BUILDING INCLUSIVE RESPONSES TO CLIMATE HAZARDS:

AN INTERSECTIONAL ANALYSIS OF WILDFIRE IN NORTHERN SASKATCHEWAN

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ABSTRACT

Climate hazards such as wildfires are not just ecological, but also profoundly social. These hazards—and responses to them—are shaped by, and become layered onto, existing political, economic, and social landscapes, resulting in different experiences and vulnerabilities for people from diverse social locations (e.g. gender, race, ethnicity, age, place). Intersectionality has been promoted as a theoretical lens for understanding these differential vulnerabilities, but its empirical application to climate hazards research and practice is limited, particularly in the global North. In response, this research develops and applies a multi-leveled intersectionality theoretical framework to examine how residents in a jurisdictionally complex and socially diverse region of northern Saskatchewan experience and respond to wildfire. Using a qualitative case study design, this study employs media analysis, semi-structured interviews, and photovoice to investigate how residents experienced a major wildfire event and how these experiences interact with and are shaped by social discourses, social structures, and power relations. The results of this research are reported in three core manuscripts, each of which brings a separate level of intersectional analysis to the forefront. The first manuscript demonstrates that mainstream media largely reflected and reinforced a characterization of wildfire response that is highly gendered and exclusionary and discusses the discursive and material implications of such framings. The second manuscript illustrates that impacts to locally significant values are experienced differently across intersections of identity and that these differences are influenced by social structures such as histories of colonization and gendered norms and expectations. The third manuscript highlights how emergency and wildfire management institutions support pathways for adaptation that are characterized by resistance and incremental change, resulting in uneven inclusion of diverse voices, knowledges, and experiences. These manuscripts also reveal how residents and local communities enacted their agency to challenge dominant discourses, respond to locally significant impacts and losses, and advocate for more transformative approaches to wildfire response, recovery, and adaptation. The core contributions of this research are threefold. The study: 1) operationalizes intersectionality to examine how identity attributes operate within social discourse, residents' experiences, and institutions relevant to a major wildfire event; 2) applies the chosen methods together in a way that enables the multi-level intersectional analysis; and 3) points toward practical strategies for building emergency

management and adaptation planning processes that are inclusive and representative of a diverse range of society as communities in northern Saskatchewan continue to live with fire in the future.

ACKNOWLEDGEMENTS

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ABBREVIATIONS

BOFN	Beardy's and Okemasis First Nation
CBC	Canadian Broadcasting Corporation
CFA	Critical Frame Analysis
LLRIB	Lac La Ronge Indian Band
LRN	La Ronge Northerner
MBC	Missinipi Broadcasting Corporation
NGO	Non-Governmental Organization
NP	National Post

CHAPTER 1 – INTRODUCTION

1.1 Research context

> *Privilege is thinking something is not an issue if it's not an issue for you. I always tried to live my life in an equal manner, but I realized it's got to go further than that. You've got to dig. I think this is no big deal, but someone else might think this is a really big deal. And therefore it IS a really big deal, even if it's not for me. [The fires] reinforced that. It was one of the most profound experiences of my life. Truthfully.*
> *(Interview participant)*

This woman from the La Ronge region of northern Saskatchewan spoke of the various disadvantages and privileges she experienced when a large wildfire caused the evacuation of her entire community in 2015. An existing disability that had worsened with age, for example, made her realize that she had "fallen out of the able-bodied category into the get out of [town] first category" (Interview, woman, Air Ronge). However, she also noted that she had a personal vehicle and, unlike many residents of northern communities, a social network in southern Saskatchewan, which meant she had the option to stay with friends rather than on a cot in a crowded evacuation centre. During the evacuation, she observed other residents from her community who experienced different challenges from hers, such as the lack of privacy and worries over childcare that single mothers grappled with at large urban evacuation centres. Simply put, the fires were not experienced uniformly. To understand these dynamics, borrowing this participant's words, 'you've got to dig'. The purpose of this dissertation is to do just that—to dig into the diverse ways in which people experience climate hazards, specifically wildfire, and why these experiences differ among people living in the same community. Ultimately, I aim to contribute theoretically to feminist and climate change scholarship and practically to the development of inclusive and equitable emergency and adaptation planning.

Scholars have increasingly examined vulnerability and resilience in relation to climate-related hazards and disasters, though less attention has been given to how these are experienced and responded to differently across and within populations (Cohen, 2017; Fletcher, 2018; Moosa & Tuana, 2014). When such differences are overlooked, jurisdictional responses may inadvertently reinforce pre-existing social inequalities—such as those created by settler colonialism—and overlook bottom-up forms of individual and collective action that shape social

change and empower grassroots visions of "new normals" following extreme climate events (Alston, 2017). Therefore, "contextual investigations of how conditions of vulnerability and resources for positive action exist together in complicated ways" are urgently required in order to better understand how individuals and communities can effectively adapt as climate change continues to affect social relations in different ways in different places (Moosa & Tuana, 2014, p. 690).

Intersectionality is still an emerging framework for climate hazards research, but has been promoted as a powerful tool for analyzing the experiences of climate hazards across intersections of identity, such as gender, race, ethnicity, socioeconomic class, age, and education (Kaijser & Kronsell, 2014; Iniesta-Arandia et al., 2016). Intersectionality also moves beyond just identifying how different groups experience hazards to assess how these diverse experiences are shaped by broader contexts, power relations, and discourses. Intersectionality's attention to these broader structures responds to Resurrección's (2013, p. 39) observation that "vulnerability is not an intrinsic characteristic, or does not derive from a single factor such as "being a woman", but is indicative of historically and culturally specific patterns of practices, processes, and power relations that render some groups or persons more disadvantaged than others."

To date, intersectionality's application to empirical research at the local level is limited, particularly in regions of the global North. A recent rapid literature review, for example, observed that only 4 of 25 identified climate hazards-related publications that drew upon intersectionality applied it empirically (Walker et al., 2019). This limited application is likely, in part, due to enduring challenges associated with intersectionality's translation from theory to practice, such as uncertainty about which and how many identity categories to include in analysis, and the difficulty in approaching the complex nature of power in empirical research (Kaijser and Kronsell, 2014; Osborne, 2015; Vickery, 2018).

Nonetheless, climate hazards and disasters, as well as climate change adaptation processes, have been viewed as potential sites for the transformation of existing social inequalities, which contribute to the root causes of vulnerability as climate change progresses (Alston, 2017; Resurrección et al., 2019). Such transformations, however, require the nuanced examination of how diverse social groups experience and respond to hazards, the identification of structural and contextual conditions that contribute to these differential experiences, and the centering of local knowledge and action (Jacobs, 2019). Using a case study of a major wildfire event in the La

Ronge region of northern Saskatchewan, this is precisely what the intersectional approach taken in this thesis aims to do.

1.2 Purpose and objectives

This research applies an intersectional theoretical framework to explain how residents experience and respond to climate-related hazards, using wildfire as a specific example, in a region of complex jurisdictions and social diversity. The specific objectives are to:

1) Examine if and how factors associated with social identity work alone or together to influence differential experiences of, and responses to, climate hazards.
   a) How are social identity attributes represented in discourse related to wildfire response?
   b) How do social identity attributes influence individuals' experiences of and responses to a major wildfire?
   c) How do social identity attributes operate within institutions for wildfire emergency management and adaptation planning?
2) Determine how residents express agency and take action in response to a climate-related hazard.
3) Explain the broader implications for climate hazards research and for building inclusive adaptation in communities facing increasing climate variability.

1.3 Theoretical framework in brief

Rooted in Black feminist thought, intersectionality was advanced by social movements led by women of colour to articulate the "interconnectedness of race, class, gender, and sexuality in their everyday lived experience" and to dismantle multiple forms of social inequality (Collins, 2015, p.7). While its roots go back further, intersectionality largely took shape between the 1960s and 1980s in response to criticism that the race-only framework of the US civil rights movement prioritized experience and needs of black men and the gender-only framework of the mainstream feminist movement prioritized white women (Collins, 2015; Combahee River Collective, 1983; Crenshaw, 1991). As a result, both movements neglected the experiences and needs of Black women living at the intersection of multiple forms of oppression. Since its early articulations, intersectionality has traveled widely across disciplinary and geographic boundaries.

As a white settler woman employing an intersectional framework, I recognize the importance of acknowledging the intersectional groundwork laid by Black feminist scholars and activists.

While there is no single definition of intersectionality, I draw here upon Davis's (2008, p. 68) description of intersectionality as the "interaction between gender, race and other categories of difference in individual lives, social practices, institutional arrangements, and cultural ideologies and the outcomes of these interactions in terms of power." I choose to employ this definition because it alludes to key attributes of intersectionality that are woven throughout this dissertation, namely intersecting identity categories, power, and attention to how these operate across multiple levels of analysis. A key attribute of intersectionality is that identity categories, such as gender, race, ethnicity, sexuality, and age, do not operate in isolation, but intersect and co-constitute one another to create context-specific experiences (Collins, 2015; Crenshaw, 1991). It also recognizes that these social locations and experiences are shaped by multiple, interlocking systems of power, such as racism, sexism, and colonialism, which work together to create context-specific forms of privilege and oppression (Cho et al., 2013; Collins, 2017).

Importantly, these intersections of identity and power operate within and across multiple levels of analysis (Kaijser & Kronsell, 2014; Malin & Ryder, 2018; Winker & Degele, 2012) or "societal arenas of investigation" (Anthias, 2013). Both terms—"levels of analysis" and "societal arenas of investigation"[1]—refer to the idea that intersectional dynamics operate within various sites of social organization. These include in discourse (i.e., symbolic representations), lived experiences at the micro-level, and social structures (i.e., meso- and macro-level institutions) (Anthias, 2013; Winker & Degele, 2012). In actuality, the levels or arenas are not autonomous of one another, but are interacting components of social relations (Anthias, 2013). Distinguishing among them, however, can be a useful heuristic for approaching the complexity of intersectional analysis. Kaijser and Kronsell (2014) articulated the need for this type of multi-level intersectional analysis for a fuller understanding of the social dimensions of climate change and to facilitate the development of more effective and equitable climate change strategies.

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[1] 'Societal arenas of investigation', as per Anthias (2013), is my preferred term as it better encapsulates the idea that the 'arenas' are separate (but interlinked) sites of analysis, rather than a hierarchal structure implied by 'levels of analysis'. However, I came across the term 'societal arenas of investigation' after the manuscripts in the following chapters were accepted for publication. Therefore, the term 'levels of analysis' will be used throughout this document to ensure consistency.

Along with the examination of power and its intersectional effects at various levels of analysis, intersectionality scholars promote attention to expressions of agency that challenge context-specific oppressions (Djoudi et al., 2016; Fletcher, 2018; Jacobs, 2019). Agency can be understood as the "capacity of human actors to project alternative future possibilities, and then to actualize those possibilities within the context of current contingencies (McLaughlin & Dietz, 2008, p. 105)." In the context of climate change and extremes, agency encompasses both individual and collective actions taken in response to actual and anticipated impacts (Brown & Westaway, 2011). Bringing "bottom-up" action into view can challenge a common framing that universalizes specific individuals, groups, and communities as simply passive victims of climate change. Recent critiques oppose these victimizing frames when applied to entire groups of people, such as women or Indigenous communities, as they delegitimize differential knowledges and experiences, as well as disregard individual and collective agency (Arora-Jonsson, 2011; Ravera et al., 2016).

1.4 Overview of methodology

1.4.1 Situating myself in the research

In qualitative research, the researcher is the main instrument of data collection. For this reason, it is important for researchers to provide a description of their own social location, experiences, and worldviews that inform the development of the study and the collection and interpretation of data (Creswell, 2009). Here, I provide a brief account of my own experiences and identity that led me to this project and informed its direction.

I am a settler Canadian woman of Swiss, German, and English descent who grew up in central Alberta on Treaty 6 territory. I spent most of my childhood in Red Deer, Alberta, a mid-sized city on the banks of *waskasō sipi* (the Red Deer River), though I did not learn its Cree place name until very recently. Due to circumstances and my parents' separation at an early age, we moved often and I lived in at least ten different houses during my early years. In part due to this, I neither felt a strong connection to a childhood home nor to my hometown itself. For me, it was the mountains and alpine forests west of my hometown that were a constant in life and perhaps gave me the strongest and most consistent sense of connection to place. It was in these forests that I hiked, camped, worked, and played year after year.

It was also, in part, this early connection to forested landscapes of my youth that had led me to Environmental Biology as my undergraduate field of study. During my early academic years, I learned the scientific method and to see the world primarily though a post-positivist lens. My field of study continued to foster my conservation ethic and helped me secure my first few seasonal environment-related positions that allowed me to spend time in the forests that I had grown to love. I maintained hiking trails, learned about fire behaviour and fire-fighting techniques, carefully collected and measured fire fuel data, and learned to identify and name the flora and fauna around me. After my undergraduate degree, I spent a year living and working with a small non-governmental organization (NGO) in Madagascar in a community host to a large mining operation. Observing not only the environmental impacts of this operation, but also its social impacts and how these were unevenly distributed across groups within the region, I began to develop a greater understanding of the interconnectedness of social and environmental systems. During this time and in subsequent work and academic roles I held closer to home, how power relationships and societal structures can create uneven access to resources and opportunities to influence environmental decision-making also became more apparent. It was this learning that has largely led me to position my work and research at the nexus of environmental sustainability and social justice.

I now most closely align with a critical constructivist orientation to research. From this perspective, knowledge is socially, culturally, and historically constructed, infused with power relations that privilege some and marginalize others (Kincheloe, 2005). It recognizes that there are multiple constructions of meaning across individuals, which produce a diversity of valid interpretations of experience and reality. At the same time, historically constructed power relationships shape individuals and how we perceive and experience the world. This worldview has also informed my multi-leveled approach to intersectionality, which I have used to examine how people experienced and responded to impacts and losses to locally significant values associated with wildfire and how broader structures, such as histories of colonization, influenced those experiences and responses. I feel that research and practice should have real world implications, including working towards dismantling social inequalities. For this reason, I value research that is participatory and aims to find viable and relevant solutions to real world complex social and environmental problems *with* those who experience them in everyday life. While this project cannot be considered fully community-engaged as it was initially conceptualized within

the walls of the university, I attempted as much as possible to adhere to principles of ethical feminist community-engaged research, including reflexivity, respect, and reciprocity (Creese and Frisby, 2011).

I recognize that my identity influences how I am perceived within research relationships, how I am located within broader social structures and power relationships that intersectionality approaches seek to interrogate. I believe my "outsider" status in the La Ronge community had both advantages and disadvantages. Early in my time in La Ronge, I observed a perceived South/North provincial division that I had not noticed while attending university in the "southern" city of Saskatoon. Feelings of exclusion from the decision-making centres of the southern urban and agricultural hubs of the province were commonly noted by residents of La Ronge. As a researcher from "the south", I may have been perceived with skepticism early in my time in the community. However, I also felt a quick connection to the La Ronge region likely because its dense forested landscapes felt like "home". This connection also seemed to create a common ground between me and many residents who, when asked about the best aspects of their community, often cited the forests, lakes, and relationships with people and places they had developed there. Moreover, my outsider status, along with the confidential nature of the research, seemed to create a safe outlet for some residents to express unresolved challenges and frustrations associated with the 2015 wildfire event.

As a PhD researcher of European descent working within a predominately Indigenous community, I recognize that I also carried the inherited baggage of historically extractive approaches to research tied up with historical processes of colonization and that often provided little mutual benefit to Indigenous and northern communities (Castleden et al., 2008; Smith, 1999). I suspect that in some cases, this history and my status as a non-Indigenous researcher may have resulted in some residents' hesitancy to participate in this project. I noticed this in a few instances where potential participants—referred to me by other community members— initially expressed possible interest in participation, but then appeared hesitant when I followed up with them to set up an interview. I appreciated that this hesitancy could have been rooted in mistrust of research and research processes, due to the historically intertwined nature of colonization and research. I ensured transparency about the project's purpose, process, and outputs, but did not press for participation where individuals appeared to be hesitant or uncomfortable. Within the project, I attempted to work against the grain of these historically

marginalizing processes by working within a framework of respect and reciprocity. I made several visits to La Ronge over the first 1.5 years of my program and adjusted my questions and methods according to what I heard from residents and community partners, developed a collaborative research agreement with the Lac La Ronge Indian Band (LLRIB), spent sixteen months living in the community, remained alert to how historical and contemporary settler-Indigenous power relations were present in the context of study, and learned as much as possible through participating in community life, various local cultural events, and a Cree language class. I also hired a young woman from LLRIB as an undergraduate research assistant, volunteered with local organizations, ensured funds were available for childcare in cases where residents would have otherwise been unable to participate, and developed a community report to ensure findings were shared. Two things I know: 1) I am grateful for and humbled by the welcome I received within the La Ronge area and the patience with which I was taught; and 2) I still have much to learn about truly decolonizing research.

1.4.2 Fieldwork and methods

This research used a qualitative case study approach. The La Ronge region was chosen as a case study site primarily due to its experience with major wildfires and its social and jurisdictional complexity. The 2015 fires in the region were especially severe, contributing to the largest evacuation in the province's history, including mandatory evacuations of the entire La Ronge tri-community. In terms of jurisdictional complexity, the La Ronge region consists of three distinct jurisdictions (the Town of La Ronge, the Lac La Ronge Indian Band, and the northern village of Air Ronge) and a handful of small nearby unincorporated subdivisions. Each jurisdiction has its own government and different types of relationships with provincial and federal governments, which creates added complexity during emergency events. Due to this complexity, the study can be considered a critical case – a case with "strategic importance in relation to the general problem" (Flyvbjerg, 2006, p. 229).

Before beginning the intensive fieldwork, I made five initial site visits to the La Ronge area to meet key stakeholders, gauge interest in the project, and begin building relationships within the community (November 2016 to end of 2017). I moved to Air Ronge in May 2018 and spent a total of 16 months living in the community. This extended time for fieldwork allowed me

to become engaged in the life of the community, build rapport, and better understand the context in which I was working.

The main qualitative methods used for this study were document reviews and semi-structured interviews. In collaboration with a local advisory committee, the La Ronge Arts Council, and the Alex Robertson Public Library, I also conducted a photovoice project following the interview phase. I chose not to feature the data from the photovoice project in this dissertation, as the document analysis and interviews contributed ample data to comprehensively address the research objectives. However, I believe the photovoice project to be the most impactful component of this project. For this reason, I provide a brief description of the photovoice method in this section and include a compilation of the submissions as an appendix to this dissertation (Appendix F). The data will be used for a later publication.

Table 1. 1 Relationship among research objective, methods, and thesis structure

Research Objective	Method	Chapter
Objective 1a): Representation of social identity attributes in discourse	Document Review	2
Objective 1b): Relationship between social identity attributes and experiences of wildfire	Community Interviews	3
Objective 1c): Operation of social identity attributes in institutions related to wildfire response	Government and Agency Interviews Community Interviews	4
Objective 2: Agency and action	Document Review Community Interviews	2, 3, 4
Objective 3: Implications for research and planning	Document Review Community Interviews Government and Agency Interviews	5

The document review involved the systematic analysis of news media articles relevant to the 2015 fires in the La Ronge region. In total, 105 articles were gathered from four news sources and were analyzed using an intersectional critical frame analysis framework. This method and analysis procedure is detailed in Chapter 2.

Thirty-six semi-structured interviews were conducted with 44 participants. This included 34 interviews with residents of the La Ronge region and 10 with local and provincial government and agency representatives. Multistage purposeful sampling—combining two or more sampling strategies to meet research objectives—guided participant selection (Palinkas et al., 2015). I began by implementing maximum variation sampling based on geographical area of residence in the La Ronge region (i.e. La Ronge town, LLRIB, and Air Ronge, nearby unincorporated subdivisions). Recruiting participants from different jurisdictional areas of the La Ronge region, to some extent, naturally captured participants from diverse social locations (e.g. various socio-economic statuses and both Indigenous and non-Indigenous residents). Initial participants from each jurisdiction were identified through key contacts, recruitment flyers, news articles, and personal contacts. Once initial interviewees were identified, I applied a snowball sampling approach to identify additional participants. Interviews were conducted until there was a relatively balanced proportion of participants from each geographical area, ensuring both men and women, a range of age groups, and a variety of experiences during the fires were captured (i.e. evacuation to official evacuation host communities, evacuation to stay with friends/family, and volunteers and workers who supported the emergency within the La Ronge area). This strategy allowed "theoretical sufficiency" (Dey, 1999); in this case, capturing a diverse range of experiences, while providing enough in-depth data to be able to identify emerging themes related to experiences at various social locations. The sample size would be insufficient for a quantitative study seeking statistically representative results; however, as a qualitative study, the number of interviewees was sufficient to achieve theoretical sufficiency.

An interview guide outlined key questions, but a conversation-style approach to interviewing was used as much as possible to ensure the participants were able to tell their stories on their own terms (Kovach, 2010). Chapters 3 and 4 provide additional details of the semi-structured interview method, participant characteristics, data collection, and analysis.

Photovoice is a method in which participants take photographs reflecting specific aspects of their lived experiences and use the photographs to foster critical reflection and collective dialogue around salient community issues (Hergenrather, 2009; McIntyre, 2003). For this research, themes for the project were developed in collaboration with a four-member local advisory committee. After advertising the project within the community through posters and social media, 21 people submitted 47 photos and written explanations that showcased their experiences relevant to the 2015 fires. A final workshop was held in which participants shared a meal, described the meaning behind their photos, and discussed what can be learned through these experiences for dealing with fire in the future. Many participants mentioned that the photovoice project and discussion was an important opportunity for continued healing after their experiences of the fire event. With assistance from the La Ronge Arts Council and Alex Robertson Public Library, the submissions were transformed into a photo exhibit, which was displayed for two months at the La Ronge Arts Council gallery space at Mistasinihk Place (July & August, 2019) and one month at the Grace Campbell Gallery at the John M. Cuelenaere Public Library in Prince Albert (December, 2019). The public displays became useful venues for promoting engagement among residents, decision-makers, and the wider public. They also provided valuable counternarratives to some of the dominant discourses identified in Chapter 2.

1.4.3 Trustworthiness

Trustworthiness refers to the quality and rigour of qualitative research and can be established through several means, including triangulation, prolonged engagement, member-checking, negative case analysis, and external audits (Guba and Lincoln, 1985). Triangulation occurs by addressing a research question through the use of multiple methods or data sources (Leavy, 2017). By employing both media analysis and interviews with residents and government representatives, I was able to gain a fuller understanding of the similarities and differences in how the 'problem' of wildfire and wildfire response were framed at the various levels of intersectional analysis.

My extended amount time in La Ronge also allowed opportunities for consistent observation, developing a greater understanding of the context in which I was working, and establishing rapport with key contacts and participants. I made five initial site visits and spent approximately six weeks at the beginning of my fieldwork participating in local events, getting

to know the community and residents, and introducing my work before moving into data collection, which also facilitated the collection of rich data.

Member checking was conducted in a variety of ways. During interviews, I used reiteration and paraphrasing to gauge my own understanding of what was being said by the participants and how their statements connect to the interview guide topics. This allowed participants to elaborate on points they felt were important or required clarification. Participants were also asked if they would like to receive a verbatim copy of their interview transcript to review for accuracy. Only two participants chose this option. One participant declined the use of an audio-recorder, so following the interview I provided the participant with a copy of my notes to verify their accuracy. The participants were given a preliminary summary of interview themes via email or delivered hard copy and invited to provide feedback. Preliminary findings were also shared in-person at a Lac La Ronge Indian Band Lands and Resources Board meeting. A draft community report was shared with participants and LLRIB for review and comment. Feedback was incorporated into the final report prior its distribution.

During write up, I paid attention to negative cases (those that counter the key themes emerging from the data). A constructivist approach acknowledges that diverse meanings are ascribed to experiences of a phenomenon across individuals, and so not all perspectives will converge neatly into key themes. As Creswell (2009) notes, the inclusion of discrepant information creates a more realistic account and thus enhances the overall credibility of the research. Examples can be found throughout the following chapters.

Finally, external audits involve an assessment of the research process and outcomes to confirm whether the findings and conclusions are supported by the data (Guba and Lincoln, 1985). A benefit of the manuscript style dissertation is an extra layer of scrutiny from peer reviewers, which helps to ensure that the research outputs reflect a credible research process. Chapters 2, 3, and 4 have each been subjected to a peer-review process.

1.5 The chapters and their interconnections

This thesis adopts a "sandwiched" manuscript style. Following this introduction are three core chapters that have been published or are currently in press. Each chapter foregrounds a different level of intersectional analysis aligning with those mentioned in Section 1.3. This includes chapters on symbolic representation in media discourse (Chapter 2), lived experiences of fire

(Chapter 3), and institutions for wildfire emergency response and adaptation (Chapter 4). Attention to how intersecting identity categories, power relations, and agency operate are woven throughout each chapter. Each of these chapters is co-authored by my co-supervisors (Maureen Reed and Amber Fletcher); therefore, I use the pronoun "we" when referring to, and within, these chapters. My role included taking a lead role in project design (with feedback from supervisors, committee, and community contacts), data collection, coding and analysis, writing the first draft of each paper, and leading the response to requested revisions. Full citations and publication statuses are provided at the outset of each chapter.

Chapter 2, "Wildfire in the news media: An intersectional critical frame analysis", examines how the "problem" of wildfire, as well as its solutions and the actors involved were represented in the media accounts of the 2015 wildfire event. The chapter reveals how identity attributes and power relations operated within media framings of wildfire and their material and discursive implications for people and communities. In Chapter 3, "Applying intersectionality to climate hazards: A theoretically informed study of wildfire in northern Saskatchewan", we center residents' experiences of fire and evacuation, pointing towards how impacts and losses to locally significant values were experienced differently across intersections of identity and how these were influenced by broader social structures and power relations. Chapter 4, "Pathways for inclusive wildfire response and adaptation in northern Saskatchewan", focuses on institutions for emergency and wildfire management. We examine how these institutions have been shaped by gender and other axes of identity and power to influence the adaptation pathways that have unfolded in the La Ronge region.

The concluding chapter (Chapter 5) summarizes the findings and provides reflections on the utility of an intersectional framework for climate hazards research and for building inclusive adaptation. By focusing on key elements of intersectionality mentioned above (i.e., intersecting categories, power, multi-leveled analysis, and agency), I draw out the theoretical, methodological, and practical contributions of this work. A version of this final chapter has been submitted as a chapter in a forthcoming book; its front and back ends have been revised to fit the requirements of this dissertation.

CHAPTER 2 – WILDFIRE IN THE NEWS MEDIA: AN INTERSECTIONAL CRITICAL FRAME ANALYSIS

Abstract

The unprecedented 2015 wildfire season in northern Saskatchewan, Canada resulted in the largest evacuation in the province's history. The depiction of such environmental hazards in the news media is one mechanism that can, even inadvertently, reinforce historical and contemporary social inequalities through its discursive construction of the event and actors involved. We modified and applied a critical frame analysis (CFA) to explicitly reveal how intersecting social identity attributes and associated power relations emerged in media narratives of the Saskatchewan wildfire event, as well as how dominant narratives were challenged. Findings derived from two local and two national news sources revealed that mainstream media largely reflected and reinforced a normative characterization of wildfire response and planning that is highly gendered and exclusionary. Specifically, this characterization constructed intersecting dualisms, giving agency to men and historically male-dominated organizations and casting women, as well as northern and Indigenous communities, as passive residents in need of protection. Our application of the framework also revealed how dominant narratives were challenged through alternative discourses that recognized the agency of community members. A key contribution of the CFA framework, when combined with an intersectional lens, is its ability to draw attention to the ways in which identity attributes (e.g., gender, race) and associated power relations (e.g., paternalism, racism, colonialism) work together, and to thereby generate insights that can help redefine policy problems and ultimately, more effectively address the social dimensions of environmental hazards.

2.1 Introduction

The summer of 2015 brought an unprecedented wildfire season to the province of Saskatchewan, Canada. The event resulted in the evacuation of approximately 13,000 people from their homes in 50 northern communities, contributing to the largest evacuation in the province's history. That year, 720 active fires across northern Saskatchewan led to an influx of over 1700 support personnel from Saskatchewan's Ministry of Environment and regional fire departments, eight other Canadian provinces, the Canadian Armed Forces, and the U.S. Forest Service (Government of Saskatchewan, n.d.). The event was documented by media outlets across the nation. By the end of the event, fires had burnt a total of 1.7 million hectares of boreal forest, and though no entire communities were lost and no fatalities or serious injuries were reported, the event impacted thousands of residents in diverse ways.

Environmental hazards, including wildfires, are not experienced uniformly across populations, largely due to existing context-specific social inequalities (Alston & Whittenbury, 2013a; David & Enarson, 2012; Elliott & Pais, 2006; Reid, 2013; Seager, 2006). Mainstream media reporting can, even inadvertently, reinforce these existing social inequalities through its discursive construction of the event and actors involved (Davis & French, 2008; Tierney et al., 2006). While there is an abundance of scholarship surrounding discourse in disaster coverage, the analysis of power relationships associated with social identity attributes such as gender, race, and class operating within this reporting is far less common. Where media analyses do attend to such dynamics, the focus is often on a single axis of identity, such as race (e.g., Gavin, 2008; Haider-Markel et al., 2007; Sommers et al., 2006; Voorhees et al., 2007) *or* gender (e.g., Ali, 2014; Vevea et al., 2011). While these analyses are vital, there is need to identify how multiple axes of identity and power relations interact in media reporting of environmental hazards, as these can have real-world implications for the ability of communities—and the diverse groups within them—to respond and adapt (Öhman et al., 2016; Olofsson et al., 2016).

The objective of this study was to examine how intersecting social identity attributes and associated power relations operate within dominant media narratives of wildfire and wildfire response in the La Ronge region of northern Saskatchewan. Specifically, we asked how these dynamics shaped the types of knowledge, solutions, and actors that were prioritized during and after the hazard event. To this end, we undertook a critical frame analysis (CFA) informed by the concept of intersectionality. This approach adds value to traditional frame analysis by paying

explicit attention to how power relationships associated with gender, race, socioeconomic status, and other intersecting social identity attributes underpin dominant discourses. Heeding the call from intersectionality scholars to recognize not only the vulnerability of marginalized people, but also their agency, we also consider if and how dominant narratives were challenged in media accounts. The analysis of voice, diagnostic, and prognostic framings through an intersectional lens ultimately uncovered a normative characterization of emergency response that is highly gendered and exclusionary. Our findings reveal discursive and material implications of dominant media framings for people and their communities and suggest ways to improve the analytical acuity of CFA, including our addition of a sensitizing question about how dominant narratives are challenged within media texts.

2.2 Intersectionality and media representation of environmental hazards

Intersectionality refers to the idea that multiple identity attributes, such as gender, race, ethnicity, class, sexuality, and age, operate together across societal scales to construct multifaceted inequalities (Collins, 2015). In recent years, intersectionality has emerged as an analytical tool for understanding the complexity of environmental injustice (Malin & Ryder, 2018), including studies of environmental risk and disaster (e.g., Eriksen & Simon, 2017; Fletcher, 2018; Ryder, 2017; Vickery, 2018). Vickery (2018), for example, found that during a major flood event in Colorado, physical and mental disabilities, gender, and immigration status intersected to create diverse experiences across the region's homeless population—a group often perceived as relatively homogenous. Such differences are, in part, shaped by intersecting systems of power (ableism, sexism, racism, etc.) entrenched within social structures and institutions, which can become even more apparent during and after a disaster (Jacobs, 2019; Weber & Hilfinger Messias, 2012).

While demonstrating how intersecting social locations operate within people's lived experiences and in social structures and institutions, intersectionality also suggests symbolic representation as an important site of analysis (Kaijser & Kronsell, 2014; Winker & Degele, 2011). Symbolic representation, such as the norms and values embedded within media discourses, influences how people perceive themselves and the world and can either reinforce or challenge structural systems of power (Winker & Degele, 2011). Media framings are one mode of representation by which "individuals and groups are subjected – most often unconsciously or

automatically – by cultural codes and hegemonic practices that serve to shape how they are identified by society, often manifesting in inequalities based upon gender, class, race, as well as other categories of social difference like disability or geographical location" (Eriksen et al., 2015, p. 528).

In some circumstances, media representations of environmental hazards silence difference by constructing disasters, such as Hurricane Katrina, as "great equalizers" that uniformly affect entire societies (Pyles & Lewis, 2010). This silencing obscures how existing forms of racism, classism, and sexism intersect to profoundly influence outcomes for women, people of colour, elders, and low-income populations. This silencing can also result in missed opportunities for the development of equitable recovery policy and programming following hazard events. In other circumstances, however, gendered dualisms or racial stereotyping appear in mainstream reporting of environmental hazards. Olofsson et al. (2016, p. 350), for example, found that news reports of a major wildfire event in Sweden were "framed by stereotypical gender divisions, in which the risks taken by all the masculine heroes are embedded in a language of danger, sweat and tears, whereas the females are portrayed through a language of caring and helping out with supportive actions, such as cooking and arranging supplies." The authors' intersectional analysis revealed that these stereotypical representations of rural masculinities and femininities— representations that limit the types of responses and subjectivities available to men and women— also reinforced other forms of inequality, namely the political dominance and prioritization of solutions from the country's urban centre (Öhman et al., 2016; Olofsson et al., 2016). In Canada, studies have noted either the lack of media attention to Indigenous communities' experiences of disaster (Christiansen et al., 2019) or how disempowering framings of Indigenous groups (particularly youth) during evacuation entrench negative racial stereotypes (Scharbach & Waldram, 2016). Such representation also delegitimizes diverse knowledges and experiences within communities, disregards individual and collective agency in response to hazards, and overlooks how systemic inequalities contribute to vulnerability (Cameron, 2012; Haalboom & Natcher, 2012).

Importantly, intersectionality promotes the recognition of agency. Intersectional studies of environmental hazards have acknowledged how aspects of marginalized people's identities can contribute to effective disaster responses (Vickery, 2018), and have provided examples of grassroots collective action (Pyles & Lewis, 2010; Eriksen & Simon, 2017). For example, Whyte

(2014) described how Indigenous women are particularly affected by the impacts of climate change in their role as keepers of ecological knowledge; however, climate impacts have simultaneously centred Indigenous women's strong leadership on climate change mitigation and adaptation, thus highlighting their agency. Such revelation challenges the simplistic representations of groups and communities as simply passive victims or virtuous responders to environmental hazards (Arora-Jonsson, 2011), while retaining a sensitivity to how gendered and racialized social structures influence environmental change and human responses (Elmhirst, 2011; Fletcher, 2018; Thompson-Hall et al., 2016). Hence, when combined with discourse analysis, intersectionality can both recognize agency and challenge dominant framings of an issue or group.

2.3 Applying a Critical Frame Analysis

Frame analysis is an analytical tool used for identifying multiple viewpoints, interests, and assumptions that emerge around complex social issues, including assessment of environmental debates and conflicts (e.g., Bullock, 2010; Jerneck & Olsson, 2011; Shmueli, 2008). According to Entman (1993, p. 52), framing is the process of selecting "some aspects of a perceived reality and mak[ing] them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described." The primary goal of frame analysis, then, is to identify and describe the aspects of an issue that are given attention, as well as those that are omitted or obscured. From a critical perspective, frame analysis also moves beyond simple descriptions of dominant framings towards a deeper assessment of assumptions, power dynamics, and potential implications associated with such framings (Bacchi, 2009).

Power dynamics play an undeniable, though often rather discreet, role in media and policy framings. As Entman (1993, p. 55) argues, "the frame in a news text is really the imprint of power—it registers the identity of actors or interests that competed to dominate the text." The analysis of power dynamics in media discourse is important because problem constructions around social and policy issues often reflect the interests of dominant social groups and institutions, which can gain legitimacy and reinforce existing forms of inequality (Tucker, 1998). Media framings can have both discursive and material implications. Materially, framings affect which policy and planning options are considered worthy of implementation and where funding

is allocated, who is included in decision making, and how dominant assumptions and existing power relations are maintained or challenged (Swim et al., 2018). Discursively, framings can also shape how people see themselves and others in relation to an issue, making available certain subject positions and silencing others (Bacchi, 2009). These effects are not spread evenly across society and can result in disproportional benefit or harm for various social groups, as examples in the previous section indicate.

The CFA framework was originally developed to assess how problems were represented and solutions proposed in gender equality policies across Europe (Verloo, 2005). It adopts components of traditional frame analysis, such as the identification of diagnostic frames (i.e., how a specific problem or issue is represented) and prognostic frames (i.e., what should be done in response to the specific articulation of the problem) (e.g., Benford & Snow, 2000). The framework also pays attention to power by assessing who has voice in forming diagnoses and prognoses, as well as how groups and communities are characterized (e.g., victims, heroes, etc.). The original CFA framework integrated intersectionality into its sensitizing questions to identify how social attributes such as class, ethnicity, age, etc. appeared or remained invisible within gender equality policies (Verloo, 2005; Verloo & Lombardo, 2007). As CFA has expanded into new subject areas, the intersectionality and voice components have been less often applied, despite their potential to enhance critical analysis (van der Haar & Verloo, 2016). In this paper, we center the intersectionality component of the CFA to identify how gender and other social attributes shape the diagnosis, prognosis, and the attributed roles of various groups, including who has voice in shaping the discourse within media reporting of the wildfire event.

2.4 Method

The La Ronge region of northern Saskatchewan was selected as the primary geographical focus of this study because of its proximity to the fires and status as one of the most populated areas in northern Saskatchewan. The La Ronge population center comprises three adjacent jurisdictions—the town of La Ronge, the northern village of Air Ronge, and the Lac La Ronge Indian Band (LLRIB). The area has a population of almost 6000, of which approximately three

quarters identify as Indigenous[2] (Statistics Canada, 2016). In 2015, leadership of the three communities jointly issued a voluntary evacuation on June 7 due to heavy smoke and a mandatory evacuation on July 4 as the fire drew uncomfortably close. The fire itself started June 6 and was officially declared out on September 14, 2015. Residents scattered south to stay with family, friends, or at evacuation centres until the evacuation order was lifted on July 19.

We chose four news sources, two local and two national, as media frames can differ across scales and proximity to a disaster (Öhman et al., 2016; Ploughman, 1997). The La Ronge Northerner (LRN) and the Missinipi Broadcasting Corporation (MBC) were included because they were the two local news venues available in 2015. LRN was a weekly local print newspaper serving La Ronge and surrounding communities. While this source was included for its local focus, we note that the newspaper was not in operation during the wildfire evacuation and permanently closed in August 2015, shortly after residents returned to the community. Nonetheless, we accessed print copies of relevant articles from the weeks leading up to and two weeks following the evacuation from the Northern Saskatchewan Archives in La Ronge. MBC is a regional broadcaster based in La Ronge that specifically aims to provide content relevant to residents of northern Saskatchewan, including programming to promote and preserve Indigenous languages and culture. While its primary format is radio broadcasting, MBC also provides online written news content, both of which were used for official communications from the La Ronge Emergency Operation Centre during the 2015 wildfire event. To capture content at national scales, we included articles from the Canadian Broadcasting Corporation (CBC) and the National Post (NP). CBC was chosen because it is a public broadcaster with open access online news content across the country, including a regional Saskatchewan stream. We chose the NP, a national subscription-based newspaper, to explicitly contrast local coverage with that targeted to a national audience mostly outside Saskatchewan. As of 2008, the NP has not circulated daily issues in Saskatchewan. While it reported on the Saskatchewan wildfires, unlike the CBC (and local outlets), it did not target Saskatchewan residents. We accessed written articles from MBC

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[2] Indigenous refers to peoples who: occupied territories prior to colonial intervention; have retained cultural, social, economic, and political distinctiveness from the colonial state; self-identify as Indigenous; and have historically experienced marginalization by the dominant society (IFAD, 2018). First Nations, along with Inuit and Metis, are recognized as Indigenous peoples in Canada. A great deal of diversity exists among First Nation cultures, languages, and traditions across the country. We recognize distinctions between the terms Indigenous and First Nation, but in this paper use them interchangeably.

and CBC from the corporations' respective online archives and articles from the National Post through its publisher's online archive or the University of Saskatchewan's online databases.

Date parameters were set from prior to the wildfire season (March 1, 2015) to November 30, 2018 when the article search was conducted, using the search terms "La Ronge" AND "wildfire" OR "forest fire." These date parameters captured discourse occurring at all phases of the wildfire event. We included written text articles with a core emphasis on the La Ronge region wildfire event, and excluded sources that mentioned La Ronge only in passing or that contained only photo or video content (in the case of online archives). Ultimately, 102 news articles and three opinion pieces were included for in-depth review (Table 2.1).

Table 2. 1 Overview of articles by source and time period

News Source	News Articles by Time Period (# articles)				
	Pre-evacuation (March 1-June 6)	Evacuation (June 7-July 19)	Post-evacuation recovery (July 20 -Aug 30)	Planning and preparedness (Sept. 1 +)	Total
LRN	2	9	1	0	12
MBC	2	21	6	12	41
CBC	1	32	6	8	47
NP	0	5	0	0	5
Total	5	67	13	20	105
Percentage (%)	4.8	63.8	12.4	19.0	100

We adapted Verloo's (2005) CFA framework to identify and analyze media framings of the wildfire event. Both news articles and the social actors given direct voice through those articles allowed us to assess the dominant framings of the event and the actors involved. In line with the CFA framework, we established a set of modified sensitizing questions around the diagnostic and prognostic framings to fit the context of our study (van der Haar & Verloo, 2016;

Verloo, 2005) (Table 2.2). We organized our data around the core sensitizing questions using the qualitative data management software package NVivo 12 (QSR, 2018).

Table 2. 2 Sensitizing themes for analysis (modified from Verloo, 2005)

Theme	Sensitizing Questions
Voice	Whose voices, by actor group, are included (e.g., provincial and federal government departments and agencies, community leadership, community residents, non-governmental organizations)?
Diagnostic (Problem) Framings	What is represented as the problem(s)? • Why is it seen as a problem? • Form (argumentation/style/conviction techniques/dichotomies/metaphors) What are the roles in diagnosis? • Causality (who/what is seen to have made the problem?)
Prognostic (Solution) Framings	What actions are needed? • How should goals be achieved? (strategy/means/instruments/resources) • Form (argumentation/style/conviction techniques/dichotomies/metaphors) What are the roles in prognosis? • Call for action and non-action (who should [not] do what?) • Who has voice in suggesting suitable course of action? • Who is acted upon? • How are groups characterized (active/passive/heroes/supporters, etc.)?

In contrast to Verloo's (2005) study on gender equality policy, which included sensitizing questions related to gender and intersectionality, we expected these themes to be much more implicit in our data. Therefore, instead of including social identity attributes as discreet sensitizing questions and themes in NVivo, we wrote memos to flag text that pointed towards gendered or other dominant assumptions relevant to social identity. Voice was analyzed by tallying the number of direct and indirect quotes by actor group and gender in our selected news sources. Gender was identified through the use of gendered pronouns in the texts. Though the original CFA framework provides no sensitizing questions related to challenges or resistances to

dominant narratives, we provide examples of these in the diagnostic and prognostic framings sections below.

2.5 Results

2.5.1 Voice

Provincial government representatives were given the most voice in our selected news articles, followed by local and First Nation community leaders, community residents, federal government representatives, municipal fire departments, and non-governmental organizations, respectively (Table 2.3). Almost one third of the total quotes came from two provincial government branches alone (Wildfire Management and Emergency Management & Fire Safety), which typically related to updates and projections about fire location and movement, descriptions of equipment and human resources being used for firefighting efforts, updates about the extent of damage caused to physical structures, and calls to action for fire prevention and preparedness. The high representation by provincial government departments indicated that this actor group, especially those departments whose work related directly to fighting fires on the 'front lines,' were perceived as key experts and had significant voice in defining the problems and suggesting suitable courses of action.

Community leadership provided almost one fifth of the total quotes, with somewhat more from the LLRIB than the Town of La Ronge. All quotes in the LLRIB leadership category were delivered by the LLRIB Chief, a First Nations woman. Community leaders frequently provided comments on the status and impacts of the fires, as well as policies and strategies needed to better deal with such events in the future. Compared to other community leaders, the LLRIB Chief also provided substantially more comment about the logistics and procedures for evacuation of residents from the La Ronge population center and the First Nation's satellite communities. Quotes from community residents comprised 11.1% of the total, representing a mix of affected cabin owners, individuals who stayed to protect their own properties, and those who evacuated their homes in the La Ronge population centre and surrounding communities. These quotes often related to residents' concerns about the impacts of the fires and their experiences of the fires and evacuation.

Table 2. 3 Quotes by actor group and gender

Actor Group	Total Quotes		Quotes by Gender within Actor Group (%)	
	#	%	Men	Women
Provincial Government	**184**	**51.3**	**90.8**	**9.2**
Wildfire Management (Ministry of Environment)	83	23.1	100	0.0
Government Leadership (e.g., Premier, Ministers)	44	12.3	95.5	4.5
Emergency Management & Fire Safety (Government Relations)	31	8.6	100	0.0
Social Services	11	3.1	0.0	100
Health	4	1.1	100	0.0
Other (e.g., Transportation, Government Opposition, Parks)	11	3.1	63.6	36.4
Community Leadership	**69**	**19.2**	**43.5**	**56.5**
Lac La Ronge Indian Band	39	10.9	0.0	100
Town of La Ronge	27	7.5	100	0.0
Village of Air Ronge	3	0.8	100	0.0
Community Residents	**40**	**11.1**	**52.5**	**47.5**
Federal Government	**34**	**9.5**	**100**	**0.0**
Department of National Defense	27	7.5	100	0.0
Others (e.g., Canadian Forest Service, Public Safety)	7	2.0	100	0.0
Municipal Fire Departments	**10**	**2.8**	**100**	**0.0**
Non-Governmental Organizations	**10**	**2.8**	**60.0**	**40.0**
Other (academia, private sector, other government jurisdictions)	**12**	**3.3**	**91.7**	**8.3**
TOTAL	**359**	**100**	**77.2**	**22.8**

An obvious gender imbalance was apparent overall, with 77.2% of the total quotes attributed to men. Strikingly, the total proportion of quotes by men would be nearly 90% if the LLRIB Chief, one of the most frequently cited community leaders, was removed from the mix. She also represented almost half (47.8%) of the total quotes by female actors. Quotes from actors who had primary roles related to the 'front line' response – the two aforementioned provincial government branches, the military, and municipal firefighters – were entirely delivered by men. Within the provincial government actor group, only 9.2 percent of quotes were attributed to women, almost all of which were from Ministry of Social Services representatives and related to the task of evacuation coordination. This indicated that not just provincial government actors, but also historically male-dominated sectors, had much more voice than sectors typically dominated by women, such as social services and health. Among community residents, slightly more quotes were delivered by men (52.5%). Despite the relative balance in representation in this category, there appeared to be a qualitative difference in how men and women were quoted during the wildfire event. Here, dualisms appear in the reporting of women's and men's perception of fire, as well as their roles and responses during the fires (Table 2.4).

Table 2. 4 Comparison of residents' quotations by gender

Theme	Women's quotes	Men's quotes
Perception of fire – fear vs. awe	*"I was scared,"* said Rayshell Charles. *"I was really scared and I was panicking."* Charles and her two children were forced to evacuate their La Ronge home in the middle of the night. *"The whole town was just all orange and there's ashes falling from the sky, burnt leaves, burnt pieces of wood falling from the sky,"* Charles said. *"It was like a scene from a movie or something."* (CBC, June 8)	Paquette saw the huge fire up close, and said it's very impressive. *"All of a sudden you'll hear, it's like the airport, you'll hear a jet sort of sound start up in the forest, followed by a really black smoke,"* he said. *"Then you'll see basically a fireball race across the trees"* (CBC, July 8) *"Everything was burned completely, right around the whole perimeter of*

		the cabin," said Richards. *"You look at it and it almost looks like some kind of a military zone that was bombed because [there were] just little plumes all over the place, the destruction of this fire is amazing. I've seen areas cabins were on where there is absolutely nothing left, like any aluminum, it melts aluminum, it's just really something to see, it really is."* (CBC, July 6)
Roles – nurturing/caring vs. protection of property	After a series of bus rides, she and her daughters arrived in the city a couple days ago when thick smoke was blanketing her home community. *"We weren't too sure how close that fire was,"* she added. Her family advised her to leave for the sake of her young children, Jazmine just age one and Jade age three. *"They just said to keep my daughters safe,"* she said. (NP, July 6) The health concerns were what led Kathy Lavallee to bring her family to stay with friends in Prince Albert. She says her family has three kids under the age of 11 who suffer from asthma. *"We tried to wait it out and keep them housebound, but it was just*	Richards said after he finished attending flare ups near his cabin, the heavy smoke in the area made it difficult to return home…. *"I had to GPS the whole route out because we couldn't see any islands for marks to get out,"* said Richards. *"I GPS'd us out the whole way, it took about two hours to do the 12 miles, but we got out safely"* (CBC, July 6). Knudsen is now bunked down with his father and a co-worker in his heavy equipment shop. He said leaving it is not an option. *"We have to save the shop,"* he said... If the flames do get too close for comfort, Knudsen said he and his companions 'will deal with it.' *"We'll just hose her down and plow the trees down,*

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	too hard, so we had to get them out of town," said Lavallee. (MBC, June 9)	*we've got a bulldozer here,"* he said. (NP, July 7)
Response to fire – emotional vs. stoic breadwinner	*"We're just all in shock,"* she went on, choking up. *"It's just awful. My first cry. You can't imagine. I feel fortunate that we're still standing right now, but there's no guarantee.* (CBC, June 8b) *"It is not good. Fires keep going up, and then they go down, and they go up and there's evacuation after evacuation. It just doesn't seem like the end is anywhere,"* Naytawhow said. *"It is scary for us because we never know when we're going to go home."* (CBC, July 4)	*"There's not much we can do about it. At least we're not using any power right now,"* said Powell. *"A lot of people are doing a lot of odd jobs right now where they can't work right now so they're going to be feeling the financial crunch"* (CBC, July 13)

2.5.2 Diagnostic Framings

As per the CFA framework, diagnostic framings can be identified by examining what was represented as a problem, why it was seen to be a problem, and what the cause of the problem was perceived to be. Together, these framings reinforce dominant norms and assumptions of emergency and wildfire management. For example, it has been argued that wildfire management in the global North emphasizes characteristics of hegemonic masculinity, which lauds physical strength, risk-taking, and the colonial/frontier mentality of fighting against and controlling nature (Tyler & Fairbrother, 2013; Eriksen et al., 2010; Eriksen, 2014; Reimer & Eriksen, 2018). Others have observed that the militaristic command-and-control approach to emergency management tends to prioritize Western values, norms, and knowledge, which risks reinforcing social inequalities entrenched by colonization and its on-going legacies (Dicken, 2017; Lambert &

Scott, 2019; Scharbach & Waldram, 2016). These gendered and Western norms and assumptions also intertwined, both subtly and explicitly, in the news reporting of the Saskatchewan fires.

The primary problem was represented as the threat the fire posed to people and communities. Across sources, the media and key actors often described the fire using adjectives such as "raging," "scorching," "aggressive," "destructive," and "hostile," and frequently employed militaristic language and metaphor. Specific examples reveal that the fires were represented as an active and mechanistic agent moving against humanity, as an enemy to conquer, and as a child to discipline:

> The fire has jumped highways, streams and even a bulldozed no-man's-land slashed through the woods by firefighters. By Tuesday night, it surrounded the La Ronge airport on three sides. (NP, July 8)

> Take a stroll through the grounds of the Prince Albert Armoury and you will see Canadian soldiers preparing for the front lines of the forest fire battle in northern Saskatchewan. (CBC, July 13)

> These are the days we will start to see the fires act up… we will have access to air tankers to suppress that kind of behaviour. (MBC, July 8)

The fire was perceived as a problem and threat due to its observed or potential impacts to individuals and their communities. Though the described impacts varied somewhat by phase of the event, a clear emphasis was on damage to physical structures, concerns about physical health and safety, and economic and financial implications of the fires. The rather narrow focus on physical and economic impacts was perhaps not overly surprising, as the assessment of wildfire risk to social systems has tended to emphasize property and economic losses (Paveglio et al., 2015).

Overwhelmingly, both during the fire and immediately after, the most frequently cited impact was damage to physical property and infrastructure. These were usually in the form of updates providing a marker of the extent of damage throughout the event. For example, "There have been two homes and 12 cabins lost in the La Ronge area by these fires (LRN, June 18)"; "about a dozen structures, including homes, have burned (CBC, July 6)"; and, "at last count, about 100 structures were destroyed by flames this fire season — mostly cabins (MBC, July 20)." After damage to physical structures, potential impact to physical health and safety was a

commonly cited concern during the fire event. These most often referred to either the avoidance of physical harm as a top priority or to concerns about smoke effects on vulnerable populations, such as those with chronic health conditions, young children, pregnant women, and the elderly. Financial and economic impacts on individuals and families, businesses, communities, and the province were also commonly mentioned. Specifically, these included the loss of household and business income due to evacuation, extra financial pressure put on families during the evacuation (cost of clothing, entertainment for children, etc.), cost of rebuilding homes and cabins, loss of tourism revenue, and overall financial cost of emergency management measures for First Nation and provincial governments.

A small minority of articles countered the dominant framings by mentioning other less tangible impacts of the fires. For example, one spoke of an unofficial evacuation centre in another Saskatchewan First Nation community, which responded to the cultural, spiritual, and mental health needs of displaced LLRIB residents (CBC, July 8). In another case, a connection was made between the loss of physical structures and the ability to carry out traditional land use and lifestyle.

> 'I'm sure my cabin has burned down,' he said, adding that he built the log cabin several decades ago to suit his lifestyle as a trapper but more recently moved in with family on the La Ronge First Nation, although he still gets out on his trapline. (NP, July 6)

In others, damage to physical structures was linked to the loss of a deeper connection to place. Interestingly, on each of these occasions this loss was raised by local women, which paradoxically pushes back against dominant framing of fire as a physical problem, while simultaneously reinforcing the feminization of emotional response to the fires raised in section 2.5.1.

> Not only is there loss of physical structures (your home, your business, your favourite grocery store) there is grieving over the actual municipality itself. Many people become emotionally attached to the municipality in which they live. (CBC, May 5, 2016)

> Naytawhow said she hopes her home is safe, but she is uncertain. 'We all love our homes, and once you find out that they are falling apart, you start to fall apart,' she said. (CBC, July 4)

In terms of causality, adverse impacts were primarily attributed to overextended firefighting resources, resulting from either extreme environmental conditions or a failure of provincial government policy and practice. Provincial wildfire management officials—those granted the most voice—typically pointed towards a confluence of early season hot, dry, and windy weather that produced conditions ripe for high fire activity. Conditions were similar across Western Canada, resulting in the "stretched availability of resources across the country" (CBC, July 9). Community leadership attributed causality somewhat differently, citing provincial cuts to wildfire fighting funding and staffing, policies guiding when action should be taken on fires, and a lack of collaboration with First Nation communities. The latter—specifically the lack of recognition of local knowledge, experience, and resources during immediate response to the fires—opened possibilities for re-framing response challenges not just as problems of stretched resources, but one of asymmetrical inclusion in decision-making.

> Throughout the 2015 fire season, [LLRIB Chief] Cook-Searson questioned why First Nation firefighters from northern Saskatchewan were evacuated instead of being allowed to stay and help fight the fires. She brought this up during the committee meeting and also questioned why other First Nation communities who offered help in the efforts were denied. (MBC, Dec. 7, 2017)

2.5.3 Prognostic Framings

Similar to the diagnostic framing, solutions were also largely constructed around the portrayal of wildfire as a force that threatens physical structures, physical health, and economic security. Physical and economic impacts, and the groups that play key roles in responding to them, were prioritized in media representations of the event across temporal periods—during the fires and after in recovery and longer-term planning phases.

2.5.3.1 During the fires

Early in the fire season, local news sources indicated that "wildfire statistics [are] up significantly" and called upon local residents to take fire prevention measures when participating in outdoor activities (LRN, May 7). Residents were also encouraged to take actions to protect their properties and physical health in the time leading up to the mandatory evacuation of La Ronge**.**

> Roberts suggests cabin owners might consider whether they have sprinkler systems and are using Firesmart procedures to make their homes and cabins as safe as possible. He also suggests people coming to their cabins check with the Wildfire office and find out whether it's safe to be there or not. (LRN, June 18)

> … any individuals north of La Ronge that are concerned about smoke or fire are encouraged to relocate to a safer area. (MBC, June 7)

As the fires grew, the event began to appear in national news, and MBC became a primary outlet for official communications from the La Ronge Emergency Operation Centre. Local residents' roles appeared to shift from active to passive, while the work of those with formal roles in protecting structures and communities moved to the forefront.

> 'People are taking off into areas to take pictures,' he [La Ronge Mayor] says. 'That's preventing firefighters from doing their work, it's preventing water bombers from doing drops. Those things are things we don't need right now. Please stay away from that area. Look at the pictures that the government is releasing in terms of your curiosity. Just stay away until the time comes that you should be there. (MBC, July 2)

The agency of displaced residents was apparent in a few articles. For example, in one opinion piece, the female author described the many ways individuals coped with their experiences of evacuation and provided practical actions for host community residents to engage with those evacuated in appropriate and meaningful ways (CBC, May 5, 2016). The recognition of local agency was more evident in relation to work on the "front lines" of protecting homes and structures from the fire, such as references to the hundreds of applications received following a call for paid local volunteers to participate in training to help fight the fire (MBC, July 9). Most often, however, national news media characterized residents of northern communities as "evacuees" and used passive language to describe their response to the fires. This framing supported a narrative portraying northern communities and residents not as active agents, but in need of being acted upon by external actors and decision-making processes. Such framing is congruent with the overall lack of voice given to local actors and to the diagnostic frame discussed previously, in which local expertise and knowledge were largely disregarded.

> By midday Tuesday, more than 3,000 people from La Loche, La Ronge and other northern communities *had been taken* to emergency shelters and hotels in Regina, Saskatoon, Prince

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Albert and North Battleford. (CBC, June 30, emphasis added)

685 people from the La Ronge area in central Saskatchewan *were sent* by bus to Cold Lake, Alta. (CBC, July 5, emphasis added)

At the height of the crisis over 13,000 people *were moved from* 50 northern communities to emergency shelters in southern cities. (CBC, July 24, emphasis added)

In contrast, groups with a primary role of protecting communities and structures—military, structural, and wildland firefighters—received significant media attention and were typically represented as the heroes of the story. The actions and progress made by these groups and their equipment in the "battle" against the flames became prevalent.

As La Ronge gets caught by one of the worst fires in Saskatchewan history, exhausted firefighters, pilots and soldiers are all that keeps it from becoming the next Slave Lake [referring to fires at Slave Lake in 2011]. (NP, July 8)

At one point, 50 helicopters had been deployed against northern Saskatchewan forest fires. The Ministry of the Environment has also been using its water bomber fleet, which can drop about 5,000 litres at a time…. Today, Premier Brad Wall said Ontario will be sending two more air tankers to lend support. (CBC, July 8)

These characterization framings were especially stark when they directly juxtaposed one another, further revealing who were considered heroes and who were in need of help.

The military has been called in to help care for 7,900 people from a northern Saskatchewan community that includes the province's largest First Nation, as a rash of wildfires prompts a massive evacuation. (CBC, July 4)

Prince Albert is packed with evacuees from the north, many of whom were more than happy to turn out to greet the 1 Canadian Mechanized Brigade Group as liberators…Evacuees keeping tabs on the situation from afar cheered the 'eye candy' of young men coming in to defend their home. (NP, July 8)

In these quotes, displaced northern residents, particularly women (as the implied consumers of the military "eye candy") and Indigenous people, were represented as lacking the agency to care for themselves and their property. In contrast, outsiders to the region—the "young men"—were represented as war heroes ("liberators"), carers, and rescuers. The reference to "eye candy" also

indicates a sexualization of this role.

After the immediate threat of the fires had subsided, economic solutions were prioritized, as the headline "Leaders focus on economic impact of Sask. Wildfires" illustrates (CBC, July 18). In terms of resources for returning residents, news media focused on financial assistance provided by municipal and provincial governments, such as a one-month credit on utility bills, the waiver of late fees on bill payments, and a break for businesses with late provincial tax payments. Very little attention was given to solutions for the other less tangible impacts mentioned above, such as those related to mental and emotional health, recreational and traditional values, and loss of connection to place.

Following the immediate recovery phase, relevant jurisdictions began discussions about policy changes required to better deal with future wildfire events. Suggested policy solutions varied among municipal, First Nation, and provincial jurisdictions, but were seemingly consistent with what each perceived as the cause of the wildfire problem. The provincial wildfire management agency and provincial leadership—again, those with the most voice—strongly advocated for a national firefighting strategy, which would focus on strengthening partnerships with the federal government, enhancing military training, and coordinating the sharing of firefighting resources across the country (e.g., CBC, July 17; July 24). Community leadership, particularly the LLRIB Chief, promoted an alternate approach—the development of a regional strategy inclusive of northern and Indigenous voices (CBC, Feb. 23, 2016; Dec 7, 2017), that would "improve and avoid possible displacement of people from their homes during any future occurrences" (CBC, July 18). La Ronge leadership also cited the need to enhance fuel management programs around communities, update the community emergency response plan, and hire a dedicated emergency manager (e.g., MBC, Oct. 28; Jan 7, 2016; July 4, 2016). Official provincial-level debriefing sessions appeared to be rather exclusive of local residents, underpinned in part by an assumption that public concern narrowly related to the "handling of the fires".

> Recent government consultation meetings with northern leaders and emergency officials about the summer's wildfires have been by invitation only… deputy minister Al Hilton says there is no plan to host a forum where northern citizens can publicly question

provincial officials about the handling of the fires. (MBC, December 4, 2015)

2.6 Discussion

2.6.1 Discursive Implications

Organizing the data around sensitizing questions related to voice, diagnostic, and prognostic frames while being attuned to intersectional dimensions revealed the discursive construction of two intersecting dualisms. First, northern and Indigenous communities were predominately represented as passive victims of wildfire versus external government organizations and actors as active agents, rescuers, and primary decision-makers. The greater voice granted to "frontline" government agencies also contributed to the framing of wildfire as a primarily a physical and economic problem. Other studies partly attribute the emphasis on physical and economic impacts to a dominant neoliberal framing of wildfire or traditional and hegemonic forms of masculinity, both of which result in recovery efforts being placed squarely within the purview of external agencies and historically male-dominated sectors, such as business and industry (Cox, 2008; Milnes & Haney, 2017).

Second, a gendered dualism represented women as helpless, emotional, and/or as nurturers of children compared to men as active protectors of people and property and as breadwinners, contributing to a longstanding dichotomy whereby male evacuators are depicted as heroes and female evacuees are characterized as victims or virtuous supporters (Arora-Jonsson, 2011; Eriksen, 2014). Simultaneously, the discourses also reinforce the masculinization of wildfire response and the universalization of men as defenders and rescuers, which is supported by a lack of any reference to men's emotional experiences of fire. The frequent use of militaristic language and metaphor throughout the media accounts, along with the portrayal of the protection of communities and physical property as a predominately masculine role, also contributed to this dualism.

The dualisms were present in all media sources, though there was some difference in the nature and extent to which they appeared. At the height of the event, MBC displayed an interesting paradox—compared to the national sources, it provided updates and information of significant relevance to local residents (direction for evacuation, status of fire in the local area, etc.). Simultaneously, however, its use for emergency operations communications also meant less opportunity for local voices to filter into the media discourses, contributing to the dominance

of "frontline" government agencies and emphasis on physical impacts—updates on the number of structures burnt, for example. The dualisms were fairly subtle in the CBC articles, such as through the use of passive language to describe the actions of evacuees and the seemingly objective descriptions of the "frontline" workers' activities and equipment. The gendered dualism and even sexualization emerged most strongly in the NP, such as in the quote depicting northern residents cheering on the military "eye candy", which painted a rather conspicuous image of a sea of helpless (implicitly female) bystanders, their only hope a contingent of predominately young, white, and male soldiers. Such discourses of military heroism may have been an attempt to transform a far-flung disaster into an issue of national relevance for NP's main subscription base in large population centers outside of Saskatchewan. It may also be a reflection of this particular newspaper's politically conservative editorial stance. Nonetheless, such narratives reinforce the ideology of militarism in the context of disaster response, thus pulling the site of solution-building away from local spaces (Tierney, 2006).

The intersection of these dualisms is clearly demonstrated in both the quantitative and qualitative findings: while the discourse was dominated by primarily male "experts" who were external to the northern communities, women were nearly equally represented amongst affected residents (i.e., "victims" in the dominant discourse). The nature of quoted content from female residents further reflects and reinforces gendered ideologies. These intersecting dualisms discursively (re)produced paternalistic and colonial framings of women, First Nations people, and rural northern residents as needing to be "sent" to safe places, "cared for", "helped", or "liberated". All of these depictions can have very real material implications as communities plan for and respond to hazards in the future.

2.6.2 Material Implications

Discursive constructions of hazard events, and of the actors involved, can have particular material effects, including: 1) determining which policy and planning options are considered worthy of implementation and who are considered legitimate decision-makers (Swim et al., 2018), 2) restricting the types of impacts reported; and 3) actions taken as a result of available subjectivities (Bacchi, 2009).

On the first point, the overarching emphasis on people's vulnerability to physical and economic impacts may cause local knowledge, actions, and solutions to be disregarded in future

planning for hazard response. The dominant narrative framed the negative impacts of the fires as a problem of stretched resources, requiring policy solutions targeting resource-sharing at the national level. In contrast, a handful of CBC and MBC articles gave voice to the LLRIB Chief's alternate framing of the problem as one of exclusionary decision-making, stressing the need for regional planning that centers local knowledge and experience. However, when northern residents and women were largely represented as passive victims and the public's primary concern was assumed to be the "handling of the fires", the perceived legitimacy of local actors' knowledge and experience for responding to, and planning for, hazards in the future may have been hindered. The dualistic representation of men and women residents may also have obscured and marginalized the future contributions of women volunteers in their communities, whether these contributions are in traditionally gendered roles (cooking, cleaning, delivering food) or in roles that challenge gendered expectations (e.g., protecting property)—both of which occurred during the 2015 fires. It becomes challenging to relocate local residents as active agents for future planning after they have been characterized as passive victims during the wildfire event. Their agency is further restricted as gaining support and funds for preferred policy directions is likely easier for provincial and federal government organizations that were already constructed as legitimate and primary decision-makers.

Second, the dominant focus on physical and economic impacts also neglects other less quantifiable impacts—such as mental and emotional health, deep connection to place and land, and the ability to practice traditional land use—as well as valuable locally-derived responses to these impacts. Although such impacts were largely overlooked by media accounts of the 2015 fires, the predominance of physical and economic impacts and solutions, as well as the framing of Indigenous communities as passive victims, were challenged through CBC's coverage of Beardy's and Okemasis First Nation's (BOFN) evacuation centre. The mention of this initiative not only added visibility to responses that extended beyond physical and economic impacts, but also re-positioned a First Nation community as an active player in the wildfire response. Though not recognized as an official evacuation host facility, the BOFN centre (labelled the 'Rez Cross'[3]) provided a culturally sensitive alternative to the certified Red Cross centres. The Rez Cross hosted at least 350 displaced residents from northern communities and provided basic services (clothing, medical, communication services) as well as culturally specific services such

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[3] A play on words using the slang term 'Rez', referring to First Nations reserves.

as access to traditional foods, spiritual teachings and mental/emotional support from elders, pow-wows, and traditional ceremonies (Betancur Vesga, 2019). The activities of the Rez Cross inspired the establishment of at least five other unofficial evacuation centres across the province (Betancur Vesga, 2019), though none of these were reported in the media accounts included in our review. While encouraging to see an example of a community-led initiative that challenged dominant narratives found in our media analysis, the relatively low overall attention to such initiatives may still limit public understanding of who responds to emergency events and how (e.g., prioritization of provincial government agencies and 'approved' NGOs, such as the Red Cross).

Third, media framings discursively make available certain subject positions and render others invisible, with material outcomes. For example, the gendered dualisms found in this analysis not only universalized women's experiences of wildfire and silenced their expressions of agency in response to fire, but also contributed to the feminization of evacuation and evacuees. This feminization was compounded by narratives that contrasted women's caring roles and emotional experiences of evacuation with those that depicted men's agency through their gritty determination to stay and to protect property. Due to gendered socialization, ideologies, and norms, women *are* often more likely to participate in activities like childcare and food preparation during an emergency event (Alston, 2017; Eriksen, 2014; Whittaker et al., 2016). That said, media also discursively (re)produces these gendered relations by presenting women as the main caregivers, which may further limit the range of responses and activities that are open to women. Similarly, studies have observed that particularly in rural communities, men are more likely to stay and defend their properties during a major wildfire event, largely because of the pressure to conform to rural masculine ideals, while also avoiding the "feminized" option of evacuation (Tyler & Fairbrother, 2013; Eriksen, 2014; Whittaker et al., 2016). Where media narratives reinforce and reproduce such gendered norms, actions taken to conform to idealized masculine norms can lead to physically risky situations (Tyler & Fairbrother, 2013) that hold personal and emotional costs for men and their families (Eriksen, 2014; Zara et al., 2016).

2.6.3 Reflections on the intersectional CFA

The modified CFA framework proved valuable for revealing how dominant norms and values contributed to intersecting dualisms in media framings of the wildfire event. This supports the

CFA as an effective tool for a comprehensive intersectional analysis, which includes symbolic representation as a site of assessment (Winker & Degele, 2012). The intersectional dimension drew attention to the gendered and racialized power dimensions of the dominant discourse. However, applying CFA to environmental hazards—as opposed to its original application in understanding gender equality policy—meant relying more heavily on feminist scholarship to gain insight about how social structures such as gender and colonization operate in explicit and more subtle ways. Furthermore, we agree with van der Haar & Verloo (2016) that the voice dimension enhanced the critical potential of the CFA by further highlighting the construction of some groups as passive and others as decision-makers and protectors. Within media analysis, however, voice can only be assessed by certain attributes such as gender and societal sector, since other identity attributes (e.g., ethnicity and age) are often less apparent in media texts.

We acknowledge the low number of LRN and NP articles as a limitation of the study, which made direct comparison of framings across sources difficult. Nonetheless, we were still able to observe the relative consistency of the presence of dualisms across the media sources. In early phases, the local news outlets (LRN and MBC) depicted residents as having a more active role in preparing for the fires, although actions were still being directed by provincial government agencies. As the event progressed, LRN halted operations for the duration of the evacuation, MBC shifted from its usual reporting to serving as the main communication tool for the La Ronge Emergency Operations Centre, and the event began garnering national attention through CBC and NP. These shifts, which reduced the usual outputs of local media and put greater emphasis on emergency communication and external reporting, likely account for some of the consistency across sources, especially during evacuation. In the future, the analysis of additional local or regional sources, such as daily newspapers from the urban host communities, may prove valuable in expanding the diversity of representations of the event and those involved.

Despite the dominant framings that represented women and northern communities primarily as passive residents, we observed a handful of occasions wherein LRN, MBC, and CBC—possibly because their targeted audiences include Saskatchewan residents—challenged these discourses. Examples of competing narratives included two opinion pieces by women that provided a more nuanced account of evacuees' experiences; the LLRIB Chief advocating for regional strategies that better take into account Indigenous voices and experience; a First Nation acting as a cultural sanctuary for those evacuated from their homes from the La Ronge area; and

residents indicating that in addition to physical and economic impacts, mental and emotional health, connection to place, and effects on traditional lifestyles were also important. Attention to such narratives was a valuable contribution of this study and we suggest that an explicit question—*How are dominant narratives challenged?*—be added to the CFA framework for application to media representations of environmental hazards. Seeking out these challenges to dominant discourses is vital since "there is a need for disadvantaged groups to have access to subjectivities that cast them in active roles rather than as either victims or villains in responding to environmental change" (Eriksen et al., 2015, p. 526). From an intersectional perspective, the recognition of agency helps reduce the inadvertent reproduction of victimizing discourses (Fletcher, 2018).

2.7 Conclusion

The results of our critical frame analysis show that mainstream media accounts of the 2015 wildfire event in northern Saskatchewan reflected and reproduced a normative characterization of wildfire response that is both highly gendered and exclusionary. Specifically, media discourse largely reinforced a dualism of victims and heroes, giving agency to men and historically male-dominated organizations and casting women, as well as northern and Indigenous communities, as in need of protection. This critique is not to suggest that the "frontline" work on the wildfires was unimportant. Much appreciation was shown for the groups—provincial wildfire management, municipal structural firefighters, and the Canadian military—who worked tirelessly to reduce the physical and economic impacts of fire on northern Saskatchewan communities. Media attention to this work also provided displaced residents a valuable source of information throughout the wildfire event. However, there are very real implications for local people and their communities when the voices, actions, and solutions of certain groups are prioritized while others are misrepresented, partially represented, or altogether invisible.

Ultimately, our application of the CFA framework, combined with an intersectional lens, drew attention to the ways in which identity attributes (e.g., gender, race) and associated power relations (e.g., paternalism, racism, colonialism) operate within media framings of an environmental hazard. It also revealed the importance of determining when dominant discourses are challenged. We suggest adding such challenges as an explicit theme or sensitizing question for future CFA of environmental hazards. This component can contribute to actual emergency

and adaptation planning processes by making visible whose voices are least often heard, what they might contribute to building locally-responsive strategies for future hazards, and the consequences for people and their communities if diverse voices are ignored. These more inclusive processes will provide additional opportunities to recognize diverse values and experiences and to engage in reframing, the "process of shifting one's thinking into a different system and structure of concepts, language and cognitions.… [which] can help us redefine problems and identify new opportunities for resolving policy dilemmas" (Jerneck & Olsson, 2011, p. 259).

To further assess the consequences of such framings and omissions, future research should pair CFA with community-based intersectional studies to better understand the relationships between dominant discourses and the lived experiences of those who are affected by these hazards. Deeper awareness of these interactions can highlight important dimensions of disaster experience that are excluded from quantified accounts of economic or physical impacts. An intersectional CFA can open opportunities to support and build upon place-based, community-led efforts that contribute to equitable and inclusive recovery, post-disaster learning, and planning for the future. This will be especially important as climate change progresses and contributes to more frequent and intense hazard events in the future.

CHAPTER 3 – APPLYING INTERSECTIONALITY TO CLIMATE HAZARDS: A THEORETICALLY INFORMED STUDY OF WILDFIRE IN NORTHERN SASKATCHEWAN

Abstract

Impacts and losses as a result of climate hazards are experienced unevenly across communities and can prove devastating to the health and well-being of local residents. Contextual approaches for understanding vulnerability and adaptation have focused on why diverse individuals and groups experience the effects of climate change differently, while values-based approaches place emphasis on identifying the subjective values individuals and communities wish to preserve. Both approaches contribute to locally responsive adaptation, but are rarely applied simultaneously. In this paper, we propose intersectionality as a framework that links and builds upon contextual and values-based approaches and demonstrate its efficacy through an empirical example of a major wildfire event in northern Saskatchewan, Canada. An intersectional framework identified how impacts and losses to locally significant values differed across intersections of location, race, ethnicity, gender and age and how these differences were influenced by broader social structures and power relationships, such as histories of colonization and gendered norms and expectations. Practical implications for the development of inclusive and equitable adaptation policy and planning were also identified, including the need to: (a) expand the range of impacts considered and recognize how outcomes differ across social groups; (b) enhance diverse community members' participation in planning efforts, and (c) acknowledge and build upon what local residents are already doing in response to hazards in their communities.

3.1 Introduction

Despite increasing attention to the social dimensions of climate change, emphasis often remains on technological, infrastructural, and economic strategies as societies respond to and plan for climate hazards (Ramm et al., 2017; Thomas et al., 2019; Wolf et al., 2013). For example, in forest-based regions of the global North, effects of wildfire are often framed narrowly around quantitatively measurable impacts such as property losses, infrastructure damage, and economic costs (e.g., fire suppression costs, business and personal income losses, insurance claims) (Kulig et al., 2013; Paveglio et al., 2015). This framing views vulnerability as primarily determined by physical exposure to climate hazards, which leads to adaptation strategies focused on reducing such exposure (Wolf et al., 2013). Hazards are, however, determined by much more than exposure alone; they are experienced in local spaces where they collide with material and nonmaterial social values. Resulting social losses (e.g., to lifestyle, identity, well-being, self-determination) may go unrecognized because they are not readily observed or measured (Tschakert et al., 2017; Turner et al. 2008). Such losses are not evenly shared and can prove devasting to individuals and communities. Hence, understanding and responding to the diversity of social values, as well as the broader social contexts that affect how hazards are experienced, are vital if emergency responses and adaptation strategies are to be considered effective by those who receive them.

Two approaches to the social dimensions of climate change—contextual and values-based—provide theoretical foundations for understanding the local meanings and contexts in which people experience hazards. O'Brien et al. (2007) first articulated the contextual approach to complement the more common 'outcomes' approach, which primarily understood climate change as a technical problem. Contextual approaches acknowledge the underlying social, economic and political conditions that influence diverse experiences of, and responses to, climate hazards (Eriksen & Brown, 2011; Eriksen et al., 2015; O'Brien et al., 2007). Within this approach, an emerging strand of feminist scholarship scrutinizes the power relationships and structural conditions of vulnerability that create uneven outcomes for people across social locations such as gender, race, age and socio-economic class (Iniesta-Arandia, 2016; Osborne, 2015; Tschakert, 2013; Weber & Hilfinger-Messias, 2012). Contextual approaches ask why social groups and regions experience the effects of climate change differently, aiming to develop adaptation strategies that promote social equity, address power relationships, and overcome local

institutional and social constraints that affect peoples' capacities to respond effectively (e.g., O'Brien et al., 2007; Neumayer & Plümper, 2007; Pearse, 2017; Thomas, 2019).

Values-based approaches center the subjective, often non-material factors that influence vulnerability and adaptation, recognizing that "what is considered legitimate and successful adaptation depends on what people perceive to be worth preserving and achieving" (O'Brien & Wolf, 2010, p. 233). Subjective values include factors such as place identity, belongingness, self-efficacy, social cohesion, and well-being (Adger, 2013; Fresque-Baxter & Armitage, 2012; Graham et al., 2013; Turner, 2008). The effects of climate change on these values can be made visible by engaging with peoples' lived experiences of hazards (Tschakert, 2017). While values-based approaches recognize that power relationships can result in the prioritization of some values over others (O'Brien & Wolf, 2010), empirical applications rarely broach the complexities of how these relationships shape adaptation outcomes for diverse social groups.

Contextual and values-based approaches are sometimes seen as competing rather than complementary and are rarely employed simultaneously (e.g., Albizua & Zografos, 2014; Wolf et al., 2013). We argue that both approaches are important for a holistic analysis of the social dimensions of climate hazards and we use an intersectional framework to link them. Although feminist scholars have previously suggested the usefulness of intersectionality for climate change research (Moosa & Tuana, 2014), its insights have rarely been applied empirically (Walker et al., 2019). Against this background, this paper proposes intersectionality as a framework that links and builds upon contextual and values-based approaches and demonstrates its efficacy through an empirical example of a major wildfire event in northern Saskatchewan, Canada. In Section 3.2, we elaborate on our intersectionality framework, drawing on three elements of analysis. Sections 3.3 and 3.4 demonstrate its application, describing context and methods, and the lived experiences and collective actions of local residents to the wildfire event. Section 3.5 offers practical advice for planning processes, reinforcing the utility of using an intersectional framework for understanding and addressing vulnerability and adaptation.

3.2 Linking contextual and values-based approaches through intersectionality

Intersectionality refers to the "critical insight that race, class, gender, sexuality, ethnicity, nation, ability and age operate not as unitary, mutually exclusive entities, but as reciprocally constructing phenomena that in turn shape complex social inequalities" (Collins, 2015, p. 2). As

an analytical framework, intersectionality articulates how social identities work together to influence experiences of the world and how these intersections both shape, and are shaped by, power relationships embedded across societal scales (Cho et al., 2013; Smooth, 2013). Intersectionality is not a single approach or methodology, but draws from a variety of social theories related to identity and power (Kaijser & Kronsell, 2014). Key debates in intersectionality theory include the ontological distinctiveness of categories like gender, race, and class (Gunnarsson, 2017), as well as the role of various social structures in shaping people's experiences (Smooth, 2013). Intersectional analyses informed by post-structural approaches emphasize representation, while more structural approaches emphasize the importance of deeply rooted and relatively persistent systems of oppression (Anthias, 2013). Intersectional analyses are therefore guided by multiple ontologies and epistemologies and vary in their unit and level of analysis.
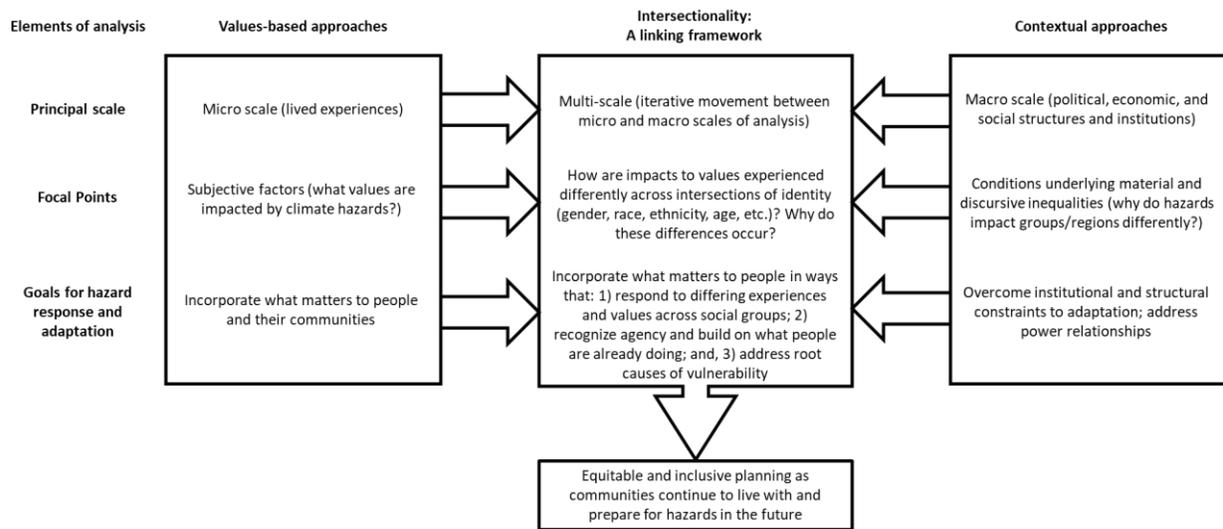
Figure 3. 1 Intersectionality as a link between values-based and contextual approaches

Our framework focuses on three elements: primary scales of analysis, focal points, and goals for hazard response and adaptation (Figure 3.1). While some intersectional studies have chosen to focus primarily on either individual or contextual scales of analysis, we believe that intersectionality in this case is best applied through a multi-scaled analysis (Hankivsky, 2014; Winker & Degele, 2012). This multi-scale approach allows for iterative movement between the

principal scales of values-based and contextual approaches, where everyday experiences can be a window into context-relevant macro-scale structures and, conversely, knowledge of macro-scale structures can provide a more nuanced interpretation of people's experiences (Bowleg, 2008; Winkler & Degele, 2012).

The intersectionality framework also allows analysis across the **focal points** of both approaches. Analysis at the individual level, where lived experiences are the focus, enhances our understanding of how local people ascribe meaning to vulnerability and loss associated with climate hazards (Eriksen & Simon, 2017; Vickery, 2018), and how they perceive and enact their agency in response (Alston & Whittenbury, 2013b; Pearse, 2017). Attention to lived experience aligns with values-based approaches, which call for an "actor-centered research agenda that takes as its starting point people's thinking, emotions, decisions and actions" (Tschakert et al., 2017, p. 13). Intersectionality builds on the values-based approach to show how micro-level identity factors combine to create diverse experiences of impact and loss (Tschakert, 2019). This advances a nuanced analysis of how impacts to these values are experienced differently across social groups and which are counted (or not) as communities plan for future hazards—a called for, but often neglected, component of values-based approaches to empirical studies of hazards.

In alignment with contextual approaches, intersectionality draws attention to *why* harms and losses are experienced differently across social groups by making connections between lived experiences and macro-scale structures and power relations (Kaijser & Kronsell, 2014). People can experience both privilege and oppression simultaneously depending on the context. However, systems of power (e.g., sexism, racism, colonialism) are also historically constructed and become stabilized within societies, resulting, for example, in exclusion from access to resources and decision-making (Fletcher, 2018; Smooth, 2013).

The framework integrates the **goals for hazard response and adaptation** of both approaches through its identification of what matters to communities and the structural constraints of hazard response and adaptation. It also recognizes collective action and agency in responding to climate change (Djoudi et al., 2016). This attention to power *with* others avoids an overly structural approach that reinforces the deficit model of vulnerability and (inadvertently) reinforces victimized representations of certain social groups (Fletcher, 2018; Hankivsky, 2014). Instead, an intersectional approach acknowledges the highly differentiated experiences of

hazards while attending to the structural causes of such difference and inequality, and reveals collective actions aimed at developing more equitable and inclusive responses to future hazards.

3.3 Application of the Framework to Wildfire

3.3.1 Context

In 2015, over 700 wildfires burned across the boreal forest region of northern Saskatchewan, Canada. The La Ronge area in this region has a long history of experience with wildfire, though the 2015 fire season was particularly severe and the scale of evacuations unprecedented. Climate change is expected to contribute to an average increase in the occurrence and intensity of wildfire across Canada, including in the La Ronge area, over the coming decades (Wotton et al., 2017; Culham, 2017), making locally-responsive preparedness and adaptation vital.

The La Ronge tri-community includes the town of La Ronge, the northern village of Air Ronge, and the Lac La Ronge Indian Band (LLRIB), a First Nation community. About three quarters of the approximately 6,000 tri-community residents identify as Indigenous (Statistics Canada, 2016) (Figure 3.2). During the 2015 fires, leadership of the three communities jointly issued a mandatory evacuation. The evacuation also extended to small unincorporated subdivisions and lakeside cabins near La Ronge. Approximately 20% of residents self-evacuated and stayed with friends or family in other areas, while the majority relied on chartered buses for transportation to official Red Cross evacuation centres in urban communities ranging between 240 and 600 kilometers by road from La Ronge (Government of Saskatchewan, 2015). During the evacuation period, at least four other First Nations in Saskatchewan set up unofficial evacuation centres to provide culturally appropriate services to evacuated residents (Betancur Vesga, 2019). Some La Ronge area residents also stayed behind to volunteer (e.g., cook meals, ensure security), to run essential services, or to protect properties. The mandatory evacuation extended from 4 to 19 July, though some residents heeded earlier voluntary evacuation calls due to heavy smoke and were away from home for over one month. The La Ronge fires caused no serious injuries, deaths, or property damage within the tri-community, though 138,000 hectares burnt nearby and almost 100 remote and subdivision cabins were destroyed.
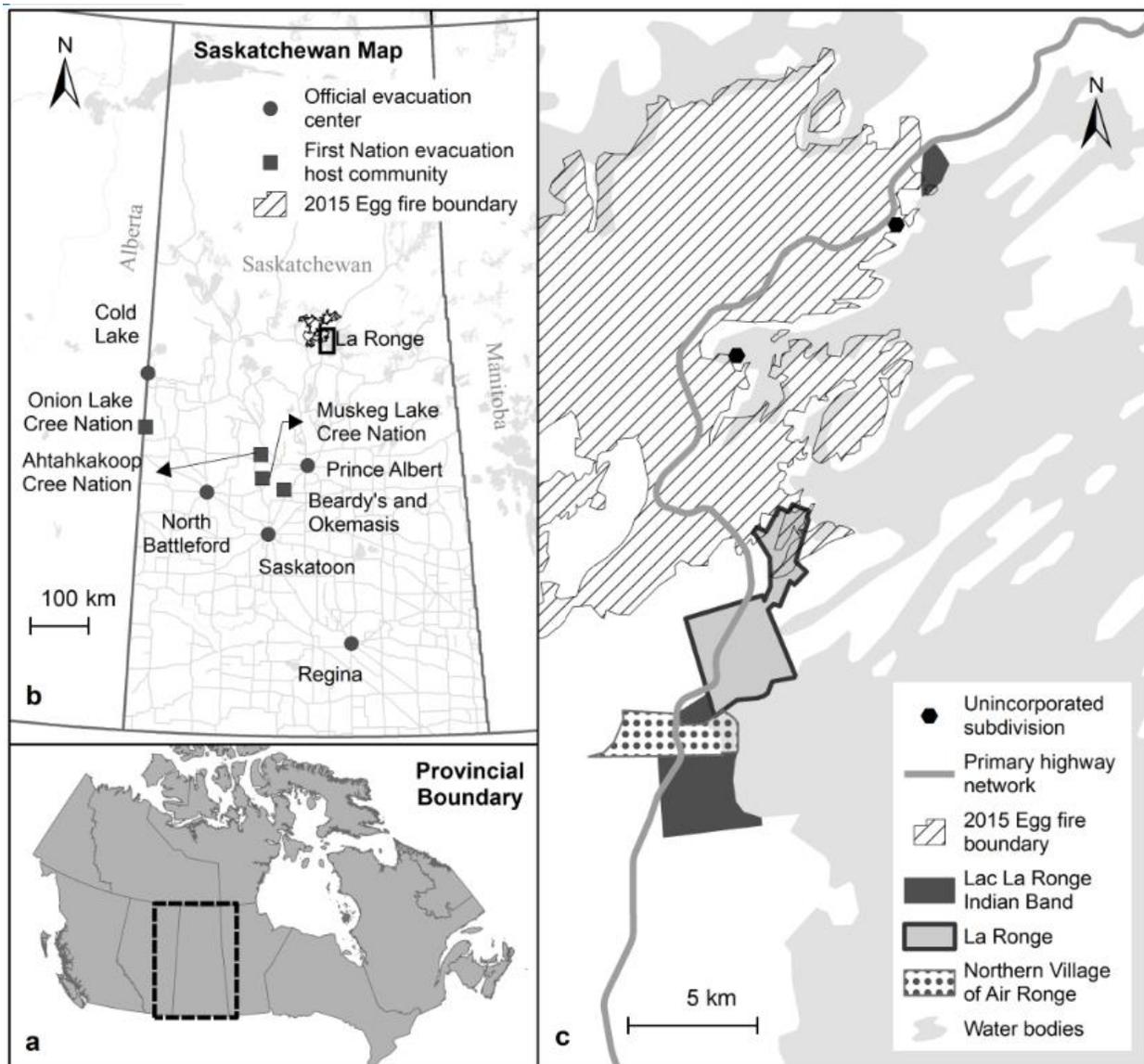
Figure 3. 2 Case study location and area.

3.3.2 Method

Our findings are based on 34 semi-structured interviews with community residents (Table 3.1), which averaged 63 minutes in length and centered around residents' experiences during and after the wildfire event, as well as factors that influenced those experiences. Institutional ethical approval for the project was received prior to interviewing, and was considered minimum risk. During the consent process, we identified discomfort in sharing experiences of the wildfire as a

possible risk of participation and assured participants of their ability to stop the interview at any time. No participants chose this option.

The purpose of applying an intersectional framework is not to identify all possible interactions among social identity categories, but those most salient to the specific context of study (Kaijser & Kronsell, 2014). Based on our previous knowledge of the complex jurisdictional context of the region, participants' locations of residence at the time of the fires were stratified by jurisdictional boundary (La Ronge, LLRIB, Air Ronge, and unincorporated subdivisions). A few more participants were interviewed from nearby unincorporated subdivisions than from Air Ronge, largely due to the more direct exposure of the surrounding communities to the fires. We also assumed that, because of the history of colonization in the region and evidence of gendered experiences of wildfire in the literature, gender and ethnicity might be important. Therefore, we ensured participation of both men and women, as well as Indigenous and non-Indigenous residents. Other demographic characteristics, such as age and income, were also collected. We identified interviewees though key local contacts, recruitment posters, archived media reports, and on recommendation of other participants. A small token of appreciation ($20 grocery gift card) was provided following each interview.

Table 3. 1 Summary of interviews

Interviewee Characteristics[4]		Interviews (n)
Jurisdiction of residence (at the time of the fires)	La Ronge	9
	LLRIB	9
	Air Ronge	5
	Unincorporated subdivision	11
Gender	Men	13
	Women	21
Age	20-39	7
	40-59	11
	60+	16
Ethnic Origin	Indigenous	12
	First Nations	10

[4] Income was not included because many interviewees declined to provide this information.

Métis	2	
Non-Indigenous	19	
Euro-Canadian	18	
African-Canadian	1	
Blended Indigenous/non-Indigenous heritage	2	
Unknown	1	
Total Interviews	34	

The lead author conducted, audio-recorded, transcribed, and coded the interviews inductively using NVivo 12 (QSR, 2018). Quotes and transcript sections were also coded to child nodes relating to identity (gender, age, ethnicity and/or a "multiple" category where more than one identity attribute was mentioned). Each transcript was assigned attributes (gender, age, community, ethnic origin and income) so connections could be made between themes of impacts and loss and identity where these relationships were more implicit. One challenge of empirical intersectionality research is that the separation of identity categories during coding and presentation of interviewee demographics may underplay the full complexity of interlocking identities that intersectionality theory recognizes.

3.4 Intersectional experiences of the 2015 wildfires

To demonstrate our application of an intersectionality framework, we emphasize the four most prevalent values categories pertaining to impact and loss (drawing on categories by Tschakert, 2019). In order of frequency, these include: mental and emotional well-being, self-determination and influence, sense of place, and physical health and safety. In this section, we present the categories in order of chronological appearance from during, to after, the fires. Within each of the sub-categories in section 3.4.1, we highlight how identity attributes such as location, gender, ethnicity, and age intersected to shape differential experiences of the wildfires and identify some of the structural factors that contributed to these experiences. In section 3.4.2, we highlight instances of collective local action in these value categories. In each sub-category, we provide key findings with a brief discussion of those findings.

3.4.1 Differential impacts to values

3.4.1.1 Physical health and safety

Physical health and safety were affected by location, access to financial resources, and social networks beyond the tri-community. Financial and social resources shaped residents' immediate responses to the fires, including whether they evacuated and/or where they relocated during the fire event. Disparities were particularly notable between those in municipalities and LLRIB communities:

> The Town and Air Ronge would have been a bit better off because most people have their own vehicles. I would say there are a higher percentage of people on [LLRIB] reserve[s] who can't afford to have their own vehicles or don't have a place to stay down south. A lot of Air Ronge or La Ronge people would have family down south—they've moved up here to work so they'd have that connection, but a lot of northern people don't have that connection so they go to the big centres. They were affected way more than some of the other residents I think (man, Air Ronge).

Location during the wildfire event in turn intersected with other attributes, such as age and gender, to determine how various groups of people experienced health and safety impacts. For example, Elders, pregnant women, and those with existing health concerns were among the first to leave following the voluntary evacuation announcement. These residents were often provided hotel rooms instead of cots in large evacuation centres to mitigate the discomfort of the evacuation experience. Despite this measure, concern was expressed for the physical health of LLRIB Elders, many of whom depend on traditional foods for their dietary needs. According to one participant, "…having to go to the local restaurants, they weren't used to that, […] so to go two weeks straight of restaurant-made food they were literally getting sick" (man, LLRIB).

In a subdivision north of La Ronge, a relatively affluent community where a handful of residents stayed to protect their properties, very different concerns of physical safety prevailed. These residents generally reported feeling safe during the event, largely because of prior firefighting experience, adequate resources and equipment (pumps, boats, etc.), and/or because of their physical proximity to the lake, which acted as an escape route if needed. Nonetheless, a woman said she "was nervous because […] three boys were gung-ho and maybe too much so. I was a bit worried about that you know these young guys who think they are invincible." A man

from the same community also expressed concern for an older neighbour who refused to evacuate: "He thought mentally he could still do it, but being 86 or whatever he was, he didn't have the strength to climb and do things he thought he could."

In Canada, historical inequalities have resulted in income gaps between Indigenous and Euro-Canadian populations (McKenzie, 2016)**.** On average, First Nations people living on-reserve have significantly lower median incomes than those living off-reserve (Wilson & McDonald, 2010). These social inequalities influence access to resources—including financial resources, which partially determined people's evacuation destination—and the resulting differential implications for physical health and safety. Impacts, such as disconnection from traditional foods, may have more than just physical consequences, especially for Elders. As O'Brien and Wolf (2010, p. 237) point out, "a values-based approach reminds us that food is more than just calories… It is an integral part of culture and identity, and it plays a role in social relations, rituals, and celebrations."

Our findings also indicated that gendered norms influence residents' responses to fire. Other studies have observed that men are more likely to want to stay and protect physical property, while women tend to favour evacuation (Eriksen, 2014; Tyler & Fairbrother, 2013; Whittaker et al., 2016). The familiar pattern rang true here: "If it wouldn't have been for that handful of guys [who stayed to protect property], I don't want to be gender specific but it was all guys; no it wasn't, [she] was there too..." (man, unincorporated subdivision). Such responses are attributed to gendered household divisions of labour and social pressure to conform to dominant rural masculine ideals (Tyler & Fairbrother, 2013; Whittaker et al., 2016). These gendered norms in some cases intersect with age and ability to create additional risk to physical safety, as the above quotes illustrate. Contrary to other global studies showing greater fatalities of women during natural disasters (e.g., Neumayer & Plümper, 2007)—which are also due to gendered norms in those contexts—expectations of risk-taking associated with masculinity contribute to a proportionally higher number of wildfire-related deaths for men in at-risk regions of the global North, such as Australia (Haynes et al., 2010).

3.4.1.2 Mental and emotional well-being

As with physical health, location during the evacuation played a significant role in how residents experienced impacts to mental and emotional well-being. Interviewees who evacuated often

referred to the stress of not knowing what was happening in their community or feelings of helplessness: "Your level of anxiety when you are away and feeling like you could be doing something… it was absolutely heightened because you feel, 'I could be helping but I am not'" (woman, La Ronge). Others mentioned the culture shock some residents experienced: "Some community people went as far as Regina but also into Alberta, Cold Lake, and it was kind of traumatic for a lot of the families because you're going to [a] totally different community and strange everything" (woman, LLRIB).

Location also intersected with gender, race, and family status. For example, Indigenous women with children experienced specific stressors in urban evacuation communities compared to their non-Indigenous counterparts, such as the fear of investigation or even apprehension of children by Social Services:

> You kept hearing [that] the Ministry of Social Services got called on this [person] and was being called almost on a nightly basis; they were coming in [to the hotel], so you had to be really careful and even your own anxiety as a person that was sober and trying to also protect your own children, your anxiety level went up because it was like, "if my kids start misbehaving are they going to call [the authorities] on me?" (woman, LLRIB)

Residents who stayed in the community often felt better off because they were able to help in tangible ways, though they still experienced significant stress and anxiety. A woman who evacuated, but whose husband and other neighbours stayed behind, noted:

> I learned that no matter how strong these people were mentally, they all suffered a little post-traumatic stress because they talked about it, talked about it, talked about it until I got sick of hearing about it... (woman, unincorporated subdivision)

Men rarely referred directly to mental and emotional health impacts, though there was indication that these occurred. One woman, referring to a group of middle-aged men who stayed in her community to protect homes, noticed that:

> There were a group of men—and there are two of them—I wonder if they didn't need more [mental health resources] than what they had. It is easier for a woman to say I am having trouble than a man quite frankly and certainly that age group of men. (woman, unincorporated subdivision)

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Many participants in our study mentioned, even years later, lingering stress associated with the fires. As one participant put it, "there needs to be a lot more mental health support […] We need Indigenous support, traditional support, and well as non-Indigenous. A lot more for all kinds of emergencies, because we didn't have it" (woman, La Ronge).

An intersectional view also considers broader social and historical contexts that affect people's emotional and mental health. The experiences of anxiety for women in their roles as family care providers, for example, cannot be considered apart from historical power structures associated with racism and colonialism. Canada's legacies of assimilative policies and practice, such as residential schools and the "Sixties scoop"[5] that separated Indigenous children from their families have resulted in intergenerational trauma in Indigenous communities (Truth and Reconciliation Commission, 2015). The social inequalities produced by these colonial practices, along with enduring systemic racism, mean that even today Indigenous families are more likely to be investigated by child welfare than their Euro-Canadian counterparts, and Indigenous children more likely to be placed into foster care (McKenzie et al., 2016; Sinclair, 2016). The concerns of Indigenous women for their families during the wildfire evacuation were therefore not unfounded, but part of this colonial legacy.

Other studies have also identified the gendered aspects of climate change effects on mental and emotional well-being (e.g., Alston, 2011; Vinyeta et al., 2015). Fairbrother (2013) showed that masculine norms discouraging expression of emotions can act as barriers for men accessing mental health assistance following a major wildfire event, a conclusion supported by our findings. Relatedly, however, women may be held responsible for supporting others emotionally due to historically engrained expectations and stereotypes of women as caregivers or "nurturers" (Fletcher & Knuttila, 2016).

3.4.1.3 Sense of place

Participants repeatedly mentioned impacts to their sense of place, which had lasting effects—months or even years later. These losses were caused by displacement during the evacuation or from direct impacts of the fire on places of significance. These effects differed across

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[5] A period from approximately 1960 to the mid-1980s when thousands of Indigenous children in Canada were taken away, or 'scooped', from their communities and adopted or placed in foster care with non-Indigenous families (Sinclair, 2007).

intersections of location during the evacuation period, cultural background, engagement in land-based practices, and gender. One participant who stayed with family in a neighbouring province spoke of the disorientation she experienced when separated from familiar places and social networks.

> I found myself in some stores looking at people and making eye contact and saying hello and they would kind of nod their head and walk by and I [realized] "oh, because they don't know me", but I am acting like they know me because that is what you do here when you go grocery shopping [...] I thought I would come back and it would just be oh, my heart is happy again, people are safe, the town didn't burn down, but the first three months I was back the heaviness in this town blew me away (woman, La Ronge).

Another interviewee recognized how the effects of displacement from place and community can be compounded for Indigenous residents.

> Culturally it is difficult—when you evacuate somebody from ancestral land that has additional weight to it than evacuating somebody from their apartment in the city… It is just different, this is not just your land, it is your family's land, it is your ancestors' land, it is your culture's land - that has a little more impact (man, Air Ronge).

Those engaged in land-based practices such as trapping, hunting, berry picking, or just regularly spending time on the land were uniquely impacted. One woman expressed her emotional reaction to changes at her grandfather's trapping cabin—a place she visited frequently as a child. Another spoke of the remote cabin that she and her partner lost in the fire. It was not just the loss of the physical structures these interviewees grieved, but the severance from connections and memories formed through interaction with place and surrounding environments.

> Right around my grandfather's trapping cabin all the trees were burned down… when we saw it we just had this big lump in our throats because it just didn't look the same. It was sad; last time we had lots of trees, but this time it is just bare (woman, LLRIB).

> Our long-term plan was to spend longer periods of time out there. I think anybody, especially Indigenous people who have places on the land, those are the places that are important and they connect to. So the loss is not just that place but it is also that whole area. Like I said, the trails that are now gone and stories—"oh this was the rock where the

momma bear came out with her cubs"—and now where is that rock? I don't recognize this land (woman, unincorporated subdivision).

Because social histories and relationships are intimately entwined with physical places, hazardous events can affect personal and community identity and sense of belonging (Adger, 2013). For some Indigenous people, dislocation through evacuation can be especially challenging due to resulting disconnection from deep cultural, spiritual, and emotional ties to their traditional territories; for some, it is also reminiscent of experiences of forced relocation due to assimilative policies of the past (Asfaw et al., 2019; McGee et al., 2019). Maintaining a sense of place can also be important to physical, mental, and spiritual health and well-being, including in healing processes following extreme events (Fresque-Baxter & Armitage, 2017). Non-material impacts, such as impacts on emotional connection to place, are nonetheless often overlooked in the wake of hazardous events in favour of the more concrete. For example, discourses around wildfire and wildfire recovery have tended to construct emotion as a feminized response—and something to be suppressed—focusing instead on material, economic, and externally-derived solutions (Cox et al., 2008; Öhman et al., 2016).

3.4.1.4 *Self-determination and influence*

People's self-determination and feelings of agency varied across intersections of identity during and after the wildfires, particularly when local knowledge was overridden by external organizations. Interviewees often spoke of the important role evacuation and formal assistance (e.g., firefighting crews, Red Cross) played in ensuring the safety of residents and communities during the wildfire event. Simultaneously, however, many expressed frustration about the under-acknowledgement of local skills, knowledge, and resources during and after the event. Some related the exclusion of local residents from firefighting-related efforts:

People came in and they had no familiarity with the land […] they just figured they knew better and did not take into account the wisdom and the words of Elders, words and wisdom of people who had lived here all their lives and people who have lived here 25-30-40 years, and of the men and women who have fought fires in the past and understood characteristics of fire, how fires grow, fire suppression (woman, unincorporated subdivision).

In emergency response contexts, however, older people are often considered among the most vulnerable and are usually among the first evacuated (Scharbach & Waldram, 2016). Despite their significant knowledge of the land, the community, and wildfire, the representation of Elders, knowledge-keepers, and long-time residents as universally vulnerable may also exclude their potential contributions to wildfire response and planning.

Location, socio-economic status, and gender were also pertinent. As in section 3.4.1.1, location of residence, along with access to resources like equipment, lake-front property, and social networks beyond the community, influenced whether or where residents evacuated (i.e., to family/friends or large evacuation centres). Those with greater access to financial and material resources felt they had control over their circumstances during the evacuation.

> I make sure I have emergency money and that it is readily available to me when I need that emergency money. I also have a car—huge advantage. So when I decided I was going to leave, unlike maybe up to half the population, I had control over what I was doing (man, Air Ronge).

In other cases, lack of control over evacuation decisions, particularly when conflicting with dominant gendered norms and expectations, resulted in feelings of disempowerment. One person mentioned that "the social aspect is humiliating—having to be moved onto cots at the Red Cross in Prince Albert as able-bodied men" (man, unincorporated subdivision). Another likened evacuation to the extremely disempowering experiences of assimilative policies of the past: "I do support [the Red Cross] but they shouldn't have total control. It's like residential school mentality […] like staying in jail or being in prison" (man, LLRIB), indicating that this lack of control over evacuation decision-making may be particularly impactful for some Indigenous residents (McGee et al., 2019).

In some cases, local business owners with the capacity to contribute resources (e.g., heavy equipment, water trucks, pumps) also felt excluded from response efforts. Still others who stayed in the community as volunteers, especially those involved in animal care, cooking and cleaning, referred to the lack of recognition those roles received during the emergency response. Two women—the first with a local organization that helped care for and evacuate pets, and the second a volunteer at the LLRIB-run evacuation registration hub—were clearly frustrated by the lack of

acknowledgement these contributions received from provincial and local governments and the media:

> They were bringing in people from all over, which is good that was available to us when we needed help, but a lot of people were concerned about how locals weren't used or not acknowledged in what they know and can contribute […] We felt that way too and we weren't asking to be on the ground fighting fires but we were here doing things and it was not really acknowledged (woman, La Ronge).

> Everybody who was cooking and cleaning [at the LLRIB evacuation hub] were all volunteers, none of us were getting paid […] Nobody even blinked an eye, nobody said "whose budget is this coming out of, why are they showing up here, they are not our people, we can't feed them." […] Neither have I seen anywhere that they got recognition once… in the media or anywhere (woman, La Ronge).

Concerns about the lack of recognition and inclusion of local people in decision-making points towards loss within a value category closely related to self-determination and influence—the ability to solve problems collectively (Tschakert et al., 2019). This loss, in part, results from "exclusive governance structures inhibiting collective problem solving, including the silencing of traditional knowledge" (Tschakert et al., 2019, p. 65). Indeed, a recent report developed by an alliance of twelve First Nations in northern Saskatchewan reiterates that "First Nations are at the forefront of climate change impacts. They need to be involved in solutions (Prince Albert Grand Council [PAGC], 2018)." Our findings also resonate with other wildfire studies that have observed that stereotypically masculine roles tend to be emphasized during emergency response, rendering women in stereotypically feminized roles (caring, domestic contributions) as either virtuous supporters—or as demonstrated by the quote above—largely invisible (e.g., Eriksen, 2014; Olofsson et al., 2016).

3.4.2 Collective action

Despite disempowering structures and processes, local residents acted collectively to address the values they believed to be at risk. In some evacuation host communities, local organizations and

residents took action to alleviate physical health impacts. The Prince Albert Grand Council[6] and hunters from nearby First Nation communities organized the provision of wild meat—fish and moose—which better fit Elders' dietary needs. In addition to physical health benefits, some interviewees viewed the unofficial First Nation-run evacuation centres as a culturally-appropriate alternative and a means of avoiding some of the mental and emotional well-being challenges associated with evacuation for Indigenous residents.

> Some of the Indian bands were opening up their gyms… I would like to see that more. I think for Elders it would have been better to be in that kind of an environment as opposed to Prince Albert or Saskatoon. Well, Elders and maybe even families—it was the fact that they are more culturally-sensitive and so it makes the trauma less impactful (man, Air Ronge).

Effects on connection to place can result in a perceived loss of culture and identity that are not easily replaced (Adger, 2013). Some interviewees began to regain their connection to burnt landscapes by spending time on the land—finding beauty in the regeneration of the forest, or rock formations they had not noticed in the past. In other cases, especially during the recovery period immediately following the fires, community-led initiatives helped residents regain their sense of place. For example, the LLRIB Chief and a group of community members held a "welcome home" sign at the side of the road as evacuated residents trickled back into the community. A relatively new La Ronge resident expressed what this meant to him:

> I came a day later but when they opened up La Ronge, there was a huge welcome sign for people. People were waving people back into the community and I thought that was one of the most beautiful things. I was thinking I really want to return (man, Air Ronge).

The local Arts Council also initiated a community art exhibit as a way for residents to reflect on and share their experiences of the fires. It was primarily women who initiated and participated in the exhibit.

> It sounds weird I know, but there is really a lot of beauty... even in an old burn and in the fire itself. Some of those images were things that stuck with me and I wanted to express. I found it helpful to express it [through art] and thought other people might as well, so we

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[6] A tribal council representing 12 First Nations in central and northern Saskatchewan.

decided to put out a call and had an amazing response (woman, unincorporated subdivision).

In some cases, as for the participant above, the art exhibit facilitated reflection on the changed local landscape. For others, it was an opportunity to connect with other residents and to heal from impacts to mental and emotional well-being.

> It was a very well attended show…. I would be in the [grocery store] and people would say 'oh, I saw your piece' and you would talk about the art piece and it would inevitably go on to 'How are you doing?' 'Wasn't that scary?' 'Where were you?'…it was a very, very valuable healing tool (woman, unincorporated subdivision).

These instances of collective action reveal locally significant values, such as maintaining culturally appropriate services, supporting mental and emotional well-being, and rebuilding sense of community and connection to place. These actions also push back against discourses that represent segments of the population, such as women or entire northern Indigenous communities, as passive victims of climate change and disaster (e.g., Arora-Jonsson, 2011; Haalboom & Natcher, 2011; Walker et al., 2020). As Alston (2017, p. 142) points out, recognizing and supporting diverse groups of men and women to engage in rebuilding tasks is "critically important for individual and community resilience and require recognition and planning."

3.5 Relevance to policy and processes

The intersectional analysis revealed needs for inclusive and equitable emergency response and adaptation policy, including: (a) expanding the range of impacts considered and recognizing how outcomes differ across social groups; (b) enhancing diverse community members' participation in planning efforts; and, (c) acknowledging and supporting what residents are already doing in response to hazards. In terms of impacts, we were surprised that, rather than focusing on economic or infrastructure losses, residents most frequently cited impacts to non-material values, such as mental and emotional well-being and sense of place. These findings suggest that policy should center local experience and expand to include intangible values and "invisible losses" (Turner, 2008), with sensitivity to the ways histories of colonization and gendered norms intersect with location, gender, ethnicity, age, and family status to create differential outcomes.

For example, as one participant noted, in terms of mental and emotional health resources, policies and programs should make available a range of supports, including those rooted in both Western and Indigenous concepts of well-being. An expanded focus may also mean tailoring mental and emotional services to target certain segments of the population (e.g., middle-aged men), who have historically not sought support because of social stigma.

Intersectionality also promotes enhanced participation strategies that help address the structural causes of vulnerability (Jacobs, 2019). Planners should consider co-designing creative approaches *with* communities and include a wider range of residents, including Indigenous and non-Indigenous people, men and women, Elders and youth, business owners and emergency response volunteers. Meaningful processes include both micro-level practical considerations (e.g., timing of meetings; childcare provisions) but also more structural aspects, such as communication patterns and methods. Highly participatory methods, such as scenario planning and participatory videos, have been promoted as tools for inclusive disaster and adaptation planning—though they alone are not a panacea for overcoming existing power structures (Tschakert et al., 2016; Haynes & Tanner, 2015).

Last, planning processes should also center the collective actions taken by local residents during and after climate hazard events. In the case reported here, actions such as providing traditional foods for Elders and supporting re-connection to place enhanced resilience. Recognizing and supporting such actions—such as through their explicit articulation in planning processes and the provision of funding—may help shift assumptions that communities are universally and uniformly vulnerable towards more proactive and empowering approaches. The key role of external agencies should be to support and strengthen (not displace or supplant) local knowledge, experience, and leadership.

3.6 Conclusion

This study has demonstrated the value of an intersectional analysis to create deeper understanding of the social dimensions of climate hazards. Intersectionality served to bridge values-based and contextual approaches to assessing hazards, facilitating a nuanced analysis across micro and macro scales of analysis. A significant contribution of the intersectional framework was its ability to illuminate heterogeneous experiences of hazards within and across identity categories, thus moving beyond representation of entire communities as uniformly

vulnerable (Arora-Jonsson, 2011; Fletcher, 2018). In our application, location, race, ethnicity, gender and age intersected in complex ways, resulting in diverse micro-level experiences of impacts and losses to values categories, such as physical health and safety, mental and emotional well-being, sense of place, and self-determination and influence. Aligning with contextual approaches to vulnerability and adaptation, the framework also revealed social structures and power relationships, such as legacies of colonization and gendered norms and expectations, that were relevant during and after the fires. This, in turn, revealed the important interplay between individually-held values and broader systems of power and privilege that ultimately shape experiences.

Building equitable and inclusive hazard response and adaptation strategies means seeking out multi-faceted approaches that meet the diverse needs and values of a heterogeneous population. Intersectional analyses can help identify adaptation pathways that address the root social causes of hazard risk rather than the symptoms. In Canada, for example, such pathways must address the entrenched legacies of colonization that, in turn, contribute to a diversity of harms that become particularly visible during a hazard event. Such pathways can help provide culturally-appropriate responses that foster positive physical, mental, emotional, and spiritual outcomes (Betancur Vesga, 2019; McGee et al., 2019). Ultimately, by bridging the values-based and contextual approaches through intersectionality, we can move beyond a narrow range of material vulnerabilities. This alternative approach not only exposes inequalities, but consciously targets them, thus leading to more inclusive and equitable plans and responses to future climate risks.

CHAPTER 4 – PATHWAYS FOR INCLUSIVE WILDFIRE RESPONSE AND ADAPTATION IN NORTHERN SASKATCHEWAN

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Abstract

The particularly severe wildfire season of 2015 resulted in the largest evacuation ever experienced in the province of Saskatchewan, Canada. La Ronge—a region of northern Saskatchewan comprising one First Nation and two municipal jurisdictions—was among the areas significantly affected by the wildfires. Drawing from semi-structured interviews with local government representatives and community residents, this chapter examines how institutions for emergency and wildfire management shaped pathways for adaptation, as well as how gender and other intersecting social structures and power influenced these pathways. The analysis revealed a strong emphasis on incremental approaches to wildfire adaptation, with a primary focus on technical, physical, and economic impacts and the agencies that responded to these impacts. While these measures are important, alone they fail to address many of the more intangible impacts experienced by community residents, many of which were experienced differently across intersections of gender, race, socioeconomic status, and age. Ultimately, there is a need for deeper transformative change towards inclusive adaptation as large, frequent, and intense fires continue to become the "new normal" for communities across boreal regions of Canada.

4.1 Introduction

Extreme climate-related events are often stimuli for the development of disaster risk reduction and climate change adaptation strategies (Intergovernmental Panel on Climate Change [IPCC], 2012; Wise et al., 2014). Developing these strategies is complex, involving multiple actors and institutions across scales and jurisdictions that may have differing priorities, objectives, and decision-making authority. While scientific-technical approaches that reduce the proximate causes of risk often dominate these processes, scholars and practitioners are increasingly recognising the need for transformational change to address the structural and systemic causes of risk and vulnerability (Heikkinen et al., 2018; Nalau & Handmer, 2015; O'Brien et al., 2015; et al., 2015).

Responding to this need, "adaptation pathways" approaches examine "whether systemic change is needed and the role of incremental adaptation in achieving this; and raising awareness and understanding of the interplay between knowledge, values, power and agency to inform responses to change, particularly in dynamic, complex and contested contexts" (Wise et al. 2014, p. 327). Pathways approaches recognize that past responses to hazards shape current and future trajectories. Such responses are also imbued with power relations, which affect who and what is represented in adaptation processes (Fazey et al., 2015), and also *how* they are represented (Cox et al., 2008). Feminist scholarship on climate change impacts and adaptation, for example, recognizes that institutional policies and practices are shaped by power relationships associated with gender, class, and race (Kaijser & Kronsell, 2014; Ravera et al., 2016). These relationships enable and constrain the availability of certain adaptation pathways and result in different outcomes and experiences across social groups.

In this chapter, we apply insights from literature on adaptation pathways and feminist climate change to examine how response, recovery, and preparedness planning as a result of a major wildfire event in a jurisdictionally complex region of northern Saskatchewan, Canada, inform current and future adaptation processes and trajectories. Drawing from interviews with community residents and government representatives, we examine how institutional policy and practice for emergency and wildfire management facilitated or constrained pathways for adaptation and how these were shaped by dominant knowledges and values. Ultimately, we consider the implications of these predominant pathways for diverse social groups and whether

transformation is required for building inclusive adaptation processes as communities continue to live with fire in the future**.**

4.2 Adaptation pathways and the role of institutions

Understanding how institutions are arranged helps to explain how adaptation pathways are constrained or enabled (Pelling et al., 2015). In this chapter, we define institutions as the "'rules of the game' – the rules, norms, and practices – that structure political, social, and economic life" (Chappell & Waylen, 2013, p. 599). Formal institutions include policies, programs, regulations, and authorities which are influenced by informal institutions such as sociocultural norms, values, and knowledge systems (Reed et al., 2014). Institutions for hazard response and adaptation are shaped by historical processes and power relations, resulting in institutional inertia that may constrain policy and practice (Burch et al., 2014; Clarke et al., 2019). Furthermore, it is important to critically examine the informal relations that underpin formal institutional practice in order to recognize whether and what fundamental shifts are needed to achieve desirable futures (O'Brien, 2012).

Gender is an institutionalized system of power that, in turn, shapes other institutions (Chappell & Waylen, 2013). Informal institutions are gendered, and these gendered norms and expectations become embedded within formal institutions for climate change mitigation and adaptation (Ravera et al., 2016). For example, the dominant framing of climate change as a technical, scientific, and security problem is underpinned by masculine norms, which has meant that solutions have often been relegated to traditionally male-dominated sectors, such as public safety and infrastructure (Macgregor, 2010). Accordingly, responses and adaptation to climate hazards have centered on strategies to reduce physical exposure and structural damage, which are led by male-dominated professions and activities (e.g., engineered solutions, firefighting) (Enarson, 2016).

Feminist intersectionality theory recognizes that gender interacts with other axes of identity and power, such as race, ethnicity, and socio-economic status, to influence climate change institutions (Kaijser & Kronsell, 2014). Pease (2016) noted that the masculinized nature of climate change response intersects with Western rationalist and instrumentalist ideologies, resulting in hierarchical, rule-based procedures based on external "expertise" (e.g., professional firefighting authorities) over local knowledges and priorities (Paveglio et al., 2015). As a

consequence, the contributions, values, and knowledge of people who fall outside the norms of "external experts", such as women and Indigenous people, are often excluded.

Gendered and culturally hegemonic wildfire institutions have very real, but often difficult-to-see, influences on adaptation trajectories. For example, Tyler and Fairbrother (2013, p. 113) pointed out that wildfire response, policy, and practice in Australia are typically "assumed to have emanated from objective and empirical, if not scientific, bases but this does not take into account the fact that emergency management, bushfire response and fire-fighting, remain overwhelmingly male-dominated areas". They found that where national policy promoted the household decision between early evacuation and "stay-and-defend", men were far more likely than women to stay-and-defend largely due to pressure to conform to dominant masculine norms and expectations. Early evacuation, by contrast, was viewed as a weaker, feminized response. Interestingly, Tyler (2019) observed that despite greater fatality rates among men during past wildfire events in Australia, the "extremely gendered" nature of wildfire management institutions has meant a continued emphasis on masculinized "fight" approaches to wildfire preparedness and planning, with less attention on preparedness for early evacuation. The study noted community engagement programs geared towards empowering women to stay-and-defend; however, such programs are based on the assumption that women either lack knowledge of wildfire preparedness or are more amenable than men to behaviour change (Tyler, 2019), highlighting how masculine norms underpin formal institutions, creating an institutional "stickiness" that reinforces certain development pathways (Mackay et al., 2010). Programs promoting stay-and-defend presume an ideal solution, which is based on masculine practices. Importantly, such dynamics are context-specific. For example, in countries like Canada where mandatory evacuation is the preferred policy response to major wildfire events, gendered institutional dynamics likely operate in different ways.

The adaptation pathways approach identifies key decisions and interventions over time, along with the informal institutions that underpin these processes, to understand how various adaptation pathways are enabled or constrained (Fazey et al., 2015; Heikkinen et al., 2018[7]; Pelling et al., 2015) (Table 4.1). Adaptation pathways are analyzed by the extent of change

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[7] Heikkinen and colleagues' (2018) delineate categories of incremental, reformistic, and transformative change, which are comparable to Pelling and colleagues' (2015) categorizations of resistance, incremental change, and transformation, respectively.

including resistance, incremental adjustment, or transformation. Resistance is characterized by 'business-as-usual' approaches to adaptation, often involving additional investment in existing infrastructure, social institutions, and/or economic flows. Incremental change refers to marginal shifts in these same areas, which enhances flexibility without causing major systemic disruption. While there is still significant debate in climate change scholarship about what is meant by transformation, it can be broadly characterized as fundamental change to societal structures and power relations (Heikkinen et al., 2018; O'Brien, 2012). Resistance and incremental adaptation are far more common than transformational strategies that address underlying social causes of vulnerability (Heikkinen et al., 2018; Wise et al., 2014).

Table 4. 1 Characteristics of adaptation pathways (based on Heikkinen et al., 2018; Nalau and Handmer, 2015; Pelling et al., 2015)

	Resistance	**Incremental Change**	**Transformation**
Description	Follows existing development pathways; enhances investment in existing infrastructure, social institutions and/or economic flows	Marginal shifts to infrastructure, social institutions, and/or economic flows	Fundamental change to existing societal structures
Priorities for addressing risk	Risk viewed as routine, relies on existing methods and practice; resources devoted to maintaining status quo and system stability	Risk viewed as non-routine, acknowledges need for improvement to existing practice; addresses proximate causes of risk and vulnerability (e.g., physical infrastructure)	Risk viewed as complex and unbounded; addresses structural and root causes of risk and vulnerability (e.g., power hierarchies, social and economic relationships)

Knowledge	Conventional; centralized control over information	Professional and specialized expertise; may include some participatory elements	Multi-disciplinary, whole-of-society response; highly participatory
Power relations	Existing structures maintained	Existing structures maintained; new issues may be introduced	Major changes to existing structures
Advantages	Provides stability and certainty	Enhances system diversity and flexibility and can incrementally open new policy options without major systemic disruption	Opens up new policy options; re-orients development pathways towards sustainability and social justice
Disadvantages	Reduces flexibility over time; narrow options and worldviews	Prioritizes functional persistence; does not address underlying institutions that contribute to systemic vulnerability	May introduce unexpected outcomes and instability as systems reach new equilibria

Dominant adaptation pathways may be identified through the priorities for addressing risk (as well as the framing of risk), the types of knowledge that are centered, and the extent to which existing power relations are maintained or challenged (Table 4.1). Resistance is characterized by a reliance on existing practices, centralized knowledge, and the maintenance of existing power structures. Incremental change focuses on the proximate causes of risk, professional expertise, and maintenance of existing power structures, though it may include some new issues and participatory elements. Transformation is characterized by an emphasis on the root causes of risk and vulnerability, highly participatory approaches, and major changes to existing power structures. The priorities for addressing risk, the types of knowledges recognized, and power relations shape, and are shaped by, formal and informal institutions for climate change

adaptation. From the transformational perspective, pathways that reinforce existing forms of inequality and marginalization are increasingly seen as undesirable and an indicator of the need for major structural change (e.g., O'Brien et al., 2015; Tschakert et al., 2013). Therefore, it is necessary to "shed light on and problematize norms and underlying assumptions that are naturalized and regarded as common sense, but build on and reinforce social categorizations and structures of power, not least through institutional practices" (Kaijser & Kronsell, 2014, p. 428).

4.3 2015 Wildfires in Northern Saskatchewan

In 2015, prolonged dry conditions resulted in a rash of over 700 wildfires across the Canadian province's northern boreal forest region and the largest evacuation the province had ever experienced. The La Ronge region of northern Saskatchewan was one of the areas most impacted by the 2015 fires; it is also a place particularly notable for its jurisdictional complexity. Its population center is a tri-community that includes a town (La Ronge), northern village (Air Ronge), and First Nation (Lac La Ronge Indian Band [LLRIB]), with a total population of approximately 6000. While the three communities within the population center are politically distinct, they are to some extent socially integrated and share some key services. In addition to its main population in the tri-community, the LLRIB also comprises another five smaller satellite communities with approximately 3000 residents.

The community leaders jointly issued a mandatory wildfire evacuation order in early July of 2015, spurring residents to evacuate on their own to stay with family and friends or by bus to urban evacuation centres. Four of the five LLRIB satellite communities were also either partially or fully evacuated, as were nearby unincorporated subdivisions and lakeside cabins. Once the evacuation was called, in addition to local governments and organizations, provincial and federal government departments and agencies, the national police service, the Canadian Army, municipal firefighting agencies, and non-government organizations (e.g., Red Cross) became involved with the emergency response. Residents spent anywhere between two weeks and one month outside of their community. Ultimately, about 100 cabins were destroyed in surrounding areas, but the tri-community itself experienced no major physical damage and no serious injuries were incurred by either residents or emergency responders.

4.4 Method

Our research was conducted three years after the fires. The lead author lived in the region for sixteen months and conducted 44 semi-structured interviews with community members and local government representatives who had experienced, or been involved with, the wildfires. The interviewees were identified through established key community contacts, archived media reports, and other relevant documents (e.g., local emergency plan). Ten interviews were with key local and provincial government and agency representatives, including from local governments (municipal, village), LLRIB government, local and First Nation agencies (Fire service, Indigenous social service agency), and provincial government agencies (e.g., wildfire management). These actors represent a unique viewpoint, as they were both local residents of the tri-community and key actors in response efforts during or after the wildfire event. Interviews focused on the roles, responsibilities, and responses of the representatives' respective organizations during and after the wildfire event. The remaining 34 interviews took place with local residents from the tri-community and surrounding areas and focused on their experiences of the fires. Participants were selected based on stratification by location (jurisdiction of residence at the time of the fires). We also ensured the participation of women, men, Indigenous, and non-Indigenous residents. Additional demographic characteristics, such as age, income, and length of residency were collected through a participant checklist following each interview. Interviews were transcribed verbatim and coded using a primarily inductive approach aided by NVivo 12 qualitative data analysis software. Direct quotes that illustrate the findings indicate the speakers' gender and community of residence, but names and identifying information have been removed to maintain participants' confidentiality.

4.5 Looking to past wildfire responses to learn for future adaptation trajectories

The institutional arrangements for wildfire and emergency management that affected adaptation pathways in this case include emergency response and evacuation, emergency response preparedness, and wildfire risk mitigation and preparedness. These elements are shaped by both formal and informal "rules" (Steen-Adams et al., 2017). For example, formal rules at the local level include the Tri-Community Emergency Plan and FireSmart best practice guidelines.

The following sub-sections pay particular attention to the *informal* rules that inform wildfire and emergency management practices associated with response, recovery, and future

preparedness planning. In line with the pathways framework above, we emphasize the sociocultural norms and values that shape characterizations of wildfire risk, the knowledge systems involved in response and preparedness, along with the power relationships that operate within these. Shifts in these institutions might be evident over time through changes such as a broadening in the characterization of risk and in who has the power to determine that risk. In the following analysis, we demonstrate that key players continued to emphasize the proximate causes of risk and to rely on a narrow set of professional and specialized expertise in response, recovery, and preparedness planning. These findings point towards an on-going need for institutional arrangements that support pathways for transformational adaptation.

4.5.1 Priorities for addressing risk

Risk priorities for the La Ronge wildfires were characterized by elements of resistance and incremental change. Emphasis remained on the proximate causes of risk and vulnerability throughout the response and recovery phases, as well as in preparedness planning that followed the wildfire event. This emphasis is evidenced by the framing of wildfire as an immediate threat and the prioritization of physical infrastructure to prepare for future exposure to fire. During the wildfire response phase, a local Emergency Operations Centre committee was convened, which was comprised of local government leaders and administrators with advising and support roles from other regional (e.g., Tri-community fire service), provincial (e.g., Wildfire Management, Emergency Management & Fire Safety, Transportation, Health, Social Services), and federal (e.g., police) jurisdictions. The committee appears to have focused on the immediate physical risks associated with the fires. In the words of one participant who was involved in emergency operations:

> [Emergency Operation Centre meetings] are wonderful things to watch and listen to. People are quickly identified and everybody gives a brief report, but if somebody asks a question and says "Can you give me help?", "Okay, you two handle that on a sidebar [conversation] when we are done, but let's get through the common briefing." So it is well managed and I didn't feel there were obvious gaps. Now that is in terms of the emergency management… (male emergency operations representative)

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As the participant continued, it became clearer that emergency management was framed primarily as an issue of ensuring the health, safety, and welfare of citizens as related to the *immediate* threat (i.e., the proximate cause of risk) of fire within the community:

> …There were necessary sidebar conversations about social services support for the evacuees, which was a concern of the Lac La Ronge Indian Band that could and should be addressed in separate conversations. I think the Chief wanted some of that addressed at the big table but we didn't need to all be there for that…. She has a valid point, but at the briefing I think raise the matter, identify who do I get help from and then afterwards get that help. My approach to it is much more of a command-and-control—we are here to share information and then go do my work.

From this perspective, social services and community supports are considered peripheral to "big table" conversations.

Since 2015, additional measures have been taken to enhance wildfire preparedness within the tri-community area, though these were mainly related to fuel treatment plans, rather than future emergency response planning. Fuel management is a core component of FireSmart, a nation-wide program aiming to balance the "natural role [of fire] with the protection of human life, property and economic values" (Firesmart Canada, 2020). It involves the thinning or removal of vegetation to mitigate the severity, intensity, and spread rates of fire around communities. Many local residents and government representatives expressed enthusiasm for the additional fuel management projects that had been implemented, which is likely, to some extent, due to its successful application in the nearby unincorporated subdivision of Wadin Bay. Relatively few homes and cabins were lost in that community in 2015, which was largely attributed to the three fuel management treatments completed as part of its FireSmart planning efforts in the previous year (Ault et al., 2017).

> But the FireSmart program is great and I think it should do more (woman, Air Ronge)

> …they call it FireSmart, you know [LLRIB] actually started cleaning up in the trees a bit between the communities, which I think is good. (man, LLRIB)

As discussed further below, however, FireSmart was not uniformly supported by community members, some of whom questioned its effects on the landscape and associated values.

The prioritization of the proximate causes of risk during the response phase appeared to set the stage for the continued emphasis of these issues in the recovery phase and in longer-term preparedness planning following the event, indicating an adaptation pathway characterized by resistance. Risk was narrowly defined through a professional emergency management discourse and subsequent preparedness efforts have been technical in nature. Through a feminist lens, such approaches value masculinized realms of expertise while diverse community concerns are problematically sidelined (Pease, 2016). However, the increasing scale to which these wildfire mitigation initiatives are applied and somewhat expanding opportunities for public participation—as discussed in the following section—suggest elements of incremental change.

4.5.2 Knowledge

Professional and specialized knowledge was prioritized during recovery and preparedness planning phases after the wildfire event, though as time progressed, there were some additional opportunities for public engagement. For example, two local public engagement sessions occurred shortly after the event, which provided opportunities for debriefing between local residents and key decision-makers. These sessions focused primarily on the frontline fire operations, economic impacts of the fires, and the role of the local business community. The Town of La Ronge held the first session, which focused on providing information and answering questions about how fires had been handled within the community. Experts from sectors that played key roles in frontline firefighting efforts were present to provide additional information.

> We did a presentation on behalf of mayor and council on what our response was and what we did and why we did certain things. There were also representatives from the fire department, wildfire management, conservation officers, not in an official capacity but there in case there was a question that we needed background information. (male municipal government representative)

The La Ronge & District Chamber of Commerce—an organization that advocates for businesses in La Ronge, LLRIB, and Air Ronge—provided a second opportunity for resident engagement. The meeting addressed feelings that the local business community had been excluded from decision-making throughout the fire event, as the following resident indicated:

One of my beefs is what I would consider businesses that had a role to play were shut down and kicked out of town. I think that is a huge mistake. I mean the first thing you do in a panic situation is try to surround yourself with people who can contribute and help you out. Kicking out the guy who owns the hardware store and has the parts, the rental store that rents water pumps—kicking those people out of town I would say actually hinders your efforts and doesn't have to. (male resident, La Ronge)

The meeting provided an opportunity for some community residents—in this case local business owners—to express their concerns and provide suggestions for enhanced inclusion going forward. To some extent, recognition of these concerns and the need to maintain economic stability throughout a major event gained attention within government agencies.

We have had some in the business community offer their insights… (male municipal government representative).

One of the things we would like to do is involve our local businesses […] so that they are not handcuffed when an evacuation does happen and they can still make a bit of a profit or keep their doors open when they come back to the community after the evacuation (male provincial government representative).

As mentioned in the previous section, when the immediate urgency of the event faded and the communities began a return to normal life, action for local wildfire preparedness predominately involved fuel treatment activities within the tri-community region, with far less attention to planning for future emergency response. Two local municipal leaders pointed out that relatively little action had occurred across local jurisdictions since 2015, indicating that the region primarily relied on the knowledge and expertise of the provincial wildfire management agency for wildfire preparedness.

I don't think we've sat down with the three communities and said this is what we're going to do next time this happens. So I think that definitely needs to be done. (male municipal government representative)

The main concern is that we are going to wait too long. It is kind of going to be like the Shakespearean tragedy where we are going to be sitting there and we are going to be thinking about what we should do rather than actually taking some action items seriously

and by the time the next fire rolls through, we don't have a solid plan. So that is definitely the number one concern that I have. (male municipal government representative)

The strong existing institutional arrangements for FireSmart practice have enabled some opportunities for community participation in future wildfire preparedness. The FireSmart Communities Program, for instance, supports local residents in the development of a local FireSmart Board, a community protection plan, and community FireSmart events (FireSmart Canada, 2020). Prior to the 2015 fires, the resort subdivision of Wadin Bay was the only community in the La Ronge region to hold FireSmart Community Recognition status. Spurred by the success of the program in Wadin Bay, two other unincorporated subdivisions in the La Ronge region have also joined the FireSmart Communities Program since 2015, providing some opportunity for local participation in wildfire preparedness.

4.4.3 Power Relations

While some participatory elements were evident, existing power dynamics were more or less maintained, resulting in the exclusion of some social groups, experiences, and values during response, recovery, and future preparedness planning. Differentiated experiences at the intersection of location, culture, and gender were apparent, as participants reported prioritization of central communities over satellites, marginalization of Indigenous and local knowledge and values, and failure to acknowledge women's contributions.

During the response phase, LLRIB was not only concerned about its main population center within the tri-community, but also the four of its five outlying satellite communities that were also partially or fully evacuated. Historical inequalities associated with colonization in Canada have resulted in significant economic discrepancies between Euro-Canadian and Indigenous populations, especially those living on-reserve (Wilson & McDonald, 2010), which meant that compared to La Ronge and Air Ronge, LLRIB played a larger role in organizing transportation to evacuation centres and ensuring the welfare of its residents throughout the wildfire event. Frustration with the lack of attention to wellbeing—for example, "where 3,000 people went and whether 3,000 people were okay and whether this mom who was nine months pregnant was sleeping on the floor" (female LLRIB government representative)—at local emergency operations committee meetings was clear. This participant elaborated to say:

The focus very much became La Ronge. We [LLRIB staff] were having a meeting in the morning with regards to our outlying communities, then we would go to [La Ronge] council chambers and have a meeting there with regards to an update on the tri-community, and then we would go to [the evacuation registration hub] and continue to do registrations and coordination and answer calls. Then there would be another meeting at about 6:00 pm with regards to what was happening with the outlying communities. So it got to be a lot of meetings, but what happened was that [La Ronge and Air Ronge] couldn't have cared less about what was happening in Grandmother's Bay, Hall Lake, or Stanley Mission—they just wanted to talk about what was happening in the tri-community. That is all that mattered to them... It was very interesting to see our tri-community really separate and have different opinions on what was important and what wasn't important.

The dominant approach to wildfire management may have, therefore, prioritized the immediate threat of fire in the areas surrounding the main population centres, rather than the secondary impacts residents experienced after evacuation, which may have been particularly pronounced for many LLRIB residents from the satellite communities who relied on evacuation by bus and accommodation at large urban evacuation centres. While the prioritization of response to the proximate causes of risk was successful insofar as no serious physical injuries were sustained, such models may deny local agency, knowledge, and culturally relevant mechanisms for dealing with risk (Scharbach & Waldram, 2016). These models may also lead to the exclusion of certain communities—in this case, especially smaller Indigenous communities located further away from centres of decision-making after the initial evacuation from their communities.

The public engagement sessions after the event, to some extent, opened up new policy directions (e.g., consideration of impacts to the business community). However, the retrospective discussions about how the fires were handled within the community again revealed an institutional inertia that emphasized response to the immediate risk of fire and centering of the male-dominated sectors who responded to this risk (e.g., municipal and wildland firefighting agencies). Contributions such as cooking, cleaning, delivering meals, caring roles, rebuilding social fabric, and responding to mental and emotional health impacts were most often performed by women, but often less recognized than the male-dominated sectors' 'frontline' responses. For some women, these contributions also occurred at the intersection of gendered roles and Cree

cultural norms, such as for the following woman who volunteered at the LLRIB evacuation hub to provide meals for residents and emergency workers:

> [helping in this way] is something I feel is a cultural thing. That would be something my grandmother would do – at her cabin and you would see a boat coming, [she would] turn the coffee on and get cookies out [...] Anybody that came over had to have coffee or food and for our family that is such a big thing, so to me it was just absolutely normal—when you go anywhere and see somebody helping you, you do what can what you can to give back to them. (woman, LLRIB member)

As she continued, her frustration at the lack of acknowledgement such contributions received was clear: "not once were [LLRIB and the volunteers] recognized in the media or recognized anywhere". Likewise, two women who engaged in caring work during the fires noted the lack of attention that their contributions received from tri-community leadership in formal engagement and decision-making processes.

> Participant 1: I mean in all fairness, for sure protecting the property and people is number one, but we just wanted them to be inclusive of everything…. (woman, La Ronge)
> Participant 2: …but as far as afterwards, the leadership—they all had their own experience with the wildfire situation too. For sure it was stressful for everybody and they had lots on their plates, but if you have a group of people that have stepped up you would think there would be some acknowledgement of that and just learning from the experience because it hadn't been done before. (woman, La Ronge)

As an alternative to the more top-down engagement sessions, some community members expressed a desire to see more collaborative engagement inclusive of the diverse experiences and contributions of community residents, both during debriefing sessions in the recovery phase and in longer-term preparedness planning.

> I don't feel we are going to be any better prepared for the next time because they [the local Emergency Management Organization] are not asking the right questions to the right people […] I would have liked to see a public consultation from the groups that were here. What worked for you? What didn't work for you? Like a think tank or brainstorming session […] rather being from a finger-pointing point of view, more of a constructive look at it, but there hasn't been anything like that. (woman, LLRIB member)

We need to identify both strengths during the last event and build on them and areas to improve in the future. We need to include dialogue with trappers and traditional people. (man, La Ronge)

Longer-term preparedness initiatives, which focused on fuel treatment, fell within FireSmart's mandate to protect life, property, and economic values, indicating a continued emphasis on the proximate causes of risk and pathways characterized by resistance and incremental change. Many of the fuel management projects completed in and around the tri-community have not fallen under the FireSmart Communities Program, which means that project development and completion were led by the provincial wildfire management agency with input and approval by community leadership. Local residents were given no opportunities to engage in this planning effort. Shortly after a fuel treatment was implemented near her neighbourhood, one resident shared the grief she felt through the loss of place where she frequently went to collect medicinal plants, to lead land-based education programs for children, and to spend time with family and friends. She especially lamented the lack of engagement with local residents prior to completion of the fuel management project.

We have these spaces within our community that are like stepping off grid and into an untouched piece of paradise. I spend much of my time exploring these places and sharing this love of the boreal with my family and with families in my community. The threat of forest fires has always been a part of my life here in La Ronge and four years ago the threat caused us to evacuate our home and leave most of what we had behind. The important things were with me though, the irreplaceable family members. Since the fires, I have seen our tree population around town dwindle as we become a "fire smart" community. This has involved the thinning of trees in places that surround residential areas and will supposedly slow the spread of fire as it will have less fuel. This past winter, an area by my house that I frequent daily fell victim to this practice…. The heart-breaking part about it is that there was no consultation or warning before the trees were taken. The land was stripped of diversity, left defenceless against the winds, and all in the name of saving "things". (woman, Air Ronge)

Another resident expressed concern that a singular reliance on fuel treatments has eclipsed other approaches for wildfire preparedness, such as proactive emergency response planning.

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I am worried about people taking fire protection to the extreme now. I think we need an emergency plan and an emergency response and an understanding that this is climate change and this is what we have to come to face, but not to battle it [by] clear cutting the whole area… (woman, unincorporated subdivision)

These concerns challenge an underlying assumption that the protection of physical structures and economic assets are the principal—or only—values residents wish to maintain. It also indicates that the prioritization of these issues may exclude the diverse social groups and the non-material values they hold for areas immediately adjacent to their communities. One participant explicitly cited the need to bridge diverse knowledges and experiences as wildfire preparedness and adaptation progresses:

It is not to go back 50 years to live like we did, but there are things that were done for a reason and that wisdom I think can be brought, but we have sort of let too much of that go…. computers and hard evidence-based scientific knowledge are not everything. It is wonderful—I am not saying that we shouldn't have those kind of statistics and that kind of work, we need that also—but we need more common sense and what worked in the past and let's carry that forward. (woman, unincorporated subdivision).

This sentiment, along with other examples above, indicates that there is an apparent appetite for more transformative change to include a broader range of voices and issues.

4.6 Discussion

That adaptation pathways, in this case the trajectories from emergency response to recovery to emergency preparedness and wildfire risk reduction planning, were characterized by resistance and incremental change is not overly surprising, as major wildfires are commonly framed as technical problems and approached with technical solutions and sectoral expertise (Bosomworth, 2015; Nalau & Handmer, 2015). A feminist institutional lens indicates that this framing itself is gendered and although historically male-dominated sectors may have formal rules that include diverse groups, masculinized norms can shape the development of institutions and sectors, to the disadvantage of women and other non-conforming groups (Kronsell, 2015). The resulting norms, then, give rise to institutional inertia that is "reinforced over time and often come to be deeply

embedded in organizations and dominant modes of political action and understanding" (Pierson, 2004, p. 11).

The emphasis on the proximate causes of risk proved highly effective for preventing fatalities during the 2015 fire season, but institutional inertia resulted in a continued singular emphasis on proximate risks over the longer term. Although some opportunities for public participation emerged during the recovery phase and in preparedness planning, focus remained "on creating solutions within domains dominated by men" (Cox et al., 2008, p. 477). In this case, these solutions arose from and supported wildfire management agencies and local business. During the recovery phase, for example, this meant that the active contributions made by groups outside of "frontline" work, such as caring roles often performed by women due to gendered expectations and socialisation, were largely excluded from public discussion and debriefing. This, in part, could be addressed by ensuring that issues outside the "handling" of the fires (e.g., evacuation protocols and pet care) are included on public meeting agendas and those who lead such initiatives are available to speak to them. Our data also revealed the intersectional nature of power embedded within institutional practice for wildfire response and preparedness. The primary emphasis on reducing physical harm though the rapid removal of residents from their communities was reminiscent of Scharbach and Waldram's (2016, p. 66) observation that wildfire risk and response in Saskatchewan is based on a Western model of risk, "conceptualized synchronically in response to acute challenges (i.e., an impending, immediate threat); once out of harm's way, risk is no longer the operative factor for dealing with evacuees". How histories of colonization contributed to differing responsibilities across local jurisdictions, and how impacts and losses were experienced in diverse ways by women, men, youth, and Elders after removal from their communities, were either absent or considered peripheral to emergency operations discussions. Women's contributions to wildfire response often went unrecognized while longer-term preparedness planning has neglected broader systems of meaning and knowledge associated with the landscape. Intersectionality, therefore, shaped not only the material impacts of the wildfire, but also the dominant discourse shaping wildfire response and adaptation (Moosa & Tuana, 2014).

Many of the impacts and losses experienced due to environmental change and hazard events are nonmaterial and nonquantifiable, such as those to mental and emotional health, self-determination and influence, and sense of place (Tschakert et al., 2019; Turner et al., 2008). In a

previous analysis, we found that these nonmaterial impacts and losses in La Ronge were experienced differently across intersections of location, gender, ethnicity, age, and access to financial resources and influenced by broader structures such as gendered norms and expectations and histories of colonization (Walker et al., 2021a). However, diverse experiences remained largely invisible in formal debriefing and decision-making processes, such as in the public engagement sessions following the fires.

Power dynamics have consequences for which and whose experiences, knowledges, and values were included or excluded as communities prepare for fire in the future. Longer-term adaptation efforts (e.g., FireSmart) integrate some level of community participation. Globally, such programs have played a role in enhancing fire preparedness and, in some circumstances, have also contributed to social cohesion, self-efficacy, and resilience (Haynes et al., 2020). However, fire management is conceptualized by this program primarily through a physical-infrastructural lens, which may not necessarily account for local ecological knowledge and values attached to the natural environment (Bosomworth, 2018). Fuel management projects are located in close proximity to La Ronge tri-community neighbourhoods—often the most accessible natural spaces for residents, which may be used and valued in diverse ways by different social groups within the community. Reliance on FireSmart as the sole means of engagement limits the kinds of considerations of other preparedness measures that communities might adopt. If adaptation initiatives only respond to risks to physical and economic assets and are implemented primarily by external agencies, the nonmaterial values that diverse social groups hold for the natural areas immediately adjacent to their communities, which contribute to individual and community health, well-being, and resilience, may also continue to be impacted. Where local knowledges and values are not recognized, mistrust toward external agencies may also impede future response efforts (Paveglio et al., 2015).

While no evidence of transformative change was evident in the La Ronge study, residents' cited need for more inclusive planning for preparedness and response efforts, including the bridging of local, traditional, and external knowledge indicated a desire for transformation. Findings that demonstrated the exclusion of certain values and experiences also indicate a need for transformation—"fundamental shifts in power and representation of interests and values" (Pelling, 2011, p. 84). Implementing both incremental and transformative forms of adaptation is one way forward, though attention is needed to how these may constrain one another (Wise et

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al., 2014; Hadarits et al., 2017). It may also be necessary to examine equity in power relations by "questioning and challenging fixed beliefs, values, stereotypes, identities and assumptions especially about who is able to participate in adaptation planning, whose knowledge counts and who suffers the consequences of specific choices" (Ajibade & Adams, 2019, p. 856). As described in the results, this includes explicit attention to how informal institutions, including gendered and Western norms and power relations, intersect to shape institutional policy and practice for emergency and wildlife management (Waylen, 2014).

Transformation requires more than just greater participation in existing structures (Haynes et al., 2020). Rather, it necessitates changes to participation itself, including highly participatory visioning and decision-making that 1) centres local knowledges, values, and experiences—especially those that exist at the intersections of multiple forms of oppression—and 2) takes a learning-oriented approach. First, centering local knowledges and experiences can make institutionalized forms of inequality visible, and can even transform them (Jacobs, 2019). Historically marginalized groups, such as Indigenous women, are also actively responding to the effects of climate change and hazards in their communities, as was evident in the La Ronge study. Prioritising these forms of leadership in environmental decision-making can also help to rebalance power relations that are steeped in the legacies of colonization (Dhillon, 2020; Whyte, 2014).

Second, chasms may exist between the "expert" knowledge of disaster risk reduction and the local knowledge and embodied experiences of altered local spaces, raising the need for strategies that foster learning and knowledge co-production (Tschakert et al., 2016). Both individual and social learning are necessary for effective adaptation processes and can be facilitated through collaborative planning that fosters multi-directional knowledge transfer, critical reflection, and collective dialogue (Armitage et al., 2011; Tschakert et al., 2013). Even highly participatory processes, however, do not necessarily result in transformative outcomes as they are not immune to intra- and inter-group power dynamics or the tendency to focus on technical/infrastructural solutions, which may reproduce existing forms of inequality and vulnerability (Godfrey-Wood & Naess, 2016; Tschakert et al., 2016). Explicitly integrating consideration of structural inequalities into dialogue and reflection processes, and employing methodological innovations that draw on embodied and affective experiences may help address these challenges (Tschakert et al., 2016).

4.7 Conclusion

Strong institutions for hazards response and preparedness is an important component of climate change adaptation (IPCC, 2012). Past responses to wildfire in the La Ronge region have focused on the proximate causes of risk and the actors and specialized knowledges that respond to those risks. Some limited opportunities for public engagement helped to expand the range of issues considered during the recovery phase (e.g., to include economic impacts on the local business community). However, the authoritative emphasis on proximate causes of risk, physical and economic impacts, and professional knowledge indicated that adaptation trajectories, including in emergency and wildfire response and preparedness planning, continues to be characterized by resistance and incremental change. While highly effective for basic harm reduction, this emphasis has constrained transformation during recovery and longer-term planning, thus missing opportunities to address root causes of risk and vulnerability. The pathways characterized by resistance and incremental change have been constructed with informal institutions rooted in Western and masculine norms, resulting in the exclusion of certain voices, knowledge, and experiences. These include the contributions of women—especially Indigenous women—to the emergency response efforts and the nonmaterial impacts of wildfire and evacuation that are experienced in diverse ways across intersections of gender, ethnicity, socio-economic class, and age.

Lack of transformation at the local level to date does not necessarily mean that it is not occurring at other societal scales or over longer time periods (Heikkinen et al., 2018). Indeed, a short-term study undertaken three years after an event may be insufficient to track transformative change. However, current approaches that continue to exclude certain voices, knowledges, and experiences, which reinforces existing forms of inequality, indicate the need for more immediate transformative approaches to inform inclusive adaptation processes at the local scale. Ultimately, this requires a shift in the informal institutions—the gendered and Western norms, values, and assumptions—that shape formal rules and institutional arrangements for wildfire and emergency response and preparedness.

One way to begin this shift is by adopting highly participatory decision-making processes that are learning-oriented and that center local knowledges, values, and experiences. Several pathways for citizen involvement are available for future emergency management planning and wildfire preparedness at the local level. For instance, tri-community governments

and the local Emergency Operations Organization might collaborate to engage their residents in emergency preparedness. This would include, in the words of the above participant, "asking the right questions to the right people" (those who contributed to local emergency responses) and frank discussion about what issues are and should be included in emergency operations committee meetings during events. The local Emergency Management Organization could also revise formal rules, including the Tri-community Emergency Plan to include agencies—such as the local animal rescue organization—who played a role in the response, but were not formally recognized in formal emergency management structures. Local leadership could adopt wide and early engagement on FireSmart plans with support from provincial wildfire management and initiate participatory climate adaptation planning. Ideally, participatory local engagement on emergency preparedness and wildfire risk reduction includes explicit attention to issues of power and inequality. Collaborative university-community partnerships employing creative participatory action research methods could facilitate the examination of structural inequalities, the bridging of local and scientific knowledge, and the integration of affective aspects of intangible impacts and losses associated with wildfire response and preparedness, as well as climate adaptation more broadly. Ultimately, the establishment of participatory processes in the quiescent times between major events can both contribute to more inclusive and transformative adaptation and inform improved immediate response to future wildfire events.

CHAPTER 5 – CONCLUSION: REFLECTIONS ON INTERSECTIONAL CLIMATE
HAZARDS RESEARCH AND ADAPTATION PRACTICE

Section 5.2 has been submitted for publication as a chapter in an edited book. The introduction
and conclusion have been revised from the original manuscript in order to more clearly tie
together the chapters from this dissertation. The citation is as follows: Walker, H. (submitted).
Reflections on and implications for intersectional climate hazards research and adaptation
practice. In: A. J. Fletcher and M. G. Reed (Eds.), *Feminism and the Social Dimensions of
Climate Change.* Routledge.

5.1 Introduction

The purpose of this research was to explain how individuals and communities respond to
climate-related hazards, using wildfire as a specific example, in a region of complex
jurisdictional and social diversity. Thus far, this dissertation has addressed Research Objectives 1
and 2:

1) Examine if and how factors associated with social identity work alone or together to
   influence differential experiences of, and responses to, climate hazards.
   a) How are social identity attributes represented in discourse related to wildfire
      response?
   b) How do social identity attributes influence individuals' experiences of and
      responses to a major wildfire?
   c) How do social identity attributes operate within institutions for wildfire emergency
      management and adaptation planning?
2) Determine how residents express agency and take action in response to a climate-related
   hazard.

Each of the previous chapters brought to the forefront a 'level' or 'arena of investigation' of
intersectional analysis – namely symbolic representation (Chapter 2, objective 1a), micro-level
experience (Chapter 3, objective 1b), and social structures and institutions (Chapter 4, objective
1c). Discussions related to intersecting categories of identity, power, and agency have been
woven throughout these chapters. This concluding chapter ties together key findings from the

previous chapters and reflects on the intersectional approach taken in this research to address objective 3:

>3) Explain the broader implications for climate hazards research and for building inclusive adaptation in communities facing increasing climate variability.

Section 5.2 summarizes the core findings of this dissertation by elaborating on each of the key attributes of an intersectional approach outlined in the dissertation's introduction (i.e., intersecting identity categories; multi-level analysis; power; and, agency and action). Throughout this concluding chapter, I reflect on the theoretical and methodological contributions of this research, as well as its practical contributions for building more inclusive emergency management and adaptation practice as climate change continues to proceed.

5.2 Reflections on intersectional climate hazards research and practice

5.2.1 Intersecting categories of identity

Intersectionality recognizes that multiple identity categories are not additive, but co-constitute one another to create context-specific experiences of privilege and marginalization (Davis, 2008; Hankivsky, 2014). Methodologically, the choice of which and how many categories of analysis to include remains a significant challenge of an intersectional approach (Iniesta-Arandia et al., 2016; Kaijser & Kronsell, 2014). Some scholars argue that the most relevant identity categories should emerge during fieldwork (Hankivsky, 2014; Hackfort & Burchardt, 2018), while others choose to focus on the experiences of specific social groups selected prior to conducting empirical research (e.g., Bowleg, 2008; Prior & Heinämäki, 2017). A blended approach was taken in this research by applying a sampling strategy that first stratified participants by jurisdictional boundary and then, due to contextual knowledge of historical colonization in the region and gender-differentiated experiences of hazards, ensured the participation of both men and women and Indigenous and non-Indigenous residents within each jurisdictional group. At each interview, I administered a demographic checklist that included other identity categories, such as age, length of residency, and income. This approach—focused on a small set of identity factors based on contextual knowledge of the study location—provided a manageable scope for the intersectional analysis, while also being flexible enough to allow other relevant social attributes such as age and family status to emerge through the fieldwork and data analysis. Due

in part to the strategic decisions about participant sampling, geographic location, gender, and ethnicity emerged most prominently as relevant identity attributes in our analysis.

Ultimately, the purpose of intersectional analysis is not to identify the vast number of categories that contribute to people's experiences of the world, but those that are most salient in a specific context (Kaijser & Kronsell, 2014). A limitation of our approach was that by foregrounding certain identity attributes, the experiences and knowledges of other populations, such as LGBTQ and Two-Spirit communities, recent immigrants, and people with disabilities were likely obscured. Trade-offs may be necessary, but is important to constantly reflect on whose knowledge and experience may be excluded and the possible implications exclusion may have for research and practice.

In La Ronge, numerous examples of how identity categories intersected to create differential experiences of the wildfire event and evacuation were evident. Residents, for instance, frequently cited impacts to mental and emotional well-being, which were experienced in diverse ways across intersections of gender, race, age, family status, and location (see Chapter 2). In one example, an Indigenous woman spoke of the anxiety she experienced while staying in an urban evacuation host community due to her fears that Social Services would be called: "…if my kids start misbehaving, are they going to call [the authorities] on me?" (woman, LLRIB). This experience was, in part, shaped by both gender roles and expectations where women are more likely than men to take on caregiving roles during emergency events (Whittaker et al., 2016), as well as the lasting legacies of colonization, assimilative policies (e.g., residential schools), and systemic racism that mean, even today, Indigenous families are more likely than non-Indigenous families to be investigated by child welfare services (McKenzie et al., 2016). Gender and racialized identity interlocked to influence this particular experience of evacuation, which is qualitatively different than how Indigenous men and non-Indigenous women with young families experienced the event.

Findings also revealed that even generally privileged segments of society (e.g., white, middle-aged, affluent men) were vulnerable to wildfire impacts in particular ways (see also Eriksen & Simon, 2017). For example, a group of residents who stayed to protect property in a relatively affluent unincorporated subdivision reported feeling confident in their ability to conduct this work because of their previous firefighting experience and access to resources (pumps, boats) (see Chapter 3). They also generally reported feeling better off than those who

evacuated because they were able to make tangible contributions to firefighting efforts. Despite this, a female participant indicated that a group of middle-aged men in the community experienced impacts to mental and emotional well-being but were unlikely to seek out mental health resources following the event in part due to gendered expectations and norms resulting in stigma around mental health issues: "It is easier for a woman to say I am having trouble than a man quite frankly—and certainly that [middle] age[d] group of men" (woman, unincorporated subdivision).

An intersectional approach provided insight into the diversity of experiences and responses to the wildfire event across intersections of identity. This nuanced perspective helps to overcome assumptions that entire communities or social groups (e.g., Indigenous communities, women) are uniformly vulnerable or resilient to the effects of climate change (Arora-Jonsson, 2011; Haalboom & Natcher, 2012; Moosa & Tuana, 2014). It also highlights how privilege and vulnerability can occur simultaneously depending on the context (Smooth, 2013). The heterogenous and context-specific experiences of hazards suggest that blanket approaches to emergency management and adaptation planning will not be received by all residents in the same way. An intersectional approach, therefore, points to the need to adjust emergency response and adaptation programs to the needs of various social groups. For example, it might identify specific groups in need of mental health resources or it might be useful in identifying the root causes of vulnerability produced by histories of colonization.

5.2.2 Multi-level analysis

One critique of empirical intersectional research is its tendency to emphasize the micro-level of analysis, where the differential experiences of everyday life or a specific phenomenon are assessed across intersections of identity, such as gender, race, and socio-economic status (Chaplin et al., 2019). In line with theoretical intersectionality scholarship, intersectional climate change literature now encourages identifying the interlinkages between the micro-level experiences of climate hazards and the meso- and macro-level social structures, discourses, and axes of inequality that shape those experiences (Hackfort and Burchart, 2018; Kaijser & Kronsell, 2014). This multi-level analysis clarifies *why* differential experiences of hazards occur, providing greater opportunity to address the root causes of risk and vulnerability (Chaplin et al., 2019).

This research took two approaches to multi-leveled analysis. First, as promoted by Winker & Degele (2011) and Kaijser & Kronsell (2014), intersectional dynamics within and across three levels were examined: symbolic representation, micro-level experience, and social structures (e.g., meso- and macro-level institutions). Looking across these levels is important, as phenomena and processes at one level can reinforce or challenge inequalities at others (Fletcher, 2018). In this case study, an intersectional critical frame analysis was applied to examine how social identities intersected in media representations of the 2015 wildfire event (symbolic representation). Interviews with community residents revealed the diverse ways in which people experienced the fire event (micro-level), and interviews with both community residents and government agency representatives provided insight into the informal institutions that underpin wildfire and emergency response and planning, which have implications for diverse social groups within the tri-community (structural level). The structural level includes the formal and informal "'rules of the game' – the rules, norms, and practices – that structure political, social, and economic life (Chappell and Waylen, 2013, p. 599)." Power relationships are deeply embedded within, and influence, interactions among these levels. Examples of how these dynamics manifested in the La Ronge wildfire case study will be provided in the following section ("power relations").

Second, the multi-level analysis was strengthened by applying Bowleg's (2008) insight that people's experiences can provide a window to the macro-scale structures that shape experiences in specific contexts, while knowledge of the sociohistorical context of the study location can bolster the understanding of these connections between micro and macro levels. A challenge with this approach is that researchers who are outsiders to the community often "don't know what we don't know." Living in the community for a significant amount of time and taking a humble learning stance greatly enhanced the understanding of the sociohistorical context and its relationship to residents' experiences of the wildfire event. During interviews, I kept in mind contextual knowledge that may be relevant to the participants' narratives, such as the histories of colonization in northern Saskatchewan and the role of gender relations in shaping experiences of hazards in the global North. In some cases, residents' narratives spurred additional learning to better contextualize the related experiences. For example, a man from the LLRIB drew parallels between the large evacuation centres located in urban centers south of La Ronge and experiences

of residential school[8]: "I do support [the Red Cross] but they shouldn't have total control. It is like they call it residential school mentality… It is like staying in jail or being in prison". Another, revealing intersections with gender expectations, indicated that "the social aspect is humiliating—having to be moved onto cots at the Red Cross in Prince Albert as able-bodied men" (man, unincorporated subdivision)."

Following these interviews, learning about the history of residential schools in the study region gave these accounts additional depth. The Lac La Ronge (All Saints) Indian Residential School operated from 1907 until it burned down in 1947 and students were transferred to residential school in Prince Albert, Saskatchewan (Niessen, 2017). Niessen (2017) provides Prince Albert residential school survivors' accounts of their time at the schools, including descriptions of dormitory life, harsh punishment, separation from family, and bans on speaking their own language. The residential school in Prince Albert remained open until 1996, which means that many people in La Ronge attended the schools themselves or have parents or grandparents who attended. Thus, it is understandable how dormitory-style accommodations at large emergency evacuation centres—especially in Prince Albert—may be reminiscent of residential school experiences. Through this iterative movement between participant experience and sociohistorical context, it became clearer how the legacies of colonization and assimilative policies shape contemporary experience of climate hazards and evacuation (see also McGee et al., 2019; Poole, 2019).

This multi-level analysis may also make visible emergency management and adaptation policy avenues that better address root causes of risk and vulnerability. For example, during emergency evacuations, those considered most vulnerable (e.g., pregnant women, Elders) are often provided hotel accommodations, rather than having to stay at large evacuation centres. This approach may, to some extent, lessen the discomfort of the evacuation experience and— particularly for First Nations people—reduce exposure to accommodation arrangements that may be reminiscent of residential school dormitories. However, understanding evacuation experiences within the broader context of the legacies of colonization and assimilative policies raises possibilities for more transformative approaches that work to dismantle these historical

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[8] Residential schools were a key element of what the *Final Report of the Truth and Reconciliation Commission of Canada* refers to as the 'cultural genocide' of Indigenous communities in Canada (TRCC, 2015). The schools were for the primary purpose of breaking the link between Indigenous children and their cultural identities. At least 139 residential schools operated across Canada in the 19th and 20th centuries.

inequalities. This includes stronger partnerships with Indigenous communities for emergency and adaptation planning, greater First Nations autonomy over the provision of culturally appropriate evacuation procedures and accommodation, and perceiving Elders as a source of expertise and resilience during and after emergency events, rather than as a uniformly vulnerable population (Lambert & Scott, 2019; Massie and Reed, 2013; Poole, 2019). Such approaches respond to intersectionality's call to recognize agency and to identify and "address the system that creates power differentials, rather than the symptoms of it" (Djoudi et al., 2016, p. S2498).

5.2.3 Power relations

Through an intersectional lens, "what makes people vulnerable to climate change, or, alternatively how they experience adaptation and mitigation strategies is the result of multiple factors and processes that are linked together within systems of power" (Hankivsky, 2014, p. 17). These systems of power operate within and across levels of analysis and are informed by intersecting forms of power based on identity, such as racism, colonialism, and sexism (Collins, 2017). The multi-level analysis—as the examples in the previous sections illustrate—can facilitate the identification of how power operates to influence diverse experiences and vulnerabilities to climate hazards.

Power relations can be identified empirically by examining framings of a phenomenon or event. Framings can influence what social interventions are considered or overlooked (discursive effects), shape how various groups are characterized and how individuals see themselves in relation to an issue or event (subjectification effects), and produce tangible outcomes in people's lives, such as access to resources and decision-making (lived/material effects) (Bacchi, 2009). From this perspective, power is less about the direct domination of certain individuals or groups directly over others, but rather about how it operates to privilege or exclude certain knowledges, assumptions, and values in hazard response and adaptation decision-making (Hankivsky, 2014; Kaijser & Kronsell, 2014). The framings of the wildfire event and their effects were identified though both the media review and semi-structured interviews. The media critical frame analysis framework included sensitizing questions related to problem framings, solution framings, and who had voice in shaping these framings (Chapter 2). The interview data were also broadly organized around these themes as a means of triangulation across methods and data sets.

The media critical frame analysis revealed that wildfire was predominately framed as a threat to immediate physical safety, physical infrastructure, and economic values. The media reports also centered the voices of the actors who responded to these problems (e.g., wildfire and emergency management agencies). These values and actors are, without doubt, important to wildfire response and planning; however, such framings may also have unintended subjectification, discursive, and material implications for social diverse groups. For example, the media analysis revealed intersecting dualisms in which women and Indigenous communities were represented largely as in need of care and protection or as passive recipients of external aid—a subjectification effect reflective of paternalistic and neo-colonial assumptions. In contrast, male-dominated sectors with key roles on the frontline firefighting efforts were often represented as heroes, liberators, and even care providers. For example, one article stated: "The military has been called in to help care for 7,900 people from a northern Saskatchewan community that includes the province's largest First Nation…" (CBC News, 2015a). Another, which implicitly represented women as in need of defence, read: "Evacuees keeping tabs on the situation from afar cheered the "eye candy" of young men coming in to defend their home" (Hopper, 2015). These "frontline" actors are, without doubt, important to wildfire response and planning; however, such framings of the event and actors involved also have material implications for diverse social groups.

As interview data revealed, institutions also reinforced the prioritization of physical impacts and frontline expertise during and after the event. For example, a public engagement session following the fires centered around how the fires had been handled within the community. Those invited to provide background information were from male-dominated sectors, such as wildland and structural firefighting agencies. Women who performed volunteer roles within the community during the fires, such as cooking, delivering meals, cleaning, and caring for pets, felt their contributions were excluded from discussions—a material effect flowing from how the wildfire "problem" was framed. As one woman from La Ronge mentioned, "[…] we just wanted them to be inclusive of everything." Longer term adaptation strategies have also prioritized the mitigation of physical and economic risk, such as through fuel mitigation treatments. Thus, the emphasis on physical and economic impacts have discursively narrowed the agenda to largely exclude the nonmaterial values and losses experienced by

residents and how these losses were experienced in diverse ways across intersections of gender, race, ethnicity, age, location, and socioeconomic status.

In some cases, the sidelining of nonmaterial impacts also infused into interpersonal relations during the fires. For example, a woman related the deep sense of loss she experienced after her and her partner's remote cabin burned in the wildfire (see Chapter 3). It was not just the loss of the physical structure she mourned, but also the memories and relationships that were entangled with the place. She shared the upsetting interaction with a fellow community member who "knew we had lost our cabin and he [said] 'I don't get these people that are whining about their losing their cabins when this whole town is being threatened,'" to which she replied "'whoa' okay, but there aren't any houses lost here … and that place has always meant more to us than this place here [primary residence near town]'" (woman, unincorporated subdivision). This exchange resonated with Cox and colleagues' (2008) study that illustrated, in some cases, the reinforcement of stereotypically masculine modes of coping (i.e. discursive construction of the "right" way to grieve and act) and the framing of emotional expressions of loss as irrational. Such framings can also work to preclude discussion about the more intangible impacts and "invisible losses" associated with wildfire, such as those related to connection to place, from local recovery and planning processes.

Discourse, institutional policy and practice, subjectivity formation, and the power relations that operate within them both reflect and produce one another (Allan, 2010). In terms of emergency management and adaptation practice, this multi-level analysis of power highlights multiple entry points for positive change. For example, it suggests the need to ensure media representations of wildfire events do not reinforce harmful stereotypes (e.g., of women and Indigenous communities). It also encourages us to examine and challenge assumptions that have resulted in exclusionary institutional arrangements for wildfire response and adaptation, and, as mentioned in the previous section, to consider how to implement more transformative adaptation responses that address historically rooted inequalities and systems of power, such as colonialism. It also reveals the need for participatory engagement processes, where people can give voice to the diverse ways in which they experience and are impacted by wildfire (Ajibade and Adams, 2019; Tschakert et al., 2016).

5.2.4 Agency and action

While intersectionality promotes the assessment of how power relations contribute to the root causes of risk and vulnerability for diverse social groups, it also encourages attention to how individuals and groups enact their agency to challenge these power relations and build adaptive capacity (Kaijser & Kronsell, 2014; Djoudi et al., 2016). Consideration of agency resists victimization narratives that might otherwise represent entire groups or communities as passively vulnerable to the effect of climate change (Fletcher, 2018).

In the La Ronge wildfire media analysis, we promoted the addition of a sensitizing question related to agency to the intersectional critical frame analysis framework for media analysis—*How are dominant narratives challenged?* (Chapter 2). Attention to this dimension allowed the identification of instances where reporting and residents' perspectives countered the dominant framing of wildfire as primarily a physical and economic problem and of northern and Indigenous residents largely as passively vulnerable to wildfire. For example, another Indigenous community served as an unofficial host community for LLRIB evacuees, providing cultural, mental, and spiritual resources for its guests (e.g., access to traditional foods, Elders' teachings, cultural ceremonies, and translation services) (Betancur Vesga, 2019). Such alternatives to the "residential school mentality" of mainstream evacuation can help acknowledge needs beyond the physical and financial and, in this case, positioned the First Nation as an active player in the wildfire response. Two women's opinion pieces also provided a much more nuanced perspective of the evacuation experience than what was often represented in dominant narratives (Barnes-Connell, 2015; CBC News and Riese, 2016). One, for example, described ways that individuals enacted their own agency to cope with evacuation and suggested ways that host community residents could meaningfully engage with them (CBC News and Riese, K., 2016). The other spoke of how she coped with the "evacuation rollercoaster", particularly the mental and emotional tolls of the experience and its residual effects even after residents returned to their communities (Barnes-Connell, 2015).

In the interview data, examples where residents, groups, and communities actively responded to impacts and losses to locally significant values were identified. In some cases, these were responses to physical impacts, such as groups of residents who aided in firefighting efforts and a group of women working at the LLRIB evacuation hub who prepared meals for emergency workers. Revealing an example of how gender and culture intersected to inform agency and to

challenge framings of Indigenous women as vulnerable, one LLRIB member said of her own contributions: "that is something I feel is a cultural thing, that would be something my grandmother would do […] [when you] see somebody working and they are helping you, you do what can what you can to give back to them." In many cases, residents' actions were taken in response to losses and impacts to nonmaterial values, such as mental and emotional well-being, sense of place, and cultural identity. For example, the LLRIB Chief and a group of local residents stood at the roadside with a 'welcome home' sign as residents re-entered the community after the evacuation, which helped a number of residents regain their sense of place and home: "[…] I thought that was one of the most beautiful things, and I was thinking I really want to return" (man, Air Ronge). A group of women from the local arts council also organized an art exhibit shortly after residents returned, which responded to impacts on mental and emotional well-being and according to some was a "[…] very, very valuable healing tool" (woman, unincorporated subdivision).

Despite the individual and collective actions that contributed to the immediate response and recovery efforts, there was little evidence of action that produced transformative shifts in power relations—though this does not necessarily mean that transformations are not occurring over longer time frames or other societal scales (Heikkinen et al., 2018). Learning processes are important to facilitating transformative change that addresses the root causes of risk and vulnerability within adaptation processes (Armitage, 2011; Pelling et al., 2015; Tschakert, 2013). Pelling and colleagues (2015), for example, identify individuals as an important sphere for transformation and promote Transformative Learning as a theoretical framework for understanding this sphere. In La Ronge, relatively few examples of learning outcomes were observed. Those that were identified included mainly instrumental (e.g., technical knowledge about pump use and environmental awareness) and communicative learning outcomes (e.g., ability to work together to achieve common goals, importance of fostering cross-cultural relationships, new perceptions of relationship with the land). To some extent, these resulted in changes in perceptions and/or actions for wildfire preparedness. Transformative learning that facilitated social change, however, was not evident. This lack of transformative learning and learning outcomes that might lead to social change may be, in part, due to debriefing and adaptation processes that have largely included professional expertise over participatory engagement with community members (Walker et al., 2021b). Public engagement sessions

during the recovery phase, for instance, focused on the frontline "handling" of the fires and the expertise of male-dominated sectors that responded (e.g. wildland and municipal firefighting, conservation officers). Longer-term adaptation planning focused on fuel mitigation treatments spearheaded by the provincial wildfire management agency and community leaders, with little opportunity for participatory emergency preparedness planning and wildfire risk reduction. As one woman indicated, "I don't feel we are going to be any better prepared for the next time because they are not asking the right questions to the right people […]" (woman, La Ronge).

The above examples of enacted agency reveal much about the locally significant values that residents wish to maintain as communities continue to live with fire on the local landscape. Planning efforts should recognize and support these actions, though care should be taken to avoid essentializing certain issues and the groups who respond to them. For example, it is frequently women who respond to nonmaterial impacts due to gendered ideologies and stereotypes that position them as nurturers and caregivers (Fletcher & Knuttila, 2016). Such issues should not simply be added to adaptation agendas as "women's issues". Rather, the gendered dynamics and power relations that have positioned women as key (and often taken-for-granted) responders and that have resulted in the exclusion of such issues from formal response, recovery, and adaptation processes, should be addressed (Resurrección, 2013).

The lack of transformative outcomes after the 2015 wildfire indicates a need for learning-centered activities that engage the diverse knowledges and experiences of local communities along with external knowledge (Tschakert et al., 2013). In reference to disaster planning, Jacobs (2019, p. 29) argues that "the knowledge that communities have about their experiences, particularly their experiences of oppression, should be centered in planning processes and outcomes […] it is only through the inclusion of this fundamental knowledge of oppression that the structures of oppression can be addressed, modified and changed." While specific participatory planning techniques are beyond the scope of this chapter, public engagement for both community debriefing following a hazard event and for adaptation planning would benefit from attention to the ideal conditions for individual and social learning, such as critical reflection, collective dialogue, multi-directional knowledge transfer, and trust and relationship building (Armitage et al., 2011; Mezirow, 2012; Tschakert et al., 2013).

5.3 Concluding thoughts and future directions

To date, very few empirical examples of applied intersectional analysis exist in research on climate hazards in the global North despite its promotion as a promising framework for climate change vulnerability, resilience, and adaptation scholarship (Iniesta-Arandia et al., 2016; Kaijser and Kronsell, 2014; Walker et al., 2019). This lack of intersectional empirical research is likely, in part, related to a perception that "the concept is too abstract for the practical analysis of societal interrelations" (Chaplin et al., 2019, p. 17). While a small handful of empirical studies have begun making connections across levels of intersectional analysis (e.g., Eriksen & Simon, 2017; Olofsson et al., 2016; Vickery, 2018; Weber and Hilfinger Messias, 2012), emphasis often remains on the analysis of micro-level experiences of hazards despite calls for multi-level approaches to intersectional climate change research (Hackfort & Burchardt, 2018).

The central contribution of this dissertation, therefore, is its operationalization of intersectionality to examine the diverse experiences of a specific hazard event—a major wildfire in a socially and jurisdictionally complex region of northern Saskatchewan. Its novelty lies in the multi-level intersectional approach that assessed how identity attributes operated within and across three "levels of analysis" or "societal arenas of investigation", namely discourse, lived experiences, and social structures (Anthias, 2013; Winker & Degele, 2012). This multi-level analysis also included multiple time periods, including during the emergency response and evacuation, in the response phase immediately following the event, and in longer-term adaptation planning. This multi-level and multi-temporal approach, made possible through the combining of three qualitative methods, responds to the observation that "resilience and vulnerability are not characteristics of social groups but a product of existing societal marginality" (Iniesta-Arandia, 2016, p. S391), examining not just how people experience hazards differently, but also *why*.

Specifically, integrating this multi-level intersectional analysis with concepts familiar to the climate change adaptation literature (e.g., values-based and contextual approaches for vulnerability and adaptation in Chapter 3 and adaptation pathways approaches in Chapter 4) enabled the development of analytical frameworks to guide this study. The intersectional analysis revealed that residents experienced impact and loss to several locally significant values categories, including mental and emotional well-being, self-determination and influence, and sense of place—intangible values that may not typically be considered in emergency management and adaptation decision-making. Experiences of these impacts differed across

intersections of gender, race/ethnicity, age, geographical location, family status, and socioeconomic status, and were influenced by broader structures and power relations. These findings support other studies that have observed, for example, differential effects of wildfire evacuation on Indigenous peoples, including women, men, youth, and Elders, due to inequalities associated with colonialism (e.g., McGee et al., 2019; Poole, 2019; Scharbach & Waldram, 2016) and men's physical and emotional vulnerability because of masculine norms that encourage risk-taking behaviour (e.g., Tyler and Fairbrother, 2013; Whittaker et al., 2016).

The intersectional analysis in this thesis also pushes intersectionality and climate change scholarship further by revealing how structures and power relationships that contribute to these differential experiences are (re)produced through media discourses and in informal rules underpinning institutional responses across periods of emergency response, recovery, and in longer-term adaptation. This multi-level and multi-temporal analysis helped to illuminate multiple entry points for addressing the root social causes of vulnerability and risk, and thus junctures at which more transformative pathways can be forged.

Attention to agency is also promoted in the intersectionality literature, though Djoudi and colleagues' (2016) systematic literature review noted that few empirical studies of gender and climate adaptation recognized women's agency or promoted approaches that acknowledge people's agency. Agency was an important component of the intersectional analysis in this thesis, which examined instances where reporting challenged the dominant representations of northern and First Nation communities and women as passive victims in the media analysis and through residents' own accounts in interviews about how they collectively responded to the impacts of wildfire. It is recommended that agency is recognized in future empirical intersectional research on climate hazards, not only because it avoids contributing to disempowering and victimizing narrative, but also because it can signal the locally significant values that diverse residents wish to maintain in the face of ongoing climate change.

Ultimately, intersectionality is not only a tool for simply understanding complex inequalities in specific contexts, but also seeks to enable critical praxis that alters these inequalities through action (Collins and Bilge, 2016; May, 2014). Therefore, several practical contributions and insights for building inclusive and equitable emergency and adaptation planning have been raised through this thesis. I summarize three key directions here. First, planning efforts should not just recognize intangible values and invisible losses deemed

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important by communities, but also respond to the needs of diverse social groups. This could mean, for example, providing mental health services during the recovery phase and targeting these services to groups less likely to access them due to gendered norms and expectations. Moving further, planning efforts should not just respond to the needs of diverse social groups, but also adopt approaches that address the historical and contemporary power relations that constitute the root causes of differential risk and vulnerability. In terms of future emergency evacuation planning, for example, an incremental approach might focus on making urban evacuation centres more comfortable for those who these dormitory-style evacuation accommodation are reminiscent of residential school experiences. Alternatively, a transformative approach would see governments, agencies, and organizations related to emergency management supporting and following the lead of First Nations communities to provide culturally sensitive evacuation accommodations within their own traditional territories.

Second, to be viewed as successful and legitimate, wildfire adaptation planning must be responsive to the values that residents wish to maintain and achieve. While residents were generally grateful for the external assistance provided to their communities in a time of need, many also expressed frustration over the lack of inclusion of diverse local knowledges and resources during wildfire response, recovery, and planning. Going forward, community-level wildfire planning would benefit from highly participatory and creative approaches *with* a wider range of residents, including Indigenous and non-Indigenous people, men and women, Elders and youth, and local businesses and non-profit organizations. This includes in both emergency preparedness and wildfire risk reduction planning. In practical terms, the former includes, for example: the local Emergency Management Organization, in consultation with communities, developing a list of resources and skillsets (e.g. equipment, cooks, cleaners) to draw upon during future emergencies; local government leadership planning for community debriefings during recovery that address not only the "handling" of the fires, but also the diverse physical, economic, and more intangible impacts experienced by residents; and, collaboration among tri-community governments to engage their residents in emergency preparedness when the risk of hazard is low. The latter would include, for example, wide and early engagement (led by community leadership with support from provincial wildfire management agencies) on community fuel management plans and the use of highly participatory methods (e.g., scenario planning) in community adaptation planning processes.

Third, attention should be given to how local people are actively responding to climate hazards to foster community resilience. Local residents collectively responded in many ways to the physical and more intangible impacts of the 2015 fires, such as through providing traditional foods for Elders during evacuation, caring for pets left in the communities, welcoming people back into the community post-evacuation, and a community-led art exhibit. Provincial and local governments could support such actions through the provision of funding and by explicitly recognizing them in emergency and adaptation planning processes. By seeking to understand the diverse ways in which residents experience wildfire, the inclusion of diverse local knowledges and resources, and supporting collective actions that foster community resilience, emergency and adaptation planning are far more likely to be inclusive and representative of a broader range of society as communities continue to live with fire in the future.

This thesis also highlights opportunities for future research and practice. Anchoring intersectional analysis in concepts familiar to climate change and climate hazards scholarship to build analytical frameworks may make intersectionality more approachable and useable to policy-makers and scholars that work in areas of climate change vulnerability and adaptation. Climate change and adaptation practice would further benefit from research that explores the integration of intersectional approaches with existing community-based tools, such as vulnerability assessments and post-disaster learning frameworks.

Moreover, though this thesis paid attention to expressions of collective agency, little is yet known about the "complex reactions and mechanisms that challenge and push social barriers in an attempt to create space for emancipatory pathways" (Djoudi et al., 2016, p.S258). Here and elsewhere, we have suggested learning processes as possible mechanisms that facilitate social action for transformative and equitable climate adaptation (Walker et al., 2019). Additional research is required to further understand how community-level debriefing following a hazard event and public engagement in adaptation planning can best integrate participatory, learning-centered approaches that acknowledge diverse locally situated knowledges and experiences, foster critical reflection and collective dialogue, and prioritize the co-production of knowledge between residents and external agencies. From an intersectional perspective, the examination of learning should not only attend to internal and individual learning, but also be attuned to how social relationships, such as gender relations and other intersecting axes of power, enable or

hinder transformative learning and adaptation pathways (English & Irving, 2012; Johnson-Bailey, 2012).

Wildfire will continue to impact Canada's boreal forest regions, including in northern Saskatchewan, as climate change projections point towards increases in fire occurrence and intensity over the next decades (Wittrock et al., 2018; Wotton et al. 2017). While fire is a vital ecological process, more frequent and intense fires, combined with growing populations in wildland-urban interfaces, create increasing risk for local and Indigenous communities in forested regions (Christiansen, 2015; Eriksen, 2014). The intersectional analysis presented in this thesis draws attention to the diverse ways that people experienced a hazard event and the broader social contexts and inequalities that contribute to these differential experiences. Challenges and limitations associated with the empirical application of intersectionality remain, including which identity categories to center in analysis, how to best anchor intersectionality with climate change and adaptation theory and practice, and how to further translate the findings from this intersectional analysis into concrete policy suggestions. Despite these challenges, the analysis has contributed valuable initial insight into what is required for more inclusive, equitable, and locally relevant wildfire response, preparedness, and adaptation planning as communities continue to live with fire in the future.

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COMMUNITY INTERVIEW GUIDE

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1. Background

a) How long have you lived here in ____<study area>___?

b) Do you have family, relatives, or close friends living with you, or living nearby?

c) Can you tell me a bit about yourself? E.g.:
- What kind of work do you do?
- Do you participate in land-based activities, for recreation/livelihood/ subsistence?
- Do you have any hobbies or things you do for fun?
- Any special skills or things you know a lot about?

d) How would you describe yourself to someone you've never met?

e) Can you tell us about a time recently when you felt included, advantaged, or capable? What made you feel that way?

f) Do you ever feel passed over, excluded, disadvantaged or discriminated against?
- If yes, how so? Can you tell us about some times when this happens?

g) As you know, this project is focusing on a few communities in Saskatchewan. For the next part of our discussion, if we defined your community as <<*use project study areas -- e.g., the Lac La Ronge First Nation; town of La Ronge and area>>.
- Is this an okay definition of "community" for you? Would you define your community differently? If so, how?

h) Using that definition [theirs], how would you describe your community to others? E.g.:
- Do people generally get along with each other, or not?
- Any sources of conflict or division?
- Do you generally feel safe in this community?
- Do you generally feel included or excluded in this community?]

i) What are the best aspects of your community, in your opinion?

j) Are there any downsides to living in this community? If so, what are they?

k) Do you have any "go to" people or places in your community – people or places you know you could go for help or support if you needed it?
- If yes, why are these important for your support?
- If not, why not?

l) Are there any places you <u>wouldn't</u> go for help? What are they? Why would you not go there for help?

2. Experience of Wildfire

Can you tell me a bit about your experience of a major wildfire event? What was it like for you? Eg.:

- What do you remember about that day?
- Where were you, and what were you doing?
- How did you find out that the wildfire was happening? How did you continue to get news about the event? (e.g., word of mouth, social media, traditional media)?
- How did you respond to the event? [Where did you go? What did you do?]
- Did you contact anyone? Why them?
- Was there anything you wish you'd done differently?]

a) Were other members of your family affected?
- If yes, how?

c) Were you responsible for children, parents, or other people during the event?
- If yes, who were you responsible for?
- Can you tell me about how you managed that?

d) How did you make decisions within your household about what you would do? Who made the decisions?

e) Did you provide any help to others during the event?
- If yes, what kind of help did you provide (e.g.helped build berms or fight fire, helped others evacuate, helped at a shelter, cooked food)?

f) Did you have access to any help during the event (e.g. Friends/family/neighbours? Local government [e.g. RM / Band Council] Provincial government? Federal government? Non-governmental organizations? Red Cross? Emergency services (e.g., fire, police) Other?]
- How did these help (or not help) you?

g) What kind of support was available to you <u>after</u> the event?
- How did these help (or not help) you?

We are trying to understand whether people within communities are affected differently from each other when an extreme event occurs. For example, whether people have different experiences because of their age, gender, income, ethnicity, culture, or other things.

h) How was the community in general affected?

i) How much was your [area/neighbourhood] affected by the event? Were there some places more or less affected?

j) Do you think some people are more vulnerable or "worse off" or "better off" than others when an extreme event happens?
- If yes, who and why? What causes this? If not, why not?

k) Do you think your experience of [event (s)] might have been either more or less difficult compared to others in the area? Why or why not?

l) How did being [use what they've described themselves as in Section 1] affect your experiences before, during, or after the wildfire? These can be your experiences in general or your experiences of a wildfire.

[**Don't assume, but draw on aspects of their social location / identity that they have shared with you so far, or which are obvious, to ask about their experience....word this delicately! Some examples of how this could be worded:
- For example, do you think people living on First Nations are affected differently than other communities?
- OR more complex, such as: Do you think being an Indigenous woman has shaped your experience [of the event] in some way?

3. Learning Outcomes and Processes

a) What did you learn through your experience of this extreme weather event?
  E.g. Did you learn:
- Any new skills or information for preparing or responding to future events?
- Any new perspectives about yourself, your community, or other communities?
- About the roles of the different organizations in responding to extreme events?
- About your roles as individuals and as a community?
- About your environment? The relationships between your actions and the environment?

b) What specifically facilitated your learning? How did you learn?

- E.g. Discussions with others (Elders, community members, leadership), debriefings after the events, media, building on past experience?

c) Did your experience of the extreme event change the way you act or things you regularly do? Have you personally taken any actions to help you/your household prepare for future weather extremes?

- What supports helped you take these actions?
- Have you encouraged others to take similar actions?
- Have other people within the community changed in this way too?

e) Has your community [First Nation, Town, RM] taken any actions after the event to help prepare for future weather extremes? Have you been involved in these activities?

f) Are there things you have learned that have been difficult to put into practice?

- What has made it difficult?
- Have you been able to overcome the difficulty? How did you do it?
- Any other resources that might have caused you to do things differently?

4. Preparedness, Planning, and Policy

a) Are there any traditional practices you (or others in your community) engage in to manage the risk of wildfire? [By "traditional" we mean things that people have done for generations].

b) If a weather extreme was to happen in the future, how could things be done differently to make the event easier on you?
- What kind of supports would help you most?
- Who should deliver them (e.g., band, municipality, province, family members, other

community members?)

c) What kinds of things **can you do individually or in your household** to help you prepare for future fire or floods?
- [FOR THOSE FACING FIRE:] Do you know about the FireSmart program? If yes, has your participation in this program helped you (and your family) prepare for a future fire event? Would you make any changes to this program?

d) Do you think the **local government (RM, Band Council)** should play a role in supporting communities, either with preparing or coping with a disaster?
- If so, what should they do / not do?

e) Do you think the **provincial government** should play a role in supporting communities, either with preparing or coping with a disaster?
- If so, what should they do / not do?

f) Do you think the **federal government** should play a role in supporting communities, either with preparing or coping with a disaster?
- If so, what should they do / not do?

g) Are there any government policies that you know of that help people living in La Ronge prepare or address fire? What are they and why do they help?

h) Are there any government policies that hinder people from preparing for addressing fire? What are they and why do they hinder?

Conclusion

Is there any information that our research team could provide to help you and your family or community prepare for any future events? What would you most like to see from our project? [*note to the participant that we can't promise to deliver, but we want to know what kind of research they find most helpful in general.

Is there anything else you'd like to tell us about your experience of weather extremes?

GOVERNMENT AND AGENCY REPRESENTATIVE
INTERVIEW GUIDE

These participants will include representatives from government and emergency management agencies relevant to the context of study. They will be asked about their roles and their organization's roles, responsibilities, and responses during and after the last major wildfire event in the La Ronge area.

1. Background

a) How long have you lived here in _____<study area>___?

b) What is your training background, experience, and current position?

2. Roles, responsibilities, and resources

a) What was your/your organization's role during the last major wildfire event? How did you/your organization respond to the event?

- What services or resources were provided by your organization during or immediately after the event?
- To whom were these services or resources delivered? How were they accessed?
- Did you/your organization require resources provided by other jurisdictions? How were these resources accessed?

b) Who were the key actors/organizations involved in making decisions about immediate responses during the last major wildfire?

c) How did you/your organization work with/communicate with these other actors/organizations?

d) Did you/your organization communicate with the public during the major event? If so, how?

e) Do you/your organization play a role in enhancing preparedness for future wildfire events? If so, what?

3. Problem and solution framings

a) Overall, what was done well during the response to the last major event? By you/your organization? By others?

b) What are problems associated with response during the last major event?
- Why were these problems?
- What caused these problems?
- Who was most impacted by these problems? Least impacted?

c) If a weather extreme was to happen in the future, how could things be done differently to make the response and planning more effective?
- What kind of solutions would improve communities' abilities to respond?
- How should these solutions be achieved?
- Who should plan and deliver them?
- To whom should they be delivered?
- What should be done to make them accessible?

d) Has your organization made any changes to policy or practice since the last major wildfire?
  - If so, what? What drove these changes? How will these changes affect communities' responses to future events?
  - If not, why not?

4. Social/cultural identity factors and power relationships

a) In your view, how was the community in general affected during the last major wildfire?

b) Were there some places more or less affected than others?

c) Do you think some people are more vulnerable/"worse off" or "better off" than others when a wildfire happens?
  - If yes, who and why? What causes this?
  - If not, why not?

d) What groups/organizations have the most/least influence/power in decision making during major wildfire?
  - What makes the actors you describe powerful or not?
  - Are there any groups/organizations who should have a greater or lesser role in future response? Why?

e) Which groups/organizations have the most/least influence/power in decision-making for planning, preparedness, and policy?
  - What makes the actors you describe powerful or not?
  - Are there any groups/organizations who should have a greater or lesser role in preparedness, planning and policy making? Why?

Conclusion

a) Is there anything else you'd like to tell us about your experience of weather extremes?

b) End question – Is there anything from this project that would be particularly useful to you or your organization?

APPENDIX B: COLLABORATIVE RESEARCH AGREEMENT

RESEARCH COLLABORATION AGREEMENT

THIS AGREEMENT made the 5th of July, 2018 ("Effective Date").

BETWEEN:

Lac La Ronge Indian Band
Lands and Resources Management Board
Box 480, La Ronge, SK S0J 1LO
(the "LLRIB")

- and -

University of Saskatchewan
Research Services and Ethics Office
Room 223 - Thorvaldson Building
110 Science Place
Saskatoon, SK S7N 5C9

- and -

University of Regina
a body corporate continued pursuant to *The University of Regina Act*

(The University of Saskatchewan and University of Regina will collectively be referred to as the "University". Each party may be referred to as a "Party", and all of the parties will collectively be referred to as the "Parties".)

1. Introduction

This Collaborative Research Agreement (CRA) sets out the terms and understanding between the University and the LLRIB regarding a research project that examines how members of the LLRIB experiences and responds to wildfire, with particular attention to the ways in which gender, culture, socioeconomic issues, and histories of colonization have shaped or currently shape the experience of wildfire in the LLRIB community. Drs. Amber Fletcher and Maureen Reed are the principal investigators and faculty supervisors and Heidi Walker is the student researcher for the project. Members of the LLRIB are research collaborators and participants.

The Parties value the relationships that have been formed and continue to strengthen. The research will be conducted in accordance with acceptable research standards, the research policies of the University, and in accordance with the National Aboriginal Health Organization (NAHO) principles and the First Nations principles of OCAP: ownership, control, access, and possession of research process, protocol, data, and knowledge translation.

2. Purpose

This CRA will ensure that research expectations, objectives, processes, and outcomes remain consistent and relevant to all Parties involved throughout the duration of the research project, and will set out

reporting timelines and final deadlines. It will also ensure that research is carried out in a respectful and ethical way for LLRIB membership.

This CRA addresses property of information, guiding principles, methods of data collection, ethics approval, format of Research Outcomes, as well as use and distribution of research findings. It will define the scope of the research as well as guide research decisions.

a) *Statement of Mutual Benefit*
This research has the potential to benefit LLRIB by using methodologically rigorous social science to understand the social effects of wildfire on the LLRIB community and the strategies used by the community to respond. The project will generate social scientific information to assist the community with future wildfire planning and preparation. It will also identify the strengths of individuals and the community for coping with major wildfire events, as well as structural factors that hinder the ability of individuals and the communities to respond effectively. It is anticipated that this information can contribute to socially and culturally inclusive emergency management and climate adaptation policy and practice.

The research benefits the University by providing opportunity for skills-development and learning in a community oriented environment. This research will form part of Dr. Fletcher's and Dr. Reed's work on a project related to the effects of climate hazards on communities in Saskatchewan, which is funded by the Social Sciences and Humanities Research Council of Canada. Heidi Walker will also receive a doctoral degree in Environment and Sustainability upon completion of her dissertation (the "Dissertation").

This research project has the potential to develop a relationship of trust and openness between the Parties, with the intention to collaborate on future research that is of benefit to communities and the province.

b) *Ownership of Information*
The "Data" means the notes, recordings, observations, empirical data, and other information gathered during the course of the research described in this CRA.

The University and LLRIB will share ownership of the Data, which will be stored in a secure location at the University. Data will be stored for a minimum of six years after the study has been completed, after which it will be destroyed. The University may use the Data for further education and research purposes. The Data will not be used for any purpose other than that which is outlined in this CRA without the consent of the LLRIB.

The LLRIB acknowledges that a primary function of the University is to add to the general knowledge of society and increase its use for scholarship. It is anticipated that there may be Research Outcomes (defined below) produced as a result of this research. The ownership and copyright of any document or report arising out of this CRA shall vest with the author or authors of said document or report. In the event an academic journal requires transfer of copyright as part of its publication agreement, the Parties shall cause this transfer to occur. The Parties agree to acknowledge the research as being a joint project between the University and the LLRIB in any publication, presentation or other dissemination of the Research Outcomes. In the case of scholarly, academic or journal publications, the University will consult on Data interpretation with the designated LLRIB Lands and Resources Management Board contact prior to publication. In the event that the University and the LLRIB Lands and Resources Management Board cannot agree on the content of the written report, the LLRIB will be invited to write an editorial to accompany the report to be submitted for publication.

The research findings are anticipated to be presented in-person to the LLRIB during, or prior to, the summer of 2020.

Hard copies and digital copies of the written Research Outcomes will be distributed to the LLRIB Lands and Resources Board as well as, subject to LLRIB approval, to other local and provincial organizations (e.g. La Ronge Town Council, Air Ronge Village Council, Saskatchewan Wildfire Management Branch), and local residents involved in this research.

3. Project Scope

a) Research Purpose

The overall purpose of this research is to develop a case study situated within a larger project funded by the Social Sciences and Humanities Research Council of Canada. This case study will examine how individuals and communities respond to climate-related extremes, using wildfire as a specific example, in a region of complex jurisdictions and social diversity. The research will be conducted in the LLRIB, the Town of La Ronge, and the northern village of Air Ronge, with particular attention to the ways in which gender, culture, socioeconomic issues, and histories of colonization have shaped or currently shape the experiences of wildfire in these communities.

b) Research Objectives

i.   Engage in participatory and collaborative research with the LLRIB Lands and Resources Management Board and members of the LLRIB;

ii. Document how the LLRIB community, and individuals within the community, experience and respond to wildfire;

iii. Analyze the experiences and responses of LLRIB community members in relation to current governance and institutional structures; and

iv. To develop theoretical basis for policy/planning interventions that recognize how the social factors of communities enhance or constrain response to climate hazards, such as wildfire.

c) Research Outcomes

It is anticipated that the research will result in the following (the "Research Outcomes"):

i.   If deemed desirable by participants, A community exhibition of the photos produced through the Photovoice activity, along with interpretations of the photos as provided by the participants.

ii. Final summary report to LLRIB that integrates the overall findings of the study (interviews, PhotoVoice, Participatory GIS) to provide an overview of effects of, and responses to, wildfire in the community. This report will be in a format desired by the LLRIB and may include lessons learnt from local communities, especially concerning experiences of and responses to natural hazards (e.g., wildfire), which can contribute to socially and culturally inclusive emergency planning and climate change adaptation policy and practice. Community members can also use this information to take measures to reduce the impacts on their families and property.

iii. An end-of-project workshop that brings together community members, policy-makers, and other practitioners to discuss findings and make recommendations.

iv. Academic article(s) and conference presentations to communicate the research findings and research recommendations to wider audiences (e.g. other researchers, First Nations, and government agencies).

v.   A Dissertation prepared by Heidi Walker in support of her PhD in Environment and Sustainability.

d) Anticipated Research Timeline*

Data collection with the LLRIB, the Town of La Ronge, and Air Ronge will be complete by November 30, 2018. Data analysis will be ongoing, and will be completed by March 2019. The writing period will

run from approximately April 2019 to May 2020. We anticipate Research Outcomes will be complete by August 31, 2020.

*Please note that communication with our community contacts at LLRIB will occur regularly throughout the project to seek advice and direct the work.

4. Research Process

a) Guiding Principles
This research strives to embody principles outlined by OCAP (ownership, control, access and possession of research process, protocol, data, and knowledge translation.) of information collected throughout the duration of the project. The research process has been informed by principles defined by Chapter 9 of the Tri-Council Policy Statement on ethical conduct involving humans, and with regards to engaging in research with Indigenous peoples in a respectful and ethical manner.

Guiding Principles include but are not limited to the following:
i. Maintain mutual respect and accountability between the Parties;
ii. Recognize the expertise, responsibilities, mandates and accountability structures of each Party;
iii. Ensure the highest standards of research ethics;
iv. Respect the individual and collective privacy rights of Aboriginal people;
v. Recognize the value and potential of research that is scientifically and culturally validated;
vi. Support collaborative Aboriginal and University processes including the analysis and dissemination and ownership of research findings/reports;
vii. Understand and observe cultural protocols when working within the community;
viii. To provide fair treatment to all persons taking part in the research project.

b) Research Methods
i. *Interviews*: This project involves two sets of interviews. First, interviews with community leadership will contribute to the analysis of how governance structures contribute to communities' immediate responses and long-term planning for wildfire. The interview questions will focus on the roles, responsibilities, and responses of participants' organizations during and after the last major wildfire event. Second, interviews with community residents will explore how social and cultural identity factors shape their experiences and responses to wildfire. The interviews will be conducted individually with the researcher and will last approximately 45 minutes to one hour.

ii. *PhotoVoice*: a powerful photography/storytelling method in which participating community members are asked to photograph aspects of their everyday lives that are meaningful to the topic of research and offer their interpretations of the photographs. For example, community members could take photographs related to the story of their experiences with wildfire, individual or community strengths used to cope with wildfire, or factors that create barriers to effective response. PhotoVoice will be invited to discuss their photographs both individual discussions with the researcher and a group analysis activity with other photovoice participants.

Optional:

iii. *PGIS (Participatory Geographic Information Systems software):* using specialized software provided in-kind to our project, we can work with community members to create GIS maps showing areas of particular wildfire vulnerability and/or resilience in the area from the

perspective of community members. The maps may be useful to document the extent of areas affected by wildfire. The LLRIB has the option to take part in this activity.

iv. *Climate Scenario projections*: the aim of this activity is to develop climate change scenarios for the La Ronge area using models such as the Standardized Precipitation-Evapotranspiration Index (SPEI), a measure of water budget. The models may assist with identifying possible changes in the climate and climate risks that can be expected in the future. Our project team includes a renowned climatologist, Professor Elaine Wheaton, who has agreed to lead this work. The LLRIB has the option to take part in this activity.

c) *Informed Consent*

All research participants will be asked to provide informed consent prior to participating. This may be provided in written or oral (audio-recorded) form.

d) *Ethical Approval*

This research maintains approval from the University of Regina's Research Ethics Board upon the signing of this CRA.

5. Communication

Naomi Carriere is the main contact for the LLRIB. Any queries or documents will be discussed or sent to Naomi Carriere, Lands and Resources Coordinator for the LLRIB.

Amber Fletcher, Maureen Reed, and Heidi Walker are the main contacts for the University. Any queries or documents will be discussed or sent to Amber Fletcher (University of Regina) and Maureen Reed (University of Saskatchewan), principal investigators, and Heidi Walker, PhD candidate (University of Saskatchewan).

6. Funding

This CRA is not a commitment of funds. The University of Regina has received grant funding from the Social Sciences and Humanities Research Council of Canada and, part of which shall be used towards supporting the research project. The LLRIB will provide in-kind contributions in the form of interview space and time to the research project.

7. Duration

This CRA may be modified by mutual consent of authorized officials from the University and from the LLRIB. This CRA shall become effective upon the last signature of the authorized officials from the University and the LLRIB, and will remain in effect until December 31, 2020 unless modified or terminated by any one of the Parties. This CRA may be terminated by any Party by giving sixty (60) days written notice to the others. Note that any data that has been published or disseminated cannot be withdrawn.

H. Contact Information

Lac La Ronge Indian Band:
LLRIB Lands and Resources Management Board
Sam Roberts, Councillor, Chair
Telephone (W): (306) 425-2183
Telephone (C): (306) 425-9373
Fax: (306) 425-2590

Email: sroberts@llrib.ca

- and -

LLRIB Lands and Resources Management Board
Naomi Carriere, Lands and Resources Coordinator
Telephone (W): (306) 425-2183 Ext. 237
Email: naomi.carriere@llrib.ca

University:
For Scientific Matters:
Dr. Amber Fletcher, principal investigator, supervisor
Department of Sociology and Social Studies
University of Regina
CL 230, 3737 Wascana Parkway, Regina, SK S4S 0A2
Telephone: (306) 585-4183
Email: amber.fletcher@uregina.ca

- and -

Dr. Maureen Reed, co-principal investigator, supervisor
School of Environment and Sustainability
University of Saskatchewan
Kirk Hall 335, 117 Science Place, Saskatoon SK, S7N 5C8
Telephone: (306) 966-5630
Email: maureen.reed@usask.ca

- and -

Heidi Walker, PhD candidate, student researcher
School of Environment and Sustainability
University of Saskatchewan
Kirk Hall 312, 117 Science Place, Saskatoon SK, S7N 5C8
Telephone: (587) 988-0322
Email: heidi.walker@usask.ca

For Contractual Matters:
Research Services & Ethics Office
University of Saskatchewan
223 – 110 Science Place
Thorvaldson Building
Saskatoon, SK S7N 5C9
Telephone: (306) 966-8576
Attention: Contracts Specialist
Email: research.services@usask.ca

- and -

Research Office
University of Regina
3737 Wascana Parkway

Regina, SK S4S 0A2
Attention: Contracts Officer
Telephone: (306) 585-4986
Email: research.office@uregina.ca

8. Counterparts

This CRA may be executed in counterparts and such counterparts together shall constitute a single instrument. Delivery of an executed counterpart of this CRA by electronic means, including, without limitation, by facsimile transmission or by electronic delivery in portable document format (".pdf"), shall be equally effective as delivery of a manually executed counterpart thereof.

IN WITNESS WHEREOF, this Collaborative Research Agreement has been executed by the duly authorized officers of the Parties, and is effective as of the date of the last signature.

Social Dimensions of Climate Hazards Project
Participant Consent Form

Student Researcher

Heidi Walker, PhD Candidate
School of Environment and Sustainability
University of Saskatchewan
587-988-0322
Heidi.Walker@usask.ca

Researchers/supervisors

Amber Fletcher   Maureen Reed
Associate Professor   Professor
Department of Sociology and Social Studies   School of Environment and Sustainability
University of Regina   University of Saskatchewan
306-585-4183   306-966-2298
Amber.Fletcher@uregina.ca   Maureen.Reed@usask.ca

Purpose and Objective of the Research
- The purpose of this project is to study the social factors that affect people's experience of wildfire and flooding in Saskatchewan's farm and forestry communities.
- The objective is to help create more socially inclusive climate adaptation policies that are beneficial to communities, while also contributing to academic knowledge on climate hazards.

Procedures
- You have been invited to participate in a **face-to-face interview** with a member of the research team (approximately one hour).
- You may also be interested in participating in a **PhotoVoice activity**, where you will be asked to take pictures that show your experiences of wildfire and provide an artist statement (short written explanation about the significance of your photo). You will be invited to participate in a group activity with other photovoice participants from your community. During the group activity, you will tell the stories behind your favourite photos and collaboratively identify common themes or differences across your photos. You will also have the option to submit your photo to a community exhibit following completion of the activity.

- **You may also be interested in participating in other potential aspects of our project as follows. If you are interested in any of these additional activities, please check them off at the end of this form:**
  - **A group Participatory GIS mapping activity** in your community (approximately 2 hours, with a small honorarium offered).
  - **An end-of-project workshop** that brings together community members, policy-makers, and other practitioners to discuss our findings and make recommendations (approximately 1-2 hours; possibility of some travel compensation provided).
- We will ask your permission to record all interviews and group activities. All recordings are kept confidential. Please let us know <u>before</u> the interview/group activity if you do not wish to be recorded. Interview participants can choose to have the recorder turned off anytime they want.
- The findings of this study may be used in presentations, written reports, policy briefs, or other documents. Although we might use quotations in our presentations or reports, your name will not be attached to anything you said. You will have the option whether you would like your name attached to your photo(s) and artist statement(s), if participating in the photovoice activity.
- Please feel free to ask any questions regarding the procedures and goals of the study or your role.

<u>Funded by</u>
This project is funded by the Social Sciences and Humanities Research Council of Canada.

<u>Potential Risks</u>
- This project involves minimal risk.
- There is a chance that you could become uncomfortable talking about your experience of a wildfire or flood. If you experience any distress because of your participation, you can end the interview anytime. If you continue to experience any distress, please contact your family physician, Elder, or other support person.
- You are not required to answer any questions if you don't want to.
- If you participate in a group activity, you may disagree with other participants. All participants will be introduced at the beginning of a group interview, so you will be aware of who is in the room.

<u>Potential Benefits</u>
- Although benefits are not guaranteed, you may find it empowering to voice your opinion and share your experience.
- We hope that the findings of this project will contribute to more beneficial climate hazard policies and programs that address the needs of people, their families, and their communities.

<u>Compensation</u>
- Community leadership/agency representatives will not be compensated for the interview.
- A token of appreciation ($20 gift card) will be provided for interviews with community residents.

- Photovoice participants will be entered in a draw for one of three gift cards worth $75.

Confidentiality
- In any final reports or presentations coming from this research, your name will be removed and will <u>not</u> be attached to anything you said.
- Participation in a group activity is not confidential. Other participants will know that you participated and what you said. Please respect the confidentiality of the other members of the group by not disclosing the contents of this discussion outside the group.
- An individual interview is the most confidential option for participating in this project. Your name will be removed from anything you say in an interview.
- PhotoVoice will not include your name, but others might guess who you are depending on the photos taken. You can choose whether you want to have your photos kept private (just the research team would see them) or included in our publications and reports (your name will never be attached).
- The researchers named above (and any future research assistants) will have access to the information you provide.

Storage of Data
- All information will be securely locked up. Recorded interviews and transcripts will be stored in password-protected files on the password-protected computer of the researchers. Hard copies of consent forms will be stored in a locked filing cabinet in the researchers' office at the University of Regina or University of Saskatchewan.
- All information will be stored for at least 5 years. Information may be securely stored for long-term comparison. When the information is destroyed, it will be confidentially destroyed (e.g., shredded).

Right to Withdraw
- Your participation is completely voluntary. You can choose to answer only questions that you are comfortable with.
- Whether you choose to participate or not will have no effect on your relationship with the research team or the Universities, and will not affect how you will be treated by these people or organizations.
- Should you wish to withdraw your interview/PhotoVoice, please notify Heidi, Amber or Maureen immediately. Withdrawal will be possible up until the point that your interview is coded (approximately 1 month after the interview). After this date, it may not be possible to withdraw your data.
- It is not possible to withdraw your information after a group activity (e.g., Photovoice).

Follow up
- To obtain results from the study, please contact any of the researchers named at the top of this form.
- Short reports and other information will be circulated to all participants after the study is complete.

Questions or Concerns

- If you have questions or concerns, contact the researchers using the information at the top of page 1;
- This project has been approved on ethical grounds by the UofR Research Ethics Board on 10 August 2017. Any questions regarding your rights as a participant may be addressed to the committee at (306-585-4775 or research.ethics@uregina.ca). Out of town participants may call collect.

CONSENT TO PARTICIPATE

I choose to participate in the following activities and agree to be contacted about them.
I understand that my interview will be confidential.
I understand that group activities are not confidential because they include other participants.

Check all activities you consent to participate in:

☐ Individual interview (approximately 1 hour) – confidential
☐ PhotoVoice Activity
  ☐ I am okay with having my photo(s) and artist statement displayed in a community exhibit upon completion of the activity.
    ☐ I would like my name displayed with my photo(s) and artist statement(s) in the exhibit
    ☐ I do not want my name displayed with my photo(s) and artist statement(s) in the exhibit
  ☐ I understand that I retain full ownership of my photo(s). I give permission to the study team to use my photo(s) and artist statement(s) in reports, journals, presentations, book chapters, website, etc.
    ☐ I would like my name to be attached to my photo(s) and artist statement(s) in reports, presentations, etc.
    ☐ I do not want my name attached to my photo(s) and artist statement(s) in reports, presentations, etc.

Please check the following box if you are interested:

☐ I am interested in participating in a group Participatory GIS mapping activity to be scheduled in your community in 2018 or 2019 (approximately 2 hours). A member of the research team will contact me with further details.
☐ I am interested in attending a follow-up workshop in Regina or Saskatoon at the end of this project (the year 2020). The workshops will bring together community members, researchers, policy-makers, and other experts to discuss our findings and make recommendations.

Contact Information:
I can be contacted at:
_____(phone)

_____(email)

_____ _____(other: mail address, Facebook, etc.)

☐ I do not wish to be contacted in the future with project announcements or updates.

_____   _____ _____

Signature of Participant   Date

_____   _____

Signature of Researcher   Date
Oral Consent Option

I read and explained this Consent Form to the participant before receiving the participant's consent, and the participant had knowledge of its contents and appeared to understand it.

_____   _____   _____

Name of Participant   *Researcher or Witness Signature*   *Date*

Added consent form (for those appearing in photographs)

Consent for Taking and Using my Picture

I consent to be photographed as part of the photovoice project about the social factors that affect people's experiences of wildfire in Saskatchewan communities.
 	
I know that means my picture might be published to show the results of the study. For instance, my picture may be used:
   • in reports, book chapters, on a website, in journals, or in conference presentations.
   • In a community photo exhibit.
 	
_____
Print Name   Sign Here   Date

FOREST FIRE:
PICTURING OUR
EXPERIENCES

A community photovoice project

INTRODUCTION

Over four years have passed since the last major forest fire season in the La Ronge area. During the summer of 2015, the Egg fire burned approximately 138,000 hectares of forest, affecting over 10,000 people in that region. Some residents stayed to work or volunteer. Most had to evacuate their homes and communities. Everyone was impacted.

Forest fires are experienced in many ways due to social, cultural, political, and economic contexts across and within communities. This photovoice project has been an opportunity to share our diverse personal experiences of forest fire in the La Ronge area through photography. The photos* and narratives give accounts of the impacts of forest fire, but also speak to the strengths and resilience of people and their communities.

We hope that this photo compilation continues to spark conversation around what we can learn through our past experiences as we prepare to continue living with fire in the future.

*Unless otherwise noted, the photos in this document were taken, and are owned, by the authors of the respective written narratives.

"DAY ONE OF A NEW LIFE"

One day after Eli went through, this was the trail behind our house. I did a series of artworks based on this area, as I found it quite beautiful in a weird and eerie way. I called the series "Day One of a New Life." Living in a burn, the natural inclination is to focus on loss. But all around me were new beginnings. There are many fascinating things to see in a burn, with the foliage and understory removed: new colours; sharp contrasts; lines and shapes you've not had the opportunity to see before. And it doesn't take long before a profusion of new growth appears. There seemed no point in grieving when I had another choice. Life goes on, just a bit differently.

- Caron Dubnick

"BE PREPARED"

This photo is especially meaningful to me. It illustrates the climax of a difficult summer, taken at the end of our driveway as Eli bore down on English Bay. Somehow the fact that this isn't a 'good photo' adds to the tension. It just wasn't the time to fuss about composition!

We were lucky, which is why events turned out well for us. Eli, not known for his consideration, could have marched the 4 km on the first night of his existence. Instead, we had 10 days to saturate the bush and create a cool and humid micro-climate around English Bay. In the end, where we watered Eli skirted.

Be prepared. Now setting up the sprinkler system is Job #1 on the Springtime 'To Do' list.

- Caron Dubnick

Photo courtesy of Russell Dubnick

"THERE'S NOTHING LIKE A COMMON ENEMY TO PULL PEOPLE TOGETHER"

Alone, it would have ended badly for us. But among others on our side were:

- 3 capable sons. Here are two of them as we prepared for the battle coming later that day.
- Great neighbours with whom we pooled resources, manpower, meals and good humour.
- SERM, who brought us fuel for our pumps.
- The Lac La Ronge Indian Band who, disregarding jurisdictional lines, provided us with more than a few meals.
- Concerned visitors- medical teams with blood pressure monitors, the RCMP, Doyle, Tammy, Laurie Zarazun with sandwiches, and others with offers of help.
- Our own Weather Man with his daily predictions of rain, (Ok, so he's not a great weather man... his moral support counts.) and many other friends, acquaintances an complete strangers with offers of support of all kinds.

We hear a lot about the things that went wrong, and hope that we learn from those mistakes for next time. But to my mind a lot went right. There's nothing like having a common enemy to pull people together.

- Caron Dubnick

"UPROOTED"

Fires have always been a part of life in the north. You don't get away from them. I've been evacuated twice due to wildfires. Once when I was fourteen and once in 2013. Since 2002, I've worked for Wildfire Management as an engineer on the water bombers. Even though I have experienced forest fires, I never really understood the feelings people are going through when they lose their homes or cabins in the fires – until we lost our own cabin in 2015 and then it really hit home.

This place that looked so familiar is changed, even your life is changed. We didn't know what to do. It's a feeling of being uprooted, of displacement. It's life changing for you and for the forest. You don't know the place you called home anymore, you don't even know yourself anymore. It's four years later and you're still asking some of the same questions.

The place has changed from a place you wanted to be to a place you're unsure of. It's harsh. You don't even know what kind of trees will grow back. It leaves scars on both the land and the people.

– Quincey Miller

This thank you note was left by the night security guards for the Lac La Ronge Indian Band volunteers working at JRMCC.

The Band played such a significant role during the fires and I don't think they got enough recognition for it. They were feeding workers and contractors – SaskPower, SaskEnergy, SaskWater, all of these organizations coming from the south to provide relief service – but these workers couldn't cook anywhere and they couldn't go out and eat because everything was closed. As more people started coming in to JRMCC to eat, nobody even blinked an eye – nobody said "whose budget is this coming out of?"; "why are they showing up here?"; "they are not our people, we can't feed them." No, that wasn't even uttered, nobody even batted an eye. Our First Nation said you have nobody feeding you, come and eat.

It's just these little things I feel is a cultural thing – that would be something my grandmother would do. Anytime you were at her cabin and you would see a boat coming, she would turn the coffee on and get cookies out, put them on a tray. So to me it was just absolutely normal when you go anywhere and see somebody helping you, you do what can what you can to give back to them. With the food situation at JRMCC, there wasn't even a question – of course that was going to happen.

– Anne Calladine

(Right) The Lac La Ronge Indian Band hosted a traditional fish fry at JRMCC for the workers and volunteers in the tri-community during the fires. Everyone was invited, regardless of the jurisdiction they came from. The fish fry was exactly like a shore lunch and everybody that came was like "wow, that is what the Band can do." Everyone cooking and cleaning were all volunteers. The sense of community was remarkable – that's what real community is.

– Anne Calladine

(left) My family was in English Bay during the fires. We were running meals out to them up to three times per day. After the fire had gone through English Bay once or twice, it was so dark I couldn't see anything and the visibility on the road was horrible. Driving through, it was just charred, black, grey, and eerie – like driving through a horror movie. That is something that really stands out to me.

– Anne Calladine

"WHITE FIREWEED"

Fireweed – Willowherb, rosebay-willowherb, Epilobium augustifolium

This perennial herb is a pioneer species that thrives in disturbed soils and thus, is the follower of the boreal forest fires. Fireweed is very useful to humans. The flowers, leaves, and shoots are all edible and many parts of the plant have medicinal uses. Fireweed also plays a huge role as a pollinator, providing huge amounts of nectar for the bees. One single fireweed plant can produce as many as 80,000 seeds per year. The white fireweed is extremely rare. It is said that the white variety is an indication of radiation from nearby uranium deposit.

Our family has watched in absolute awe and splendour as the forest that surrounds our home at Waden Bay has renewed and rejuvenated since the Eli Fire of 2015 burned property and forests adjacent to our home. The charred and lifeless landscape that resulted was synonymous with our exhausted and beleaguered spirits. However, rejuvenation and renewal commenced long before the final embers were extinguished. Relationships were kindled or solidified as a group of Waden Bay community members worked tirelessly to save the community. Relationship was further strengthened as firefighters from Sucker River arrived at a critical time and supported and taught us, albeit a very crash course, on firefighting strategy. Throughout the days that followed Eli's on again, off again threatening presence it was the efforts of so many from our community, our province and our country that strengthened our capability and resolve to continue to persevere. Property was lost but it could have been so much worse.

For our family, forest fire rejuvenation and renewal is two fold. In mere days the desolation was transformed by the purple fireweed. Our backyard bees produced more honey that year than ever. The most significant renewal for us however was the deepened respect and gratitude for our community and our Sucker River friends. We quite literally stumbled on the white fireweed on one of our many walks through the forest that surrounds our home. Last summer we started walking with our phones to take snapshots of flora that we had never seen before and could not identify. Rejuvenation sustains a myriad of species both familiar and unfamiliar, common and not so common. This white fireweed is one shining example. The essence of white fireweed is used to calm individuals after deep emotional shock or trauma. For us however, the solitary uniqueness of white fireweed signifies heartfelt friendship.

- Michelle Gale

(top left) This cup was only thing that survived the fires at our cabin. We lost a lot of things of sentimental value. The cabin is one thing, but the loss of the things inside of it were what hurt the most.

(top right) Stopping the groundfire near the bottom chalet at Don Allen trails.

(right) Travelling from La Ronge to English Bay by boat because the road was closed. I wasn't allowed through at the roadblock, so decided to take the boat. It was smoky!

- Nolan McKay

We have these spaces within our community that are like stepping off grid and into an untouched piece of paradise. I spend much of my time exploring these places and sharing this love of the boreal with my family and with families in my community. The threat of forest fires has always been a part of my life here in La Ronge and four years ago the threat caused us to evacuate our home and leave most of what we had behind. The important things were with me though, the irreplaceable family members.

Since the fires, I have seen our tree population around town dwindle as we become a "fire smart" community. This has involved the thinning of trees in places that surround residential areas and will supposedly slow the spread of fire as it will have less fuel. This past winter, an area by my house that I frequent daily fell victim to this practice. These photos reflect the before and after the "fire smart" practice was implemented.

The heart-breaking part about it really is that there was no consultation or warning before the trees were taken. The land was stripped of diversity, left defenceless against the winds, and all in the name of saving "things."

I will never walk through these woods again and see them as dense and lush as they were in my lifetime. My hope is that a new practice will come after this one where we understand that where we live comes with the risk of fire and not let it sway us into harming the land to prevent it.

- Larissa Muirhead
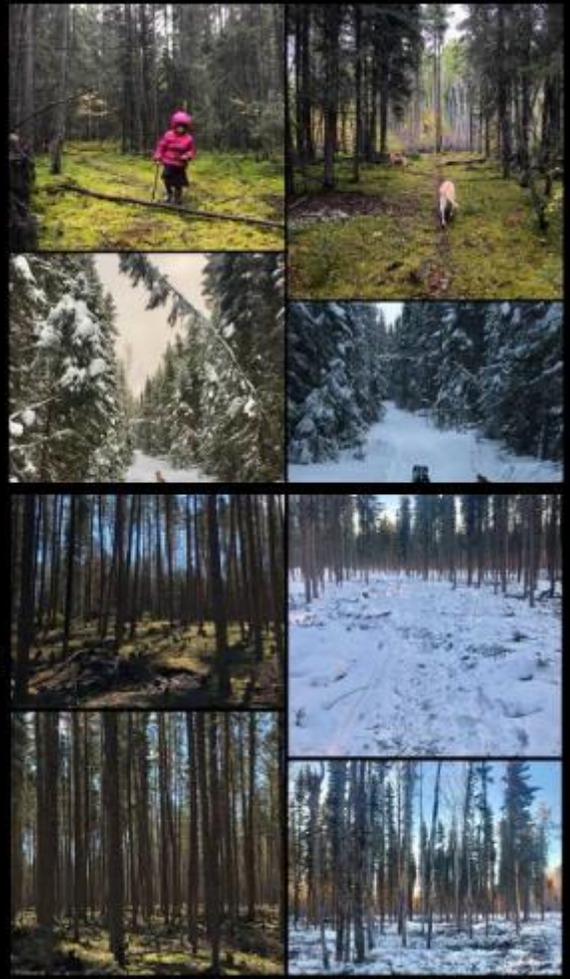
"WILD FIRE"

Jack pine trees now charcoaled stumps.

Ancient rocks unearthed, barren.

A nest of bones and scattered shells.

Trails leading to secret lakes a scrambled mess.

And our wilderness home – gone.

I want it back that cabin that sheltered us from winter storms and mosquito attacks.

I want it back that smell of earth promising life and new growth. To hear once more mother grouse call to her young.

Memories fall like ashes through hands that won't hold on.

Where are they now, our records of changing seasons, ice thickness, tracks seen in the snow, carefully noted year after year? Where did it go that knowledge of a place that no longer exists?

What do I know about this tarnished land with its bare bones sticking out like broken ribs?

Where had it come from this fire that roared over the land, claiming, reclaiming its territory, leaving ashes and feeble wills to rub against the hardened rock of an ancient earth?

Fire behaviours have changed, they say, the smart ones, who prepare for war. But I've seen what he feeds off, that dragon we bred, what ignites his flames.

Walking in its footsteps,

acrid dust in my lungs,

human traces extinguished,

rising out of the ashes

a new growth,

like a new hope –

this earth will survive,

resilient,

fertile,

without us.

–Miriam Körner

"RENEWAL"

After the fire and evacuation, it was a joy to see how quickly the plants started to grow again. The mats are made with charcoal from the burn to show the chaos and uncertainty of the fire.

- Sharon Feschuk

(right) Daily meals were given with donated dog food from various groups down south, such as the PASPCA, Western College of Vet Medicine, Saskatchewan SPCA, and more. The 'frontliners' experienced a lot of concern and empathy for the animals, many of whom were desperate for the meal. From sun up to sun down, each day of the evacuation, these volunteers went from house to house on a feeding schedule.

– Genevieve Candelora, Northern Animal Rescue)

Photo Courtesy of Jenna Clark

(left) This sweet mom and her pups, born prior to evacuation, were amongst many that were evacuated to foster homes in the south. Prince Albert SPCA, Western College of Veterinary Medicine, and other rescues throughout the province stepped up to house animals during the evacuation. In the face of a stressful time, both this mom dog and our volunteer, Jenna, experienced some calm and affection demonstrating the human and animal bond that is so valuable.

– Genevieve Candelora, Northern Animal Rescue

Photo courtesy of Miriam Körner

The impact on animals left behind during the wildfire was not only physical but also emotional too. Many were frightened or starved for affection, and faced the risk of dehydration and malnourishment. The stress of the situation made it difficult for animals to trust. Some animals were terrified and confused so volunteers, like Colleen, had to find ways to coax them to their food. A group of volunteers focused specifically on caring for animals left behind. These people went to great lengths to make sure that all animals' basic needs were met and they were the least stressed possible in the face of a very turbulent time.

– Genevieve Candelora, Northern Animal Rescue

Photo courtesy of Jenna Clark

"FIRE SEASON"

I grew up in a region that had a season named, Fire Season. My community was the home of a fire base, and so the sound of helicopters and Renewable Resource trucks ripping around the community picking up eager fire fighters was not foreign. In fact, it became a past time for me. As there was limited entertainment in my community, the anticipation of Fire Season always seemed to fascinate me.

I did not actualize the impact that fires had until the first time we were evacuated from our small community of Weyakwin. I was told that I could take one item that meant the most to me, and so I pleaded to take my red bike. It was all I needed, as it had given a sense of independence in a small way, and I wasn't going to leave it behind. My grandmother told me it was too big to haul, but thankfully the woman that would transport us was a bit more understanding and tied my bike up on the roof of her station wagon. The trip to Saskatoon was an adventure, and I pretended I was going on a great vacation. After a few days into my adventure, the stress of wondering if we still had a home to go home to set in. I loved visiting my aunt in Saskatoon, but it wasn't the same, it wasn't our home. Thankfully, the fire was extinguished, and we got to go home.

In 2015, we experienced a longer evacuation, and the stress I felt as a child was synonymous. It seemed, though, that the losses would be larger. We had a home, a life we made in the beauty of the north, and the ties of community friendships were at stake. We would be separated from our normal sense of living for two full weeks. My husband and I spent those weeks volunteering for the Prince Albert Grand Council, transporting evacuees from venue to venue. There were many challenges that the evacuees faced, and as a transportation volunteer, I became aware of the scope of some of these issues, but more so the issues people who are most vulnerable in society faced as evacuees. There was a woman I had to pick up and drive to Super Store. She had a purchase order from the Red Cross to pick up the essentials she needed. As we drove, she told me how she and her four children slept on cots. The youngest was two years old, and in fact it was his birthday that day. She told me how she could not sleep with her baby, like she did at home, because the cots were too small. She said she and her other children placed their cots around the baby so he would feel safe and secure. She said they didn't sleep much because of the noise in the gymnasium they were sleeping in. While she grocery shopped, I quickly grabbed a birthday cake, and some gifts a two year old boy might like, and gave them to her after I dropped her off. My heart broke with the many other stories that came through. I talked to those struggling with addictions, those whose families were placed in different cities. The one theme that came from the many conversations I had with people was they knew the evacuation was temporary, and most had faith in the heroes that were fighting the fires to protect their homes.

These experiences, both as child and as an adult, I understand and value what community really means. The idea of groups coming together as helpers to ensure the safety of all is a testament to humanity. Were we prepared? I think each evacuation is a teachable moment, there are lessons we can all learn and teach one another. The greatest lesson I learned about my own First Nation people was just how strong we are, and when there is a call for help in situations such as evacuations, our people will work around the clock, at whatever the cost to ensure the wellbeing of everyone. I was especially proud to see the work of the Prince Albert Grand Council during the evacuation. As uncomfortable, and as stressful the circumstance was, they put all their resources forward for the evacuees to ensure everyone had a little sense of home during a trying time. From offering transportation service, feeding Elders traditional foods, providing recreation opportunities for the children, and some live entertainment to help pass time, they did a great service at a time of need.

- Nancy Lafleur
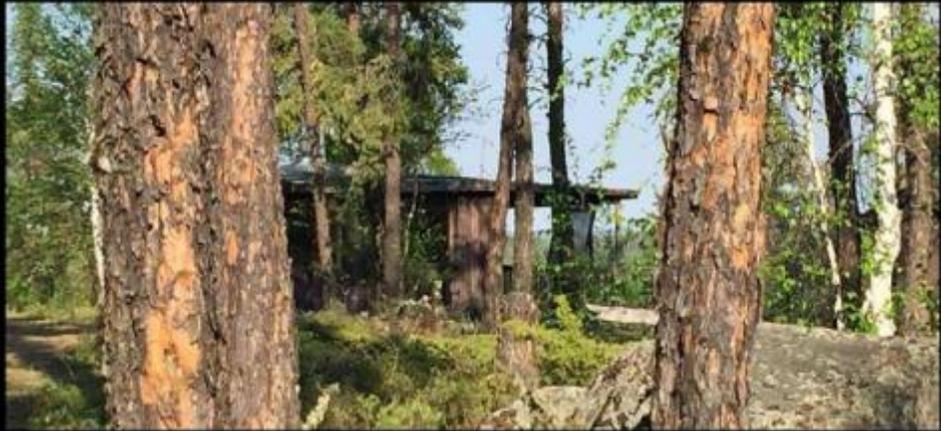
In 2015, knowing the fire was fast approaching, I hiked the
Don Allen Summit Trail for the last time. Don Allen's grandson finished his hike shortly before I finished my barefoot walk.

- Mick Lessard

"THE BIRDS"

The Birds is a macabre short story written by Daphne Du Maurier, a British writer, which was published in 1952. Alfred Hitchcock later made a film based on the story. In the story the bird's migration pattern changed, allegedly due to harsh weather, and they became hungry and eventually violent, attacking people first of all, in a small village and eventually the whole country.

Ever since reading the story many years ago, I have been a little spooked by birds who behave unusually and aggressively. This was no more so than when I returned to Air Ronge after we were evacuated in 2015, due to the wildfire.

I was one of the first to arrive back, after our two-week evacuation. I headed north as soon as we were given the all clear and as I drove into Air Ronge, it felt like I was entering an abandoned community, a ghost town. There was no one around.

When I arrived at my home, I got out of my car and was greeted by a loud and aggressive group of ravens, who were wheeling and swooping above and around me, as I made my way to the house. It felt like they had taken over in our absence.

- Susan Halland

"IMPACT OF 2015 WILDFIRE"

This year as the snow melted and spring proceeded, I was happy to see some early rain showers. Then, we entered a dry period and my anxiety levels rose. We went days without rain. Since the 2015 wild fire season I experience the same feelings each spring. Please let it rain! It's too dry! When the rain finely comes, I feel a huge sense relief.

Although some people experienced much more traumatic situations, with the fire literally licking at the edge of their properties, I feel the 2015 wildfire had an impact on me. The very act of being evacuated from my home, was difficult. As we left town, we travelled slowly past the recently burned out area around Weyakwin and witnessed a smoking, charred landscape with fire still licking up tree trunks. I didn't know what to take with me, so I chose silly things, not knowing what I would come back to. Even though I was staying with family, I felt dislocated, unsettled.

When we eventually returned, our homes were just as we had left them, thanks to the kind volunteers who kept our homes safe, even watering plants on the deck.

- Susan Halland

This photo was taken after the 2015 wildfire at the Neimeben Lake Campground, a much loved picnic spot, which was almost entirely destroyed. I toured Nemeiben Lake by boat after the fire and was saddened by the tremendous destruction around much of the shoreline.

(right) On June 27, 2015 the situation changed dramatically at North Bay, Nemeiben Lake. After a week of listening to the helicopters over the hill to the west, the mushroom cloud erupted again. As the flames approached, it became apparent the it would soon be decision time. I was by myself, so once the last sprinkler preparations were complete, I loaded my gear in the Cessna 180. The boat was left secured at the dock with he keys in the ignition, and took off with the aircraft seeking shelter at my friends cabin 11 miles north on the Churchill River.

- Doug Chisholm

(left) By July, the smoke had settled and the terrain at North Bay, Nemeiben Lake was mostly black. On July 1, 2015 we went for a motor boat ride to check out the cabin sites for some of our neighbours. A sad scene, we reflected on the traditional log cabin site of our neighbour on the east side of North Bay. Note the moose horns on the tree...

- Doug Chisholm

This photo of puddles on the sidewalk was recorded on June 9, 2015 near the Narrows on Nemeiben Lake. Some rain through the early hours of June 9, brought clear skies and an opportunity to consider the impact, the shock of such a sudden and dramatic event. On this day, the opinion at the Fire Control Branch was that more rain would soon follow, and that managers would continue to assess the situation. The log cabin which had stood at this location for 45 years, had completely burned to the ground on the night of June 7/8. Elderly neighbours at a cabin 1 km northeast of the Narrows, talked of the massive flames and the explosion of propane tanks through the night. This was the first of more than 20 cabins destroyed on Nemeiben Lake over a 3 week period. As it turned out... that rain just did not return.

– Doug Chisholm

(left) It took a community to keep our house safe, like Matt and Hugh right after the firestorm when it looked from the highway that our house was burned. To them and their ad hoc crew, the Dubnicks, and the McKay household and their equipment from English Bay, we say yet again, "Thank you for helping to save Mile 8."

- Trudy Conner and James Irvine

(right) Devastation was all we could see through tears as we drove up our long lane to our house at "Mile 8" for the first time after the fire. It was, and is, our daily drive. We used to call that laneway "charming". No longer. We used to have a house in the forest. We still had the house, but not the forest.

- Trudy Connor and James Irvine

The dogs were evacuated for even longer than we were. Mitho says it for all of us on his first day back... "So good to be back home." We'd worked hard watering the bush before the fire, then putting out spot fires or flare-ups, and cooling hot spots after. Yes, we were tired both physically and emotionally, yet so relieved.

- Trudy Connor and James Irvine

The sun is a silhouette in a cloudless sky. Smoke hangs above the street. Stinging eyes. Shortness of breath. Closing windows in the house provides no relief.

During the summer of 2015, many people left their homes long before the mandatory evacuation was enforced. The elderly, young children, pregnant women and those with respiratory conditions suffered from the effects of wildfire smoke long before the fire itself threatened the community. With changing environmental conditions, if wildfires are to become the "new normal", it would be wise for the community to seek out and implement designs that would allow for clean air spaces in comfortable public places suitable for all ages. Smoke can travel a long way.

- Linda Mikolayenko

"EVACUATION ROLLERCOASTER LEGACY"

Some trees continue to fall; new plants take root; we continue to rollercoaster through our busy lives in this boreal forest, four years after wildfires caused the evacuation of more than 14,000 people from northern Saskatchewan.

Life goes on in northern Saskatchewan with daily business, but we remember.

When we experience smoke from a faraway wildfire, we feel the tension and hear several people say, "La Ronge is going to burn next time."

I know of people who kept bags packed for a long time after, maybe still.

Sometimes you don't notice, because life is busy and, as usual, we rollercoaster on in our three communities.

We've had a heartbreaking crisis since the wildfires, young people suiciding, resulting in immense pain and hopefully learning for families, friends and communities.

Planning a trip to Victoria more than a year ago, I felt extreme anxiety. I didn't know what was happening. I thought I was having a heart attack. Finally, the realization! Anxiety taking me back to the evacuation and a time when I could not get home. Maybe I won't get home this time?

For so many of us, at the time, the focus – wanting to get back home. Would we have homes to come back to?

A legacy – Home becomes precious. You realize it more when you're separated from it and don't have control about getting home again.

We often take things for granted. Going on a simple trip and coming home. But, many of us learned, it's not always so easy.

I think of people who are evacuated often it seems. Does it become a norm? Or, how do they deal with it?

A very dear friend to me, many others, and the Northerner, Alison Ballentyne, didn't make it home from the evacuation. I miss her

For me, I remain amazed at my feelings about the evacuation..

I wrote a newspaper on a friend's kitchen table, remained on the media conference calls daily, but knew also there was much going on in the community that I couldn't get home to cover.

Another legacy for me – I'm not fond of leaving home for any length of time. Somewhere in my being is the question, "Will I get home again?"

he La Ronge Northerner ceased to exist just days after we got home; a great loss to the community and northern Saskatchewan. We lost a voice for northerners – yet another legacy.

Gratitude for those who kept our homes and pets safe is another legacy.

Maybe my biggest legacy – I look out over the lake on this sunny morning: I am so blessed to make my home here.

Gratitude for those who kept our homes and pets safe is another legacy. Maybe my biggest legacy – I look out over the lake on this sunny morning: I am so blessed to make my home here.

Many legacies exist for those of us evacuated in 2015. For each of us, our legacies will be different, our own.

Evacuation certainly rollercoastered through our lives and left many legacies, learnings and realizations woven into the fabric of our lives and communities.

– Valerie G. Barnes-Connell

(right) This picture was taken on a day where the smoke had been lifted due to the wind shifts. Many other firefighters and I were standing in the La Ronge Regional fire hall parking lot for one of our meetings. It was nice to finally be able to see since the grey smoke had been lifted but the puffing smoke off in the distance reminded us that there was still much more work to be done.

(bottom) This picture is of a fire break in the industrial park. My team and I were watching this to make sure no fire came through. You can see the fire off in the distance and the grey-orange haze that fell all over town. Many hours of work had been done by people who had stayed in town to help protect homes, businesses, and the community.

- Alana Lapworth

This picture is of the bridge into the Nemeiben campground.

In 2015, I was working for the park as an interpreter and a park clerk. Just before the official evacuation was called, I was supposed to lead a group of 12 people on an overnight hike to marker 6 at Nut Point. I was upset that I couldn't go on this hike and was never able to reschedule it due to the damage from the fire. I was also saddened to see the damage to the Nemeiben campground because of the Egg Fire. This campground had another great hike and was one of Lac La Ronge Provincial Parks' most popular camping spots. It was the perfect spot: far enough away from civilization for relaxation, but only a few minutes from town if you needed anything. It will take many years to rebuild this once beautiful camping spot.

– Alana Lapworth

These photos represent three different ways in which I was impacted during the 2015 fire season: physically being in harm's way; mentally feeling secluded from the world; and emotionally, through the loss of an important community event.

"MIDNIGHT AT FIRE BASE"

The La Ronge Fire Base was figuratively and geographically the last thing standing between the Egg Fire and the west side of La Ronge. As the communities were being evacuated around us, we stayed. The Fire Base was on evacuation standby and I was fearful that the fire would reach us soon. Then a veteran firefighter put his hand on my shoulder and said "Don't worry Miss Brown, we've got this. We're not going to let that fire take us down". This photo was taken at midnight to show the glow of the fire creeping up on us.

– Michelle Brown

"ABANDONED"

(right) I will never forget the feeling of an empty community. It was like driving through a ghost town or a war zone. No traffic, no people, no animals. It was unreal, unimaginable, and undeniably eerie.

- Michelle Brown

"ELKS FAIR"

(left) The annual Elks Fair is normally held on this property just north of La Ronge. In 2015, the communities lost out on the event. However, the camp that was set up here helped the communities from losing more than just the Fair.

-Michelle Brown

In order to protect the boundaries of the community, a controlled burn was initiated to mitigate the potential spread of the Egg Fire. For several minutes, it was quiet, but then the mood changed…

What you don't see in this picture are the reactions of firefighters from across the province who stood in the Fire Hall parking lot, watching this controlled fire grow. You don't hear the unease in their voices as they discussed the "what ifs" of the days to come. You don't smell the smoke saturated air. This was a time of a lot of uncertainty mixed in with fear.

There were many moments like this during the evacuation of the communities and in the two weeks that followed. However, in the aftermath of this unprecedented event what resulted were the bonds and friendships that developed amongst the firefighters from La Ronge and the 24 Saskatchewan Fire Departments that came to our aid.

We came together for one common reason and one common cause… to protect lives and property.

– Yvette Dirks

This picture shows a few of the Fire Departments who were present in La Ronge during the Egg Fire. In total, 23 Fire Departments from Saskatchewan, along with Parks Canada Personnel, responded to La Ronge over the two week emergency.

Aberdeen, Balgonie, Battleford, Bethune, Britannia/Wilton, Buckland, Carrot River, Dalmeny, Humboldt, Langham, Melville, Muskoday First Nation, Nipawin, North Battleford, Osler, Outlook, Parks Canada, Pilot Butte, Prince Albert, Regina Beach, Saskatoon, Tisdale, Vonda, Warman

We became an even closer family of firefighters during this time. Friendships and bonds were formed, and when the incident was over, for me, it was sad to see everyone go.

– Yvette Dirks

COMMENTS AND FEEDBACK
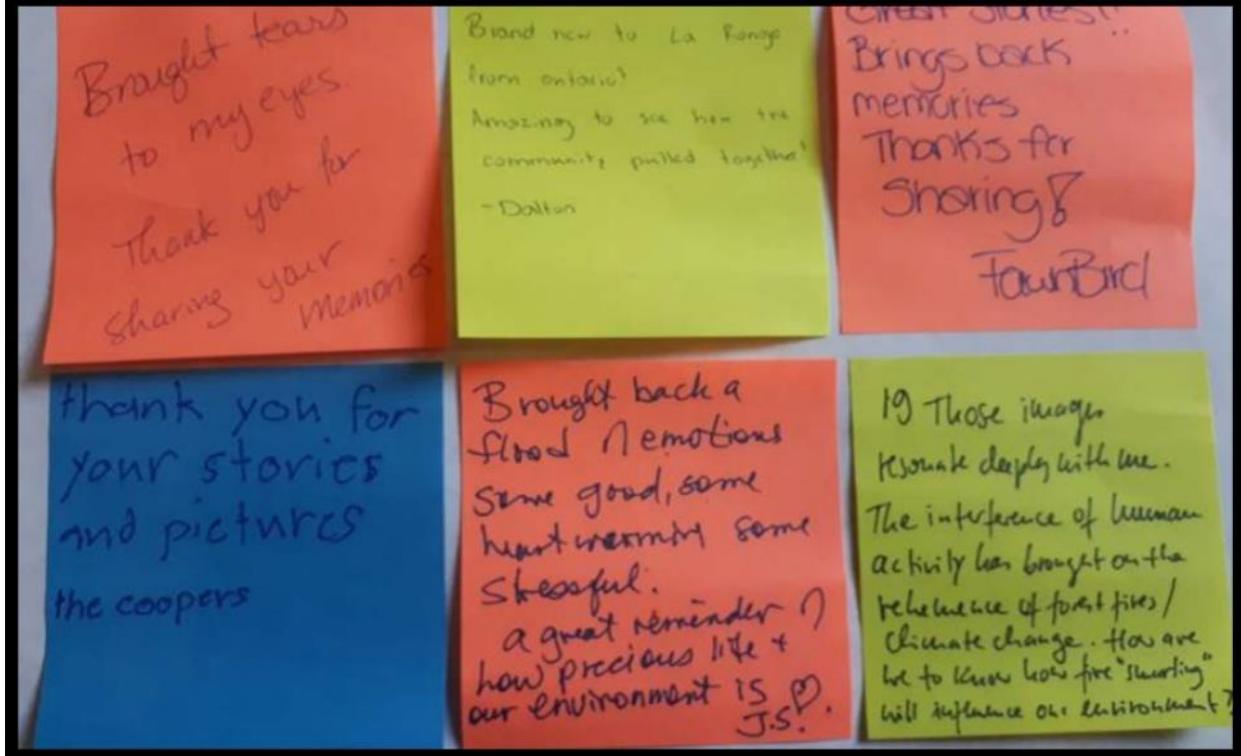
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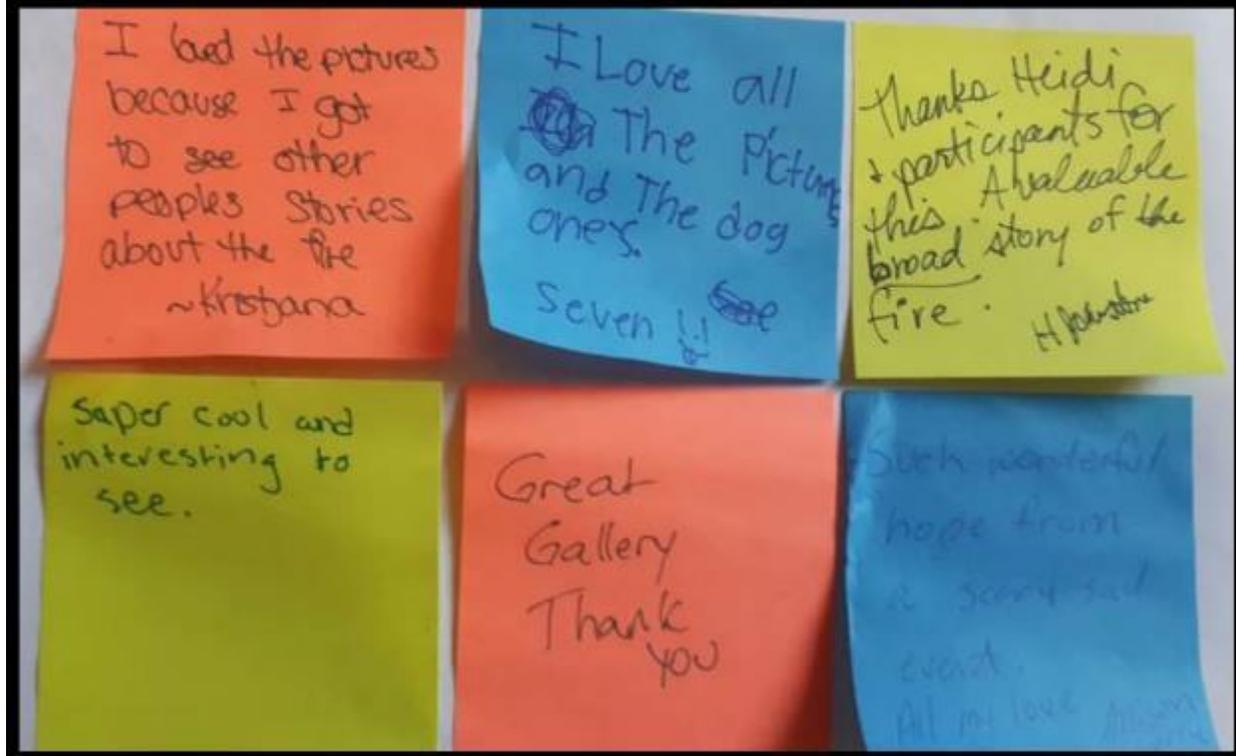
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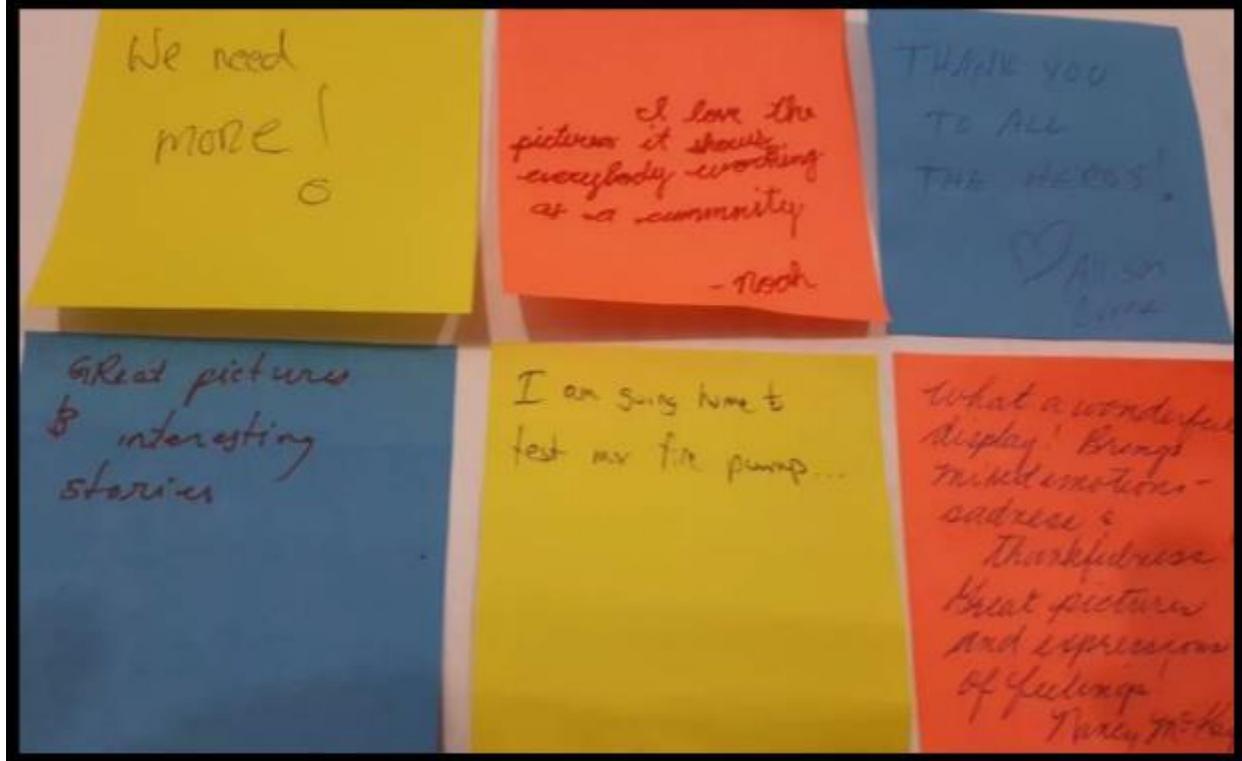
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We welcome your thoughts on this project!

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