples. For emergency management programs, building a respectful relationship involves dismantling a century-old political and bureaucratic culture in which, all too often, policies and programs are still based on failed notions of assimilation (Alfred, 1999; Simpson, 2004). To begin to understand the complex interface between colonialism and emergency management, it must first be acknowledged that the potential for disaster resilience is often mediated by the underlying disaster embedded in colonial and post-colonial policies and practices.

A full understanding of the impacts of colonialism support the characterization of colonialism as an enduring disaster in Indigenous communities. In this manner, one must acknowledge that the culturally entrenched, intergenerational trauma experienced by the

Nuu-chah-nulth people has been shaped through past and present colonial practices and is the sole product of human decisions (Trosper, 2009). Unlike the environmental forces that drive most natural disasters, colonialism was comprised of human made forces that propelled an 'unnatural disaster' that can most easily be equated to the trauma that is experienced as a result of armed conflict (Howitt et al., 2011). Thus, when Indigenous survivors seek to understand the driving forces that have caused irreparable damage to their communities, the finger points to historical colonizers, as well as contemporary settler society, and current policies that shape government engagement and response. For the field of emergency management, a failure to recognize the trauma inherent within the colonial legacy means practitioners will fail to take a culturally sensitive and appropriate approach to their work.

When disaster does strike, it is often assumed that the most important expertise is embodied within government agencies related to emergency management, while the local Indigenous communities who are affected by the disaster are, by definition, considered to be victims rather than a potential source of resilience and expertise (Ellemor, 2005). This victimization approach exacerbates reliance on government agencies by implying a perceived lack of capacity within Indigenous communities to exercise self-determination. This, in turn, 'justifies' further government intervention in the management of Indigenous lives (Rotarangi and Russell 2009).

As identified by research participant Clover Blyth (pseudonym),

> "I don't understand why white people have so much power over us on our own lands. But we are giving them that power. I just don't understand. This imbalance of power is a two-way street – us giving it to them, them assuming it over us. But at what point do we regain our power?"

These feelings also resonate with the work of Atleo (2010, p. 48) who acknowledges this power imbalance through acts of compromise. He states that for the Nuu-chah-nulth people, "the political legacy that came out of the devastation of colonization was the art of compromise. Quite simply, we learned to survive, by any means necessary".

CHAPTER 6

DISCUSSION

The goal of this discussion section is to tie the two areas of findings together and further address Nuu-chah-nulth ways of knowing and applications to disaster resilience, as well as provide an overarching review of the findings as they specifically address the research questions. The discussion will start by drawing on points of connection between the first and second findings chapters and their relationship to disaster resilience in Nuu-chah-nulth communities. This will be followed by exploring how these findings on disaster resilience can be understood within a larger context of Indigenous resilience, followed by a discussion centered on how the overall findings from this research can inform the field of practice of emergency management within a cultural and political context of reconciliation. Finally, the research questions will be addressed through a more fulsome review of the findings captured within this research.

COLONIAL LEGACIES AND NUU-CHAH-NULTH DISASTER RESILIENCE

> "Our resiliency is in knowing our communities. We have
> survived, we will survive and we are still here today. Our
> resiliency is in how we have learned and what we have
> learned. It may not be identified in our emergency plan, but
> it has been passed down to us and it is in here [points to
> heart]."

These were the words spoken by research participant Sharon Adams (pseudonym) as she reflected on what disaster resilience meant to her through her own understanding of a Nuu-chah-nulth way of knowing. For the Nuu-chah-nulth First Nation, the findings of this research detail only a small fraction of the cultural depth and richness that is Nuu-

chah-nulth life. The interview dialogue and findings were based on discussions regarding community disaster events and a Nuu-chah-nulth understanding of disaster resilience. The findings of this research are highly contextual and the knowledge is only truly reflective of those who shared it. However, when exploring the context of disaster resilience, it is clear that the Nuu-chah-nulth people are an engaged group of communities whose knowledge and resources aid in the stability and strength of the entire Nation during times of disaster.

Importantly, the discussion about the impacts of colonialism that emerged through the analysis of the interviews was an unintended element within the original goals of this dissertation. In each of the six participant communities, stories of courage and survival were shared to such an extent that it became imperative to view disaster resilience within a much broader web of considerations and circumstances. As the research proceeded, not to do so, would have been a much larger violation of trust and respect to those who shared their wisdom, insights, experiences and knowledge.

In drawing on the relationships between Nuu-chah-nulth disaster resilience and Indigenous resilience the literature of Rotarangi and Russell (2009) is helpful as they maintain that colonialism is the chief impact that defines resilience within Indigenous communities. Even though the forces of colonialism that were imposed on the Nuu-chah-nulth people have been experienced as destructive and oppressive, they have maintained, and continue to build their Nuu-chah-nulth cultural and knowledge systems. Within the work of Kirmayer et al. (2009, p.66), when understanding resilience at the community level, one must look at "how people overcome stress, trauma and other life challenges by drawing from the social networks and cultural resources embedded within communities".

It is this potential that offers a bridge between the impacts of colonialism and the Nuu-chah-nulth approaches to resilience.

Based on the work of Simonsen (2014), the concept of resilience is balanced between notions of continual change and impacts on a system on the one hand and by continual learning and dynamic applications of knowledge on the other. For the Nuu-chah-nulth, this demonstration of resilience has been intergenerational and one can infer that it will continue for generations to come. From colonialism, to natural disasters, to resource and economic changes, the findings of this research indicate that the Nuu-chah-nulth have successfully applied and adapted their knowledge over time. With the nurturing and protective vision the Nuu-chah-nulth have for future generations (George, 2003), it can be assumed that these elements will continue to support the Nuu-chah-nulth in building their disaster resilience.

NUU-CHAH-NULTH WAYS OF KNOWING THAT INFORM DISASTER RESILIENCE WITHIN THE BROADER CONTEXT OF INDIGENOUS RESILIENCE

A growing literature relates specifically to Indigenous resilience. Framed within the work of Trosper (2003; 2009), Kofinas (2009), Kirmayer et al. (2009) and Rotarangi and Russell (2009), they delineate the common features across many communities within the understanding of an Indigenous worldview. These features extend well beyond Indigenous knowledge and include: values, beliefs and behaviours that are intergenerational and culturally instilled within community. There are strong ties between the work of the above authors and the findings of this research.

Kirmayer et al. (2009) identify eight cultural and community factors that framed their approach to Indigenous resilience. Of these eight factors, five are consistent with the findings from this research. These include the importance of oral traditions and histories; environmental connections and cues; healing, health and wellness; spirituality; and intergenerational family and community relationships as important to bulding and sustaining resilience. In addition, Kirmayer et al. (2009) spoke to the importance of understanding the historical context in relation to specific forms of adversity. This was also a central theme that emerged in this work.

Within this research and across the literature, one must be mindful that there are no single solutions for Indigenous resilience. Simonsen et al. (2014) highlight that the principles of Indigenous resilience that are brought forward require a nuanced understanding that is contextually specific to time, place, space, and most importantly, to people. They recognize that the principles of Indigenous resilience can only be genuinely guided by these elements of understanding. Hence, it is important to note that one of the cornerstone elements of this research is that it is specific to the Nuu-chah-nulth people and context.

INFORMING THE FIELD OF PRACTICE OF EMERGENCY MANAGEMENT

Nuu-chah-nulth ways of knowing that inform disaster resilience, that were brought forward within this research can be used to build new approaches within the field of emergency management. Specifically, acknowledging other ways of knowing can open up a space where Indigenous approaches to programming within emergency management organizations can be recognized as relevant and valuable. Thus, in many ways, the

findings of this dissertation support a call to action for practitioners of emergency management to allow for Indigenous approaches to be reflected within their areas of responsibility. As demonstrated through the findings of for this research, when Indigenous knowledge and ways of knowing, and an Indigenous approach to disaster resilience are explored, meaningful conversations to support disaster resilience are possible.

In bridging theory to practice gap, there are clear examples of Nuu-chah-nulth knowledge that demonstrate capacity to enhance emergency management practices especially operationally. Known as 'salt water people', the Nuu-chah-nulth First Nation demonstrate the knowledge and skills necessary to contribute to and/or lead elements of marine rescue. As identified within the findings of this research, the Nuu-chah-nulth can draw on their knowledge bound within oral traditions and histories, environmental connections and cues, and intergenerational family and community relationships, to support their expertise in marine rescue. For example, it is understood within Nuu-chah-nulth families that members are born into specific community roles with inherent responsibilities. As another example, there are individuals within Nuu-chah-nulth families that hold intimate knowledge of the territorial waterways, who were raised as skilled navigators of the sea. This knowledge is not only gained by experience, but also through the transmission of intergenerational histories that support an awareness and acknowledgement of environmental connections and cues that inform knowledge regarding weather and tides.

Further, a critical finding from this research, was the importance of emergency management practitioners being able to understand the potential for historical traumas to

resurface again and again during a disaster. In addition, for Indigenous communities

experiencing disaster, this means that trauma often extends from before and after the

physical disaster event (Kirmayer et al., 2009). For emergency managers, the

acknowledgement of this trauma is necessary to understand how Indigenous communities

may be challenged in specific ways with respect to responding to current and future

disaster events. Some of these specific elements relevant to emergency management

could include: community distrust in hegemonic authority, especially that of provincial

and federal governments; fear of separation from land, family and community following

evacuation orders; and historical trauma impacting the time-sensitive decision-making

ability of Indigenous community leaders who, during disaster response, are required to

work within an emergency management structure that aligns with that of a dominant

worldview and culture.

In reviewing the interview transcripts, I am often drawn to a quote from research

participant Shannon Adams (Pseudonym) who stated:

> "Maybe it is time that we [the community] can act beyond the
> manuals and procedures. Act is a way that is meaningful to
> our community and this moment in time. This is what I find
> troubling. When I talk to people from government, you
> follow a manual or your legislation, with us, we have our
> own ways and we know what to do."

Respect for different perspectives and 'ways of knowing' calls for the field of

emergency management to move beyond its current approach, and become inclusive of

an Indigenous approach to mitigation, planning, response and recovery. As an example,

community emergency plans and assessment such as Hazard, Risk and Vulnerability

Assessments should include opportunities for Indigenous knowledge to be included from

the earliest stages beginning with the process of development. Creating a space for Indigenous ways of knowing would allow Indigenous communities to preserve their own knowledge within the practice of emergency management, and it could also inspire a reconciliatory shift for non-Indigenous practitioners.

Reconciliation: A Path Forward

The Final Report of the Truth and Reconciliation Commission of Canada (2015) is a call to action urging reconciliation efforts to extend to all areas of engagement between Settler society and Indigenous communities expanding public dialogue and action beyond the focus of the residential school system. To approach reconciliation, the TRC identifies fours areas that must be addressed. Through the findings of this work and drawing on supportive literature, the following opportunities for reconciliative action within the field of emergency management are noted:

1) **Awareness of the past:** The findings from this research have thoroughly addressed the importance of history and the colonial legacy. There are many opportunities for emergency management practitioners to educate themselves on the full history of Indigenous peoples. Beyond engaging with the literature, there are extensive immersive learning opportunities that are also widely available. An example of practitioner based learning would include the Cultural Safety and Humility in Health Services Delivery training through the First Nations Health Authority.

2) **Acknowledgement of the harm inflicted:** As detailed in the discussion section above, historical trauma and its after effects need to be better understood within

the field of practice of emergency management. Within studies of health and Indigeneity, there are many research opportunities for addressing historical and intergenerational trauma (Fast & Collin-Vezina, 2010; Gone, 2013). This is a critical place of acknowledgement but also a place where additional understanding needs to be developed.

3) **Atonement for the causes:** For practitioners of emergency management, especially those working within government, it is critical to address why there are colonial, as well as patriarchal and top down approaches within the field of practice. Drawing on the work of Coppola (2011), the command and control frameworks that guide emergency management have done so through the positivistic and hegemonic lens. Atonement towards the paternalistic and hegemonic structures of emergency management is one way that practitioners can work to dismantle the century-old legacies and present-day realities of colonial relationships.

4) **Actions to change behaviour:** Actions to change behaviour refer to such things as acknowledging the needs of Elders or residential school survivors during community evacuations as well as recognizing cultural healing elements within recovery planning. These actions, amongst others have been brought forward throughout the findings of this research and addressed in the above points of discussion. As a place where fundamental change can occur, actions are required to move beyond a static and prescriptive definition of emergency management and explore an understanding of mitigation, preparedness, response and recovery that reflects locally guided and context-specific

knowledge, in other words, an Indigenous approach that is unique and reflective of each community.

It is also critical to recognize that reconciliation does not just reside within the professional sphere, it must also be explored on fundamentally deeper personal levels as well. As a call to action, Reconciliation Canada asks all Indigenous peoples and non-Indigenous Canadians to reflect on how we walk in this world together. In their report, National Narrative on Reconciliation (2016) they highlight the collective and personal actions that are required to make reconciliation a reality. Within the Canadian context, we are in the very early days of reconciliation and there is still a very long journey ahead.

RESEARCH QUESTION 1: WHAT ARE THE NUU-CHAH-NULTH WAYS OF KNOWING THAT INFORM DISASTER RESILIENCE?

Within Indigenous communities, local knowledge is seen as a central component to enhancing disaster resilience (Kirmayer et al., 2009; Rotarangi and Russell, 2009). As demonstrated throughout this research, this is true for the Nuu-chah-nulth First Nation who have long advocated learning that affirms their own way of knowing. In chapter 4, I used a descriptive approach guided by Indigenous methodologies to explore the elements of Nuu-chah-nulth knowledge that support their disaster resilience.

Across the six participating Nuu-chah-nulth communities, this research highlighted eight interconnected themes that were co-constructed by the Nuu-chah-nulth peoples, and by myself as the researcher. Specifically, the findings situate Nuu-chah-nulth approaches to disaster resilience under the following headings: 1) hunting, gathering, food preservation and storage; 2) oral traditions and histories; 3) environmental connections

and cues; 4) healing, health and wellness; 5) spirituality; 6) family and community relationships; 7) traditional governance; and, 8) historical resettlement and colonial legacies. Ultimately, these themes reflect my interpretation of their understanding of dimensions of daily life that can be considered to shape what constitutes disaster resilience within the cultural landscape of the Nuu-chah-nulth First Nation. Framed within Indigenous methodologies and utilizing the method of narrative analysis, this essentially qualitative approach allowed community members to share their localized insights into Nuu-chah-nulth ways of knowing that played a role in enhanced levels of disaster resilience. In thematically analyzing the transcripts and developing the findings, I aimed to take a culturally comprehensive approach and protect this shared knowledge from misrepresentation as far as possible. In other words, I tried to tell Indigenous peoples' stories using their own words as recognized by Prosanger (2004).

The eight themes that emerged in answering research question 1 are strongly positioned within the literature base presented throughout this dissertation. For example, in *Applying Resilience Thinking*, Simonsen et al. (2014) detail significant points of connection between the Nuu-chah-nulth knowledge identified in this research, and the seven principles they subscribe to. The most notable points of intersection between their work and mine concerned the importance of intergenerational family and community relationships, governance, and the recognition that these thematic areas should be viewed as integrated and overlapping ideas rather than single concepts (Simonsen, 2014; Sonn & Fisher, 1998). In this research, these interactions between findings were referred to as heshook-ish tas'walk: Cross-Cutting Points of Intersection. Similarly, the research of Atleo (1997) supports my findings about the importance of healing, health and wellness,

spirituality and intergenerational family and community relationships. In addition, Atleo (1997) also called for the importance of developing a model for health service delivery to First Nation communities framed within an indigenous approach.

RESEARCH QUESTION 2: HOW ARE NUU-CHAH-NULTH WAYS OF KNOWING APPLIED IN A WAY THAT DEMONSTRATES DISASTER RESILIENCE?

Research question 2 aimed to build on the thematic areas of knowledge to consider how these 'ways of knowing' were being applied in the lives of the Nuu-chah-nulth people. Chapter 4 provided detailed accounts of how the Nuu-chah-nulth applied hunting and fishing practices as well as environmental connections and cues to support the development of resilience within their communities. I will speak to the ways in which they intersect and interconnect.

As noted throughout this work, *heshook-ish tsa'walk*, is a foundational element of a Nuu-chah-nulth way of knowing (Atleo, 2010). Within the literature on resilience, Simonsen et al. (2014) identify complex and concurrent points of connection as being necessary for resilient systems to be successful. They reiterate that not only must these systems be interconnected in the present, they must also maintain an interconnectedness at multiple levels over time and space. It is through this type of understanding that intergenerational elements of resilience which are also essential components of Nuu-chah-nulth resilience are built and fostered. Within the findings of this research, this is addressed through oral traditions and histories as well as within environmental connections and cues. For example, the teachings of the sea that are transmitted as life-long learnings across generations.

Work by Simonsen et al. (2014) support the findings of this research and fundamentally validate an answer to research question 2 about how disaster resilience is applied within and across the Nuu-chah-nulth communities. In many ways, there are many complex intricacies in how the Nuu-chah-nulth apply these approaches to disaster resilience that I was not able to uncover and understand as a result of not being Nuu-chah-nulth myself. In this way, I believe that my findings can only offer a partial awareness of how this knowledge is understood and applied within the communities.

RESEARCH QUESTIONS 3: HOW HAS COLONIALISM INFLUENCED THE DISASTER RESILIENCE OF THE NUU-CHAH-NULTH FIRST NATION?

Research question 3 emerged from the overall research process and became a critical question to include in my dissertation. The longstanding impacts of colonization reflect past and present colonial legacies that have spanned generations (Howitt et al., 2011). Like many other First Nations communities, for the Nuu-chah-nulth First Nation, the impacts of colonialism began in the late-1700's immediately following initial European contact (Atleo, 2010). Grounded within Indigenous methodologies, in Chapter 5 I aimed to identify how colonial legacies and present day settler colonialism have been experienced as a significant human-made disaster by the Nuu-chah-nulth First Nation.

In building a conclusion, I identify four overarching themes that reflect my attempt to distill how colonialism was experienced by the Nuu-chah-nulth First Nation. I addressed four key areas of impact: 1) community depopulation; 2) loss of land and the establishment of Reserves; 3) the residential school system; and 4) settler colonial relationships. For the Nuu-chah-nulth First Nation, it is not difficult to see that the

impacts of colonialism have resulted in significant trauma and ongoing intergenerational effects that have presented great physical, social, economic and cultural challenges that continue today.

I explored how the impacts of colonialism could be taken up and understood through the lens of disaster resilience. This understanding is supported within the work of Kirmayer et al. (2009) who stated that Indigenous resilience "must be understood in relation to the specific forms of adversity that Aboriginal individuals and communities have faced. These stem from the history of colonization, the unique power and exploitative relationships that came with contact with Europeans, and the subsequent state machinery of regulation, control and active suppression of Aboriginal culture and traditions, community and autonomy" (p.79).

In reflecting on the above quote from Kirmayer et al. (2009), it is the language of power and state regulation and control over Indigenous peoples that further support the findings that emerged within research question 3. As supported through the findings of this research, and addressed within the discussion chapter, there is a need within the field of practice of emergency management to consider and acknowledge colonial legacies as an enduring human-made disaster of great proportions. This understanding and recognition is a critical element going forward in building relationships 'in a good way' with Indigenous peoples (Ball and Janyst, 2008). In many ways, this acknowledgement requires practitioners to "restory" the definition of disaster. Drawing on the research of Corntassel et al. (2009), such restorying, and in this case the restorying of the disasters associated with colonialism, are crucial to approaching such studies 'in a good way,' and honouring a space for Indigenous peoples to tell their own story.

As highlighted within the discussion, this restorying and acknowledgement of the disaster of colonialism is an important consideration for approaching reconciliation within the field of emergency management as it brings about awareness of the past, acknowledges the harms inflicted, allows a space of atonement for the causes, and addresses the importance of actions to change behaviour and build solutions for the future.

CHAPTER 7

CONCLUSIONS

INTRODUCTION

Indigenous peoples around the world have used their traditional knowledge to prepare for, cope with, and survive disasters (Hasan, 2016). Through a descriptive, interpretive approach, grounded in Indigenous methodologies, this research explored disaster resilience among the Nuu-chah-nulth First Nation guided by three research questions: 1) what are the Nuu-chah-nulth ways of knowing that inform disaster resilience?; 2) how are Nuu-chah-nulth ways of knowing applied in a way that demonstrates disaster resilience?; and, 3) how has colonialism influenced the disaster resilience of the Nuu-chah-nulth First Nation? Within this conclusion, the study limitations, research contributions and possibilities for future research are considered.

STUDY LIMITATIONS

Even though this dissertation reflects a range of elements that are vital to a Nuu-chah-nulth approach to disaster resilience, some important limitations should be identified.

First, in adhering to Indigenous methodologies and narrative analysis, I want to acknowledge that the way in which I framed the narrative and articulated the findings would have been different from the perspective of the participant/storyteller. By following the work of Smith (1999) and Wilson (2008), I recognize that I am not a neutral observer in this research and so my own biases must be recognized. Atleo (2010)

provided significant learning for me in this area, allowing me to recognize that seeking a "balanced" perspective, with the hope of objectivity would be naïve. In fact, the dialogue established here was not able to see a balance between a Nuu-chah-nulth way of knowing and any other way of knowing, be it scientific knowledge or practitioner knowledge. Instead, this dissertation reflects my attempts to share some ideas about the Nuu-chah-nulth way of knowing as they were presented and interpreted by me. To the best of my abilities, participant collaboration and feedback were embedded in this research design and encouraged through-out the research process, but I must acknowledge my belief that as a non-Indigenous researcher how I heard, understood and interpreted the interview dialogue, would have been different from the viewpoints of each participant. Although I worked to verify all of the findings through member checking and validation (Kvale, 1996), I feel that it is important that I acknowledge this insider/outsider-ness as a limitation.

Second, with the best of intentions, I have used the English language to write this dissertation and reflect Nuu-chah-nulth values and knowledge. Throughout this journey of learning, I now recognize the complications that may arise in speaking and writing about Nuu-chah-nulth knowledge in English. The autoethnographic writing of George (2003), provided insights as to how challenging it was to be a Nuu-chah-nulth academic writing his work in English, and it makes me keenly aware of my own limitations in navigating this work. Within this research, not only are certain Nuu-chah-nulth ways of knowing lost within the translation of language, but there is also an additional loss through the transmission of knowledge to me, an outsider to the Nuu-chah-nulth communities (Kovach, 2009).

Third, since a qualitative approach to narrative analysis was utilized, this study did not attempt to qualify or quantify the effectiveness of Nuu-chah-nulth knowledge in relation to disaster resilience. As such, these findings can only be interpreted within the context in which they were collected and developed throughout this dissertation. Though, I endeavored to adhere to the core principles identified in an Indigenous research methodology, it must be recognized that knowledge gained from one family or community, may not necessarily represent knowledge and experience gained from another community or family. As noted by one research participant, "the knowledge which is held, shared and practiced may be different between each family within a single community and the difference may be even greater community to community". I was able to sample six Nuu-chah-nulth communities, out of 15, therefore this research took a regional approach and there is unavoidable generalization in regards to the information that was common across all communities.

Fourth, as identified within the work of the Resilience Alliance Working Group on Indigenous Peoples and Socio-Ecological Resilience (Rotarangi and Russell, 2009) and Corntassel et al. (2009), when working with Indigenous peoples, it is necessary to acknowledge and dismantle colonial or Western concepts, such as resilience or reconciliation. Building on the work of Rotarangi and Russell (2009), resilience must be supported through to non-oppressive models. This, it is critical to shift the knowledge/power relationships in a way that will privilege the knowledge of Indigenous participants.

Fifth, the recruitment strategy utilized within this research uses purposive, non-probability, snowball sampling. Interviews were conducted within the six Nuu-chah-nulth

communities, and participants included groups and individuals ranging from Hereditary

Chiefs, Elected Chiefs, council members, Elders, youth, general members of the

population, to family units as well as those that held both formal and informal emergency

management expertise within each community. This may be seen as a weakness in that I

did not sample for diversity or particular perspectives. However, in the qualitative

approach that was undertaken, it was deemed more important to allow representation of

groups to unfold organically within each of the communities.

RESEARCH CONTRIBUTIONS

The original motivation for this research supported the need to build a literature

base to foster disaster resilience within First Nations communities, specifically for the

Nuu-chah-nulth peoples on Vancouver Island. Earlier work by Baumwoll, (2009);

Mercer, Kelmanm, & Dekens, (2009); Shaw, Sharma, & Takeuchi, (2009); Veitayaki,

(2009), has explored Indigenous knowledge and disaster resilience in parts of Asia and

the South Pacific. However, little work has been done within the Canadian context and

this was part of the rationale for this project.

As academic programs in emergency management continue to grow across Canada,

there has been an exponential growth in the literature within this field of study. My

dissertation aims to contribute to the academic literature in an area in which research is

severely lacking. This research makes important contributions by advancing the academic

literature in two ways.

Perhaps, the most significant contribution is simply the entire research project in

and of itself. As a researcher, building my own literature base for this research was

significantly challenging. Although I was able to lean on Canadian studies that explored Indigenous knowledge through the lens of ecology, climate change, and environmental studies, there was very little research on the specific subject matter of disasters. As such, these findings contribute to this gap providing a unique perspective that is grounded within specific First Nations communities. Typically, such studies might focus on how to help First Nations communities to better cope with disasters. However, this dissertation focused on how disaster resilience is being cultivated from inside for the Nuu-chah-nulth First Nation. Though this largely qualitative work was never intended to be generalizable to other settings, it may offer insights that can be applied in different regional, provincial, national and international contexts.

Second, while the Canadian literature on Indigenous knowledge of disaster resilience is scarce, there is very little discussion of the impacts of colonial legacies on disaster resilience. I am not suggesting that others are not researching the longstanding atrocities of colonialism, but I conclude that colonial legacies can be further explored as an enduring, human-made disaster that continues to have deep impacts on Indigenous communities today.

Contributions to the Field of Practice of Emergency Management

As a practitioner working in the field of emergency management, the findings emerging from this dissertation have profoundly impacted how I will conduct myself professionally in the future. First, based on my learnings, I will aim to create a more culturally inclusive space that honours and protects Indigenous knowledge within my

professional practice as an emergency manager. It is my hope that this research will positively influence this field of practice now and in years to come by sharing this work.

Second, for emergency managers working with First Nations communities, I hope this research encourages them to move beyond their current operational and planning approaches to explore opportunities based on community engagement and working with Indigenous peoples in respectful ways. Such an approach begins with the recognition of the internal capacities and knowledge residing within First Nations communities, and aims to work in a way that fosters reconciliation and healing.

Third, the definition of disaster needs to be redefined when working with Indigenous communities. For practitioners working with First Nations communities, colonial legacies and the existence of settler colonial relationships need to be understood and acknowledged as an enduring disaster with enormous consequences. By acknowledging colonial legacies as a disaster, a shift in dialogue may be initiated that will help reshape practitioner-community relationships. Additionally, by questioning and redefining their own settler positionality, practitioners and researchers may gain insights into how their standard, command and control types of approaches could be perceived as a form of dominance or privilege. In gaining these insights, it is my hope that emergency management practitioners can work in a way that better supports First Nations communities to build resilience and approach emergency management activities through their own worldview.

FUTURE RESEARCH

> "It took a long time for that damage to have been done and for
> the relationship we see to have been created, and it will take us

a long time to fix it. But the process has already begun"
(TRCC, 2015, p.183).

For me, this research was a seven-year process that represents a journey of academic and personal growth. Although the questions that guided this dissertation have been answered to some degree, I feel as though this discourse has only scratched the surface of the depths required to fully understand the complex subject matter, and much research remains to be done.

Future research in this subject area can be guided by the Calls to Action identified within the Final Report of the Truth and Reconciliation Commission of Canada (TRCC, 2015), the United Nations Declaration on the Right of Indigenous Peoples, as well as the United Nations Sendai Framework for Disaster Risk Reduction, all of which underlay the importance of identifying Indigenous needs through an Indigenous-centric approach. Although theoretical insights are an important element of research in this area of the enduring disaster of colonial legacies, it is the applied elements, which can have a powerfully transformative impact on a community's resilience to disaster. These applied possibilities and potentials are of critical importance in further developing this work. Some possible areas to consider would be:

- The findings of this research identified Nuu-chah-nulth approaches to disaster resilience and how they are presently applied within and across the communities. Future research remains to be done to explore additional applications of Nuu-chah-nuth approaches to disaster resilience. As an example, one approach addressed several times throughout the participant interviews, was to explore how this learning could be included in Elder/youth programming with Nuu-chah-nulth communities.

- Through the analysis of how colonialism has been experienced as an enduring disaster by the Nuu-chah-nulth people, points of discussion were introduced about how to inform the field of practice of emergency management. This is an area where significant research remains to be done through both theoretical and applied approaches. Substantial research contributions are also needed to be made within the area of research-based shifts in policy as well as the development of culturally relevant approaches to practitioner training and education.

- In closely following an Indigenous methodology and honouring the local context around Nuu-chah-nulth ways of knowing, it did not feel appropriate for me as a non-Nuu-chah-nulth researcher to try to extend or to compare or contrast the knowledge that was shared with me to other Indigenous communities across BC or globally. That said, given the right approach, there could be an opportunity for future research to explore the implications of these findings within a broader research context.

FINAL THOUGHTS

This research explored the experiences of members of the Nuu-chah-nulth First Nation through narrative accounts and with reference to existing literature, and aimed to develop a clearer understanding of Nuu-chah-nulth ways of knowing that can inform disaster resilience. Within this research, the Nuu-chah-nulth knowledge that was shared offered an alternative model to thinking about disaster resilience. In many ways, this

research project is a 'restorying' of disaster resilience through a Nuu-chah-nulth way of knowing.

Although the six participant Nuu-chah-nulth communities are relatively small, their values and knowledge systems provided deep and unique insights into disaster resilience within the Indigenous context. Not only can these findings be used to enhance local insights into Nuu-chah-nulth ways of knowing, it can also lead to enhanced levels of disaster resilience. Sharing these findings beyond the community provides an important impetus for other Indigenous communities as well as emergency management practitioners to explore disaster resilience through Indigenous approaches.

I have great hope that this work will contribute to the literature and to practice through applied actions in a meaningful way both within Nuu-chah-nulth communities, and across the field of practice of emergency management. However, if we are to attempt transformative action honouring Indigenous approaches to disaster resilience, and more broadly to reconciliation, there must be a fundamental recognition and acknowledgement of Indigenous rights, self-determination and the ability to create a culturally reflexive space for the inclusion of Indigenous ways of knowing. Doing work in this way, will lead to doing work 'in a good way'.

REFERENCES

Aitsi-Selmi, A., Egawa, S., Sasaki, H., Wannous, C. & Murray, V. (2015). The Sendai Framework for Disaster Risk Reduction: Rewarding the Global Commitment to People's Resilience. Health, and Well-being. *International Journal of Disaster Risk Science,* 6(2), 164-176.

Alfred, T. (1999). *Peace, power, righteousness: An Indigenous manifesto.* Oxford, UK: Oxford University Press.

Andersson, N. (2008). Affirmative Challenges in Indigenous Resilience Research. *PubMed Central Canada.* Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2936582/

Arima, E. & Dewhirst, J. (1990). Nootkans of Vancouver Island. In W. Suttles and W. Sturtevant (Eds.), *Handbook of North American Indian, Volume 7: Northwest Coast* (pp. 391-411). Washington, DC: Smithsonian Institute.

Arima, E. & Hoover, A. (2011). *The Whaling People of the West Coast of Vancouver Island and Cape Flattery*. Victoria, BC: Royal BC Museum.

Atleo, C. (2010). Nuu-chah-nulth Economic Development and the Changing Nature of our Relationships with the Ha'hoolthlii of our Ha'wiih (Master's thesis). Retrieved from http://web.uvic.ca/igov/uploads/pdf/Ateo599.1-2010.pdf)

Atleo, M. (1997). The Healing of First Nations: Dominance or Health? *CJSEA, 11(2), 63-77.*

Atleo, R. (2004). *Tsawalk: A Nuu-chah-nulth Worldview*. Vancouver, BC: UBC Press.

Attwood, B. & Arnold, J. (1992). Introduction: Power, knowledge and Aborigines. *Journal of Australian Studies*, 35, i-xvi.

Australia Indigenous Governance Institute (AIGI) (2017). Indigenous Governance Tool Kit. Retrieved from http://toolkit.aigi.com.au

Baker, A. & Battell Lowman, E. (2015). Settler: Identity and Colonialism in 21st Century Canada. Halifax: Fernwood Publishing.

Ball, J. & Janyst P. (2008). Enacting Research Ethics in Partnership with Indigenous Communities in Canada: "Do It in a Good Way". *Partnerships with Indigenous Communities,*33-51. doi: 10.1525/jer.2008.3.2.33

Barton, W. (2005). Methodological Challenges in the Study of Resilience. In M. Ungar (Ed.), *Handbook for Working with Children and Youth* (pp. 135-148). Thousand Oaks: Sage Publications.

Bastien, B. (2005). *Blackfoot Ways of Knowing: The worldview of the Siksikaitsitapi.* Calgary, Canada: University of Calgary Press.

Battiste, M. (1986). Micmac Literacy and Cognitive Assimilation. In J. Barman, Y. Herbert & D. McCaskell (Eds.), *Indian Education in Canada, Vol. 1: The Legacy* (pp. 23-44). Vancouver, BC: University of British Columbia Press.

Baumwoll, J. (2009). Indigenous Knowledge for Tsunami Early Warning in Simeulue, Indonesia. In R. Shaw, A. Sharma & Y. Takeuchi (Eds.), *Indigenous Knowledge and Disaster Risk Reduction: From Practice to Policy* (pp. 209-226). New York, NY: Nova Science Publishers, Inc.

Baumwoll, J., & Krishnamurthy, R. R. (2009). Indigenous Knowledge and Disaster Reduction in Coastal Areas. In R. Shaw, A. Sharma & Y. Takeuchi (Eds.), *Indigenous Knowledge and Disaster Risk Reduction: From Practice to Policy* (pp. 27-44). New York, NY: Nova Science Publishers, Inc.

Bayram, J., Kysia, R. & Kirsch, T. (2012). Disaster Metrics: A proposed quantitative assessment tool in complex humanitarian emergencies – The Public Health Impact Severity Scale (PHISS). *Current Disasters*. Retrieved from http://currents.plos.org/disasters/article/disaster-metrics-a-proposed-quantitative-assessment-tool-in-complex-humanitarian-emergencies-the-public-health-impact-severity-scale-phiss/

Beals, H. (1989). *Juan Perez on the Northwest Coast: Six Documents of His Expedition in 1774.* Portland: Oregon Historical Society Press.

Bengtsson, M. (2016). How to Plan and Perform a Qualitative Study Using Content Analysis. *NursingPlus Open*, 2, 8-14.

Berg, B. (1995). *Qualitative Research Methods for the Social Sciences* (2nd ed.). Boston: Allyn & Bacon.

Berke, P. & Campanella, T. (2006). Planning for Post-Disaster Resiliency. *Annals of the American Academy of Political and Social Science*, 604, 192-207.

Berkes, F. & Ross, H. (2013). Community Resilience: Toward an Integrated Approach. *Society & Natural Resources: An International Journal*, 26 (1), 5-20.

Berkman, L. & Kawachi, I. (Eds.). (2000). *Social Epidemiology.* New York: Oxford University Press.

Bishop, J. (2003). Conflicting world views: The lockean basis of Iroquoian Land ownership. In R. Anderson & R. Bone (Eds.), *Natural Resource and Aboriginal People in Canada* (pp. 7-18). Concord, ON: Captus Press.

Bishop, R., & Glynn, T. (1999). *Culture Counts: Changing Power Relations in Education.* Wellington, NZ: Dunmore Press.

Bochner, A. (2012). On first-person narrative scholarship: Autoethnography as acts of meaning. *Narrative Inquiry*, 22, 155-164.

Bochner, A. & Riggs, N. (2014). Practicing Narrative Inquiry. In P. Leavy (Ed.), *The Oxford Handbook of Qualitative Research* (pp. 195-222). New York, NY: Oxford University Press.

Bonnett, C. (2017). UNDRIP Implementation: Braiding Internation, Domestic and Indigenous Laws. Centre for International Governance Innovation, Waterloo, ON.

Bracken, C. (1997). *The Potlatch Papers: A colonial case history.* Chicago, IL: University of Chicago Press.

Bradshaw, M. & Stratford, E. (2010). Qualitative Research Design and Rigour. In I. Hay (Ed.), *Qualitative Research Methods in Human Geography* (pp. 69-80). Oxford, UK: Oxford University Press.

Breton, M. (2001). Neighbourhood Resiliency. *Journal of Community Practice*, 9(1), 21-36.

British Columbia Emergency Management System (BCEMS) (2016). British Columbia Emergency Management System. Retrieved from http://www2.gov.bc.ca/assets/gov/public-safety-and-emergency-services/emergency-preparedness-response-recovery/embc/bcems/bcems_guide_2016_final_fillable.pdf

Buckle, P., Mars, G. & Smale, S. (2000). New Approaches to Assessing Vulnerability and Resilience. *Australian Journal of Emergency Management,* 8-14. Retrieved from http://www.radixonline.org/resources/buckle-marsh.pdf

Canadian Institutes of Health Research (CIHR). (2014). CIHR Guidelines for Health Research Involving Aboriginal Peoples. Retrieved from http://www.pre.ethics.gc.ca/pdf/eng/tcps2-2014/TCPS_2_FINAL_Web.pdf

Chakrabarti, P. D. (2009). Indigenous Knowledge on Disaster Risk Reduction and Decision Making in India. In R. Shaw, A. Sharma & Y. Takeuchi (Eds.), *Indigenous Knowledge and Disaster Risk Reduction: From Practice to Policy* (pp. 431-444). New York, NY: Nova Science Publishers, Inc.

Christenson, J. & Robertson, J. (1980). *Community Development in America*. Iowa: Iowa
    State University Press.

Churchill, W. (1997). *A Little Matter of Genocide: Holocaust and denial in the Americas
    1492 to the present*. San Francisco: City Light Books.

Clutesi, G. (1968). *Son of Raven Son of Deer*. Sydney, BC: Grey's Publishing.

Coates, K. (2004). *A Global History*. London, UK: Palgrave Macmillan.

Cole, D. & Chaikin, I. (1990). *An Iron Hand Upon the People: The Law Against the
    Potlatch on the Northwest Coast*. Seattle, USA: University of Washington Press.

Cook, J. & Beaglehole, J. (1968). *The Journals of Captain James Cook on his Voyages of
    Discovery.* Cambridge: University Press.

Cook, M., Mitrou, F., Lawrence, D., Guimond, E. & Beavon, D. (2007). Indigenous
    Well-Being in Four Countries: An application of the UNDP's Human Development
    Index to Indigenous Peoples in Australia, Canada, New Zealand, and the United
    States. *Health and Human Rights*, 7(9). Retrieved from
    https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2238768/

Coombes, A. (Ed.). (2006). *Rethinking Settler Colonialism: History and Memory in
    Australia, Canada, Aotearoa New Zealand and South Africa.* Manchester, UK:
    Manchester University Press.

Cope, M. (2010). Coding Qualitative Data. In I. Hay (Eds.), *Qualitative Research
    Methods in Human Geography* (pp. 281-294). Oxford, UK: Oxford University
    Press.

Coppola, D. (2011). *Introduction to International Disaster Management.* Burlington,
    MA: Elsevier.

Cornell, S. (2015). Processes of Native Nationhood: The Indigenous Politics of Self-
    Government. *The International Indigenous Policy Journal*, 6(4), 4.

Corntassel, J., Chaw-win-is & T'lakwadzi (2009). Indigenous Storytelling, Truth-telling,
    and Community Approaches to Reconciliation. *ESC*, 35(1), 137-159.

Creswell, J. & Clark, V. (2011). *Designing and Conducting Mixed Methods Research*.
    (2nd ed.). Los Angeles: Sage Publications.

Cutter, S., Barnes, L., Berry, M., Burton, C., Evans, E., Tate, E. & Webb, J. (2008). A
    Place-based Model for Understanding Community Resilience to Natural Disasters.
    Global Environmental Change, 18, 598-606.

Deloria, V., Jr. (1969). *Custer died for your sins: An Indian manifesto*. New York: Macmillan.

Deloria, V., Jr. (1973). *God is red*. New York: Grosset & Dunlap.

Denzin, N. & Lincoln, Y. (2004). *Handbook of Qualitative Research.* Thousand Oaks: Sage Publications, Inc.

Drucker, P. (1951). Archaeological Survey on the Northern Northwest Coast. *Bureau of American Ethnology,* 133, 17-154.

Duff, W. (1977). *The Indian History of British Columbia: The Impact of the White Man, Anthropology in British Columbia Memoir No. 5.* Victoria, BC: British Columbia Provincial Museum.

Egan, G. (2015). Decolonizing the Intersectional Blogosphere; A Settler's Perspective. Retrieved August 12, 2016, from: http://www.academia.edu/18536008/Decolonizing_the_Intersectional_Blogosphere_A_Settlers_Perspective.

Ellemor, H. (2005). Reconsidering Emergency Management and Indigenous Communities in Australia. *Global Environmental Change Part B: Environmental Hazards*, 6, 1-7.

Emergency Management Act, S.C. c. 15 (2007). Retrieved from http://laws-lois.justice.gc.ca/eng/acts/E-4.56/

Emergency Management BC (EMBC). (2013, March 22). Retrieved from: http://www2.gov.bc.ca/gov/content/safety/emergency-preparedness-response-recovery.

Emergency Management Services Funding Agreement. (2017). Retrieved from https://engage.gov.bc.ca/app/uploads/sites/121/2017/03/INAC-EMBC-Emergency-Services-Funding-Agreement-Boilerplate-Feb-2017-Web-Copy.pdf

England, K. (2006). Producing Feminist Geographies: Theory, Methodologies and Research Strategies. In S. Aitken & G. Valentine (Eds.), *Approaches to Human Geography* (pp. 286-297). Los Angeles: SAGE.

Ermine, W. (1995). Aboriginal Epistemology. In M. Battiste & J. Barman (Eds.), *First Nations education in Canada* (pp. 101-112). Vancouver, British Columbia, Canada: UBC Press.

Evans, M., Hole, R., Berg, L., Hutchinson, P., Sookraj, D., & the Okanagan Urban Aboriginal Research Health Collective. (2009). Common Insights, Differing

Methodologies, Participatory Action Research, and White Studies in an Urban Aboriginal Research Agenda, *Qualitative Inquiry*, 15(5), 893-910.

Evans, M., Miller, A., Hutchinson, P. & Dingwall, C. (2014). Decolonizing Research Practice: Indigenous Methodologies, Aboriginal Methods, and Knowledge/Knowing. In P. Leavy (Ed.), *The Oxford Handbook of Qualitative Research* (pp. 179-194). New York, NY: Oxford University Press.

Fast, E. & Collin-Vezina, D. (2010). Historical Trauma, Race-based Trauma and Resilience of Indigenous Peoples: A literature review. *First Peoples Child & Family* Review, 5(1), 126-136.

First Nations Emergency Services Society (FNESS) (2013). Emergency Management. Retrieved from http://fness.bc.ca/emergency-preparedness-response/

Fletcher, S.M., Thiessen, J., Gero, A., Rumsey, M., Kuruppu, N., & Willetts, J. (2013). Traditional Coping Strategies and Disaster Response: Examples from the South Pacific Region. *Journal of Environmental and Public Health*, 1(10), 14-23.

Flowerdew, R. & Martin, D. (Eds.) (2005). *Methods in Human Geography*. New Jersey, NY: Prentice Hall.

GeoBC. (2017). Nuu-chah-nulth First Nation Communities.

George, E. (2003). *Living on the Edge: Nuu-chah-nulth History from an Ahousaht Chief's Perspective*. Winlaw, BC: Sonosnis.

George, K. & Stratford, E. (2010). Oral History and Human Geography. In I. Hay (Eds.), *Qualitative Research Methods in Human Geography* (pp. 139-150). Oxford, UK: Oxford University Press.

Glaser, J. & Laudel, G. (2013). Life With and Without Coding: Two methods for early-stage data analysis in qualitative research aiming at causal explanations. *Forum: Qualitative Social Research*, 14(2), Art. 5.

Gone, J. (2013). Redressing First Nations Historical Trauma: Theorizing mechanisms for Indigenous culture as mental health treatment. *Transcultural Psychiatry*, 50(5). Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4001826/

Green, D. (2013). Nuu-chah-nulth First Nations' Huulthin (Shawls): Historical and Contemporary Practices. *Dress: Journal of the Costume Society of America*, 39(2), 153-201.

Grenier, L. (1998). *Working with Indigenous Knowledge: A guide for researchers*. Ottawa, ON: IDRC.

Harris, D. (2008). *Landing Native Fisheries: Indian Reserves and Fishing Rights in British Columbia, 1849-1925.* Vancouver, Canada: UBC Press.

Hart, M. (2010). Indigenous Worldviews, Knowledge, and Research: The Development of an Indigenous Research Paradigm. *Journal of Indigenous Social Work.* 1(1), 1-16.

Hasan, M. (2016). Indigenous Knowledge Key for DRR. Retrieved from https://www.unisdr.org/archive/45404

Hassanall, L. (2015). Schulich Graduate Student Develops Severity Scale for Natural Disasters. *UToday.* Retrieved from https://www.ucalgary.ca/utoday/issue/2015-04-23/schulich-graduate-student-develops-severity-scale-natural-disasters

Hay, I. (2010). *Qualitative Research Methods in Human Geography.* Oxford: Oxford University Press.

Hollings, C. (1973). Resilience and Stability of Ecological Systems. *Annual Review of Ecological and Systematics*, 4, 1-23.

Howe, S. (2003). *Empire: A Very Short Introduction.* Oxford University Press.

Howitt, R., Havnen, O., & Veland, S. (2011). Natural and Unnatural Disasters: Responding with Respect for Indigenous Rights and Knowledge. *Geographical Research.* 50(1): 47-59.

Hutchinson, I & McMillan, A. (1997). Archaeological Evidence for Village Abandonment Associated with Late Holocene Earthquake at the Northern Cascadia Subduction Zone. *Quaternary Research*, 48, 79-87.

Idrahim, D. (2016). *Canadians' Experiences with Emergencies and Disasters, 2014.* Statistics Canada. Retrieved from: http://www.statcan.gc.ca/pub/85-002-x/2016001/article/14469-eng.pdf

Indigenous and Northern Affairs Canada (INAC). (2016, June 23). Retrieved from: https://www.aadnc-aandc.gc.ca/eng/1309369889599/1309369935837

Inglis, R., Haggerty, J. & Neary, K. (2000). Balancing History: An emerging First Nations authority. In A. Hoover (Eds.), *Nuu-chah-nulth Voices, Histories, Objects & Journeys* (pp. 7-10). Victoria, BC: Royal BC Museum.

Irlbacher-Fox, S. (2009). *Finding Dahshaa: Self-government, social suffering, and aboriginal policy in Canada.* Vancouver, Canada: UBC Press.

Jenkins, P. (2013). The Nature of Human Communities. In D. Thomas, B. Phillips, W. Lovekamp & A. Fothergill (Eds.), *Social Vulnerability to Disasters* (pp. 397-414). New York, NY: CRC Press.

Jewkes, R. & Murcott, A. (1996). Meanings of Community. *Social Science and Medicine,* 43(4), 555-563.

Kincheloe, J. (2011). *Key Works in Critical Pedagogy.* The Netherlands: Sense Publishers.

Kirmayer, L., Dandeneau, S., Marshall, E., Kahentonni P. M. & Jessen Williamson, K. (2011). Rethinking Resilience From Indigenous Perspectives. *La Revue Canadienne dePsychiatrie*, 56 (2), 84-91.

Kirmayer, L., Sehdev, M., Whitley, R., Dandeneau S. & Isaac, C. (2009). Community Resilience: Models, Metaphors and Measures. *Journal of Aboriginal Health*, 5(1) Retrieved from http://www.naho.ca/documents/journal/jah05_01/05_01_04_Community.pdf

Kofinas, G. (2009). Indigenous Societies and Social-Ecological Resilience. Unpublished power point presentation. Resilience Alliance Working Group on Indigenous Peoples and Social-Ecological Resilience meeting, 12-13 March 2009, Hinchinbrook Australia.

Kovach, M. (2005). Emerging from the Margins: Indigenous methodologies. In L. Brown & S. Strega (Eds.), *Research as Resistance: Critical, Indigenous & Anti-Oppressive Approaches* (pp. 19-36). Toronto, Ontario, Canada: Canadian Scholars' Press.

Kovach, M. (2009). *Indigenous Methodologies: Characteristics, Conversations, and Contexts*. Toronto: University of Toronto Press.

Kovach, M. (2010). Conversational Methods in Indigenous Research. *First Peoples Child & Family Review*, 5(1), 40-48.

Kvale, S. (1996). *InterViews – An Introduction to Qualitative Research Interviewing*. Thousand Oaks: Sage.

Lavallee, L. (2009). Practical Application of an Indigenous Research Framework and Two Qualitative Indigenous Research Methods: Sharing Circles and Anishnaabe Symbol-Based Reflection. *International Journal of Qualitative Methods*. 8(1), 21-40.

Lougheed, T. (2016). Smart Ideas: Q&A Jo-Ann Archibald on Indigenous "Story Work". *University Affairs*. Retrieved from http://www.universityaffairs.ca/magazine/sponsored-content/smart-ideas-qa-jo-ann-archibald-indigenous-story-work/

Louis, R. (2007). Can you Hear us Now? Voices from the Margin: Using Indigenous Methodologies in Geographic Research. *Geographical Research.* 45(2), 130-139.

Ludwin, R., Dennis, R., Carver, D., McMillan, A., Losey, R., Clague, J., Jonientz-Trisler, C., Bowechop, J, Wray, J. & James, J. (2005). Dating the 1700 Cascadia Earthquake: Great Coastal Earthquakes in Native Stories. *Seismology Society of America*. Retrieved from http://srl.geoscienceworld.org/content/76/2/140

Lutz, J. (2008). *Makuk: A New History of Aboriginal-White Relations.* Vancouver, Canada: University of British Columbia Press.

Mack, J. (2007). *Thickening Totems and Thinning Imperialism*. University of Victoria. Retrieved from https://dspace.library.uvic.ca/bitstream/handle/1828/2830/JohnnyMack.ThesisFinal.V00154466.pdf?sequence=1&isAllowed=y

Magis, K. (2010). Community Resilience: An Indicator of Social Stability. *Society & Natural Resources*, 23(5), 401-416.

Manyena, S. (2006). The Concept of Resilience Revisited. *Disasters*, 30(4), 433-450.

Maracle, L. (1990). *Sojourner's Truth and Other Stories.* Vancouver, Canada: Press Gang Publishers.

Mercer, J., Kelmanm I., & Dekens, J. (2009). Integrating Indigenous and Scientific Knowledge for Disaster Risk Reduction. In R. Shaw, A. Sharma & Y. Takeuchi (Eds.), *Indigenous Knowledge and Disaster Risk Reduction: From Practice to Policy* (pp. 115-132). New York, NY: Nova Science Publishers, Inc.

Meyer, M. (2008). Indigenous and Authentic. In N. K. Denzin, Y.S. Lincoln & L. T. Smith (Eds.), *Handbook of Critical and Indigenous Methodologies* (pp. 217-232). Los Angeles: Sage Publications.

McCubbin, L. & McCubbin, H. (2005). Culture and Ethnic Identity in Family Resilience: Dynamic processes in trauma and transformation of Indigenous people. In M. Ungra (Ed.), *Handbook for Working with Children and Youth* (pp. 27-44). Thousand Oaks: Sage Publications.

McMillan A. & Hutchinson, I. (2002). When the Mountain Dwarfs Danced: Aboriginal Traditions of Paleoseismic Events along the Cascadia Subduction Zone of Western North America. *Ethnohistory*, 49(1), 41-68.

McMillian, A. & Yellowhorn, E. (2004). *First Peoples in Canada*. Vancouver, BC: Douglas & MacIntyre.

Miles, M., Huberman, M. & Saldana, J. (Eds.). (1994). *Qualitative Data Analysis*. Thousand Oaks, CA: SAGE Publishing.

Mileti, D. (1999). *Disasters by Design: A reassessment of natural disasters in the United States*. Washington, DC: Joseph Henry Press.

Miller, J.R. (2009). *Compact, Contract, Covenant: Aboriginal Treaty-Making in Canada.* Toronto, Canada: University of Toronto Press.

Morris, A. (1880). *The Treaties of Canada.* Toronto, Canada: Belfords, Clarke & Co.

Murphy, B. L., Anderson, G. S., Bowles, R., & Cox, R. S. (2015). Planning for Disaster Resilience in Rural, Remote, and Coastal Communities: Moving from thought to action. *Journal of Emergency Management*, 12(2), 105-120. doi: 10.5055/jem.2014.0165

Nadasdy, P. (2003). *Hunter and Bureaucrats: Power, Knowledge, and Aboriginal-State Relations in the Southwest Yukon.* Vancouver: UBC Press.

Nakamura, N. (2009). Indigenous Methodologies: Suggestions for Junior Researchers. *Geographical Research*, 48(1), 97-103. doi: 10.1111/j.1745-5871.2009.00625.x.

Newman, P. (1989). *Empire on the Bay*. Toronto, ON: Madison Press Ltd.

Noy, C. (2006). Sampling Knowledge: The Hermeneutics of Snowball Sampling in Qualitative Research. *International Journal of Social Research Methodology*, 11(4), 327-344.

Nuu-chah-nulth Tribal Council. (2016). Brief on Crisis in Suicide facing First Nations, Inuit, and Metis on and Off Reserve. Retrieved from https://www.ourcommons.ca/Content/Committee/421/INAN/Brief/BR8706558/br-external/Nuu-chah-nulthTribalCouncil-e.pdf

Nuu-chah-nulth Tribal Council Research Ethics Committee (NTCREC). (2008). Protocols and Principles for Conducting Research in a Nuu-chah-nulth Context. Retrieved February 22, 2016, from http://www.cahr.uvic.ca/nearbc/documents/2009/NTC-Protocols-and-Principles.pdf

Office of the Auditor General of Canada (OAGC) (2013). Fall Report of the Auditor General of Canada. Chapter 6 – Emergency Management on Reserves. Retrieved from https://www.aadnc-aandc.gc.ca/DAM/DAM-INTER-HQ-AEV/STAGING/texte-text/au_ema_1386615085800_eng.pdf

Patterson, J. (2002). Understanding Family Resilience. *Journal of Clinical Psychology*, 58(3), 233-246.

Perry, R. (2007). What is a Disaster? in H. Rodrigues, E. Quarantelli & R. Dynes (Eds.), *Handbook of Disaster Research* (pp. 1-15). New York, NY: Springer.

Porsanger, J. (2004). An Essay about Indigenous Methodology. *Nordlit*, 15, 105-120.

Powell, J. (1991). *Our World – Our Ways: T'aat'aaqsapa cultural directory.* Nuu-chah-nulth Tribal Council.

Provincial Health Services Authority (PHSA). (2015). Disaster Psychosocial Program: Helping those impacted by disasters. Retrieved February 22, 2016, from http://www.phsa.ca/about/news-stories/news/disaster-psychosocial-program-helping-those-impacted-by-disasters

Puxley, C. (2016, March 9). Manitoba First Nation Declares State of Emergency Over Suicide Epidemic. *The Globe and Mail.* Retrieved from https://beta.theglobeandmail.com/news/national/manitoba-first-nation-declares-state-of-emergency-over-suicide-epidemic/article29113402/?ref=http://www.theglobeandmail.com&

Quarantelli, E., Lagadec, P. & Boin, A. (2007). A Heuristic Approach to Future Diasters and Crisis: New, Old, and In-Between Types in H. Rodrigues, E. Quarantelli & R. Dynes (Eds.), *Handbook of Disaster Research* (pp. 16-41). New York, NY: Springer.

Ray, A. (2010). *An Illustrated History of Canada's Native People: I have lived here since the world began*. Toronto, Canada: Key Porter Books.

Reading, C & Wien, F. (2009). *Health Inequalities and Social Determinants of Aboriginal Peoples' Health.* The Senate Sub-Committee on Population Health.

Reconciliation Canada (2016). The Canadian Reconciliation Landscape. Retrieved from http://reconciliationcanada.ca/staging/wp-content/uploads/2017/05/NationalNarrativeReport-ReconciliationCanada-ReleasedMay2017_3.pdf

Regan, P. (2010). *Unsettling the Settler Within: Indian residential schools, truth telling, and reconciliation in Canada.* Vancouver, Canada: UBC Press.

Resture, A. (2009). Utilizing Indigenous Knowledge for Building Disaster Resilience in Tuvalu. In R. Shaw, A. Sharma & Y. Takeuchi (Eds.), *Indigenous Knowledge and Disaster Risk Reduction: From Practice to Policy* (pp. 255-270). New York, NY: Nova Science Publishers, Inc.

Rice, B. (2005). *Seeing the World with Aboriginal Eyes: A four dimensional perspective on human and non-human values, cultures and relationships on Turtle Island.* Winnipeg, Manitoba, Canada: Aboriginal Issues Press.

Richardson, G. (2002). The Metatheory of Resilience and Resiliency. *Journal of Clinical Psychology,* 58(3), 307-321.

Riessman, C. (2001). Analysis of Personal Narratives. In Handbook of Interview Research.

Rockefeller Foundation. (2016). Retrieved from https://www.rockefellerfoundation.org

Ronan, K. & Johnston, D. (2005). *Promoting Community Resilience in Disasters: The role for schools, youth and families*. New York, NY: Springer.

Rotarangi, S. & Russell, D. (2009). Social-ecological Resilience Thinking: Can Indigenous culture guide environmental management? *Journal of the Royal Society of New Zealand*, 39(4), 209-213.

Royle, S. (2011). *Company, Crown and Colony: The Hudson's Bay Company and Territorial Endeavour in Western Canada.* New York, NY: Plagrave MacMillian.

Rutherford, K. (2016, April 10). Attawapiskat Declares State of Emergency Over Spate of Suicide Attempts. *CBC News*. Retrieved from http://www.cbc.ca/news/canada/sudbury/attawapiskat-suicide-first-nations-emergency-1.3528747

Said, E. (1978). *Orientalism*. London: Vintage Books.

Sarbin, T. (1986). *Narrative Psychology: The Storied Nature of Human Conduct.* London: Praeger Press.

Schnarch, B. (2004). Ownership, Control, Access, and Possession (OCAP) or Self-Determination Applied to Research: A critical analysis of contemporary First Nations research and some options for First Nations communities. *Journal of Aboriginal Health*, 1(1), 80-94.

Shaw, R., Sharma, A., & Takeuchi, Y. (2009). Introduction: Indigenous Knowledge and Disaster Risk Reduction. In R. Shaw, A. Sharma & Y. Takeuchi (Eds.), *Indigenous Knowledge and Disaster Risk Reduction: From Practice to Policy* (pp. 1-14). New York, NY: Nova Science Publishers, Inc.

Simonsen, S., Biggs, R., Schluter, M., Schoon, M., Bohensky, E., Cundill, G., Dakos, V., Daw, T., Kotschy, K., Leitch, A., Quinlan, A., Peterson, G. & Moberg, F. (2014). *Applying Resilience Thinking: Seven principles for building resilience in social-ecological systems*. Stockholm Resilience Centre. Retrieved from http://stockholmresilience.org/download/18.10119fc11455d3c557d6928/1459560241272/SRC+Applying+Resilience+final.pdf

Simpson, I. (2004). Anticolonial strategies for the recovery and maintenance of Indigenous knowledge. *American Indian Quarterly*, 23 (3 and 4), 373-384.

Smith, J. (2015). Canada will Implement UN Declaration on Rights of Indigenous Peoples. Thestar Retrieved from https://www.thestar.com/news/canada/2015/11/12/canada-will-implement-un-declaration-on-rights-of-indigenous-peoples-carolyn-bennett-says.html

Smith, L. (1999). *Decolonizing Methodologies: Research and Indigenous Peoples.* New York: Zed Books.

Sonn, C. & Fisher, A. (1998). Sense of Community: Community resilient responses to oppression and change. *Journal of Community Psychology*, 26(5), 457-472.

Spence, D. (1982). *Narrative Truth and Historical Truth: Meaning and Interpretation in Psychoanalysis.* Don Mills, Ontario: Stoddart.

Stevenson, W. (2000). *Decolonizing Tribal Histories* (Doctoral dissertation). Retrieved from ProQuest Dissertations and Thesis database.

Strategic Research Directorate Aboriginal Affairs and Northern Development Canada (2015). The Community Well-Being Index: Report on Trends in First Nations Communities, 1981-2011. Retrieved from https://www.aadnc-aandc.gc.ca/eng/1345816651029/1345816742083

Tierney, K. & Bruneau, M (2007). Conceptualizing and Measuring Resilience: A key to disaster loss reduction. *All-Hazards Preparedness, Response and Recovery.* Retrieved from http://onlinepubs.trb.org/onlinepubs/trnews/trnews250_p14-17.pdf

Titian, D. (2014). Tsunami Memories of 50 years ago. *Ha-Shilth-Sa.* Retrieved from https://www.hashilthsa.com/news/2014-03-27/tsunami-memories-50-years-ago

Trosper, R. (2003). Resilience in Pre-contact Pacific Northwest Social Ecological Systems. *Ecology* 7(3), 6. Retrieved from http://www.consecol.org/vol7/iss3/art6/

Trosper, R. (2009). *Resilience, Reciprocity and Ecological Economics: Northwest coast sustainability*. Routledge Taylor & Francis Group.

Truth and Reconciliation Commission of Canada (TRCC), (2015). *Final Report of the Truth and Reconciliation Commission of Canada, Volume One: Honouring the Truth, Reconciling for the* Future. Toronto, ON: Lorimer.

Turner, N. (2004). Coming to Understanding: Developing Conservation Through Incremental Learning. *How Does Resource Management Knowledge Develop?* IACSO, Oaxana, Mexico.

United Nations (2008). United Nations Declaration on the Rights of Indigenous Peoples. Retrieved from http://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf

United Nations International Strategy for Disaster Reduction (UNISDR) (2009). UNISDR Terminology on Disaster Risk Reduction. Retrieved from http://www.unisdr.org/files/7817_UNISDRTerminologyEnglish.pdf

United Nations International Strategy for Disaster Reduction (UNISDR) (2015). *Sendai Framework for Disaster Risk Reduction 2015-2030. Retrieved from http://www.unisdr.org/files/43291_sendaiframeworkfordrren.pdf*

Veitayaki, J. (2009). Applications of Indigenous Knowledge for Disaster Risk Reduction in the Pacific Islands. In R. Shaw, A. Sharma & Y. Takeuchi (Eds.), *Indigenous Knowledge and Disaster Risk Reduction: From Practice to Policy* (pp. 241-255). New York, NY: Nova Science Publishers, Inc.

Veland, S., Howitt, R. and Dominey-Howes, D., 2010: Invisible institutions in emergencies: evacuating the remote Indigenous community of Warruwi, Northern Territory Australia, from Cyclone Monica. *Environmental Hazards* 9, 197–214.

Walsh, F. (2006). *Strengthening Family Resilience* (2 ed.). New York: The Guildford Press.

Weber-Pillwax, C. (2001). Orality in Northern Cree Indigenous Worlds. *Canadian Journal of Native Education*, 25(2), 149-165.

White, G. & Haas, J. (1975). *Assessment of Research on Natural Hazards*. The Massachusetts Institute of Technology Press. Cambridge, Massachusetts.

Wiart, N. (2016). HBC's 'Colonial Barbie' Comes with Baggage. McLean's. Retrieved from http://www.macleans.ca/society/hbcs-colonial-barbie-comes-with-some-baggage/

Wiessner, S. (2011). The Cultural Rights of Indigenous Peoples: Achievements and Continuing Challenges. *European Journal of International Law*, 22(1), 121-140.

Wilson, S. (2008). *Research is Ceremony: Indigenous Research Methods*. Halifax, NS: Fernwood Publishing.

Wolfe, P. (1999). *Settler Colonialism*. London, UK: Wellington House.

APPENDICES

APPENDIX A – UNIVERSITY OF VICTORIA ETHICS APPROVAL

University of Victoria

Office of Research Services | Human Research Ethics Board
Michael Williams Building Rm B202 PO Box 1700 STN CSC Victoria BC V8W 2Y2 Canada
T 250-472-4545 | F 250-721-8960 | ethics@uvic.ca | uvic.ca/research |

Certificate of Renewed Approval

PRINCIPAL INVESTIGATOR: Emily Dicken	**ETHICS PROTOCOL NUMBER:** Minimal Risk Review - Delegated	**14-230**
UVic STATUS: Ph.D. Student	**ORIGINAL APPROVAL DATE:**	23-Jul-14
UVic DEPARTMENT: GEOG	**RENEWED ON:**	13-Jul-17
SUPERVISOR: Dr. Denise Cloutier	**APPROVAL EXPIRY DATE:**	22-Jul-18

PROJECT TITLE: The Incorporation of Indigenous Knowledge into Emergency Management: Exploring the knowledge Nuu-chah-nulth First Nations hold regarding seismic events and the role it may play in emergency management public education strategies

RESEARCH TEAM MEMBER   None

DECLARED PROJECT FUNDING: Pacific Leaders Scholarship

CONDITIONS OF APPROVAL

This Certificate of Approval is valid for the above term provided there is no change in the protocol.

Modifications
To make any changes to the approved research procedures in your study, please submit a "Request for Modification" form. You must receive ethics approval before proceeding with your modified protocol.

Renewals
Your ethics approval must be current for the period during which you are recruiting participants or collecting data. To renew your protocol, please submit a "Request for Renewal" form before the expiry date on your certificate. You will be sent an emailed reminder prompting you to renew your protocol about six weeks before your expiry date.

Project Closures
When you have completed all data collection activities and will have no further contact with participants, please notify the Human Research Ethics Board by submitting a "Notice of Project Completion" form.

Certification

This certifies that the UVic Human Research Ethics Board has examined this research protocol and concluded that, in all respects, the proposed research meets the appropriate standards of ethics as outlined by the University of Victoria Research Regulations Involving Human Participants.

Dr. Rachael Scarth
Associate Vice-President Research Operations

14-230   Dicken, Emily

Certificate Issued On: 13-Jul-17

Department of Geography
PO Box 3060 STN CSC
Victoria British Columbia V8W 3R4 Canada

Tel (250) 721-7327, Fax (250) 721-6216

Participant Consent Form:

Ehattesaht Community Information Session

The Incorporation of Indigenous Knowledge into Emergency Management:
Exploring the knowledge Nuu-chah-nulth First Nations hold regarding seismic events and
the role it may play in emergency management public education strategies

You are invited to participate in a study entitled The Incorporation of Indigenous Knowledge into Emergency Management that is being conducted by Emily Dicken.

Emily Dicken is a graduate student in the department of geography at the University of Victoria and you may contact her if you have further questions by telephone at ▇▇▇▇▇▇▇ or by email at ▇▇▇▇▇▇▇▇▇▇▇▇▇▇▇.

As a graduate student, I am required to conduct research as part of the requirements for a doctorate in geography. It is being conducted under the supervision of Denise Cloutier. You may contact my supervisor at ▇▇▇▇▇▇.

This research is being funded by the Pacific Leaders Scholarship Program.

Purpose and Objectives
Through the exploration of Nuu-chah-nulth oral traditions, this research aims to identify strategies for cultural inclusion into emergency management public education community preparedness initiatives. By identifying international best practice and engaging in this community-based research project, the results aim to validate a participatory–based framework that allows for the development of public education strategies rooted in indigenous knowledge and ultimately, with an end result of enhancing community preparedness to seismic hazards for the Nuu-chah-nulth First Nations.

Importance of this Research
Preparedness to seismic events begins at the community level and for the Nuu-chah-nulth First Nations this is no exception. Identified as some of BC's most physically at-risk communities to tsunami events, the Nuu-chah-nulth First Nations see seismic preparedness as an imperative undertaking in safe guarding their communities. Many Nuu-chah-nulth communities have taken proactive steps towards emergency management measures within their communities. Although this is a positive step forward, it has been acknowledge by all involved that there is a noticeable absence of community specific cultural knowledge integrated into the emergency preparedness and planning process. This research aims to explore opportunities for cultural inclusion, while enhancing community preparedness to seismic hazards.

Participants Selection
Darlene Smith, Ehattesaht Band Manager identified you as a key participant in this project as you hold a specific set of community-based knowledge integral to this research.

What is involved
If you consent to voluntarily participate in this research, your participation could include attendance at a 2 hour community information session on disaster preparedness, a 2-3 hour focus group to engage in deeper and more meaningful dialogue regarding seismic events and hazards within your community and/or if desired, a 1 hour one-on-one interview can be arranged upon request to share further information, all of which will take place at a predetermined location within Ehattesaht.

To aid in the analysis of this information, an audio recording will be made during the information session, the focus group and the one-on-one interviews and transcripts will be made.

Photos may be taken during the community information session, the focus group and/or the one-on-one interview. The photos will not be used for analysis, but rather as a visual aid in the dissemination of results.

Inconvenience
Participation in this study may cause some inconvenience to you as the time commitment will range anywhere from possibly 2 to 3 hours.

Risks
There are no known or anticipated risks to you by participating in this research.

Benefits
By sharing your knowledge, the potential benefits of your participation in this research will aim to ultimately enhance personal and community preparedness to seismic risks within Ehattesaht.

Compensation
As a way to compensate you for any inconvenience related to your participation, you will be given resources on preparedness and refreshments during the session. There will also be an opportunity to win a personal preparedness kit as part of a door prize.

Voluntary Participation
Your participation in this research must be completely voluntary. If you do decide to participate, you may withdraw at any time without any consequences or any explanation. If you do withdraw from the study, your data will only be used with your permission.

Anonymity
Anonymity is not possible within this research due to the participatory nature of the work and the collaborative nature of the data collection.

Confidentiality
Your confidentiality and the confidentiality of the data will be protected by generalizing the dialogue from the community information session and focus group. For the one-on-one interview, personal identity will be protected unless permission if provided to use the participants' name.

Data confidentiality will be protected by electronic data being stored on the researchers password protected personal computer and hard data will be stored in a locked cabinet.

Power-Over Relationships
Due to the nature of the researchers dual role as a PhD candidate and an emergency management practitioner, the researchers is setting aside her professional position and approaching this work strictly as a PhD student.

Dissemination of Results
It is anticipated that the results of this study will be shared with the Ehattesaht First Nation through a community information session. The findings will be presented in a dissertation and well as published articles. Upon researcher availability and funding, the findings may also be presented at scholarly meetings.

Data Storage and Disposal of Data
The data will be safeguarded and stored on the researchers password protected computer and hard data will be stored in a locked cabinet. Three years following the completion of this research, the Electronic data from this study will be erased and paper copies will be shredded by the researcher. If the community of Ehattesaht would like to archive their own raw data and/or anonymized transcripts following this research, it will be their responsibility to store and safeguard this information. The community of Ehattesaht will only have access to the raw data and anonymized transcripts from their community information sessions, focus groups and one-on-one interviews.

Contacts
Individuals that may be contacted regarding this study include the researcher, Emily Dicken at ███████████ or by email at ████████████████████; Denise Cloutier (academic supervisor) at ████████████ or by email at ██████████████.

In addition, you may verify the ethical approval of this study, or raise any concerns you might have, by contacting the Human Research Ethics Office at the University of Victoria ██████ ████████████████.

Your signature below indicates that you understand the above conditions of participation in this study, that you have had the opportunity to have your questions answered by the researchers, and that you consent to participate in this research project.

_____	_____	_____
Name of Participant	*Signature*	*Date*

Visually Recorded Images/Data Participant or parent/guardian to provide initials, *only if you consent*:
- Photos may be taken of me for: Dissemination* _____
*Even if no names are used, you may be recognizable if visual images are shown in the results.

A copy of this consent will be left with you, and a copy will be taken by the researcher.

Data Collection Methods: Unstructured Research Guide for Focus Groups

The purpose of this focus group is to engage in dialogue with a small group of participants from Ehattesaht and Tseshaht First Nations at two different community specific events. Although this collection method is following an unstructured approach, a research guide has been created to assist the researcher in encouraging a focused dialogue.

Step 1: Introductions
> Ask all participants (researcher included) to introduce themselves, explain the purpose of the focus group, ask for permission to record and take notes, explain confidentiality, and the length of the interview. HAND OUT THE CONSENT FORMS AND COLLECT THE SIGNED COPIES BACK (LEAVING THE PARTICIPANTS WITH A COPY OF THE CONSENT FORM). IT WILL BE CLEARLY STATED THAT THE AUDIO RECORDING WILL BE MADE FOR THE DURATION OF THE FOCUS GROUP TO COLLECT ANY DIALOGUE THAT OCCURS THROUGHOUT THE SESSION.

Step 2: Warm up
> Ask some easy, non-threatening questions at the start to break the ice and make participants feel comfortable.

Step 3: Carry out the focus group
> In a logical progression, start with the easier, more general questions and gradually move into more in-depth or 'risky' ones. If necessary, return to the earlier responses if a topic is missed or not fully answered. This process should only be started if the participants are willing to proceed.

Key Themes	Possible Guiding Questions
General Hazard Questions	• What hazards do you think post the greatest risk to your community? • In your lifetime, what hazards have you experienced in your community? • Do you think your community is at risk to earthquakes, tsunamis and/or volcanoes?
Nuu-chah-nulth legends	• Do you know of any Nuu-chah-nulth legends that speak to hazards? • If so, what different types of hazards are identified and how are they represented? • If there are legends that speak to seismic hazards, do they speak to different seismic events? Or various impacts of the events? • Do you think these legends are well known

	within the community?
	• Do you think these legends help inform the community to be prepared for a disaster?
	• Can you provide any general examples of how storytelling has been applied to different life-lessons?
	• How are legends best conveyed to other within and outside of your community?
Inclusion of indigenous knowledge into emergency management practices	• Do you feel like you are prepared for a disaster in your community? • Do you think your knowledge of legends that speak to hazards help inform you on how to be prepared in the event of a disaster? • Do you feel like your community is prepared for a disaster? • Do you feel like the storytelling practices in your community could help British Columbians become better prepared for disasters?
Success Stories	• Are you aware of indigenous knowledge being used in other communities to help increase preparedness to disasters?
Future Opportunities	• Do you think there is the potential to share Nuu-chah-nulth legends about seismic hazards with emergency management practitioners? • Do you think sharing these legends would benefit the Nuu-chah-nulth First Nations? • Do you think sharing these legends would benefit emergency management practitioners? • What do you think is the best way to share this knowledge?

Step 4: Closing Questions

Ask some straightforward questions at the end to relax the participants.

Step 5: Show Appreciation

Graciously acknowledge and thank the participants for sharing their story and informing this process. The researcher will let the participants know when they will be getting the transcripts of the focus group back for their review and when they will be provided with a summary of the focus group. The researcher will establish a future line of communication either via telephone or email so further information can be added should in the participants feel the need or if they have questions or concerns.

Data Collection Methods: Unstructured Research Guide for Individual/Family Interview

The purpose of this individual or family interview is to engage in dialogue with an individual or small family group of participants from Ehattesaht and Tseshaht First Nations at times and locations of their choosing. Although this collection method is following an unstructured approach, a research guide has been created to assist the researcher in encouraging a focused dialogue.

Step 1: Introductions
    Ask all participants (researcher included) to introduce themselves, explain the purpose of the interview, ask for permission to record and take notes, explain confidentiality, and the length of the interview. HAND OUT THE CONSENT FORMS AND COLLECT THE SIGNED COPIES BACK (LEAVING THE PARTICIPANTS WITH A COPY OF THE CONSENT FORM). IT WILL BE CLEARLY STATED THAT THE AUDIO RECORDING WILL BE MADE FOR THE DURATION OF THE FOCUS GROUP TO COLLECT ANY DIALOGUE THAT OCCURS THROUGHOUT THE SESSION.

Step 2: Warm up
    Ask some easy, non-threatening questions at the start to break the ice and make participant(s) feel comfortable.

Step 3: Carry out the focus group
    In a logical progression, start with the easier, more general questions and gradually move into more in-depth or 'risky' ones. If necessary, return to the earlier responses if a topic is missed or not fully answered. This process should only be started if the participants are willing to proceed.

Key Themes	Possible Guiding Questions
General Hazard Questions	• What hazards do you think post the greatest risk to your community? • In your lifetime, what hazards have you experienced in your community? • Do you think your community is at risk to earthquakes, tsunamis and/or volcanoes?
Nuu-chah-nulth legends	• Do you know of any Nuu-chah-nulth legends that speak to hazards? • If so, what different types of hazards are identified and how are they represented? • If there are legends that speak to seismic hazards, do they speak to different seismic events? Or various impacts of the events?

	• Do you think these legends are well known within the community? • Do you think these legends help inform the community to be prepared for a disaster? • Can you provide any general examples of how storytelling has been applied to different life-lessons? • How are legends best conveyed to other within and outside of your community?
Inclusion of indigenous knowledge into emergency management practices	• Do you feel like you are prepared for a disaster in your community? • Do you think your knowledge of legends that speak to hazards help inform you on how to be prepared in the event of a disaster? • Do you feel like your community is prepared for a disaster? • Do you feel like the storytelling practices in your community could help British Columbians become better prepared for disasters?
Success Stories	• Are you aware of indigenous knowledge being used in other communities to help increase preparedness to disasters?
Future Opportunities	• Do you think there is the potential to share Nuu-chah-nulth legends about seismic hazards with emergency management practitioners? • Do you think sharing these legends would benefit the Nuu-chah-nulth First Nations? • Do you think sharing these legends would benefit emergency management practitioners? • What do you think is the best way to share this knowledge?

Step 4: Closing Questions

Ask some straightforward questions at the end to relax the participants.

Step 5: Show Appreciation

Graciously acknowledge and thank the participant(s) for sharing their story and informing this process. The researcher will let the participants know when they will be getting the transcripts of the focus group back for their review and when they will be provided with a summary of the focus group. The researcher will establish a future line of communication either via telephone or email so further information can be added should in the participants feel the need or if they have questions or concerns.

COMMUNITY INFORMATION SESSION

EMERGENCY PREPAREDNESS & SEISMIC HAZARDS

Become better prepared to deal with a disaster! Join us for an information session on community and personal preparedness, with special information on earthquake and tsunami hazards.

Participants will receive a 72-hour 'grab and go' kit and dinner will be held after the session.

Preparedness resources will be available at the session and dinner will follow.

WHEN: TUESDAY, JULY 29TH AT 5:00PM
WHERE: Ehattesaht Band Office

Community Information Session: Script for introduction of the research

Introduction of the researcher:
Hello, my name is Emily Dicken. I appreciate your willingness to engage in the project and explore ways to enhance preparedness to seismic event through the exploration of traditional knowledge. I am both a PhD student researching disasters and a practitioner in the field of emergency management, employed by Emergency Management BC. However, please note that as the researcher on this project, I am solely representing myself as a PhD student from the position of a student researcher.

Introduction of the research:
Through the exploration of Nuu-chah-nulth oral traditions, this research aims to identify strategies for cultural inclusion into emergency management public education community preparedness initiatives. By drawing together international best practice with insights from local indigenous communities in BC, the results from this community-based research project will assist with the development of public education strategies rooted in indigenous knowledge with an end result of enhancing community preparedness to seismic hazards for the Nuu-chah-nulth First Nations.

Request permission to record, photograph and take notes:
For the purposes of analysis, I will be taking an audio recording of the community information session. Once these recordings have been transcribed, I will share the transcripts with participants to be sure that I have accurately captured the conversations. These transcripts will then serve as the data to be analyzed and once the findings are complete, the outcomes will be shared.

For the purposes of disseminating the data, I would like to take some photographs of during the community information session. These photos will not be used for analysis, but may be used to visually enhance the final product. Participants will not be names in the photographs, but may be visibly recognizable. If specific participants do not consent to their photo being taken, I will be sure to stage the photographs so they are not included.

Consent & Confidentiality:
As a participant in this project, it is necessary that I have your voluntary consent. I have provided a consent form that outlines many of the considerations taken into account concerning this research. Your participation in this research will require you to sign and return your consent form to me. I have also provided you with an additional consent for that you can take home and reference if you have further questions. If you do not wish to sign the consent form and participate in this project, you are still welcome to attend this information session, however I will have to ask that you refrain from asking any questions or engaging in dialogue during the session. I will be happy to address any questions you may have following the session.

Due to the nature of this participatory-based project, participants cannot remain anonymous, however confidentiality will be protected as much as possible. Due to the nature of group sharing during the community information session and focus group, confidentiality cannot be maintained in the presence of other participants. However, during the data analysis, identifying information for participants will be applied and data sets will be generalized as a collective.