RESTOR(Y)ING FIRE LANDSCAPES:

WILDFIRE RECOVERY, CO-MANAGEMENT AND RESTORATION IN SECWEPEMCÚL̓ECW

by

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Abstract

Worldwide, the increasing frequency and severity of 'megafires' poses a growing risk to people and ecosystems alike. While conservation scientists highlight the need to better understand how ecosystems are affected by and recover following megafires, Indigenous peoples are re-asserting jurisdiction to their lands and waters by leading the recovery and restoration of fire-affected territories. In this dissertation, conducted in collaboration with the Secwepemcúl̓ecw Restoration and Stewardship Society its member Secwépemc Nation communities, I examine how Secwépemc communities and territories are recovering from the 2017 'Elephant Hill' megafire in British Columbia (BC), Canada, and the role of Indigenous-led restoration in restoring fire-adapted and fire-affected landscapes. Through semi-structured interviews, participant observation and plant community ecology methods, I document drivers and processes of both community-led and ecological recovery. Chapter 3 documents Secwépemc experiences of and engagement in wildfire management, with a focus on the collaborative governance of wildfire recovery. In describing the 'joint leadership' approach to recovery, this chapter identifies 'lessons' – successes, strengths, and challenges – to inform ongoing recovery and future wildfire response. Guided by the Secwépemc *Declaration on the Understory*, the fourth chapter analyzes the recovery of understory plant communities, with a focus on plants of high cultural significance to Secwépemc people. The high richness of culturally important plants recorded in areas that burned at low to moderate-severity, and in subalpine forests, highlights the strong potential of Indigenous fire stewardship to guide restoration and the ongoing eco-cultural importance of high-elevation landscapes to Secwépemc people. The fifth and final chapter describes Secwépemc Elder Ron Ignace's concept of 'walking on two legs' (WO2L) to guide collaborative research and restoration in Secwepemcúl̓ecw and other Indigenous territories: the

restoration of land *by* and *to* Indigenous peoples. These interdisciplinary and mixed-methods inquiries advance theories of collaborative environmental governance and the politics and production of knowledge, while responding to calls for a new megafire ecology to better understand the effects of large, high-severity wildfires on species, communities, and ecosystems. Collectively, this dissertation highlights the need to strengthen Indigenous leadership in wildfire management, and to support pathways of recovery that attend to the interconnections between land and community wellbeing.

Lay Summary

Worldwide, large wildfires are increasingly threatening both people and ecosystems. While many scientists are focussing on the ecological impacts of these fires, Indigenous Nations are advocating for a greater role in leading wildfire recovery and restoration throughout their fire-affected territories. In this dissertation, conducted in partnership with Secwépemc First Nations, I document how these communities and territories are recovering following the 2017 'Elephant Hill' wildfire. Secwépemc communities led a joint approach to wildfire recovery with the provincial government, in the process building new relationships and trust. However, this fire had significant impacts on communities and the land, including culturally significant plants, and communities continue to face barriers in leading wildfire response and recovery. Secwépemc Elder Ronald Ignace's concept of 'walking on two legs' can guide future research and restoration in ethical partnerships with Indigenous peoples, elevating Indigenous stewardship goals and prioritizing restoration of land *by* and *to* Indigenous peoples.

Preface

This dissertation is based on collaborative research with the Secwépemc Nation, specifically the Secwepemcúl̓ecw Restoration and Stewardship Society (SRSS; Chapter 3), St̓uxwtéws (Bonaparte First Nation; Chapter 4) and Skítsesten (Skeetchestn Indian Band). This research was co-developed with these community research partners, with strong guidance from my two co-supervisors Dr. Lori Daniels and Dr. Shannon Hagerman and my committee members Dr. Ronald E. Ignace and Dr. Marianne Ignace.

The research presented in Chapter 3 and in the discussions with Skeetchestn community members drawn on in Chapter 6 (Conclusion) was approved by the University of British Columbia's Behavioural Research Ethics Board (Certificate H20-00473), with formal letters of support from the SRSS and Skeetchestn Indian Band's Chief and Council, respectively.

The research presented in Chapter 3 was designed by me and the SRSS First Nations Technical Table, with guidance from Dr. Hagerman and strategic input from Dr. Daniels. This research collaboration was formally endorsed by the SRSS Board of Directors (comprising elected Kukúkpi7 – Chiefs) in March 2020. Together with the SRSS and the First Nations Technical Table I identified research objectives, developed the research methodology and determined overarching themes for the interview schedule. These were refined following feedback from Dr. Hagerman. I undertook data collection with my research assistant Char John (Natural Resource Community Coordinator with the SRSS) and led data analysis and writing with input from Char John and feedback primarily from Dr. Hagerman and SRSS CEO Angela Kane, as well as from Dr. Daniels, Dr. Kelsey Copes-Gerbitz, and members of the SRSS First Nations Technical Table. The Preface of this report duplicates minor components of Chapter 5, such as quotes from Secwépemc leadership and text contributed by Drs. Ron and Marianne

Ignace. This ‘chapter’ has been published as a public report (print and PDF) by the SRSS, with the citation: Dickson-Hoyle, S. and John, C. 2021. *Elephant Hill: Secwépemc leadership and lessons learned from the collective story of wildfire recovery.* Secwepemcúl̓ecw Restoration and Stewardship Society. This report was launched at Tk’emlúps te Secwépemc in December 2021. Copyright for this report is held jointly by me and the SRSS. This report has been incorporated into this dissertation ‘as is’, without reformatting, with permission from the Faculty of Graduate and Postdoctoral Studies. It is anticipated that two manuscripts based on this report will be submitted for publication in an academic journal.

Chapter 4 was designed by me and Dr. Daniels, with input from our collaborators at St̓uxwtéws. The research presented in this chapter is part of a larger joint research project initiated by former Kúkpi7 (Chief) Ryan Day and Dr. Daniels in 2017. Fire severity and plot environmental data were collected by Arial Eatherton, Adrianne Lam, Corbin Manson, Judah Melton, Devon Stewart, Dario Antoine (St̓uxwtéws) and Kiva Morgan (St̓uxwtéws). I collected understory vegetation data with help from Arial Eatherton, Ceilidh Smith, Bert William (St̓uxwtéws), Bryan Isnardy (St̓uxwtéws), Daytona Retasket (St̓uxwtéws) and Tyler Zabotel (St̓uxwtéws). Information on culturally significant plants was provided by Joanne Hammond at Skeetchestn Natural Resources Corporation under a data sharing agreement, with additional input from Samantha Draney (cultural heritage team lead and GIS officer at Skeetchestn Natural Resources Corporation, and Skeetchestn community member). Composite Burn Indices were calculated by Dr. Florencia Tiribelli. I conducted analyses with help from Dr. Florencia Tiribelli, Jen Baron and Dr. Carly Phillips. Dr. Daniels provided input at all stages of the research, with additional feedback from Dr. Shannon Hagerman, Dr. Marianne Ignace, Dr. Ronald E. Ignace, Shaun Freeman (Skeetchestn Natural Resources Corporation) and Samantha Draney. A version

of Chapter 4 will be submitted for publication in a journal with me as lead author and Stuxwtéws, Skeetchestn Natural Resources Corporation, Arial Eatherton, Lori Daniels, Florencia Tiribelli and Jen Baron as co-authors.

Chapter 5 is a conceptual chapter co-designed by me, Dr. Hagerman, Dr. Marianne Ignace and Dr. Ronald E. Ignace, with input from Dr. Daniels and Dr. Kelsey Copes-Gerbitz. This chapter is framed around Secwépemc Elder and former, longstanding Kúkpi7 Ronald E. Ignace's concept of 'walking on two legs' and is grounded in the knowledge and wisdom of Secwépemc Elders, with whom Ron and Marianne have worked for decades. I am incredibly grateful for the trust placed in me to help share this with a wider audience and the permission to incorporate it into this dissertation. As such, I have kept the 'we' wording and framing as this Chapter was initially written. I led the writing, with case studies contributed by Dr. Marianne Ignace, Dr. Ronald E. Ignace and Dr. Copes-Gerbitz, with input from Dr. Hagerman and Dr. Daniels. Text for the description of walking on two legs was contributed by Marianne and Ron. A version of Chapter 5 has been published in *Restoration Ecology* as part of a Joint Special Feature on the UN Decade on Ecosystem Restoration with British Ecological Society Journals with the citation: Dickson-Hoyle, S., Ignace, R.E., Ignace, M.B., Hagerman, S.M., Daniels, L.D. and Copes-Gerbitz, K. 2022. Walking on two legs: a pathway of Indigenous restoration and reconciliation in fire-adapted landscapes. *Restoration Ecology.* 30(4): e13566.

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List of Abbreviations

AOA	Archaeological overview assessment
BC	British Columbia
BCWS	BC Wildfire Service
CBI	Composite burn index
DMH	District of 100 Mile House
DTR	District of Thompson Rivers
EMBC	Emergency Management BC
EOC	Emergency operations centre
FLNRORD	BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development
FNESS	First Nations Emergency Services Society
G2G	Government to government
ha	hectare
IC	Incident commander
IEK	Indigenous ecological knowledge
IK	Indigenous knowledge
IMT	Incident management team
IR	Indian Reserve
ISC	Indigenous Services Canada
JLC	Joint Leadership Council
JTC	Joint Technical Committee
km	kilometers
NMDS	Non-metric multidimensional scaling
NSW	New South Wales
OCAP	Ownership, control, access, possession
PAR	Participatory action research
PFR	Preliminary field reconnaissance
PREOC	Provincial regional emergency operations centre

RCMP	Royal Canadian Mounted Police
RPF	Registered professional forester
SRSS	Secwepemcúl̓ecw Restoration and Stewardship Society
TRC	Truth and Reconciliation Commission of Canada
UBC	University of British Columbia
UN	United Nations
UNDRIP	United Nations Declaration on the Rights of Indigenous Peoples

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Xyemstém-kucw xwexwéyt re steťex7ém-kt – in keeping with protocol, and on behalf of my committee members Ron and Marianne Ignace, I honor and acknowledge all Secwépemc Elders who have taught them for the past four decades. Many of these Elders have left us but their knowledge has left a deep legacy.

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Thanks to my amazing 2021 Elephant Hill field crew Arial Eatherton and Ceilidh Smith: I don't even begin to know how to thank you for that summer. Thank you for all the plant nerding and woah bear no bears, for working tirelessly through such difficult conditions, for reinforcing the importance of connecting with community, and for introducing me to The Office. Arial, thank you for being the best co-lead I could ever have hoped for, I really don't know where I or this project would be without you (probably disoriented and confused on a mountain somewhere, looking for a long-lost plot center marker…). Special thanks to the 2018 and 2021 field teams from Sṯuxwtéws: Dario Antoine, Bryan Isnardy, Kiva Morgan, Daytona Retasket and Tyler Zabotel. Florencia Tiribelli, Jen Baron, and Carly Phillips, thank you for patiently guiding me through stats and helping me make sense of these data.

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To Dr. Cash Ahenakew and the late Dr. Michael Marker, thank you for welcoming me into your Indigenous research classes and bringing me into dialogue with such a rich history and diversity of Indigenous scholars. Thank you to my Master's supervisors Dr. Ruth Beilin and Dr. Karen Reid, for first inspiring my love of fire research, environmental social sciences and qualitative methodologies.

Thank you to the funders whose financial support made this research possible, including the UBC Public Scholars Initiative, the UBC Faculty of Forestry's Indigenous Community Research Seed Fund, the Namkoong Family Fellowship in Forest Sciences, and the Future Forests Fellowship. Thank you to former Dean of Forestry John Innes for encouraging me to apply to this fellowship in the first place, and to current Dean Rob Kozak for being such a champion of this work. I also want to thank the incredible team of administrative and program who work tirelessly to support grad students and keep these programs running: Natasha Thompson, Andrea Chan, Joanne Dean, Scheyla Weiss, Gayle Kosh and Julie Morey. Thanks Steph Troughton and Lou Corpus-Bosshart for being such media superstars. A huge thank you to Dr. Serbulent Turan for being such a tireless advocate for public scholarship and my work, this dissertation truly would not be what it is without your support.

To my friends far and near, to the Loons on the Moon, and to the ever-changing but ever-present house at 1333, thank you for encouraging or sharing this PhD journey, for welcoming me to Vancouver, for family dinners and taco nights, and for making Covid lockdowns that much

more bearable. Thank you to Mary Reher and Andy Nowak for trusting an almost-stranger for two weeks on your property on Pender Island, and to Keenan Nowak for making this happen. Chapter 4 will forever be associated in my mind with that little off grid cabin high on an arbutus ridge, long summer days writing and swimming, and working in your beautiful garden.

To my parents, thank you for your unending love and support throughout all these years of study. No matter how many times I move cities or fly halfway around the world, I will always think of you as home. Thank you, mum, for that off-hand comment of "I always thought you would do a PhD". I may never have had the courage to make this decision without you.

And to Luis – of all the words in these hundreds of pages, these have been among the most challenging to find. Thank you for always making me laugh (and being there when everything felt too much, and I needed to cry), for reminding me to take time for myself or go and sit by the water, for my new home away from home in Puebla, and for teaching me more than this thesis ever could. If we can meet and stay together through me starting and finishing a PhD, and through a pandemic and border closures, we can make it through anything. Gracias por todo, cara de girasol.

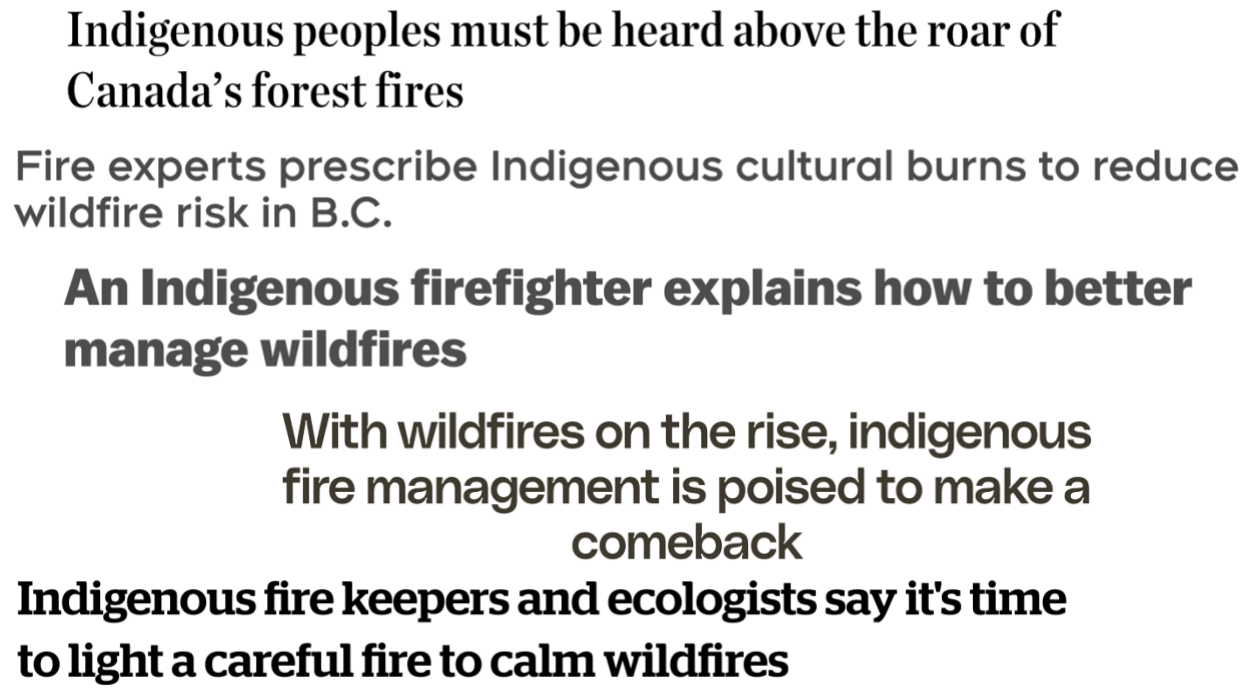
Dedication

For Secwepemcúl̓ecw, and for Secwépemc people who continue to fight to uphold their rights and roles as yecwmín̓men throughout this territory.

Artwork credit: Tania Willard, Secwépemc Nation

Chapter 1: Introduction

1.1 Background



If you've been paying attention to the news in recent years, you might have seen these, or the many similar, headlines featured across media outlets worldwide. The 2019/2020 Australian 'Black Summer' bushfires and the 2021 wildfire season in British Columbia (BC), Canada – in my home country and my home for the past four years, respectively – triggered a noticeable shift in attention in mainstream media and public discourse towards the role of Indigenous fire management in mitigating wildfire risk, as well as to the unique and disproportionate impacts of wildfires and other climate-related disasters on Indigenous peoples.

But what *are* the impacts of recent megafires on Indigenous communities and territories? How are Indigenous peoples and Nations engaging in and leading contemporary wildfire management, and what barriers do they continue to face? What does 'true partnerships' or

'shared responsibility' mean, and who defines this? And what are Indigenous peoples' priorities for managing and restoring fire landscapes? These are just some of the questions that guide this dissertation, which examines the diverse ways in which Secwépemc Nation communities and territories in BC are responding to and recovering from recent megafires, with the aim of supporting Indigenous peoples in leading (wild)fire management and restoration throughout their territories.

Below, I briefly review the state of knowledge and practice, and emerging research, in Indigenous wildfire management, and discuss how increasing megafires – defined as spatially and temporally continuous fires exceeding 10,000 ha in area (Linley *et al.*, 2022) – are shaping new pathways of recovery and restoration in Indigenous territories. I then summarize key knowledge gaps and provide the study context of this dissertation, including research objectives and questions, as it relates to these gaps. Finally, I describe the conceptual framework that guides my research to address these questions.

1.1.1 Indigenous engagement and 'true partnerships' in contemporary wildfire management

The growing intensity and impacts of wildfires worldwide – a hazard increasingly manifesting as 'disasters' with significant social, economic and environmental costs and underlying socio-political causes (Buckle, 2001; Neale *et al.*, 2019) – has prompted calls from fire scientists and managers for transformative change in how societies live with and manage fire (Higuera *et al.*, 2019; McWethy *et al.*, 2019; Copes-Gerbitz, Hagerman and Daniels, 2022; Hoffman *et al.*, 2022a). These calls are set against the backdrop of an increasing focus in numerous national and international disaster management policies (National Emergency Management Committee, 2009; United Nations, 2015) on 'building community resilience' and a

'shared responsibility' for managing a range of risks (McLennan, Reid and Beilin, 2019; Atkinson and Curnin, 2020; Beilin and Paschen, 2021). Collectively, this reflects a paradigm shift – in thinking if not effectively in practice - from the longstanding 'command-and-control' (Holling and Meffe, 1996) approach to controlling hazards: an approach rooted in hierarchical military structures in which decisions from centralized authorities are based on 'expert' knowledge and imposed in a top-down manner on affected communities (Alexander, 2002; Maguire and Hagan, 2007). This command-and-control approach positions communities – in particular, Indigenous communities – as vulnerable to, or victims of, disaster, rather than as sources of expertise on their specific local and socio-cultural context. Numerous scholars have also argued that vulnerability discourse and associated research largely ignores how legacies and ongoing structures of colonization and marginalization expose these communities to vulnerabilities, or how state-driven interventions can exacerbate disaster impacts (Krieg, 2009; Howitt, Havnen and Veland, 2012; Thomassin, Neale and Weir, 2018; Williamson, Markham and Weir, 2020; Montesanti *et al.*, 2021).

In contrast, government policies promoting 'community resilience' and 'shared responsibility' (National Emergency Management Committee, 2009; Public Safety Canada, 2019) state that all actors in society have a responsibility for managing risk and that communities have an important role to play in contributing to disaster resilience, particularly when disasters stretch the limits of centralized emergency services and government agencies (Lukasiewicz, Dovers and Eburn, 2017; Atkinson and Curnin, 2020). In principle, sharing responsibility implies empowering citizens to exercise greater agency to protect themselves and their communities (Lukasiewicz, Dovers and Eburn, 2017; Crosweller and Tschakert, 2021). However, critics have argued that resilience and shared responsibility policies are often silent on how power or

resources will be equitably shared with ‘communities’, and instead have resulted in an individualization of risk, in which risk is shifted to individuals who are expected to participate in and comply with government policies and programs (McLennan and Handmer, 2012; Beilin and Paschen, 2021).

This limited understanding of resilience, focussed on individual adaptation and coping, shifts attention away from structural and justice-related issues and towards individual action (MacKinnon and Derickson, 2013). Further, the individualization of risk and framing of ‘shared responsibility’ as civic responsibility ignores the context of ongoing Indigenous rights and title throughout Indigenous territories, as distinct from the rights and responsibilities of individual citizens. As Beilin and Paschen (2021: 516; 526) argue, government approaches to resilience still involve a centralized and standardized way of operating in which “the state imposes government aspirations rather than responding to or understanding how community forms and operates”, and communities are expected to share responsibility by doing “what they’re told”.

As the focus on disaster resilient communities has shifted attention towards community roles in prevention and preparedness (Lukasiewicz, Dovers and Eburn, 2017; Atkinson and Curnin, 2020), the ‘responsibility’ of communities during disaster response and recovery remains restricted to following government directives and acting on information provided (Beilin and Paschen, 2021). In the context of wildfire, as Reid, Beilin and McLennan (2018: 254) state, “in effect, the agencies expect householders to take responsibility in the planning, preparation, and mitigation phases of [wildfire] management. But during an event the agencies take back responsibility”. These ‘events’ – whether short timeframe hazard events or prolonged periods of crisis – are used to legitimize the imposition of dominant cultural values, responses to and understandings of ‘disaster’, and the assumption that expertise resides in state agencies and

specialized response organizations rather than in local communities (Veland, Howitt and Dominey-Howes, 2010; Howitt, Havnen and Veland, 2012). In this context, as Howitt, Havnen and Veland (2012: 51) argue, government disaster responses "re-inscribe contemporary political and cultural landscapes with patterns that are colonial in effect and impose substantial risk and cost on Indigenous peoples".

Recently, however, government inquiries into major wildfire seasons worldwide have identified the need for more meaningful engagement with Indigenous peoples. For example, the first fifteen recommendations of the provincial review into the record-breaking 2017 flood and fire season in BC (Abbott and Chapman, 2018) focussed on improving collaboration with Indigenous governments and communities, with the first recommendation to "establish Indigenous peoples as true partners and leaders in emergency management by including First Nations from the beginning and at all levels of planning, decision-making and implementation" (Abbott and Chapman, 2018: 81). This focus on 'true partnerships' subsequently formed the foundation of one of six draft principles of the BC *Climate Preparedness and Adaptation Strategy* (2022: 13), which confirms the province's commitment to building a "shared path to climate resilience in true partnership with Indigenous peoples". Following the 2019/2020 Australian Black Summer, Indigenous land and fire management practices were included in the terms of reference for both state and national inquiries (Binskin, Bennett and Macintosh, 2020; Owens and O'Kane, 2020), and the State Government of Victoria established an Aboriginal reference group to advise the newly created Bushfire Recovery Victoria agency. Yet despite this growing attention to supporting Indigenous leadership and involvement throughout all phases of fire and emergency management, most collaborations and the majority of research to date has focussed on cultural burning (Christianson, 2015; Weir, Neale and Smith, 2021), such as

documenting knowledge and practices of burning (Huffman, 2013), or barriers to revitalizing these forms of fire stewardship (Hoffman *et al.*, 2022b). In this context, as with 'shared responsibility', the emphasis on 'true partnerships' continues to be restricted to prevention and preparedness, and within the confines of existing policies and programs. In contrast, there has been relatively little research or policy attention to the contemporary role of Indigenous peoples in wildfire response or recovery (Christianson, 2015; Williamson, Markham and Weir, 2020).

Williamson, Markham and Weir (2020:1) argue that, as Indigenous peoples hold significant rights and interests in fire-affected territories, their "needs and priorities must constitute a core and ongoing thread woven through the fabric of response", including long-term recovery. Upholding these rights and supporting Indigenous-led processes of wildfire recovery requires better understanding the impacts of fire seasons on Indigenous communities and territories, as well as community priorities for 'healing' the land; as Weir and Freeman (2019: 12) emphasize, for many Indigenous people, "fire management is an opportunity for healing Country, healing themselves, and healing fraught relationships".

The relatively few studies that examine the impacts of wildfire on Indigenous communities, or community recovery following wildfire, have tended to focus on evacuation experiences (Christianson and McGee, 2019; McGee, Mishkeegogamang Ojibway Nation and Christianson, 2019; Asfaw, McGee and Christianson, 2020) or on the role of social supports or community cohesion in facilitating 'coping' both during and after a wildfire event (Asfaw, McGee and Christianson, 2019; Montesanti *et al.*, 2021). However, as Robinson *et al.* (2021) highlight, the impacts of wildfire on community health and wellbeing are strongly connected to impacts to the land, including to wildlife, culturally significant plants, and places of cultural significance. The growing emphasis on 'building back better' (UN, 2015) after disasters provides

an opportunity to strengthen Indigenous engagement in and governance of wildfire management, and to support new pathways of recovery that attend to the priorities of Indigenous peoples and to these interconnections between land and community wellbeing.

1.1.2 Megafires shaping new pathways of recovery and restoration in Indigenous territories

Researchers have long recognized that disasters such as wildfires have the potential to act as 'focussing events' (Birkland, 1997; DeLeo *et al.*, 2021) or open a 'policy window' (Kingdon, 1995) or 'window of opportunity' (Birkmann *et al.*, 2010; Mockrin, Fishler and Stewart, 2018) for policy change or societal transformation. More recently, the growing incidence of megafires is prompting calls from ecologists and conservation scientists to transform approaches to research and advance a new 'megafire ecology'. (Kelly *et al.*, 2020; Nimmo *et al.*, 2021) to better understand ecosystem responses to these large, high-intensity wildfires. As envisioned by its proponents, megafire ecology prioritizes research into the effects of megafires on species, communities and ecosystems, and the efficacy of recovery actions following megafire (Nimmo *et al.*, 2022). However, scientists are also increasingly acknowledging that many fire landscapes and historical fire regimes were actively shaped (and, in many areas, are still shaped) by systems of Indigenous land and fire stewardship (Fletcher, Hall and Alexandra, 2021; Hoffman *et al.*, 2021; Baron *et al.*, 2022; Christianson *et al.*, 2022). As such, revitalizing Indigenous fire stewardship and "restoring and promoting landscapes that benefit people" (Kelly *et al.*, 2020: 7) are increasingly seen as priorities for sustaining biodiversity in ecosystems that experience fire (Kelly *et al.*, 2020).

Across western North America, megafires are also burning in landscapes and Indigenous territories altered by over a century of fire suppression, exclusion of Indigenous burning

practices, resource extraction, and expanding development into the wildland-urban interface (Mansourian and Vallauri, 2014; Hessburg *et al.*, 2015; Barros *et al.*, 2018). Climate change is further altering global fire regimes (Stephens *et al.*, 2014; Abatzoglou and Williams, 2016; Williams *et al.*, 2019), with observed and predicted impacts such as higher temperatures and earlier spring snow melt likely to result in longer fire seasons and an increased frequency and severity of wildfires across western North America (Stephens *et al.* 2013). In this context, 'building back better' after wildfire must extend beyond rebuilding infrastructure and economies, to restoring historical fire functions and associated patterns of landscape heterogeneity, habitat structures, and ecological processes that confer climate and wildfire resilience (Hessburg *et al.*, 2015; Cannon *et al.* 2018) as well as revitalizing Indigenous land and fire stewardship and the eco-cultural values these systems sustained. Accordingly, there are growing calls from ecologists, land managers and policy makers to scale up ecological restoration, with distinct strategies based on local histories, ecologies and Indigenous stewardship systems.

To date, most studies in western North America examining the impacts of changed fire regimes or contemporary restoration or fuel reduction practices have focussed on variables such as canopy structure, tree regeneration, or carbon stocks (e.g., Stephens and Moghaddas, 2005; Boerner, Huang and Hart, 2008; Moghaddas, York and Stephens, 2008). While some studies have examined the effects of fuel treatments on understory plant communities (e.g., Collins, Moghaddas and Stephens, 2007; Schwilk *et al.*, 2009), there are relatively few studies that assess the impacts of wildfire – particularly megafires – on the understory (Abella and Springer, 2015), which is critical not only for biodiversity and ecosystem functioning but also for many Indigenous cultures (Kuhnlein and Turner, 1991; Anderson, 2005; Deur and Turner, 2005; Turner, Lepofsky and Deur, 2013; Ignace and Ignace, 2017). However, there is a small but

growing body of Indigenous-led research and restoration initiatives focussed on restoring culturally significant understory plants. For example, collaborative studies with the Karuk and Yurok tribes in California have evaluated the effects of broadcast cultural burning and 'fire proxy' treatments such as cutting, manual coppicing or burning of individual shrubs on California hazelnut (*Corylus cornuta* Marsh. var. *californica*) in order to produce valuable basketry stems (Marks-Block, Lake and Curran, 2019); investigated the potential for 'non-traditional' spring burns to improve edible acorn production from tanoak (*Notholithocarpus densiflorus*) (Halpern, 2016); and modelled the effect of fire severity and leaf harvesting on beargrass (*Xerophyllum tenax*) to explore the potential impacts of re-introducing Indigenous fire stewardship (Hart-Fredeluces, Ticktin and Lake, 2021).

Effectively evaluating the impacts of fire and alternative restoration treatments requires meaningfully collaborating with community members to develop research objectives and understand how resource users define quality or condition (e.g., of basketry stems, or a particular food or medicinal plant), and drawing on this to inform sampling design and field measurements (Marks-Block, Lake and Curran, 2019). However, large-scale restoration initiatives, such as the Collaborative Forest Landscape Restoration Program in the United States, are still often organized around top-down, 'expert' driven processes (Fox and Cundill, 2018), with associated research or monitoring focussed on evaluating quantitative metrics such as tree density or species richness. Further, persistent perceptions of pre-European landscapes as 'pristine' and the privileging of Western scientific methods and data in determining historical baselines or reference systems for restoration continue to obscure the realities of millennia-long active engagement of Indigenous peoples with their traditional territories (Lake *et al.* 2018). A new megafire ecology, and advancing new forms of research that can address the urgent questions of

how to best monitor the impacts of wildfires and prioritize conservation or restoration in fire landscapes (Nimmo *et al.*, 2022), must therefore seek to understand and support the recovery and restoration of eco-cultural values and practices important to Indigenous peoples, *in collaboration* with Indigenous peoples.

1.2 Drivers of this research: research gaps and community priorities

Three key gaps spanning research and practice in the fields of fire ecology and management – including collaborative governance of wildfire – and restoration are crucial. These are:

1. limited research into contemporary Indigenous engagement with fire management, particularly in the context of wildfire response or recovery and in leading changes triggered by wildfire impacts;
2. the need to understand how contemporary megafires are impacting ecosystems and shaping (potentially new) pathways of ecosystem recovery, specifically in relation to understory plant communities and culturally significant plants; and
3. the relative lack of attention to or support for the critical roles of Indigenous peoples in leading restoration and land-based recovery processes.

In this context, my research is primarily driven by the invitation and explicit goals of my community research partners within the Secwépemc Nation: to understand the impacts of recent megafires on their territories and trajectories of forest recovery; to document the impacts of these fires *from a Secwépemc perspective*; to capture 'lessons learned' from collaborative governance of wildfire recovery; and to guide ongoing and future restoration across their territories.

1.3 Study context

On a cool morning in early May 2021, our UBC field crew hopped in our field truck and followed Bert William convoying south from Cache Creek. Leaving the highway, we drove down through Ashcroft's reserve – the new houses and community centre along Cornwall Road hinting at what was there before, and what was lost – then turned off the main road, passing over a cattle guard and following a faint track through the open rangeland. Stepping out of the truck, around patches of spiky cactus and the odd yellowbell already going to seed, we walked to the edge of the bench, just above where the slope dropped steeply down to the Thompson River below (**Figure 1**).

Figure 1: Grasslands above the Thompson River, looking north to Elephant Hill Provincial Park and Ashcroft.

Turning to look back over the brown rolling hills towards Cache Creek, Bert said – to himself as much as us – "there's nothing here to burn. This is where it started. It's crazy to think it ever got as big as it did".

He was referring, of course, to the Elephant Hill wildfire (**Figure 2**). First reported on July 6th, 2017, this wildfire quickly grew to over 1,000 hectares (ha) in size, burning through Ashcroft Indian Band's reserve and north through the Elephant Hill Provincial Park, destroying close to sixty homes in its wake. Over the following months the Elephant Hill wildfire continued to burn at high intensity throughout the Bonaparte and Deadman River watersheds. It spread from the dry bunchgrass/sagebrush grasslands and open ponderosa pine (*Pinus ponderosa*) forests in the valley bottoms, up to the high elevation Bonaparte plateau where forests dominated by hybrid white spruce (*Picea engelmannii x glauca*) and lodgepole pine (*Pinus contorta* var. *latifolia*) were already heavily disturbed from extensive clear-cut logging and a mountain pine beetle epidemic. Eventually, this wildfire would burn close to 192,000 ha - the third largest fire in the province that year – throughout the heartland of the Secwépemc Nation's territory, Secwepemcúl̓ecw (**Figure 3**). By mid-September, a record-breaking 1.2 million ha had burned throughout BC, resulting in a 71 day long Provincial State of Emergency and the evacuation of over 65,000 people (BC Wildfire Service, 2021). This wildfire, and the subsequent recovery process, is the focus of my research.

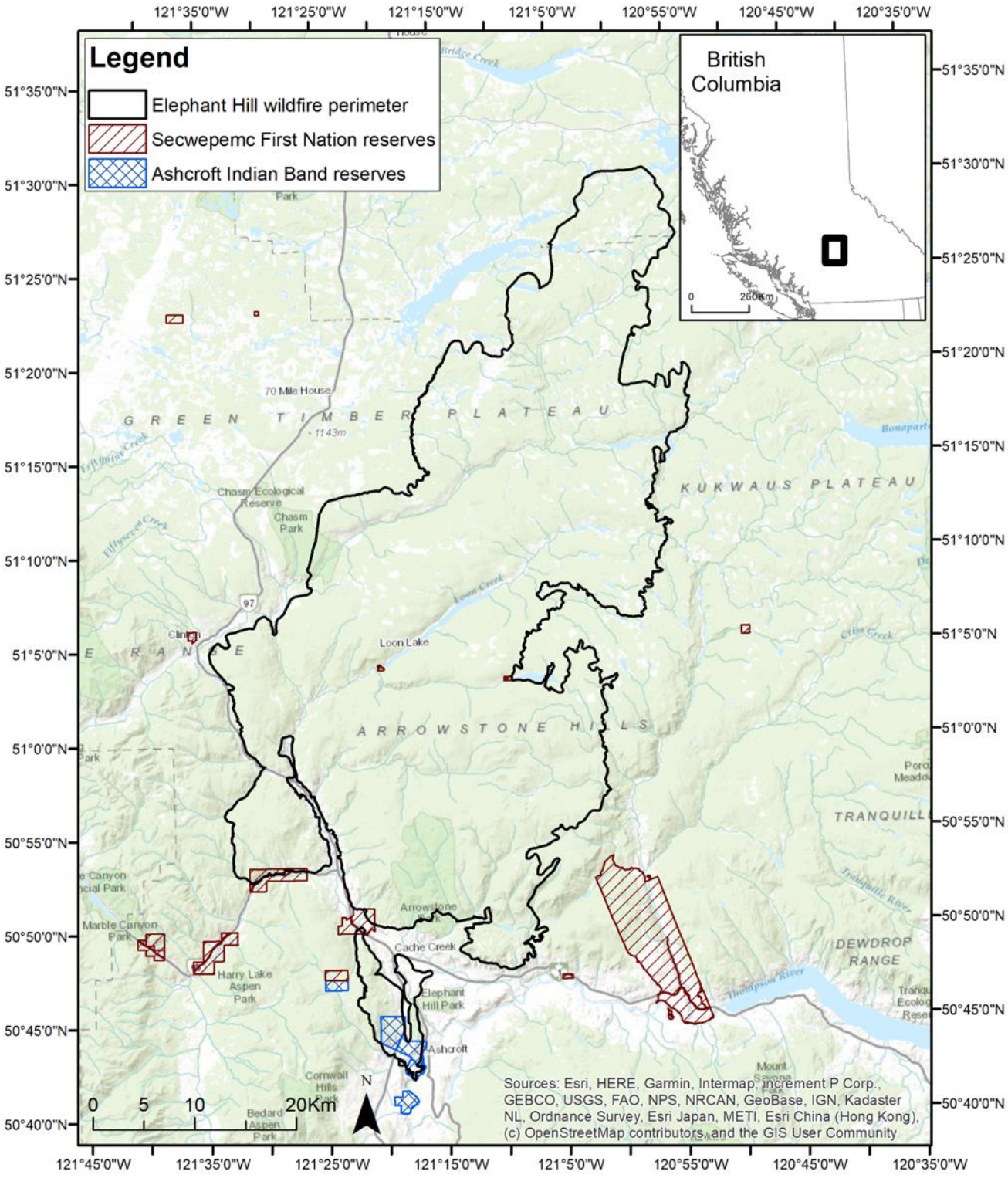


Figure 2: Elephant Hill wildfire perimeter and adjacent First Nation reserves.

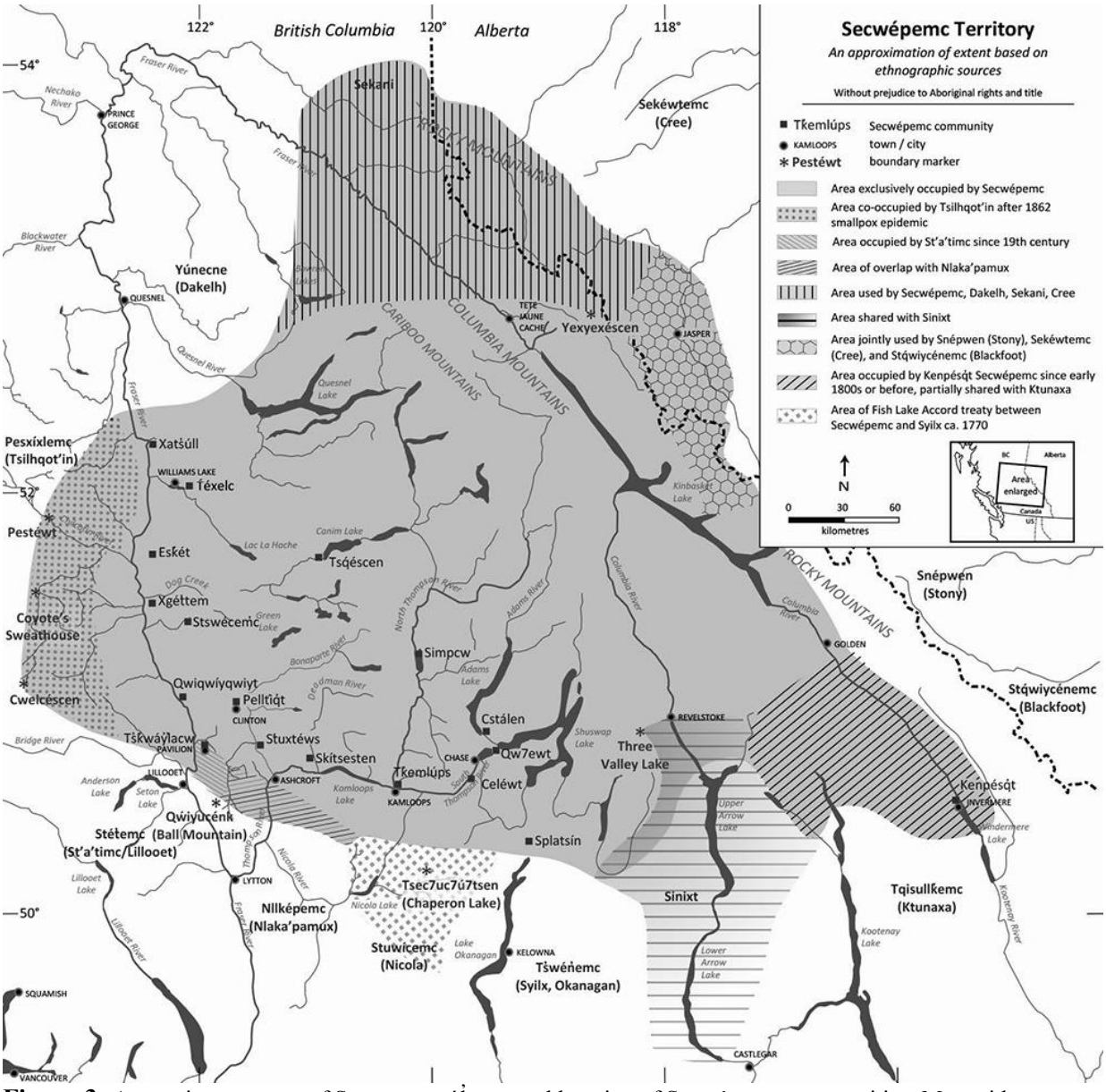


Figure 3: Approximate extent of Secwepemcúl̓ecw, and location of Secwépemc communities. Map without prejudice to Aboriginal rights and title. Source: Ignace and Ignace, 2017.

This research is also situated within the complex and changing context of wildfire and forest governance in the province of BC, a biogeographically and culturally diverse area spanning 95.2 million ha on the west coast of Canada and home to ~ 200 First Nations. Within provincial law, the provincial government holds statutory decision-making power over the approximately 94% of BC classified as 'Crown land', with the remainder classified as federal

‘Crown’ land (1%, including First Nations reserves), First Nations treaty settlement land (0.2%) and private land (4.9%) (MFLNRO, 2011).

The BC Wildfire Service (BCWS) is mandated under provincial legislation to oversee wildfire management on provincial Crown land, federal Crown land, treaty settlement lands, and private lands outside of fire protection areas. BCWS is tasked with managing wildfires through a combination of wildfire prevention, mitigation, and suppression strategies. BCWS also holds authority for approving and implementing prescribed burns and, under the *Wildfire Act*, to implement fire bans or restrictions. Through the 2017 *Wildfire Services Agreement* between the province of BC (BCWS) and Canada (Indigenous Services Canada; ISC), BCWS also provides wildfire response and suppression services on ‘Indian Reserve’ lands (i.e., First Nation reserves).

Provincial jurisdictions and assertions of decision-making power have been imposed upon longstanding and ongoing systems of Indigenous governance and stewardship. Throughout most of BC, treaties with Indigenous peoples were never negotiated by the Crown. Currently only 21 treaties have been negotiated, comprising historic treaties (14 Douglas treaties on Vancouver Island, and Treaty 8 spanning the BC and Albert border in the north-east of the province), the Nisga’a treaty, and seven modern treaties negotiated under BC’s modern treaty process (BC Treaty Commission, 2022). As such, First Nations continue to assert their sovereignty and jurisdiction throughout their traditional territories, and s.35(1) of the *Constitution Act, 1982* affirms the continued existence of inherent Aboriginal title and rights in Canada.

Specifically, this research is situated in Secwepemcúl̓ecw, a vast territory spanning over 150,000 km^2 throughout the southern and central interior of BC (**Figure 3**). This area supports significant ecological diversity, from mesic inland rainforests, high-elevation spruce-fir forests

and alpine meadows, to dry ponderosa pine forests and grassland/sagebrush ecosystems in the valley bottoms and rain shadow of the Coast Mountains. Throughout Secwepemcúl̓ecw, the deeds of ancestors and past actions depicted in *stsptekwll* (ancient stories or oral traditions) are manifest in place names, rock formations, rock art and other landmarks that "anchor experience to the land as collective memories and represent Secwépemc *deeds* to the land" (Ignace and Ignace, 2017: 57, emphasis in original). As Ron and Marianne Ignace continue to emphasize, Secwépemc knowledge, identity, and ways of being are embedded in the wisdom of language and rooted in long-standing connections to these ancestral landscapes, imbued with history, spiritual connections and human interactions that have shaped the co-evolution of ecocultural diversity for over 10,000 years.

Eight of the seventeen contemporary Secwépemc communities (First Nations) were directly impacted by the 2017 Elephant Hill wildfire: Ṡtuxwtéws (Bonaparte First Nation), Llenlleney'ten (High Bar First Nation), Skítsesten (Skeetchestn Indian Band), Stil'qw/Pelltíq't (Whispering Pines/ Clinton Indian Band), Stswecem'c/Xget'tem (Stswecem'c Xget'tem First Nation), Tk'emlúps te Secwépemc, Ts'kw'aylaxw (Ts'kw'aylaxw First Nation), and Tsq'escen' (Canim Lake Indian Band). In the wake of this fire, these communities came together to advocate for Secwépemc leadership in ecosystem regeneration and restoration, and to partner with the provincial government to jointly lead wildfire recovery. This dissertation – specifically Chapter 3 – tells their story.

A pronunciation guide for Secwépemc communities is available online at: https://www.tru.ca/indigenous/indigenous-education-team/pronunciations.html

1.3.1 Research objective and questions

This research aims to examine how Secwépemc communities and territories are responding to and recovering from recent 'megafires' throughout Secwepemcúl̓ecw, with the overall objective of empowering and supporting Indigenous leadership in wildfire management in Secwepemcúl̓ecw, British Columbia and beyond. Specifically, I addressed the following questions:

1. How are Secwépemc communities engaging in contemporary wildfire management, including the collaborative governance of wildfire recovery?
2. What are the impacts of megafires on understory plant communities and culturally significant plants, and how is recovery affected by fire severity across ecosystem types?
3. What are Secwépemc priorities for restoration in their fire-adapted and fire-affected territories, and how can collaborative research support these?

With these research questions I seek to engage meaningfully and empirically with the interconnectedness of socio-political and ecological responses to wildfires, and of processes of land and community recovery. While it is important to acknowledge and address the impacts of these wildfires on Indigenous communities, my aim was to highlight the priorities, capacities, and agency of communities in leading fire management and restoration across their territories without reproducing 'damage-centered' research (Chapter 2).

1.4 Conceptual framework

My research connects insights from three broad bodies of literature: collaborative environmental governance, the politics and production of knowledge, and restoration ecology.

This interdisciplinary analytical framework responds to calls in the wider fire science literature for a 'transdisciplinary fire ecology' (Coughlan and Petty, 2012; Copes-Gerbitz *et al.,*

in review) that integrates the social and biophysical aspects of fire – including diverse and dynamic forms of knowledge and practices - into a better understanding of human-wildfire relations. Bowman *et al.*, (2011: 38), in their review of the human dimensions of wildfire on Earth, similarly argue that fire is the "ideal topic through which to investigate human-environmental coupling", while Smith *et al.* (2016) discuss the concept of 'firescapes' – what this dissertation refers to as 'fire landscapes' – as providing a more holistic perspective on the relationship between humans, non-human nature and fire. Interdisciplinary approaches that seek multiple viewpoints and bring Indigenous scholarship into dialogue with non-Indigenous perspectives across a range of disciplines are also key for supporting equitable and collaborative research and governance between Indigenous and non-Indigenous peoples (Berkes, 2009; Preuss and Dixon, 2012).

Note: in this dissertation I primarily use the term 'wildfire' to specifically situate this research in the context of wildfire response and recovery, as distinct from other research and emerging collaborations focussed on cultural burning. In some cases (e.g., Chapter 3) I use the notation '(wild)fire management' to refer to both wildfire and fire management more broadly. While 'wildland fire' is often used to capture this broader meaning, I have chosen to avoid this term due to connotations of 'wildlands' or 'wilderness', concepts which tend to erase the active role of Indigenous peoples in managing their territories.

1.4.1 Collaborative fire management and environmental governance

Indigenous peoples worldwide are increasingly (re)asserting their territorial and self-governance rights and seeking to revitalize knowledge and practices of fire management (Thomassin, Neale and Weir, 2018; Verhaeghe, Feltes and Stacey, 2019; McKemey *et al.*, 2020; Hoffman *et al.*, 2022b; Nikolakis and Ross, 2022). Simultaneously, multiple settler-colonial

countries, including Canada, have committed to implementing the *United Nations Declaration on the Rights of Indigenous Peoples* (UNDRIP). UNDRIP affirms Indigenous peoples' rights to practise and revitalize cultural traditions (Article 11), to participate in decision-making in matters that affect their rights (Article 18) and to own, use, develop and control their lands and waters (Article 26); these rights inherently include the right to revitalize fire stewardship and be involved in decision-making across their territories, including in the context of wildfire. Yet despite these commitments, there is still relatively limited engagement of Indigenous peoples by centralized emergency management agencies, and limited inclusion of Indigenous knowledges, practices or priorities in wildfire or other disaster response (Thomassin, Neale and Weir, 2018; Smith, Neale and Weir, 2021; Williamson and Weir, 2021).

Recently, however, this lack of meaningful engagement with Indigenous peoples in fire management is beginning to change, with a growing number of collaborations between government fire agencies and Indigenous communities in countries such as Australia (e.g., Thomassin, Neale and Weir, 2018; Williamson and Weir, 2021), the United States (e.g., Marks-Block and Tripp, 2021) and Canada (e.g., Christianson *et al.*, 2019). These collaborations, often focussed on prescribed or cultural burning, are supported by the recent surge in attention in both research and policy to Indigenous fire stewardship (Williamson and Weir, 2021), as well as government recommendations and commitments to build capacity and support greater participation of local and Indigenous communities in emergency management (United Nations, 2015; Abbott and Chapman, 2018; Mihychuk, 2018). Simultaneously, there is growing recognition that centralized models of wildfire governance, and an over-reliance on reactive and suppression-focussed management, is insufficient for addressing the modern wildfire challenge (Copes-Gerbitz *et al.*, *under review*; Hoffman *et al.*, 2022a). Instead, scholars and Indigenous

communities are calling for collaborative governance models that empower joint decision-making across all stages of wildfire management.

The increasing attention to community-based and collaborative wildfire governance reflects broader trends in environmental governance since the late 20th century, specifically the increasing devolution of responsibility from central governments to local communities and institutions (Plummer and FitzGibbon, 2004). Decentralized environmental governance has been widely viewed as a solution to the perceived social and environmental failures of top-down, command-and-control approaches to natural resource management (Nadasdy, 2005; Smith, Neale and Weir, 2021; Carter *et al.*, 2022), which were criticized for excluding, and enhancing the vulnerabilities of, resource-dependent communities and for being unable to manage and adapt to complexity and uncertainty (Plummer and Armitage, 2007). In contrast, decentralized and collaborative governance models are promoted as enhancing equity and efficiency in decision-making, increasing the perceived legitimacy of objectives and actions, reducing management costs, and building (adaptive) capacity of local institutions (Plummer and Armitage, 2007; Berkes, 2009; Tengö *et al.*, 2014). Amidst the global shift towards greater recognition of Indigenous rights, collaborative governance has also emerged as a key pathway for Indigenous peoples to assert their rights to manage and use their traditional territories, while simultaneously achieving biodiversity or conservation outcomes (Craig, 2002; Hill, 2011; Artelle *et al.*, 2019; Smith, Neale and Weir, 2021).

Three aspects of collaborative governance are central to my research. These are processes of power sharing and decision-making within a 'co-management' model; factors that enable or constrain effective and equitable governance, in particular relationships, (mis)trust and power

dynamics; and how collaborative governance either upholds or disregards Indigenous rights and self-determination.

Within the broad umbrella of 'collaborative governance', there exists a diversity of models and arrangements that can have similarly diverse outcomes. Cooperative management, or 'co-management', is one such approach, which refers to the sharing of power and responsibility between central governments and local resource users (Berkes, 2009; Hill, 2011). Since the 1980s co-management has gained traction internationally, proposed as a governance solution to complex and often contested situations involving common pool resources such as fisheries or wildlife management (Carlsson and Berkes, 2005; Nadasdy, 2005; Plummer and Armitage, 2007; Berkes, 2009). Despite the embedded term 'management', numerous scholars have argued that co-management can be understood as a form of or approach to collaborative governance (Carlsson and Berkes, 2005; Berkes, 2009; Carter *et al.*, 2022), comprising processes of sharing power – the ability to control, potential to influence, and capability to exercise authority (Plummer and FitzGibbon, 2004) – and responsibilities, and institution building, often through highly formalized arrangements (Berkes, 2009; Reo *et al.*, 2017). While the term co-management can refer to a diversity of arrangements along a continuum from lower forms of participation to joint decision-making and formal partnerships (Craig, 2002; Carlsson and Berkes, 2005), Berkes (2009: 1698) argues that, rather than focussing on these formal structures, co-management should instead be examined as a "a problem solving *process*…involving negotiation, deliberation, knowledge generation and joint learning".

Proponents argue that, like decentralized governance more broadly, co-management will be more responsive to local conditions and has the potential to address unequal power relations (Nadasdy, 2003; Berkes, 2009; Dale and Armitage, 2011). While research into co-management

initiatives show mixed outcomes, several key factors have been identified as contributing to effective and equitable co-management, particularly with Indigenous communities. These include taking time to build trust and relationships with partners and taking a relationship-based approach to power sharing; ensuring flexibility in timelines; strong leadership, including from Indigenous partners; balancing formal agreements with exploratory attitudes and an openness to risk; and meeting in communities and on the land (Nadasdy, 2003; Hill *et al.*, 2012; Hoffmann *et al.*, 2012; Robinson and Wallington, 2012; Cruickshank *et al.*, 2019; Neale *et al.*, 2019). However, as Hill (2011) argues, recognizing and upholding Indigenous rights must be the foundation for any engagement or collaboration with Indigenous peoples.

Despite these potential benefits, co-management should not be seen as a panacea to either environmental or equity and justice issues. In contrast, numerous scholars highlight how the "idealized narrative" (Conley and Moote, 2003: 372) of co-management often fails to facilitate meaningful power sharing or address inequities (Watson, 2013; Grey and Kuokkanen, 2020; Smith, Neale and Weir, 2021). In Canada, the Assembly of First Nations (2011) proposed the term 'joint management' in an attempt to address the lack of clarity about the 'cooperative' nature of co-management, with 'joint' implying equitable partnerships and shared authority. While some scholars suggest that co-management with Indigenous peoples can be an interim strategy to support broader self-determination initiatives (Diver, 2016), others argue that co-management actively displaces Indigenous rights and governance, offering participation in lieu of control and "shut[ting] out the Indigenous in favour of the state" (Grey and Kuokkanen, 2020: 925). As Nadasdy (2005: 219) contends, top-down co-management arrangements that are "grafted onto" existing political and institutional contexts are unlikely to foster meaningful participation or a devolution of power, and may risk extending existing state power and

bureaucracies into communities. In these contexts, the form of participation and the production of knowledge may instead end up marginalizing Indigenous perspectives, reflecting non-Indigenous realities, and reinforcing existing power relations (Castro and Nielsen, 2001; Nadasdy, 2003; Howitt and Suchet-Pearson, 2006). The pre-existing operating context, including overly bureaucratic structures, poorly delineated roles and responsibilities, human and financial capital constraints, legacies of mistrust, and entrenched racism within government bureaucracies, poses additional barriers to meaningful collaboration with Indigenous peoples (Berkes, 2009; Cruickshank *et al.*, 2019; Neale *et al.*, 2019; Weir, Neale and Smith, 2021; Carter *et al.*, 2022).

The emphasis, in much of the co-management and collaborative governance literature, on (often vertical) relationships between governments and local stakeholders also ignores the unique position of Indigenous Nations as self-determining Nations and rights holders (Reo *et al.*, 2017; Grey and Kuokkanen, 2020). Further, the focus on co-management as a solution to managing common pool resources within a defined geographic area doesn't reflect the wildfire context, where shared decision-making is not confined to a single resource or area but rather spans diverse spatial and temporal scales, from single event management (wildfire response) to proactive mitigation, recovery, restoration, and revitalizing fire stewardship. Natural hazard and emergency management sectors are also highly regulated and characterized by hierarchical decision-making structures, which can place substantial bureaucractic pressure on Indigenous peoples and other local communities wishing to engage collaboratively (Weir, Neale and Clarke, 2021). Smith, Neale and Weir (2021: 87) describe how fire "presents particular problems in terms of negotiating nation-state bureaucracies and traditions, as the mitigation of wildfire is the subject of vast and conservative multimillion-dollar risk management infrastructure". Addressing these challenges and advancing collaborative or Indigenous-led (wild)fire governance requires

going beyond acknowledging Indigenous peoples as stakeholders or even partners within these pre-existing systems (Weir, Sutton and Catt, 2020), to reconfiguring power relations and supporting Indigenous self-determination (Neale *et al.*, 2019; Grey and Kuokkanen, 2020).

1.4.2 The politics and production of knowledge (and the problem of 'expertise')

Since the 1980s, in parallel with the emerging focus on decentralized and collaborative environmental governance, there has been an increasing interest worldwide from conservation scientists, policymakers and natural resource managers in local and Indigenous knowledge – including 'traditional ecological knowledge' – and how these can complement, extend or be 'integrated' with western scientific knowledge (Turner, Ignace and Ignace, 2000; Bohensky and Maru, 2011). This interest is reflected in the extensive body of literature that seeks to define or describe Indigenous worldviews and knowledge systems from both Indigenous (e.g., Cajete, 2000; Little Bear, 2000; Fixico, 2003; Barnhardt and Kawagley, 2005; Hart, 2010) and non-Indigenous (e.g., Houde, 2007; Berkes, 2012) perspectives, or discusses the contributions of Indigenous (ecological) knowledge to diverse fields of environmental management, from biodiversity conservation (Nazarea, 2006) and terrestrial (Popp, Priadka and Kozmik, 2019) and marine (Weiss, Hamann and Marsh, 2013) wildlife management, to ecological restoration (Uprety *et al.*, 2012) and disaster risk reduction (Mercer *et al.*, 2010). As a result, over the past decade there has been a rapid growth in frameworks for working with Indigenous and western knowledge systems, such as 'two-eyed seeing' (Bartlett, Marshall and Marshall, 2012; Reid *et al.*, 2021) and 'two-way' or 'both-ways' management (Ens *et al.*, 2012; Hoffmann *et al.*, 2012), as well as in the use of metaphors such as 'weaving' or 'braiding' knowledges (e.g., Kimmerer, 2013; Johnson *et al.*, 2016; Whyte, Brewer and Johnson, 2016).

The overarching focus of my dissertation is not about engaging in these definitional debates around Indigenous knowledges, nor explicitly documenting or defining Indigenous knowledge in the context of (wild)fire management. Instead, of interest is how the politics of knowledge and associated power relations materialize in and shape Indigenous engagement in collaborative wildfire governance, and how dominant scientific and bureaucratic cultures define what knowledge or 'expertise' is seen as legitimate (Jasanoff, 2003a; Suryanarayanan and Kleinman, 2013; Carrozza, 2015; Turnhout, 2018).

Incorporating diverse forms of knowledge, and facilitating better knowledge sharing and generation, are core goals and rationale for co-management (Berkes, 2009; Wyborn, 2015a; Diver, 2016). However, western science still plays a dominant role in environmental governance (Watson, 2013; Wyborn, 2015b), with Indigenous knowledge often viewed as a resource to be extracted or validated by western science (Evering, 2012). This epistemological dominance, and dominant discourses and Eurocentric ontological assumptions of 'management' that view the 'integration' of Indigenous knowledges as a technical challenge (but are silent on questions of politics and power), pose a barrier to equitable collaboration and joint decision-making (Nadasdy, 2005; Howitt and Suchet-Pearson, 2006). There is a persistent risk that Indigenous knowledges will be reduced or distorted into formats that are compatible with dominant natural resource management systems (Nadasdy, 2003), in which the "bureaucratic expertise" (Carter *et al.*, 2022: 118) of government staff allow government (non-Indigenous) control over agendas, decision-making and planning processes.

Western science and expertise also dominate decision-making in contexts characterized by high risk and uncertainty, such as wildfire management or disaster risk reduction (Ali *et al.*, 2021; Weir, Neale and Clarke, 2021). Reductionist approaches to both research and practice that

focus on hazard and risk assessment, for example through model-based analyses of risk, technological warning systems and top-down emergency management models (Ali *et al.*, 2021), ignore the fact that fire management is not simply a technical matter, but "is about values, and thus it is also political" (Weir and Freeman, 2019: 8). Attending to these values and political aspects raises questions such as whose risk mitigation priorities matter, who is impacted, who is represented in decision-making, and whose knowledge 'counts' (Weir and Freeman, 2019; Weir, Neale and Clarke, 2021). Persistent technocratic framings of risk can obscure these ethical and political concerns and limit meaningful inclusion of diverse knowledges (Pelai, Hagerman and Kozak, 2021).

This relationship between knowledge and governance, and between science, expertise, and political decision-making, has been extensively examined within Science and Technology Studies (STS). Of particular relevance to this dissertation is the body of research that analyzes the politics of 'expert' authority, and the role of expertise in decision-making (e.g., Jasanoff, 2003b; Turner, 2014; Carrozza, 2015; Forsyth, 2020). While experts and expert knowledge are often viewed as neutral or objective, STS scholars highlight the ways in which expertise is always "contingent, historically situated, and grounded in practice" (Jasanoff, 2003a: 392); something acquired and deployed within specific political and cultural contexts. In this sense, knowledge, expertise, and technical practices on the one hand, and power and authority on the other, are co-produced (Jasanoff, 2004; Carrozza, 2015). While scientific or technical expertise is commonly used to support claims to authority (Paskalev, 2017), the dominant scientific culture itself defines the legitimacy of expertise, what counts as legitimate knowledge, and which issues are 'scientific' in need of expert or technical input (Suryanarayanan and Kleinman, 2013; Turner, 2014).

For example, wildfire management is largely framed as a technical risk management process, yet there are extensive barriers to Indigenous engagement, such as credentialling and reliance on technologies that are maintained by those in positions of authority and that in turn sustain these structures of power (Jasanoff, 2004). As Turner (2014: 3) argued, expertise is "the biggest and most dramatic form of the inequality of knowledge", and the problem of expertise is a problem of knowledge and power. It is therefore important to question these processes by which expert knowledge becomes seen as authoritative and remains unquestioned, and how a focus on technical or expert knowledge reinforces power relations and excludes other forms of knowledge.

While co-production, within an STS lens, focusses on these relationships between knowledge and power or decision-making, more recently this term has come to refer to an instrumental goal of science and policy, particularly in the context of collaborative research and co-management (Wyborn, 2015b). In this latter context, co-production refers to collaborative knowledge production among diverse actors that aims to produce knowledge relevant to policy and practice (Dale and Armitage, 2011; Wyborn, 2015c; Latulippe and Klenk, 2020). Research focussed on knowledge co-production, particularly with Indigenous partners, highlights the importance of collaborative methods, collectively identifying research problems or questions, and de-centering western science and institutions as the primary source of knowledge production (Robinson and Wallington, 2012; Carothers, Moritz and Zarger, 2014; Latulippe and Klenk, 2020). Insights from this body of collaborative research are also valuable in guiding my own research approach with Secwépemc communities, and how I approach knowledge (co)production to inform a new approach to wildfire recovery and restoration.

1.4.3 Restoration and restor(y)ing fire landscapes

Throughout western North America, widespread socio-economic and ecological impacts associated with megafires are highlighting the need to actively restore both fire-affected and fire-adapted ecosystems. In this context, ecological restoration, comprising a more active intervention in 'nature', is increasingly promoted as an approach to achieve multiple objectives, from biodiversity conservation and provision of ecosystem services to climate change mitigation and human wellbeing (Perring *et al.*, 2015; Mansourian, 2018). Ecological restoration is also a priority at a global policy level, reflected in the United Nations declaration of 2021-2030 as the UN Decade on Ecosystem Restoration and global commitments such as Aichi Biodiversity Target 15 that includes reference to restoring at least 15% of degraded ecosystems, and the Bonn Challenge that aims to restore 350 million hectares of degraded forests by 2030 (Evans and Davis, 2018; Cross *et al.*, 2019). However, progress towards achieving these targets and objectives remains elusive (Maxwell *et al.*, 2020; Secretariat of the Convention on Biological Diversity, 2020). Consequently, conservation scientists have argued that addressing ongoing declines in biodiversity and advancing just and effective conservation is only possible through partnerships with, or led by, Indigenous peoples (Artelle *et al.*, 2019).

An increasing body of research quantifies the important contributions of Indigenous-managed lands and Indigenous stewardship systems, including fire stewardship, to biodiversity conservation and restoration (Corrigan *et al.*, 2018; Schuster *et al.*, 2019; Hoffman *et al.*, 2021). This is particularly pertinent in the case of restoring fire-adapted ecosystems throughout western North America, where there is growing scientific attention to the role of Indigenous land and fire management practices in shaping the landscapes and historical fire regimes that are now the focus of restoration (Copes-Gerbitz, Daniels and Hagerman, 2022; Knight *et al.*, 2022).

However, throughout the dry and mesic interior conifer forests that dominate across many of these landscapes, including much of interior BC and Secwepemcúl̓ecw, over a century of fire suppression and exclusion of Indigenous peoples and stewardship practices has disrupted historical fire regimes, resulting in widespread fire deficits and associated changes to ecosystem structure (Heyerdahl, Lertzman and Wong, 2012; Hagmann, Franklin and Johnson, 2013; Baron *et al.*, 2021; Copes-Gerbitz, Daniels and Hagerman, 2022; Copes-Gerbitz, Hagerman and Daniels, 2022). Restoring ecosystem function and processes in these fire landscapes, and heeding calls to 'upscale' collaborative restoration (Perring, Erickson and Brancalion, 2018), therefore requires re-imaging the role of people in restored ecosystems, and restoring systems of active Indigenous stewardship.

Yet despite Indigenous communities increasingly playing a leadership role in restoration (e.g., Holtgren, Ogren and Whyte, 2014; Fox *et al.*, 2017), there is still relatively little attention to or support for the critical and active roles of Indigenous peoples in leading restoration initiatives, from planning through to implementation (Fox *et al.*, 2017; Reyes-García *et al.*, 2020). In contrast, persistent 'business as usual' (Perring, Erickson and Brancalion, 2018) models of ecosystem restoration, focussed on recovering ecosystems to 'self-sustaining states' through restoring biophysical components and processes, pay insufficient attention to the socio-political realities in which restoration occurs (Martin, 2017). In response, Indigenous scholars have argued that restoration is a "deeply political project" (Fox *et al.,* 2017: 523) or "expression of modern-day tribal sovereignty" (Mitchell, 2013: 21) that must seek to restore and transform human-environment relations in order to heal both communities and ecosystems (Kimmerer, 2011; Martinez, 2018; Fox *et al.,* 2017).

Indigenous models of restoration are also challenging the concept of 'pre-disturbance' or 'pristine' reference landscapes, instead highlighting the interdependencies between ecological and cultural systems and the potential for restoration to form part of broader efforts of Indigenous language and knowledge revitalization (Kimmerer, 2011; Senos *et al.*, 2006; Fox *et al.*, 2017; McGregor, 2018). It is perhaps only fitting that the UN Decade on Ecosystem Restoration (2021-2030) is immediately followed by, and overlaps with, the International Decade of Indigenous Languages (2022-2032). These interdependencies are captured in the terms 'eco-cultural restoration' or 'eco-cultural revitalization', defined by Martinez and Higgs (1996, cited in Martinez, 2018: 170-171) as:

> "the process of recovering as much as is recoverable of the key historical precontact or preindustrial ecosystem structure, composition, processes, and function, along with traditional, time-tested, ecologically appropriate and sustainable Indigenous cultural practices that helped shape ecosystems, while simultaneously building in resilience to future rapid climate disruptions and other environmental changes in order to maintain ecological integrity in a way that ensures the survival of both Indigenous ecosystems and culture".

Eco-cultural restoration reinforces the benefits of collaboration and dialogue between Indigenous knowledge systems and western science, and prioritizes the restoration of cultural values and practices (Pilgrim, Samson and Pretty, 2009; Tipa and Nelson, 2017; Morishage *et al.*, 2018; Zedler and Stevens, 2018), such as cultural burning. Kimmerer (2011) similarly articulates the concept of 'reciprocal restoration' as restoration grounded in an Indigenous worldview, and associated principles of reciprocity, kincentric

relationships, respect, and responsibility. Emphasizing the relational approach to Indigenous-led restoration, Whyte (2017: 207) describes how:

> "Indigenous conservationists and restorationists tend to focus on sustaining particular plants and animals whose lives are entangled locally – and often over many generations – in ecological, cultural, and economic relationships with human societies and other nonhuman species…our conservation and restoration projects are not only about whether to conserve or let go of a particular species. Rather, they are about what relationships between humans and certain plants and animals we should focus on".

This focus on relationships (with *specific* places, plants, non-human natures) further demonstrates how Indigenous knowledges and practices cannot be extracted from the Nation, culture, or land in which they are embedded, to be 'integrated' into restoration goals or plans. Instead, as Kimmerer (2011) argues, ensuring the ability of Indigenous peoples to be able to exercise their stewardship roles and legal rights to land are central to restoration.

In her book Braiding Sweetgrass (2013: 328) Kimmerer writes "how we approach restoration of land depends, of course, on what we believe that "land" means". All landscapes – including fire-prone and fire-affected landscapes – are more than biophysical components; they are embedded with and shaped by socio-cultural systems, histories and meanings (Alexandra and Riddington, 2007; Smith *et al.*, 2016; Marker, 2018). Michael Marker (2018) similarly emphasizes that 'place' is more than the physical: it is an 'animate landscape' comprising layering of physical and metaphysical, of meaning, memory, experience; of space and time, relationality and animacy. Ignace and Ignace (2017: 382) refer to how "all parts of the Secwépemc land and environment are thus thought of as a

sentient landscape". They describe how Secwépemc people both communicate with the land and the land communicates back in "a continuous reciprocal relationship where we are accountable to the land and all its powers"; powers that are embedded in places in the land, derived from past events and experiences of ancestors. As such, just as biophysical elements such as propagules or other biotic residuals serve as legacies and memory carriers of past practices (Andersson and Barthel, 2016; Rodríguez Valencia, Davidson-Hunt and Berkes, 2019) and are a key driver for ecosystem change and restoration (Johnstone *et al.*, 2016), the stories and socio-cultural memories embedded in landscapes encode wisdom and ways of relating to land and other beings (Basso, 2000; Mistry *et al.*, 2014; Ignace and Ignace, 2017; Rodríguez Valencia, Davidson-Hunt and Berkes, 2019) that can guide restoration. Simultaneously, restoration can be a way to reconnect with these knowledges and stories. As Nabhan (1991: 4) writes, in describing how collaborative restoration project in central Australia led to the resurfacing of memories and stories of reintroduced species, restoration can be an act of a "cultural revival", and a "re-storying" of the landscape.

1.5 Summary of dissertation

Chapter 1, presented here, is the introduction to the dissertation and establishes the theoretical context and research objectives that guide the following chapters. Chapter 2 describes my methodological approach, including principles of collaborative and community-based research that I sought to uphold throughout my research. Research Questions 1 and 2 (Section 1.3.1) address two distinct but interrelated aspects of response and recovery following the 2017 'Elephant Hill' fire. Chapter 3 documents Secwépemc leadership in and collaborative governance of wildfire response and recovery, as well as the impacts of this fire on Secwépemc communities and territories, and Chapter 4 analyzes the recovery of understory plant

communities, with a focus on plants of high cultural significance. Research Question 3 frames Chapter 5 of this dissertation, which describes the Secwépemc concept of 'walking on two legs' to support equitable partnerships and action-oriented research that draw on both Indigenous knowledges and western science to support Indigenous-led restoration. Research Question 3 also guides the 'conversations' presented in the final chapter. Finally, this dissertation concludes with Chapter 6, which begins by drawing on conversations with Ron and Marianne Ignace on restor(y)ing fire and fire landscapes and reflecting on 'collaboration' and the role of research, then outlines key contributions and insights from this research, priorities and implications for future collaborative research and Secwépemc fire and land stewardship, and final reflections.

Chapter 2: Methodology

2.1 Locating myself in community-based research

Community-based research is grounded in relationships. The relationships that I have developed and come into – with individuals, with communities, with the dry, rolling landscapes of Secwepemcúl̓ecw that somehow, uncannily, remind me of home, more than 10,000 km away – have fundamentally (re)shaped my approach to research, and my understanding of myself and what I can bring to the table as a researcher. But back in the fall of 2018, when I first arrived in Canada, I didn't have these relationships, or any connection to this territory.

I grew up in Melbourne, one of the largest cities in Australia. Yet when people ask me, as they often do, what I miss most about home, this – along with my family – is what comes to mind:

I miss 'the bush': at once both an abstract and tangible entity that is a collection of many particular places in my memory and experience, and a collective representation of the landscapes of home, of south-eastern Australia. I miss the dusty grey-greens of the eucalypt canopy,

contrasting with the rich green of bracken and tree ferns and splashes of *Banksia* yellow that color the coastal bushland where I spent my childhood weekends. The rusty brown of a native grassland mid-summer, like those I first came to know as a fledgling fire scientist. Those overlooked and under-appreciated ecosystems that, if you just get down on your hands and knees and look a little closer, are abundant with colour and life. The stark reds and oranges of sandstone country, where, under the guidance of a kind and enthusiastic mentor, I learned how to read the recent history and disturbances of the landscape in the plants under foot.

Yet these are not the landscapes that I come from, the landscapes that I grew up hearing stories of, that are part of my family's histories. My mother's family were early settlers, arriving to Australia from Ireland in the mid 1800s and ending up in the tough, sandy, semi-arid Mallee region in north-western Victoria. We grew up learning our family's history: the history of villages where the families and gravestones still bear my late grandmother's family name. But for the longest time, I didn't question what was missing from these stories – the Indigenous peoples and territories upon which this act of 'settlement' was imposed – or how my family benefited from access to these lands. What being a "fifth generation Australian" really meant. These (hi)stories that have been silenced from our education and our family narratives, that have shaped and continue to shape the places we call home.

My dad's family came later. He arrived in Australia as a young teenager, exchanging North Yorkshire, England for the dust of Mt Isa in central Queensland, and soon after to Melbourne where he would stay and eventually meet my mother. Despite moving at a relatively young age these early years left a great impression on my dad, and my siblings and I grew up hearing stories of his childhood growing up in a small village and roaming the moors of this northern landscape. Through these stories, and my own childhood visits to his birthplace, that

place felt like a part of me too. When I travelled back to visit the last of our family there in 2013, I immediately felt that same sense of belonging, how particular places (as much as people) tie us to history and home.

Five years later, not long after my 31st birthday, I too packed up my life and flew halfway around the world, to start my PhD at UBC. I had been here once before, back in 2014 for the International Forestry Students Symposium: two whirlwind weeks of touring the province, from Vancouver to Vancouver Island, to Prince George and back through the dry interior. But apart from that, my only knowledge of BC had come from the weeks of wide-ranging reading I did to prepare my scholarship and PhD application, delving into literature on community forestry, ecosystem restoration and fire management in BC. I was still a complete outsider to this place, with no real idea where this research would take me. But arriving in Vancouver just as the city became shrouded in a heavy haze of wildfire smoke and returning to graduate studies in the wake of two back-to-back record-breaking fire seasons, I felt a strong sense that that my research in this space should be guided by the needs and priorities of local communities.

My previous experience with 'community-based' research was in rural south-eastern Australia. The final years of my undergraduate degree came when the 2009 Victorian 'Black Saturday' bushfires were still strongly at the forefront of Australia's collective memory and policy debates, and when fire sciences were being prioritized in research and education. I became motivated to pursue research in this field, and so found myself, for my Master's, in a small town in western Victoria, talking with farmers and local conservation groups about fire and grassland management along rural roadsides. Between interviews I attended community BBQs, went for drives with community members along roadsides looking for orchids, lilies, and legless lizards, and wrote my thesis on the wooden tables behind the local pub. While I was not from that town,

nor from a rural or farming background, I was able to draw on specific experiences and "play with different positionalities" (Sultana, 2007: 379) to establish relationships of ease and trust. For example, as a trained botanist, I was able to connect with local field naturalists and to become somewhat of an insider when joining on plant surveys or field tours. As an Australian of British and Irish heritage studying at a well-known regional forestry school, who had worked with farmers on agroforestry and farm-based conservation projects, I felt at ease talking with multi-generational settler farmers around their kitchen tables and getting them talking about their connections to their landscape and their perceptions of risk.

In 2012, partway through that degree, I got a job leading groups of international student volunteers on conservation projects. For two months we partnered with community volunteer groups to restore wildlife habitat and landscape connectivity, working through days of driving rain and scorching sun and living in tiny communities in rural Australia. It was during these projects and watching the transformation of these students as they worked side by side with each other and local community members that I first recognized the power of restoration work to connect people to place and community. The restoration ecologist Eric Higgs refers to this practice as 'focal restoration' (Higgs, 2003).

Years later, in the first year of my PhD, I, like many other settlers first dipping our toes into Indigenous scholarship and writing, came across Robin Wall Kimmerer's work, and her description of 'reciprocal restoration': an approach grounded in an Indigenous worldview that emphasizes the interconnected nature of cultural and ecological wellbeing. Reading *Braiding Sweetgrass* (Kimmerer, 2013) I could finally put a language to the feeling I had been experiencing in my previous work as an ecologist: a feeling that western/dominant science, in its endless drive to reduce life to data that can be counted and categorized, and plants to indices of

diversity and numbers in a spreadsheet, was missing something deeper. As Kimmerer describes, when we "make that maple into an object; we put a barrier between us, absolving ourselves of moral responsibility and opening the door to exploitation" (2013: 57). While I had felt incredibly lucky to have a job that took me outdoors and involved working with plants, I was frustrated at the development-driven nature of consulting. More importantly, I had come to feel disconnected from the work I was doing and the plants I was recording.

Fast forward to where I am now: a graduate student working with Secwépemc communities at the nexus of wildfire management and restoration. As a non-Indigenous researcher, and as someone who didn't necessarily identify as an activist or action scholar or intend to seek out collaborations with First Nations, I have grappled with how to situate myself in this new context. This new approach of being guided by principles of Indigenous research and my Secwépemc research partners brings new challenges and the need to critically reflect on and be reflexive of my own identity and the role and space I occupy in these collaborations.

In my research proposal I wrote of the challenges I faced throughout the early stages of exploratory research and relationship building. The challenges of wearing with many 'hats' – a UBC-affiliated researcher, a consultant, someone working with and for the SRSS and Secwépemc communities – and constantly revisiting and revising the way in which I identify and present myself in various situations and with various community representatives. So perhaps now is a place to explain how it is I came into this work.

When I arrived in August 2018, a crew from the UBC Tree-Ring Lab were just completing a summer of field work across the Elephant Hill wildfire. This work was part of a larger project initiated in 2017 by then-Kúkpi7 Ryan Day, of Stʷuxwtéws, who reached out to Dr. Lori Daniels with an invitation to partner to help understand the impacts of this fire on their

territory. This was not our lab's first connection with Secwépemc communities: in 2016, Dr Kelsey Copes-Gerbitz began her PhD in collaboration with T'exelc (Williams Lake First Nation), initiated by the manager of the Williams Lake Community Forest (of which T'exelc is a governing partner). But my relationships with Secwépemc people and communities really began through an introduction to then-Kúkpi7 Ron Ignace from Dirk Brinkman, who had come across my PhD proposal through his involvement with the Faculty of Forestry.

Around the same time that Lori and I first met Ron, when he came to see Lori speak at a meeting of the Canadian Institute of Foresters in October 2018, I had begun informal discussions with representatives from Brinkman and Associates Reforestation and their affiliate Forest Foods Ltd regarding me potentially supporting projects being proposed by the SRSS. At the time, Forest Foods were providing project management services to the SRSS and had coordinated the Secwépemc morel permit program earlier that year. Over the following months I kept in touch with Ron, and between April and May 2019 Lori and I met with Ron and Marianne in Vancouver, at the Society for Ethnobiology Conference and simultaneously commenced a short-term contract role with Forest Foods. Through this role, which soon transitioned from consultant to (potential/future) research collaborator and general helper (see Section 2.2.2 below), I became embedded in SRSS projects and proposals and was invited by Angie Kane, CEO of the SRSS, and Kúkpi7 Ron to join meetings of the Elephant Hill Joint Leadership Council and Joint Technical Committees.

Throughout my involvement in these activities, I saw the strong interest amongst Secwépemc leadership and staff in monitoring and restoring understory plants, and in revitalizing traditional plant stewardship practices. This, combined with my own personal and professional interest plants, led to me participating in Dr. Marianne Ignace's course *Ethnobotany*

of British Columbia First Nations. This course was coordinated and taught by Marianne as both an ethnobotany and Secwepemctsín language course, with most participants being language learners from Secwépemc communities. It was during this course that I began staying with Ron and Marianne at their home at Skeetchestn, a home that now feels like my home away from home. That fall was also the first (of many) drives with Bert William around Hat Creek Valley, and the start of what, over the years, would become a great friendship (go Oilers! ;)).

Reconstructing my pathway on the written page like this, it would be easy to fall into the trap of seeing this as a clear sequence of linear steps, a straightforward and well-planned path that enables me to explain 'this is how you build relationships'. But that is obviously not the case! There were many stumbles and sidetracks, many mistakes, and mistaken assumptions on my part. But in the end, it is these relationships with Ron, Marianne, and Bert – my mentors, friends and closest to family I have so far from home – as well as with Angie, in her role with the SRSS, are what brought me into this work.

When reading Narayan's 'How Native is a Native Anthropologist' (1993) I was struck by their discussion of complex and shifting *relationships,* and a move to refocus on shifting identities or identification *in relationship* with the people and issues we seek to represent. As Narayan (1993: 682) describes, even if starting out as a 'stranger', the "sympathies and ties developed through engaged coexistence may subsume difference within relationships of reciprocity". By spending time getting to know the people and places around which my research centers, I have continually re-shaped my research to be responsive to what is meaningful for these communities. From days driving Hat Creek Valley with Bert learning plants, or with Ron as he told stories of how women used to go hiking up the valley and into the mountains and come back with baskets full of berries, or pointing out the place where the transformers *Tllí7sa*

and his brothers rolled large boulders down a ridge towards their young nephew *Q'welást* – an example of the actions depicted in Secwépemc *stsptékwle* or oral traditions manifest in features on the landscape that "represent *deeds* to the land" (Ignace and Ignace, 2017: 57); to sitting at the Elephant Hill technical and leadership tables listening to people voice their concerns over the (mis)management of their territories, or at the kitchen table with Marianne talking about the need to restory and reimagine their territory, grounded in the knowledge and experiences of Elders; to facilitating SRSS community engagement to understand priorities for restoration. These are the relationships – with Secwépemc people, communities, and territories - that I have sought to uphold through my research.

Then came the summer of 2021.

After three years of classes and comprehensive exams, with only the odd day or two out in the forest and almost 50 interviews conducted over the phone and zoom due to the Covid-19 pandemic, I was finally back in 'the field'. For four months, our UBC crew was to be based in a rickety old house in Clinton to conduct the final year of plant monitoring across Elephant Hill. After a snowy start to the field season, by late June the temperatures had started to rise, and Environment Canada issued warnings of a 'dangerous, long heat wave'. On Sunday June 27th, our final day of field work before a scheduled week's break, the temperature at Hihium Lake, high up on the Bonaparte plateau, hit the high 30s by 9 am. Three days later, as I sat in the cool of my friend's basement in Revelstoke, Lytton burned to the ground.

Somehow, we made it through the 2021 field season. We coped by canning berries and peaches, watching The Office, sharing a dark sense of humour, and staying inside when the smoke became unbearable. But of all the memories from that field season, these are some that have stayed with me:

Driving back towards Clinton along Highway 1, and seeing flames cresting the hills above Skeetchestn. Stepping outside our house one morning, and feeling ash fall from the sky. Returning to our weekly plots after the heat dome and seeing our saskatoons and rose bushes scorched from the heat. Enjoying a rare moment of smoke free skies up in Hat Creek Valley, and Bert driving up to find us to tell us we may be evacuated. Sitting with Ron on the tables outside Big Sky after delivering jars of *sxusem* to share with community members who couldn't get out to harvest, the hills across the river obscured by smoke from fires burning all around. Packing our valuables – from laptops to beading kits – into the truck every morning, just in case we couldn't make it 'home'.

In the end, we never had to evacuate. We were among the lucky ones. And so, as I heard once again of the challenges that communities like Skeetchestn faced during wildfire response, and knowing of the recovery work to come, I started to write. Chapter 3 – the Elephant Hill report – was written that summer. In the evenings after field work, or during the many days when it was unsafe to even step outside. In a small cabin in the Cariboo, or at the UBC Williams Lake house, during our second break later that summer. I wrote in the hope that all the work done since Elephant Hill would not be lost, and that by telling this story, Secwépemc communities could have something to hold onto; something to hold up in their communities and with government, to say this is where we've come from, and this is where we need to go. To remind people, in the words of former-Kúkpi7 Ryan Day: "In the wake of devastation there is always creation, our people know this better than anyone".

2.2 Research approach

2.2.1 Community-based, participatory action research

In the Indigenous world's vocabulary, as Māori scholar Linda Tuhiwai Smith (1999: 1) so powerfully stated, research is a 'dirty' word: one that "raises a smile that is knowing and distrustful". Within the first page of her seminal book *Decolonizing Methodologies* (1999:1) Smith points to the deep links between scientific research and colonialism, and how practices of and informed by science "are still employed to deny the validity of indigenous peoples' claim to existence, to land and territories…to our natural resources and systems for living within our environments".

In response to this history and to continued practices of exploitative research in/on Indigenous communities and territories, Indigenous scholars have called for a new research agenda that is "ethically and philosophically congruent with Indigenous peoples' worldviews" (Peltier 2018: 2) and grounded in Indigenous knowledges and methodologies (Smith, 1999; Wilson, 2008; Kovach, 2009). As a settler, it is not my place (nor would it be possible) to apply an Indigenous methodological framework that draws on specific Indigenous epistemologies or ontologies or applies culturally specific methods. Instead, I am strongly guided by principles for approaching 'Indigenous research' – research conducted, in my case, *with and for* Indigenous peoples (Wilson, 2008) – through community-based, participatory (action) research.

Community-based participatory research can be seen as both an overarching paradigm, aligned with transformative research and associated ontological, epistemological, and axiological assumptions, as well as a methodological approach encompassing terms such as participatory action research (PAR) (Castleden, Morgan and Lamb, 2012). Key tenets of the transformative paradigm that underpin my research include centring the axiological imperative to promote

social change and justice, while supporting the active agency of community members in leading this change; upholding a research ethic that is "cognizant of and responsive to history, culture, (in)equity, and the importance of relationships and reciprocity" (Cram and Mertens, 2015: 7); and a recognition that knowledge is constructed within historical, social and political contexts of power and privilege, to the exclusion of other worldviews and ways of knowing (Guba and Lincoln, 2008; Cram and Mertens, 2015). Similarly, community-based participatory research seeks to share decision-making power with, and promote active participation of, research partners and participants throughout the research process, co-creating and sharing new knowledge in a way that is mutually beneficial and reduces power imbalances (Castleden, Morgan and Lamb, 2012). Indigenous scholars have therefore argued that community-based research approaches, particularly PAR, can be effectively paired or aligned with Indigenous research and methodologies (Peltier, 2018; Sullivan, 2020).

While I did not specifically set out to undertake a PAR project, as the winding and 'messy' path of research unfolded and my relationships with Secwépemc people, communities and organizations developed, and as I have reflected on the changes in myself and my co-researchers and the kinds of impacts we continue to work towards, it is clear to me, that is what this dissertation has become.

The transformative principles of PAR align with those described above and draw on a long history of social justice and socio-political consciousness raising, particularly in Latin America (Freire, 1970; Sharmil *et al.*, 2021). Beyond engaging community members in the design and implementation of research (see below), PAR focusses on promoting action by empowering research participants as co-researchers (Peltier, 2018; Canlas and Karpudewan, 2020) including by developing resources and building capacity for resistance, activism and self-

reliance (Sullivan, 2020). In doing so, PAR goes against traditional models of academic research, in which 'impact' is a discrete and identifiable event that often occurs at the end of the research process (e.g., uptake of research findings by policymakers). Instead, PAR prioritizes impact throughout the research process, through researchers working in collaboration with communities to enable action for change (Banks, Herrington and Carter, 2017).

Banks, Herrington and Carter (2017) further distinguish between the 'findings-based', linear process of *collaborative-impact*, based on uptake or use of research findings to change practice and policy – a type of impact more aligned with the traditional model of the research process – and *collective impact,* involving more intentional strategies to achieve a targeted change in policy or practice based on issues highlighted in research. In addition, they describe *participatory impact* as a 'process-based' form of impact, in which researchers and research partners undergo changes in thinking, emotions and practice, such as developing new skills or insights, or feeling empowered or growing passionate for a cause, resulting from involvement in conducting research. From the outset, it was important to me that both the *process* and *outcomes* of my research would be meaningful for my research collaborators and other community members, and I have aimed to promote these latter two forms of impact throughout the research process.

I have worked towards collective impact by supporting the SRSS and Secwépemc Kukúkpi7 by accessing funding, as well as in kind support in the form of facilitation and engagement/advocacy work, to support their engagement with BCWS, trying to promote change in government policies and practices of working with Indigenous communities. At times, this "blurred the lines between method and action" (Tuck, 2009a: 53). I also provided training opportunities for my research assistant/co-researcher Char John (e.g., funded OCAP training,

provided mentoring in qualitative research methods) and facilitated other opportunities for the SRSS to promote their work and establish new or strengthened partnerships (e.g., through joint presentations at academic and industry conferences, or meetings with government staff or researchers from my wider network). Throughout the 'lessons learned' project (Chapter 3) that I worked on with Char and the rest of the SRSS team, I noticed a change in these research partners, both individually and as an organization. This change was perhaps best summed up in a text I received from Char (shared here with permission), a week or so after we had some meetings with BCWS staff and had also presented together at an international wildfire conference. Out of the blue one afternoon, she texted me: "I have had some major thoughts. I think we need to evaluate and assess all the [Indigenous-led and government] reports and see what has changed since 2017. Lol I was like, dang you Sarah, you have made me passionate about something I never would have even thought about otherwise!". While I am committed to continuing to work with the SRSS and these communities, to continuing being a 'helper' (Tuck, 2019) *if* and for as long as this is something I'm asked to do, I would be just as happy knowing that I have done myself out of a job, that these communities have the research skills and capacities to lead this work themselves.

A key, related tenet of PAR is the explicit acknowledgement that local people – particularly those experiencing social injustices or marginalization – are experts in their own lives, capable of articulating their own knowledge and activating their own agency to lead change in their communities (Meyer *et al.*, 2018; Canlas and Karpudewan, 2020; Sullivan, 2020). One simple step in respecting community knowledge and agency in this research was providing multiple, regular opportunities for participants to review and reflect on research

findings, and sharing results in a format that is meaningful to participants and their wider communities (Peltier, 2018).

For example, Char and I provided, and continue to provide, monthly updates on the Elephant Hill 'lessons learned' (Chapter 3) project to the SRSS First Nations Technical Table, seeking feedback on the developing report and key findings and now, on implementation of recommendations. During interviews with community members, in particular Kukúkpi7, I also trusted that they knew what (hi)stories needed to be shared and what was important to emphasize. This often meant letting go of the pre-determined (albeit co-designed) questions and the traditional researcher imperative to steer the conversation back 'on topic', instead allowing participants to direct the interview. For Chapter 3 I worked closely with many interviewees, making edits to ensure their stories were not misinterpreted and that they were comfortable with how their words were presented. The final recommendations from this report came directly from community members and staff, both from interviews and discussions at the monthly meetings. My role, in compiling the final report, was not to reinterpret these narratives, but rather about "finding the answers within the story" (Nutton, Lucero and Ives, 2020: 109) and setting community voices and knowledges in dialogue with those from the provincial government and other stakeholders, to tell the story in its entirety.

Similarly, when I began thinking about the relationship between principles of reconciliation and practices of restoration (Chapter 5), and engaging with different frameworks for working across knowledge systems, I was initially struggling to frame my thinking and to ground this in the specifics of the territory and context I was working in. However, I then realized that this had already been articulated by Ron Ignace, in his concept of 'walking on two legs' that he often shared at the Elephant Hill Joint Leadership Council, in meetings with

government and community leadership, and in conversations with me. Once again, my role shifted from researcher-as-interpreter/meaning-maker to researcher-as-facilitator: bringing together a diverse group to dialogue across ways of thinking, knowing, and writing, while stepping back and creating space for Ron and Marianne to articulate this concept and its meaning in their own words.

While PAR involves research participants or community partners playing a central role in establishing the research agenda and controlling research outcomes (Castleden, Morgan and Lamb, 2012; Canlas and Karpudewan, 2020), Nutton, Lucero and Ives (2020) highlight the fact that an over-emphasis on *quantity* of participation (e.g., ensuring participants spend time involved in all aspects of the research) can disempower participants/community members or impose unrealistic expectations and burdens. Similarly, Tuck and Guishard (2013: 16) emphasize that incorporating 'participation' into research designs, in and of itself, does not resolve ethical issues; that "simply increasing the number of bodies in the conduct of positivistic or colonial research does nothing to decolonize it". While providing opportunities for participation is important, Nutton, Lucero and Ives (2020) argue that participants know which roles and responsibilities are best for them and can determine how they will be involved. By being flexible and open to "creating spaces for community partners to exercise self-determination" (Nutton, Lucero and Ives, 2020: 103) and ensuring Indigenous peoples/research partners can determine the level of involvement they want (Castleden, Morgan and Lamb, 2012), researchers can build trust and increase the *quality* of participation.

The research presented in Chapter 3 arose from longstanding discussions at the SRSS First Nations technical Table: the regularly expressed desire to both document Secwépemc experiences of the 2017 wildfires and the impacts to their territories from a Secwépemc

perspective, and to ensure that 'lessons' from the joint recovery would not be lost. From the start, the members of this Technical Table – Secwépemc community natural resource and cultural heritage staff – were involved in this project, and we had several initial meetings to collectively decide on a research approach and how they would participate. From these meetings we confirmed the interview-based methodology, including who I should talk to, opportunities for individual and group interviews, and key topics and questions to cover. We also discussed me hiring a community research assistant; while we did share a job posting with all communities, in the end, this role was taken on by Char John, the newly hired Natural Resource Community Coordinator with the SRSS. Char and I worked closely together and with Angie Kane on this project over the following year, and both Secwépemc and provincial government representatives played an active role in connecting us with interviewees who we did not have an existing relationship with. While I led the analysis and writing, this was based on regular conversations with Char and Angie, as well as regular feedback from and support of the First Nations Technical Table.

The research presented in Chapter 4 is part of a larger project initiated at the invitation of then-Kúkpi7 Ryan Day, of Sṫuxwtéws. The initial proposal was developed in 2017 by Dr. Lori Daniels and the Sṫuxwtéws natural resource manager at the time, who later left to a role with government. Our relationship and engagement with Sṫuxwtéws' natural resource department strengthened through my involvement in the Elephant Hill and SRSS tables, and between 2019 and 2020 Dr. Lori Daniels and I held several meetings with natural resource and cultural heritage staff from Sṫuxtéws. These meetings primarily focussed on discussing their priorities of assessing wildfire risk and conducting fuels treatments to protect their communities and Hat Creek Valley, but also explored how we could adapt the established Elephant Hill monitoring

program to record and share data relevant to cultural uses and values. These discussions shaped our approach to data collection and analysis and have formed the foundation for subsequent research projects in Hat Creek Valley.

Creating these spaces and trust takes considerable time. In my work with the SRSS, it was over a year before we – me, the SRSS and community members and representatives – truly started talking about possible 'research'. That is not to say that I didn't try earlier; that I didn't make the novice mistake, on multiple occasions early on, of clumsily asking community natural resource staff 'how could research help with X?'; of rushing things by assuming that a few weeks or even months sitting in at Elephant Hill and SRSS meetings, or even an invitation from respected individuals meant that I – a stranger to this territory with an even stranger accent – was known and trusted. So, I put the 'research' on pause, and just focussed on getting to know the people and territory.

I sat in the back of meeting rooms, actively listening to discussions on everything from salvage harvesting to cultural heritage management to the need to restore forests as 'living infrastructure', and for water. I joined community staff like Bert William (Stuxwtéws) and Stewart Fletcher (High Bar First Nation) for field days, driving the backroads around Hat Creek Valley and Green Lake, learning plants, and getting tips on better hiking shoes to keep my not-yet-acclimatized feet warm during the fall field season. I put my consulting background to use, writing funding proposals and project briefing notes to support the SRSS in their work. And I spent countless days and weeks with Ron and Marianne at their home in Skeetchestn, talking around their kitchen table, driving up the Deadman Valley, picking chokecherries or working in the garden, and finding a taste (as a vegetarian) for salmon and even, on occasion, moose. These relationships are everything: they're not a 'method' to be strategically deployed to access 'data',

a step to be ticked off in a research plan. But the commitment to these relationships, based on trust, must come before and above anything else.

My research is grounded in these specifics: of the people, places, and relationships that I have worked with and learned from over the past four years. This attention to local contexts and experiences is central to PAR (Meyer *et al.*, 2018). As such, the intention is not to be able to generalize from this research to other Indigenous Nations, territories, or contexts. Nor do I claim to speak for Secwépemc communities, or the Nation as a whole. Indeed, generalizability or reproducibility – key tenets of post-positivist and reductionist research – are incommensurable with qualitative research and PAR (Guba and Lincoln, 2008; Creswell, 2013; Nutton, Lucero and Ives, 2020). Michael Marker (2018: 459) further criticized the "academic directive to produce research that is generalizable, universalized, and therefore *not specific to places*" (emphasis in original). Emphasizing the importance of 'place' as both inquiry and methodology highlights how knowledge and experiences are interpreted and constructed through the relationships that people hold with one another and their local environments or territories.

Therefore, rather than understanding validity as *verification* (of findings, of quantitative and replicable results) through generalizability or replicability, I attend to principles and practices of relational and catalytic validity: the rigor and value of this research is to be judged by the degree to which it increases and upholds accountability to people and place, prompts action by and on behalf of research participants, and supports self-determination through this participation (Guba and Lincoln, 2008; Tuck and McKenzie, 2013). Validation strategies such as prolonged and deep engagement in my research context; drawing on multiple methods and data sources; identifying pathways and providing resources for collective impact; and critical

reflection and reflexivity (Creswell, 2013; Banks, Herrington and Carter, 2017) all centre on understanding and attaining 'validity' in these ways, grounded in ethical relationships.

2.2.2 Ethics and accountability: the '4 Rs' (and refusal) of research with and for Indigenous communities

This research was approved by the University of British Columbia's Behavioural Ethical Review Board (application number H20-00473) and was guided by Chapter 9 of the Tri-Council Policy Statement 2 on 'Research involving the First Nations, Inuit and Métis Peoples of Canada' (Secretariat on Responsible Conduct of Research, 2018).

This simple statement – the kind of which is likely to be found in any social science dissertation – may seem like an ethical 'stamp of approval', enough to guarantee that ethical principles and practices were upheld throughout the course of research. Yet, while institutional ethics approval is an important (and required) step in the qualitative research process, this institutional process has been criticized as simply being "a system of *a priori* checks without attempting to balance or disrupt asymmetrical power relationships in scientific inquiry" (Tuck and Guishard 2013: 7). As such, as Tuck and Yang (2014a: 223) argue, "the ethical standards of the academic industrial complex…do not always do enough to ensure that social science research is deeply ethical, meaningful, or useful for the individual or community being researched". Similarly, imposing lengthy, institutionally developed research agreements on communities can simply erode trust, disrespect existing relationships, impose a burden on community capacity to review, and will not necessarily ensure we are approaching research 'in a good way'.

First and foremost, I am accountable to the Secwépemc communities, organizations, individuals, and territories I have worked with, and come to know, through my research. My responsibility is to these relationships, before any 'research' outcomes. I remember sitting with

Bert William one evening on his back porch, looking out over Hat Creek Valley, and him telling me "I never imagined it would be someone from Australia who would come to tell this story". This reinforced to me what a huge responsibility and privilege it was to be entrusted with putting community experiences to paper, to share the Elephant Hill and joint recovery story with the wider world.

In prioritizing these relationships, I sought to uphold key ethics and principles of Indigenous research, including principles of OCAP (ownership, control, access and possession) relating to knowledge and data governance, and the '4 Rs' of respect, reciprocity, relevance and responsibility (including relational accountability) (Kirkness and Barnhardt, 1991;Wilson 2008). 'Relevance' means responding to needs or issues identified by Indigenous participants/partners; respect comes through developing trust and upholding accountability to communities and relationships; and reciprocity is central to PAR, ensuring mutual benefits and change throughout the research process (Snooks *et al.*, 2021). In sharing Secwépemc understandings and language of 'reciprocity', Marianne emphasized that this does not exist in the abstract, but is rather about *specific*, reciprocal relationships between entities or beings.

Inviting Ron and Marianne Ignace to join my dissertation committee was a key step in ensuring that my research would be guided by Secwépemc people and priorities and would be respectful of community research protocols. Community-based ethics protocols were followed, comprising formal letters of support from Skeetchestn's Chief and Council (**Appendix A**) and the SRSS (**Appendix B**) – the latter, after receiving formal endorsement from Kukúkpi7 at a meeting of the Board of Directors – and signing a data sharing agreement, provided by Skeetchestn, for the use of their cultural plant database. Following advice from Marianne, discussions with hagwil hayetsk (Dr. Charles Menzies, Gitxaała Nation, with whom I took a

course at UBC and who was generous enough to share examples of ethics applications to guide my own), as well as discussions with the First Nations Technical Table (for Chapter 3), I also used a verbal consent process, with consent and preferences for identification reconfirmed on multiple occasions. While some participants/partners may prefer written consent forms, or provide their own templates, imposing the requirement for signatures on an ethics form can be seen as a risk by participants (i.e., what are they signing away?) or disrespectful to existing relationships.

Hiring Char as a research assistant and working closely with her on the 'lessons learned' project was also invaluable. She regularly shared key insights from her experiences working in and with her own community and Nation, and in government-to-government processes, cutting straight to the point with comments like *"government always wants to standardize communications processes with First Nations, a cookie cutter approach. But they can't even standardize across their own jurisdictions!"* At meetings with government agencies, she has often highlighted the ways in which non-Indigenous people tend to miss the true meaning behind what is being shared by Indigenous people, dismissing anecdotes or comments that depart from the agenda as irrelevant, rather than respecting that people know what is important to share. As we debriefed on interviews with community members and I talked through the analyses, she often pointed to such comments or stories that I had perhaps not fully registered, that might have got lost in the hundreds of pages of transcripts and hours of interviews.

Putting these principles into practice also meant recognizing contributions through co-authorship, co-presenting at conferences and workshops, waived confidentiality (as requested) and other formal acknowledgements of research contributions; using methods and publication formats that allowed for knowledge to be presented holistically and that are of benefit to

participants in terms of process and outcomes; and facilitating opportunities for community capacity strengthening.

While my initial involvement with the SRSS was as a consultant to help with grant writing, I soon realized that if this was to develop into a research relationship, this was not a fair exchange. I am already benefiting in substantial and material ways from this research. In addition to my generous funding through UBC, I will finish these four plus years with a PhD from a prestigious institution, from a faculty and discipline built on the wealth from Indigenous lands, and the possibility of a well-paid career, in academia or otherwise. Reciprocity is about equitable and mutual benefits and 'bringing something to the table' (Armstrong and McAlvay, 2019). So, I stopped in that role (but continued the same 'work'), and since then my focus has been on sharing resources, financial and otherwise, back to communities. Part of this has involved continuing to 'work' for the SRSS: supporting grant applications, taking minutes at meetings, contributing to projects, writing briefing notes for leadership, and anything else where my skills can be of use.

(As a side note: in 2020 I was listening to Wiradyuri woman Kate Harriden and Jessica Weir discuss collaborative and decolonial research in a 2020 episode of the 'Policy forum pod' podcast (Cunio, Weir and Harriden, 2020), and Kate posed the question "can you fix a generator?". She then followed up by saying "if you've got no practical skills, you've got no place in those communities!…you have to show your value before you demonstrate your [academic] expertise". Jessica's response of "now I might not be able to fix a generator but I'm *so* good at filing, and my filing expertise is also valued!", struck a chord with me, and prompted me to reflect more on what value I could bring).

Part of this has been sharing funding: from providing additional funding to pay Stuxwtéws field staff at industry rates and hiring Char as a research assistant and funding her participation in conferences, to successfully applying for funding from UBC that was passed directly to the SRSS or Skeetchestn, to hearing of Stuxwtéws' challenge in accessing funding for firefighting equipment and talking to my supervisor Lori, who sought permission from the funder of our joint UBC-Stuxwtéws project to reallocate funding for this purpose. Sometimes, the most impact you will have as a fire researcher is buying a community a fire truck.

Then there is another R-word, 'refusal' (Simpson, 2007): refusal to do (certain forms of) research, and refusals within research (Tuck and Yang, 2014a). Experiences of wildfire are often traumatic, and before I even began the process of interviewing (Chapter 3) I had heard countless community members speak of the devastating impacts to their territories and communities, of the fear they still feel every time they hear a helicopter or smell smoke, of the disrespect they experienced from wildfire agencies. A key ethical challenge I continue to navigate is how to respect these experiences, and more specifically the explicit requests (e.g., from the First Nations Technical Table) to document these experiences, without "serving up pain stories on a silver platter for the settler colonial academy" (Tuck and Yang, 2014b: 811). Without perpetuating 'damage-centered' research that, under a flawed theory of change, focusses on documenting pain or loss, leaving a legacy of damage-centered narratives and Indigenous communities with 'the damage' (Tuck, 2009b). This theorizing has been invaluable for me in thinking through how to approach this research and in taking strength-based lens. It is important that this research highlights the knowledges and capacities that exist in communities, how communities have played and continue to play a leadership role in the recovery and restoration of their territories, and how institutions and power dynamics shape, and often challenge, these approaches. This

dissertation is about restorying these wildfires and fire landscapes from a Secwépemc perspective.

And, finally, I have had to (learn to) be aware of and at times enact practices of refusal: refusal by participants or Indigenous colleagues/co-researchers who explicitly or subtly place limits on what is open to discussion or what can be known or shared in a research context (particularly with me, a non-Indigenous researcher), redirecting to or hinting at other ideas; refusal on my part to abstract peoples' words into decontextualized quotes, particularly to highlight pain or damage. And perhaps the most challenging for me, refusing 'becoming-claims' (Tuck and Yang, 2014b): the stories that have been shared with me throughout the course of 'research', at meetings and coffee breaks, in a truck driving the mountains, over a kitchen table. And the stories I overheard, the glimpses of documents or fragments of voices, that come from the people I am working with and for; a refusal to assume access to these as 'data', as something that is mine to take, to publish. But, as Tuck and Yang (2014a: 234) clarify, this form of refusal can/should still inform our work; they "are not arguing for silence. Stories are meant to be passed on appropriately, especially among loved ones, but not all of them as social science research. Although such knowledge is often a source of wisdom that informed the perspectives in our writing, we do not intend to share them as social science research. It is enough that we know them". So, it is enough that I just know. What I share here, I share with permission, and at the request of the communities I work with.

2.2.3 Case study and mixed-methods approach

Following from my research objective and questions I employ a mixed-methods, case study approach to conduct an in-depth and intensive analysis of Secwépemc community and territorial (ecological) responses to, and recovery following, the Elephant Hill wildfire. Case

study, as a methodology, lends itself to exploration of a real-life, contemporary, and bounded system over time, through in-depth and detailed data collection (Creswell, 2013). The Elephant Hill fire serves as the overarching bounded case for an intrinsic case study; within this, the 'joint leadership' approach to recovery, collaborative monitoring of eco-cultural values, and the articulation of Secwépemc principles and priorities for future restoration form the focus of an embedded analysis of the complex and multi-faceted nature of living in, managing and restoring this fire-prone territory. Together, these illustrate a unique case of collaborative and Secwépemc-led wildfire management in BC (Creswell, 2013). Yet, it is my hope that this case study contributes to deeper understandings of the impacts of contemporary megafires on Indigenous communities and territories and highlights challenges and opportunities, and offers insights, for more meaningful Indigenous engagement and leadership in wildfire management and restoration in BC and beyond.

The mixed-methods approach, drawing on methods from qualitative social sciences (over 50 semi-structured interviews and close to three years of in-depth participant observation, embedded within the SRSS and Elephant Hill recovery processes), fire and plant community ecology (plot-based assessment and analysis of plant species richness, diversity and community composition), and ethnobiology (analysis of plants of high cultural significance), aligns with my interdisciplinary analytical framework. It was also designed to provide the flexibility needed to work within the collaborative and emergent research process, adapting to the often-unexpected or unplanned shifts in research direction inherent to both case study and community-partnered research, and responding to community priorities and requests as our research developed. Mixed-methods research is also able to provide a greater depth of analysis of the complexities of land- and community-based responses to increasingly frequent megafires, and to speak to the diverse

range of individuals and institutions (disciplinary, Indigenous and non-Indigenous governments, community, practitioner etc.) (Cram and Mertens, 2015) working within these spaces of collaborative fire and landscape management.

Detailed methods are described in Chapters 3 and 4. A sample interview schedule used for Chapter 3 is provided in **Appendix C** (modified for different participant groups, i.e., Secwépemc technical staff, Secwépemc leadership, provincial emergency management staff, FLNRORD staff, external stakeholders).

Chapter 3: Elephant Hill: Secwépemc leadership and lessons learned from the collective story of wildfire recovery

This chapter comprises a report published in partnership with the SRSS, based on our collaborative research. As stated in the preface, with permission of the Faculty of Graduate and Postdoctoral Studies and the support of the UBC Public Scholars Initiative, this report has been incorporated 'as is', in its published and design-formatted form, as Chapter 3 of this dissertation. It is included in this dissertation with permission of the joint copyright holder, the SRSS. Due to the internal page numbering of the report, the page numbering of this dissertation continues directly from this current page, after Chapter 3.

ELEPHANT HILL

Secwépemc leadership and lessons learned from the collective story of wildfire recovery

SECWEPEMCÚLECW RESTORATION AND STEWARDSHIP SOCIETY

COVER ARTWORK

By Tania Willard

Artist's description

This image reflects stories of coyote's brother fox and his ability to regenerate coyote by jumping over his body. In the wake of the devastation of the fires in Secwepemcúl̓ecw, I imagine fox being able to bring the forest and our foods and the animals back to life and regenerate the health of our ecologies. Using our culture, language and traditions and returning to reciprocal and respectful interactions with the ecologies around us, we can regenerate the land for everyone human and non-human.

Artist bio

Weyt-k, ren skwekst Tania Willard, múmtwen ne Legwiké ne Secwepemcúl̓ecw. Ren se7elkst te lleq̓méltn ne UBCO (ne Syilxúl̓ecw) ell kúklen wen re sḵwellq̓iyém̓s.Re tsétswe7 pell sesqwse7 skwest.s Skyelar ell Leo Adam ell Kevin Adam re sxélwe. Mike Willard re qé7tse, Kelly Muskett re kíc7e. Leonard Willard le slé7e lu7 ell Ethel Jones le kyé7e lu7, Le Ethel m-stekwes te Splatsi̓n ell Leonard Willard m-stekwes te Nesqénell . Le xpe7e7úy lu7 skwest.s Isaac Willard ell Adeline Willard le qné7e lu7. Le Isaac Willard m-stekwes te T'kemlúps ell Adeline m-stekwes te Nesqénell.

Tania Willard, Secwépemc Nation, works within the shifting ideas around contemporary and *traditional*, often working with bodies of knowledge and skills that are conceptually linked to her interest in intersections between Indigenous and other cultures. Working through both artistic and curatorial practice, Willard teaches in Visual Art with UBC Okanagan and lives on Neskonlith reserve near Chase BC.

Secwepemcúl̓ecw Restoration and Stewardship Society
srssociety.com

KEYWORDS

Wildfire, wildfire recovery, Indigenous rights, Indigenous knowledge, collaboration, leadership, reconciliation, stewardship

This document was developed as a report to the Secwepemcúl̓ecw Restoration and Stewardship Society, the British Columbia Ministry of Forests, Lands, Natural Resource Operations and Rural Development, and BC Wildfire Service. The work was also part of Sarah Dickson-Hoyle's doctoral dissertation research at the Faculty of Forestry, University of British Columbia, Vancouver. The Secwepemcúl̓ecw Restoration and Stewardship Society's Board of Directors (comprising Kukukpi7 – Chiefs) granted permission for this research collaboration in March 2020.

Copyright for this report is held jointly by Sarah Dickson-Hoyle and the Secwepemcúl̓ecw Restoration and Stewardship Society. Correspondence may be addressed to sarah.dickson-hoyle@ubc.ca and ceo@srssociety.com

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Sarah: To former Kukpi7 Ron Ignace and Dr. Marianne Ignace – my PhD advisors, dear friends, and the closest I have come to family in this land so far from my home – you have welcomed me into your work, your community and your home, and for that I will be forever grateful – *kukwstsétselp*.

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This project is dedicated to the many Secwépemc leaders, community members and staff who continue to tirelessly work to advance Indigenous leadership in (wild)fire management and land stewardship, to heal the land from ongoing pressures of climate change and unsustainable resource extraction, and to uphold their rights and roles as *yecwmíṅmen* throughout Secwepemcúl̓ecw.

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Executive Summary

Worldwide, catastrophic wildfires and the ongoing climate crisis are catalyzing Indigenous peoples to re-assert jurisdiction to lands and waters by leading the recovery and restoration of their/our territories.

'Mega-fires' are increasingly burning landscapes that have been degraded by over a century of colonial state-driven forest (mis)management and a paradigm – and paradox – of fire suppression. Simultaneously, many settler-colonial governments are stating their commitments to 'reconciliation' and implementation of the *United Nations Declaration on the Rights of Indigenous Peoples*. Together, these two trends point to the critical need to uphold Indigenous rights and stewardship systems through Indigenous-led transformation of forest and (wild)fire management.

These ecological and socio-political shifts provided the context for the 2017 'Elephant Hill' wildfire in British Columbia (BC), Canada, which burned close to 200,000 hectares throughout Secwepemcúl̓ecw – the traditional and unceded territory of the Secwépemc Nation. In the immediate wake of this fire, and the significant and interconnected social, cultural, economic and ecological impacts that are still ongoing, affected Secwépemc First Nations advocated for Secwépemc leadership in the recovery and regeneration of their territories in the months, years and decades to come.

Supported by a newly-elected provincial government with a mandate to advance reconciliation, and a provincial review that recommended "establish[ing] Indigenous Peoples as true partners and leaders in emergency management", Secwépemc communities partnered with the provincial government to forge a new collaborative approach to land-based wildfire recovery.

The Elephant Hill wildfire, and the joint recovery process that followed, is the focus of this report. We draw on in-depth interviews with Secwépemc elected leadership and staff from communities and the provincial government, as well as ongoing work and action research with the Secwepemcúl̓ecw Restoration and Stewardship Society, to provide a detailed account of this example of contemporary Indigenous leadership in wildfire management and land-based recovery.

This study was framed by a number of broad questions:

- How did Secwépemc communities experience and respond to the 2017 wildfires in their territories?
- How was the 'joint leadership' approach to wildfire recovery established, negotiated and understood by those involved?
- What are the 'lessons' – the successes, strengths and challenges – from Elephant Hill, and how can these guide ongoing and future collaborations?
- What are the persistent barriers to achieving true partnerships and Indigenous leadership in (wild)fire management, and how can these be overcome?
- What are Secwépemc priorities for (wild)fire and emergency management, and for the restoration of fire-affected and fire-adapted Secwepemcúl̓ecw?

To highlight these lessons and demonstrate the need for transformative change, the story of the Elephant Hill wildfire and the joint leadership approach to wildfire recovery is told in four Parts:

- **PART 1: THE ELEPHANT HILL WILDFIRE (CHAPTERS 1–4)**
  An overview of the record-breaking 2017 wildfire season in British Columbia; the experiences and responses of Secwépemc First Nations and government agencies; and the impacts of these wildfires on Secwépemc territories and communities.
- **PART 2: THE PROCESS FOR JOINT WILDFIRE RECOVERY (CHAPTERS 5–7)**
  Understanding the drivers for collaboration; the process of negotiating the scope and governance of joint wildfire recovery; and a summary of land-based recovery activities and outcomes on Elephant Hill.

→ **PART 3: REFLECTIONS ON 'SUCCESS' AND LESSONS LEARNED (CHAPTERS 8–10)**
Diverse views of 'success' and identification of key strengths, challenges and unresolved tensions to inform future collaborations.

→ **PART 4: BEYOND ELEPHANT HILL (CHAPTERS 11–13)**
Persistent barriers; Secwépemc priorities for advancing equal partnerships and First Nations leadership in (wild)fire management; and Secwépemc visions for recovery, restoration and stewardship throughout Secwepemcúl̓ecw.

KEY FINDINGS

Part 1: The Elephant Hill wildfire

There is widespread acknowledgement that the 2017 'mega-fires' – and the ongoing wildfire risk and loss of ecological resilience throughout Secwepemcúl̓ecw – were the direct result of timber-focussed forest (mis) management practices combined with the history of fire suppression and impacts of climate change. The Elephant Hill wildfire caused deep and lasting impacts to Secwépemc territories and to community health and wellbeing that have not been adequately recognized, addressed or compensated by provincial or federal governments.

Secwépemc communities experienced poor communication and a lack of guidance from provincial and federal authorities regarding immediate wildfire threats or evacuations. Negative experiences of evacuation by Secwépemc and neighbouring ranching communities created widespread opposition to evacuating in future.

BC Wildfire Service staff admit that engagement with First Nations occurred too late, if at all, and that there was no explicit expectation on Incident Management Teams to collaborate with Indigenous and local communities. While Secwépemc communities played a leadership role through on-ground fire response and fuels mitigation, emergency coordination and supporting agency response, there was widespread frustration that Secwépemc knowledge and capacities were ignored and disrespected. As such, a deep mistrust of fire agencies and a strong feeling of 'being on your own' remain.

Part 2: The joint process of wildfire recovery

The scale and significance of impacts of the Elephant Hill wildfire, along with a newly elected provincial government with stated commitments to implementing the *United Nations Declaration on the Rights of Indigenous Peoples*, created a 'window of opportunity' for change. However, it was the strong leadership and advocacy from Secwépemc communities that catalyzed the collaborative approach to wildfire recovery.

Commitments to joint leadership were enacted through a Joint Leadership Council, Joint Technical Committee and sub-committees that emerged following the fire. Nevertheless, the limited mandates or decision-making authority of provincial government representatives at these tables, and challenges in accessing higher-level decision-makers, posed a barrier to advancing Secwépemc recovery priorities and interconnected stewardship goals.

In their letter to Premier Horgan, and over the months and years following the Elephant Hill wildfire, Kukukpi7 (Chiefs) emphasized that 'healing the land' and actioning commitments to reconciliation requires addressing the cumulative impacts and pressures that form the broader context for land-based recovery, and supporting Secwépemc leadership "in the months, years and decades to come". This vision conflicted with a narrower focus on 'recovery' that was defined by short-term funding, a lack of strategic or landscape-level planning, and the 'three great goals' of fireguard rehabilitation, range recovery and salvage harvesting.

Part 3: Reflections on 'success' and lessons learned

Overall, the majority of Secwépemc and provincial government representatives we spoke to felt that the joint process of wildfire recovery was a success. While the lack of clearly defined recovery goals posed a challenge to evaluating the success of land-based recovery, 'success' was largely defined in terms of less tangible outcomes such as confidence in the ability to work together. The value of this process was seen in terms of new relationships and trust; promoting collaboration and a united voice amongst Secwépemc communities; economic and training opportunities; and supporting First Nations-led archaeology.

These successes were made possible by the strong leadership and coordination from both Secwépemc communities and FLNRORD Natural Resource Regions and Districts; flexibility and willingness to work outside of usual policies and processes; a strong governance structure, co-designed by communities and the provincial government; spending time to develop shared understandings and identify shared values; and open, honest communication *in communities* to build trust. Jointly making decisions about land-based recovery requires getting together on the land and bringing together – rather than siloing – multiple communities and jurisdictions.

Key challenges related to capacity; a lack of strategic or landscape-level planning; conflicting perspectives as to the scope of 'wildfire recovery'; ensuring adequate and appropriate participation; and jurisdictional silos and conflicts within government. Many of these challenges have not been overcome and pose potential barriers to future collaboration.

There remains a disconnect between high-level government's stated commitments to reconciliation, and (inadequate) provision of funding, resourcing and access to decision-authorities to advance First Nation priorities or cede management authority to Indigenous peoples – particularly in the context of (wild)fire management and land-based recovery.

The Elephant Hill 'model' has created new expectations for joint leadership and government-to-government technical collaboration. However, for Secwépemc communities, it was just the first step along a pathway to true co-management.

Part 4: Beyond Elephant Hill

The provincial government, and BC Wildfire Service specifically, highlight substantial progress and changes since 2017, in particular improved public communication, funding for mitigation, and strategic agreements. However, Secwépemc community representatives experience persistent barriers to active involvement in wildfire management and remain frustrated at a lack of consistent and meaningful engagement.

Conflicting understandings of when and how 'engagement' should take place, combined with an unwillingness within BC Wildfire Service to explicitly direct operational staff or address views that devalue Indigenous knowledge and fire expertise, mean that on-ground engagement during fire seasons still depends on the particular Incident Commander/operational staff, posing a barrier to widespread change. As such, 'shared responsibility' and 'equal partnerships' remain largely confined to the mitigation, preparation and recovery phases of wildfire management. During wildfire events, BC Wildfire Service effectively retains or assumes control and responsibility for response.

Priorities for advancing Secwépemc leadership in (wild)fire management include establishing community-based emergency management offices and territorial patrols; strengthening the role of First Nation liaison officers; promoting collaboration in prescribed and cultural burning; and asserting sovereignty and leadership in managing and protecting cultural heritage.

Building on the 'model' of Elephant Hill means First Nations determine the approach to wildfire recovery and associated government-to-government collaboration in their territories. Simultaneously, the provincial government must spend time developing shared understandings, principles and goals with local First Nations; invest in long-term capacity building; address legacies and ongoing processes of resource extraction and forest (mis)management; and support First Nations decision-making and 'doing the work' of recovering their territories in months, years and decades to come.

RECOMMENDATIONS

This report highlights 30 recommendations – framed as 'calls to action' – for advancing First Nation leadership and true partnerships in all phases of wildfire and emergency management.

These recommendations – categorized across the four pillars of emergency management – are targeted to the Canadian and BC provincial governments (in particular, the BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development – including BC Wildfire Service – and its Natural Resource Regions and Districts); and Secwépemc communities.

- **Mitigation and preparation:** 13 recommendations to strengthen First Nations emergency management and wildfire response planning; pre-season fire engagement; resource sharing; management of archaeology and cultural heritage; prescribed and cultural burning; and wildfire recovery planning.
- **Response:** 4 recommendations to strengthen First Nations engagement and participation in wildfire response.
- **Recovery:** 13 recommendations for improved recovery governance and planning; stakeholder engagement; funding and resources; and to support and build capacity for First Nations-led archaeology.

As 'operational' calls to action, these recommendations must be viewed alongside the 70 key findings which, together with the voices shared in this report, provide the pathway to guide ongoing collaboration in recovery, restoration and stewardship throughout Secwepemcúl̓ecw. Without this context, there is a risk that 'Elephant Hill' will be distilled into a generalized process that prioritizes 'operational' outcomes and 'efficiency' over meaningful collaboration and joint decision-making.

Meaningfully implementing these recommendations will require going beyond the common approach of attempting to 'integrate' Indigenous knowledge or practices into existing state-run institutions and programs: it means supporting, and ceding power and decision-authorities to, the true caretakers of Secwepemcúl̓ecw.

TOWARDS TRUE PARTNERSHIPS AND SECWÉPEMC LEADERSHIP IN SECWEPEMCÚL̓ECW

In the summer of 2021, wildfires once again devastated Indigenous communities, impacting Secwepemcúl̓ecw and other Indigenous territories throughout BC.

Recurring mega-fires clearly indicate that advancing First Nations leadership and capacities in emergency and (wild)fire management is about more than upholding Indigenous rights or governments' commitments to 'true partnerships' and 'reconciliation'. It is about confronting the underlying issues of unsustainable resource extraction and land and fire management that have created the conditions for these 'unprecedented mega-fires'. It is about strengthening Indigenous stewardship to revitalize ecologies and cultures and mitigate the impacts of the climate crisis that we collectively face.

In the words of former Kukpi7 Ron Ignace: "To move forward, we need to know where we come from." In looking back on Elephant Hill, and in looking ahead to the enormity and significance of the challenges we face – of recovering the land and communities after another wildfire season, of mitigating and adapting to climate change, of meaningfully implementing UNDRIP – it is our hope that this report offers insights to guide a new way forward.

By highlighting the incredible strengths and capacities within Indigenous communities; the persistent challenges faced by Indigenous communities in ensuring equal partnerships and leadership in (wild) fire management, and upholding their roles and rights as decision-makers within their territories; as well as key findings, principles and recommendations, this report shows the critical role that Indigenous peoples can and should play in leading the work of recovering and restoring their territories.

Elephant Hill was just the beginning.

Preface

"We have an important word x7ensq't. And that word means that if you don't respect the land, look after the land properly, the land will turn on you. And we see that today, that people are not honouring the land, and respecting the land. So we're seeing great fires burning…the land is turning on us

– FORMER KUKPI7 RONALD E. IGNACE, SKEETCHESTN INDIAN BAND

In the summer of 2017, wildfires burned a record-breaking 1.2 million hectares throughout the province of British Columbia, Canada, driven by the combined impacts of climate change and the past century's legacy of fire suppression and forest management.

Among the largest was the 'Elephant Hill' mega-fire, which burned approximately 192,000 hectares throughout the heartland of the Secwépemc Nation, Secwepemcúl̓ecw – a vast area of high cultural and ecological diversity extending over 150,000 km² throughout the southern and central parts of what is now known as British Columbia (BC). This fire caused large scale evacuations, and significant impacts to ecological and human health and wellbeing that are still ongoing.

As Secwépemc people witnessed the devastation to their territories – wildfire impacts exceeding the memories of their oldest Elders – Indigenous communities were already starkly aware of how a lack of intact ecologies that produce their foods, medicines and thus security are connected to what Secwépemc Elders call *q'wempúl'ecw*: the land, in its holistic dimension of landscape, ecology and all its living beings, had become barren due to human activity, impoverishing their wellbeing and existence in their homelands.

From the vantage point of Indigenous communities, western state-driven, timber-focussed forest management had failed. In the words of former Kukpi7 (Chief) Ron Ignace, the provincial government had lost the moral authority to manage the forests.

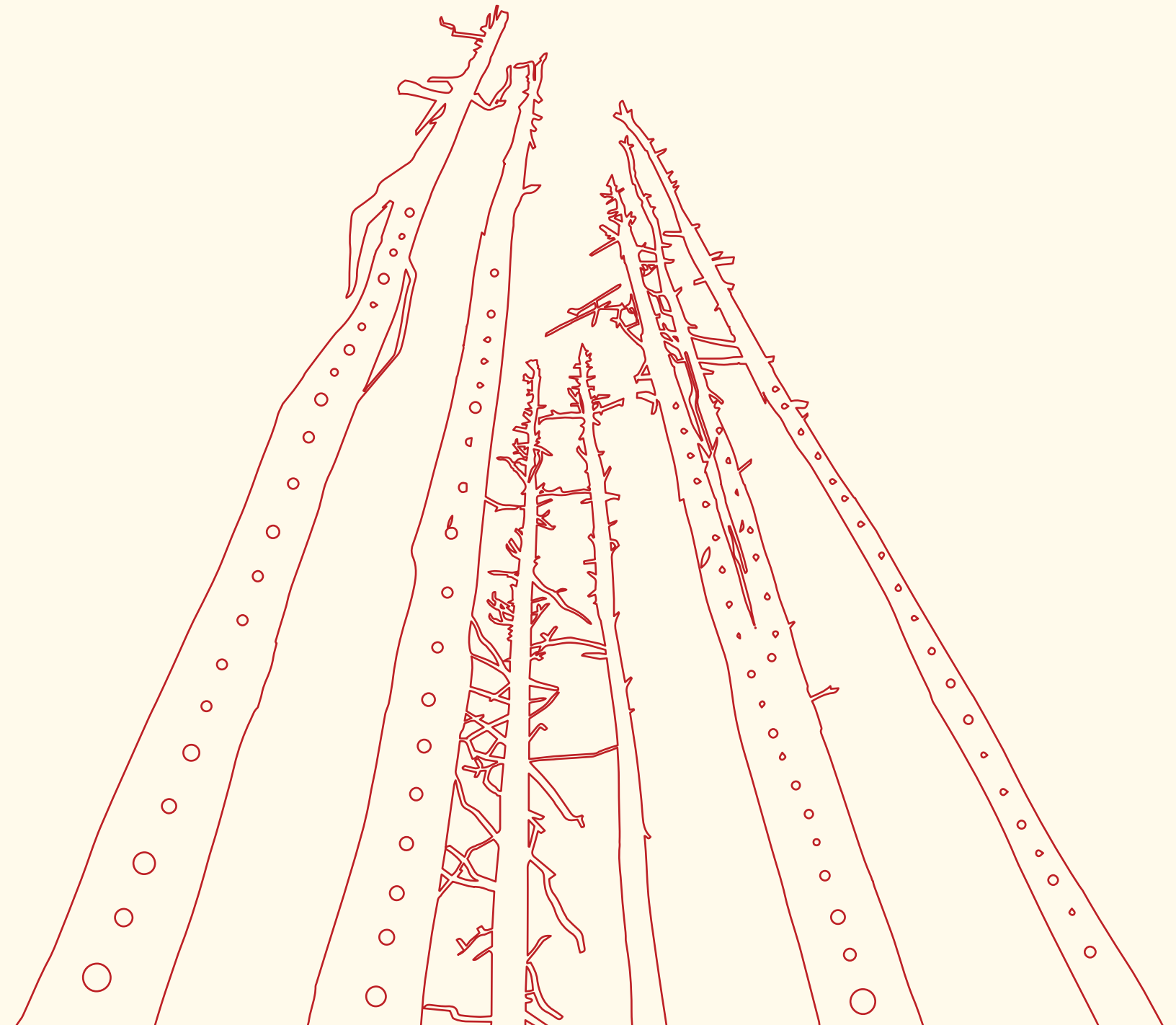
The scale of this fire and its devastating impacts to Secwépemc communities and territories catalyzed these communities to action: to advocate for Indigenous-led processes of wildfire recovery. Supported by a newly elected provincial government with a mandate to implement the *United Nations Declaration on the Rights of Indigenous Peoples* (UNDRIP) and stated commitments to advancing reconciliation, eight Secwépemc First Nations came together to partner with the Province of BC in joint leadership for wildfire recovery, forming the Elephant Hill Wildfire Recovery Joint Leadership Council and Technical Committees. The subsequent provincial review into the 2017 flood and fire season[1] *Addressing the New Normal: 21st Century Disaster Management in British Columbia* (Abbott and Chapman, 2018; hereafter referred to as the 'Flood and Fire Review') provided a further catalyst for advancing these forms of Indigenous leadership in wildfire management, with the first recommendation to "establish Indigenous Peoples as true partners and leaders in emergency management by including First Nations from the beginning and at all levels of planning, decision-making and implementation".

As then-Kukpi7 Ryan Day of the Secwépemc community St̓uxwtéws (Bonaparte First Nation) wrote in a letter to the Premier of BC in the immediate wake of these fires:

> *"We see the process of rehabilitation and regeneration as an immense opportunity to learn from the errors of the past; it is an opportunity to use Indigenous Traditional Ecological Knowledge and the wealth of research in forest science to restore the forest not only for its timber value, but as a source of wealth in cultural heritage, ecological diversity, and the education of young people of how to live as a member of an ecosystem…there can be no greater opportunity to action this commitment [to reconciliation with Indigenous peoples] than by supporting Secwépemc People's leadership in the regeneration of the ecosystem affected by the Elephant Hill wildfire over the months, years and decades to come".*

By sharing Secwépemc community voices alongside those of community staff and provincial government representatives, this report tells the story of this fire, and of the challenges, opportunities, impacts and lessons learned as Secwépemc communities and the BC provincial government forged a new approach for land-based wildfire recovery. In the wake of another devastating wildfire season throughout Secwepemcúl̓ecw in the summer of 2021, there is a critical need to identify and share these lessons to guide ongoing and future Indigenous-led fire management and wildfire recovery.

1 Abbott, G. and Chapman, M. 2018. 'Addressing the New Normal: 21st Century Disaster Management in British Columbia.



Introduction and project overview

OUR JOURNEY TO ELEPHANT HILL

Sarah

I first witnessed the impacts of the Elephant Hill wildfire in the summer of 2018. I had arrived in Vancouver from Australia barely three weeks earlier, just days before a thick haze of smoke descended on the city from wildfires burning throughout BC. I was here to start my PhD at the University of British Columbia, and with the hope of bridging my background – as a settler scholar and practitioner in ecology and social sciences – in the context of community-based (wild)fire management. Given the two back-to-back record-breaking fire seasons in BC, it was clear to me that there was a critical need to transform approaches to fire and forest management and for Indigenous communities to lead this process throughout their territories.

On a cool late August day I flew from Vancouver to Williams Lake – our tiny plane cruising low over the Coast Mountains and landscapes shrouded in wildfire smoke – to join my supervisor Dr. Lori Daniels for the final days of UBC's forestry fall camp. On the last day, after saying our goodbyes to the students, we jumped in a truck and began making our way south through Secwépemc territory. After hours driving – and at times getting lost – on the maze of dusty forest service roads and through a landscape of endless scorched trees, we found ourselves back on the highway heading south towards Cache Creek. Looking out the window as we passed the Village of Clinton, I caught the first glimpses of the edges of the Elephant Hill wildfire. It was only later that I realized the true extent of devastation hidden behind those rolling hills.

Soon after, we once again turned off the highway and made our way up the steep hills of sagebrush and open grasslands. Pulling up on the side of the road, we walked out across the ridgetop through blackened trees – kicking up dusty soil and watching for treacherous holes where the fire had burnt out trees, roots and all – to get a view back down to Cache Creek. Further below, by the Thompson River, we could see Ashcroft: ground zero of Elephant Hill. It was only then that I began to understand the true extent of this mega-fire that would, unbeknownst to me at the time, come to define my work here in BC in the years to come.

Over the following years I continued to return to Secwepemcúl̓ecw: first as a student in Dr. Marianne Ignace's ethnobotany course, briefly as a consultant, and finally as a research partner. My pathway to conducting this research has been anything but direct; my connections to this territory and its people growing organically as I continued to listen and learn, and to understand my place and potential contributions as a settler scholar. Under the guidance of my dissertation committee members Kukpi7 Ron Ignace and Dr. Marianne Ignace, and building on established partnerships between the UBC Tree-Ring Lab and Bonaparte First Nation, I have studied how Secwépemc communities and territories are recovering from the Elephant Hill wildfire. Throughout this process – from sitting in on meetings of the Elephant Hill wildfire recovery and First Nations tables, to supporting SRSS projects, to spending summers in the field with Bonaparte staff monitoring understory plant recovery – I have looked to these community partners to understand how collaborative research can help advance Secwépemc stewardship goals. With permission from the Secwepemcúl̓ecw Restoration and Stewardship Society's Board of Directors, we embarked on this project to tell the story of this fire and its impacts, and to continue to advocate for Secwépemc leadership in (wild)fire management.

Char

My name is Char John, and I am from the St'át'imc community of Tsal'alh. My family was directly affected by the Elephant Hill wildfire: both during the fire, and by the flooding that came after.

In that summer of 2017, I was pregnant with my youngest daughter. When the fire first started, we had been travelling to Ashcroft from our home in Marble Canyon (one of Ts'kw'aylaxw First Nation's reserves, where we reside) to renew our insurance for our

Burned hillsides above Cache Creek in 2018. Photo credit: UBC Tree-ring lab

vehicle. We noticed the fire but thought that it would be put out sooner rather than later. But when we could not get to Ashcroft, and the gas station pumps were closed due to no power, we decided to travel to the Big Sky Gas Station to gas up. At the gas station, we decided that we were that close to Kamloops, and we may as well go and buy our insurance in Kamloops. On the way there, the highway was shut down. We were optimistic that everything was going to be okay and the highway would be opened sooner than later. We were wrong. Of all the days for our three teenagers to decide to stay home, we ended up stranded with no place to stay as Kamloops and Merritt had been fully booked by the many evacuees. We were very fortunate that we were able to find a place to bunker down for the night and other family were able to come and pick up the kids.

Then, on August 2, we were suddenly evacuated from Marble Canyon. Allida was born on August 3, 2017. Even though we were staying closer to the hospital, it remained a high-stress situation because I felt we did not have the opportunity to go home. Our family spent the first couple of weeks after Allida was born in the hospital and hotel in Lillooet.

The following year, in the summer of 2018, our family decided to take a trip to Kamloops to go and check out the 'Hot Night in the City' car show event. While we were enjoying the festivity, we were notified that the highway home was closed due to multiple floods throughout Highway 1 and the 99 North. Once again, we were stranded on the wrong side.

Two years later, in September of 2020, I joined the Secwepemcúlecw Restoration and Stewardship Society as the natural resource community coordinator. I have been fortunate to be working with Sarah Dickson-Hoyle on this 'lessons learned' project. We have listened to many people's stories on how the 2017 Elephant Hill wildfire impacted their lives, from the wake of the fire to during the fire and post-fire efforts. It is and has been a pleasure working for the SRSS. It is amazing to see the collaborative effort by communities for the rehabilitation and recovery of the land.

PROJECT OVERVIEW

This project aims to document both Secwépemc community and provincial government agency experiences of the 2017 Elephant Hill wildfire and the subsequent joint leadership approach to wildfire recovery. This fire directly impacted the traditional territories of eight of the seventeen contemporary communities within the Secwépemc Nation: Stuxwtéws (Bonaparte First Nation); Llenlleney'ten (High Bar First Nation); Skítsesten (Skeetchestn Indian Band); Stil'qw/Pelltíq't (Whispering Pines/ Clinton Indian Band); Stswecem'c Xget'tem First Nation; Tk'emlúps te Secwépemc First Nation; Ts'kw'aylaxw First Nation; and Tsq'escen' (Canim Lake Indian Band). As this report describes, these communities subsequently partnered with the provincial government, establishing the Elephant Hill Wildfire Recovery Joint Leadership Council (JLC) to jointly lead wildfire recovery across their territories.

This report offers an in-depth examination of the drivers for this new approach, the challenges and lessons learned, diverse perspectives on 'success' and visions for ongoing collaboration in recovery, restoration and stewardship throughout Secwepemcúl̓ecw.

Specifically, this report provides insights and calls to action to:

- → provide policymakers, provincial government and fire/emergency management agency staff with a deeper understanding of the impacts of this fire on Secwépemc communities and territories, and of the capacity and expertise within Secwépemc communities to lead wildfire preparedness, response and recovery;
- → promote more meaningful Indigenous engagement and collaboration in (wild)fire management;
- → address persistent capacity, trust and institutional barriers to Indigenous leadership in wildfire response;
- → inform ongoing and future planning and implementation of joint land-based recovery efforts; and
- → advance Secwépemc goals for the stewardship and restoration of fire-affected and fire-adapted territories.

Many of the findings and recommendations outlined in this report apply more broadly throughout British Columbia, Canada and other settler-colonial jurisdictions around the world that are similarly facing the dual challenges of mitigating and adapting to increasing wildfire risk and meaningfully advancing reconciliation with Indigenous peoples. Further, by sharing the voices of Secwépemc staff, leadership and community members alongside provincial government staff, as well as photos of both people and place, we hope to make this experience of implementing collaborative wildfire recovery visible and meaningful to a broader audience, as a place-based example of contemporary Indigenous leadership in wildfire management, restoration and land-based recovery.

Methodology

This research was designed with input from the Secwepemcúl̓ecw Restoration and Stewardship Society's (SRSS) First Nations Technical Table, which comprises natural resource and cultural heritage staff from the eight Secwépemc communities impacted by the Elephant Hill wildfire, as well as key contacts within the Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNRORD). This involved:

- two scoping meetings with representatives of the SRSS First Nations Technical Table in June and July 2020 to determine project approach and methods (including identification of key topics/themes);
- discussions with staff from FLNRORD regarding project objectives; and
- regular updates and check ins at monthly SRSS First Nations Technical Table meetings, including to review preliminary themes and recommendations.

From October 2020 through to the summer of 2021 we conducted 48 interviews with 54 key participants (and to a limited extent, external stakeholders) in the Elephant Hill wildfire response and recovery processes:

- Secwépemc elected leadership (Kukukpi7 and Councilors) (n=3);
- Natural resource/stewardship and cultural heritage staff (both Indigenous and non-Indigenous) from five SRSS member Secwépemc communities[2] (n=18);
- Staff from the provincial Natural Resource Districts and Regions (District of Thompson Rivers, DTR; District of 100 Mile House, DMH; and Thompson Okanagan Natural Resource Region) (n=14);
- BC Wildfire Service (BCWS) staff (Directors, staff from the Kamloops Fire Centre, Kamloops Fire Zone and 100 Mile House Fire Zone, and rehabilitation supervisors) (n=8);

2 Bonaparte First Nation; High Bar First Nation; Skeetchestn Indian Band; Whispering Pines/Clinton Indian Band; and Stswecem'c Xget'tem First Nation

- Emergency Management BC (EMBC) staff (n=3);
- an employee from the First Nations Emergency Services Society (FNESS) (n=1);
- a New South Wales (Australian) Rural Fire Service firefighter who was deployed on Elephant Hill (n=1); and
- representatives of key stakeholder groups (forest industry licensees, forestry consultants and local ranchers) (n=6).

Of the provincial government, fire agency (excluding FNESS), and stakeholder representatives interviewed, none self-identified as Indigenous. A full list of the interviewees who chose to be named in this report is included in Appendix 1.

Due to the Covid-19 pandemic the majority of interviews were conducted virtually, over Zoom or phone. Some interviews conducted in summer 2021 took place in person at interviewees' homes.

Interviews ranged between approximately 20 minutes and 3 hours 15 minutes, with the majority between 1 hour and 1 hour 30 minutes. The interviews covered topics such as experiences of the 2017 wildfires, including post-wildfire impacts; agency and community wildfire response to Elephant Hill; priorities for restoration and recovery; establishment of the joint recovery process; involvement in recovery activities; views on success of these initiatives; and perceived challenges and opportunities for improving First Nation collaboration and engagement in wildfire management. These interviews were recorded and then transcribed, and transcripts shared with interviewees for review. We used Nvivo 12 qualitative data analysis software to analyze these interviews and identify key themes, messages and recommendations, as well as the supporting quotes presented in this report.

This report also draws on observation and participation in SRSS meetings, planning sessions and project activities between 2019 and 2021. This involved participating in meetings of the Elephant Hill Wildfire Recovery Joint Leadership Council, Joint Technical Committee, First Nations Technical Table and Collaborative Monitoring sub-committee; SRSS Board and strategic planning meetings; community engagement sessions; and field surveys. In addition, we reviewed minutes of Elephant Hill wildfire recovery meetings dating back to the first meeting in October 2017, as well as other relevant information such as political and stakeholder communications and recovery/management documents. Finally, we have drawn upon discussions with Bonaparte First Nation members and field staff held during collaborative fieldwork on Elephant Hill throughout the summer of 2021.

In July 2021, in the midst of another devastating wildfire season impacting Secwepemcúl̓ecw, former Kukpi7 Ron Ignace from Skeetchestn Indian Band conducted a series of interviews with Skeetchestn leadership and staff, as well as BCWS staff, to document Skeetchestn's response to the Sparks Lake wildfire and the collaboration between Skeetchestn and BCWS that followed. These interview recordings were shared with us and inform the discussion of lessons learned and changes since 2017 described in Chapter 11.

The quotes here are primarily excerpts from these interviews, with additional text drawn from meeting minutes. Some participants have asked us to use their names and/or positions, while others prefer to remain anonymous. When quoting a participant for the first time we use their name and full position title (if they chose to be identified). Subsequently, we simply include their name and affiliation relevant to their position.

We have worked with participants to adjust their quotes if requested, and to ensure we have accurately captured their intentions. In some cases, we have stitched together interview excerpts from a single interview, or removed repetitive language, to best express their ideas, while also remaining true to participants' words and avoiding quoting people out of context. In all contexts, our aim has been to centre Indigenous voices (as well as those of people working with and for Secwépemc communities) as we put these in dialogue with the perspectives from provincial government, fire agencies and other stakeholders.

Photo credit: Sarah Dickson-Hoyle

This report draws on these diverse voices to tell the story of the Elephant Hill wildfire and subsequent wildfire recovery. It is important to acknowledge the diversity of perspectives within and between the Secwépemc communities (as well as provincial agencies/jurisdictions) who took part in this project, and to note that this report is not intended to speak for the Secwépemc Nation as a whole. Instead, the diverse views presented in this report are those shared with us by key individuals who, in various ways, represented their communities or the provincial government through their involvement in the process of Elephant Hill wildfire response and recovery.

The findings of this report were reviewed by the SRSS Board of Directors on September 24, 2021 and the report was approved by the SRSS First Nations Technical Table on October 7, 2021.

Overview of this report

This report is written for diverse audiences, including Secwépemc community members; other Indigenous Nations and organizations; fire and emergency management agencies; and other provincial and federal government policy makers and staff. Following this introduction, the story of the Elephant Hill wildfire and subsequent recovery is told in four Parts:

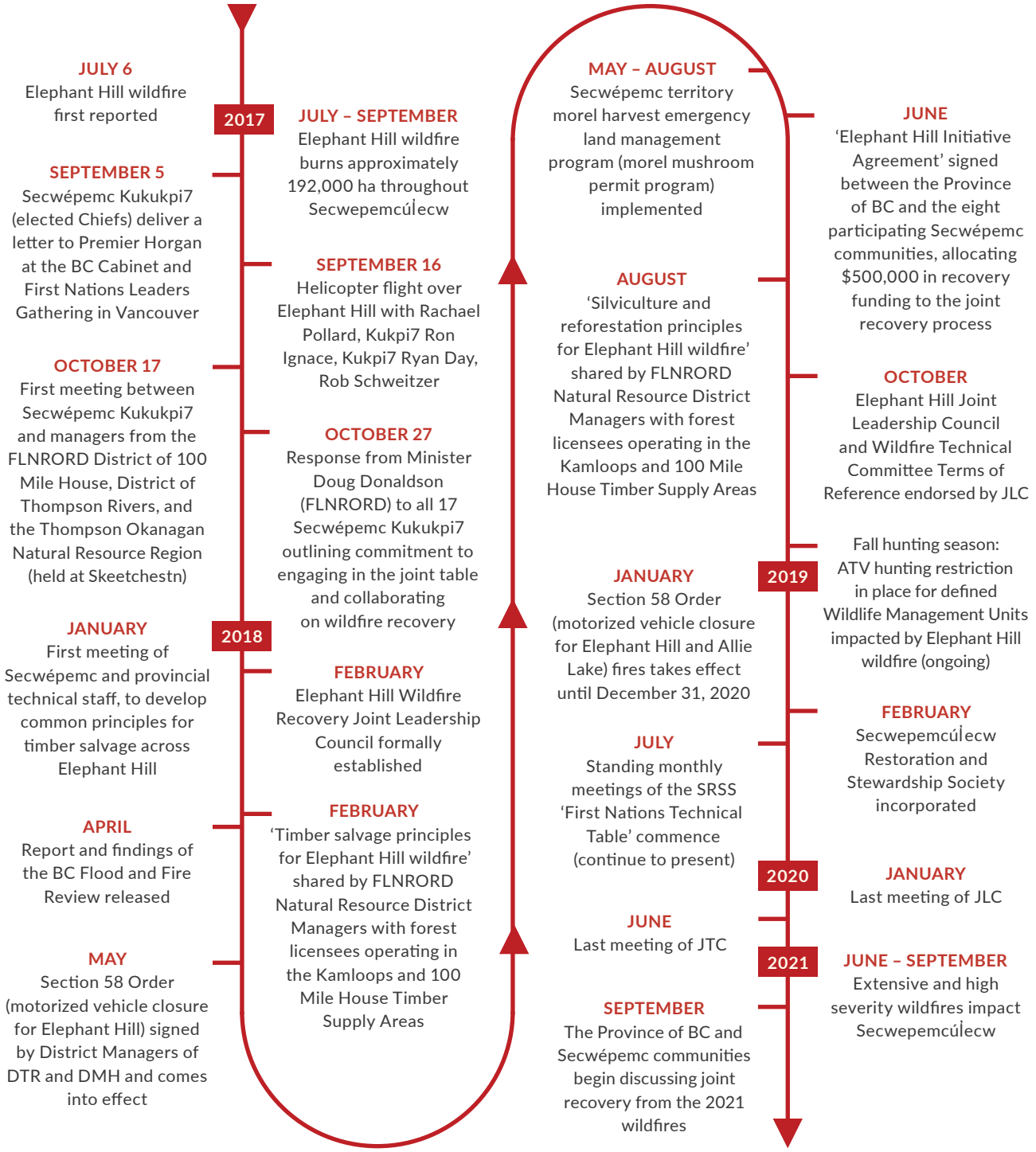
- Part 1 'The Elephant Hill wildfire' (Chapters 1 – 4): the 2017 wildfires in BC, the experiences and responses of Secwépemc communities and government agencies, and impacts to Secwépemc communities and territories
- Part 2 'The process for joint wildfire recovery' (Chapters 5 – 7): drivers for collaboration, negotiating the scope and process for joint recovery, and an summary of land-based recovery activities and outcomes
- Part 3 'Reflections on 'success' and lessons learned' (Chapters 8 – 10): reflections on successes, strengths, challenges and unresolved issues
- Part 4 'Beyond Elephant Hill' (Chapters 11 – 13): persistent barriers and priorities for advancing equal partnerships and First Nations leadership in wildfire management, and Secwépemc visions for recovery, restoration and stewardship beyond Elephant Hill
- Summary of findings and recommendations

Each Part comprises between three and four chapters that contain interview excerpts and discussion of events, themes and findings.

At the end of each Chapter, we highlight key findings. The report concludes with a summary of these findings alongside calls to action for supporting Secwépemc – and First Nations more broadly – leadership and engagement across wildfire preparedness, response and recovery.

Note: in this report we use the terms 'Secwépemc First Nation(s)' and 'Secwépemc community/ies' interchangeably. In doing so we are referring to 'First Nation' as one of the three distinct Indigenous groups recognized by the Constitution of Canada (along with Métis and Inuit) and the fact that First Nations elected 'band councils' are a recognized level of government within Canada and make decisions that affect their communities. At the same time, the term 'Secwépemc community/ies' is often preferred and refers to the historical and contemporary communities of the Secwépemc Nation that now constitute 'First Nations'.

TIMELINE OF KEY EVENTS



WILDFIRE AND EMERGENCY MANAGEMENT IN SECWEPEMCÚL̓ECW – KEY ACTORS

Secwépemc Nation

The Secwépemc (Anglicized to 'Shuswap') Nation comprises 17 contemporary Secwépemc communities (First Nations governments or 'Indian Bands'). With the term 'Secwépemc' meaning 'the spread out people', the unceded and traditional territory and homeland of the Secwépemc people, Secwepemcúl̓ecw, extends approximately 150,000 km² throughout the southern and central parts of what is now known as British Columbia. Most Secwépemc First Nations are represented by either the Shuswap Nation Tribal Council or the Northern Secwépemc te Qelmucw (Northern Shuswap Tribal Council, currently in final stages of modern treaty negotiation); five additional communities are not represented by these councils. Secwépemc people and First Nations continue to assert their rights and title, and revitalize Secwépemc laws and governance processes, throughout Secwepemcúl̓ecw.

Elephant Hill Joint Leadership Council (JLC)

The Elephant Jill Wildfire Recovery JLC was established as a formal governance structure to guide the direction for collaborative wildfire recovery across the Elephant Hill wildfire area. It comprised elected Chiefs of the eight Secwépemc communities directly impacted by the Elephant Hill wildfire (Bonaparte First Nation, High Bar First Nation, Skeetchestn Indian Band, Whispering Pines/Clinton Indian Band, Stswecem'c Xget'tem First Nation, Tk'emlúps te Secwépemc First Nation, Ts'kw'aylaxw First Nation, and Canim Lake Indian Band); the District Managers of the 100 Mile House and Thompson Rivers Natural Resource Districts (DMH and DTR, respectively); the BC Wildfire Service Manager of the Kamloops Fire Centre; and the Director of Resource Management, Thompson-Okanagan Natural Resource District.

Elephant Hill Joint Technical Committee (JTC)

The Elephant Jill Wildfire Joint Technical Committee (JTC) was a distinct committee that sat beneath the JLC. It comprised 'technical' (i.e., natural resource, cultural heritage, stewardship and other scientific/research) staff from the eight participating Secwépemc communities as well as from FLNRORD Regions, Districts and BCWS. The JTC was established to make recommendations and provide technical expertise to inform operational planning and implementation of wildfire recovery across the Elephant Hill wildfire area.

Secwepemcúl̓ecw Restoration and Stewardship Society (SRSS)

The SRSS is an incorporated society founded in 2019 by the eight Secwépemc First Nations directly impacted by the Elephant Hill wildfire. Initially established to receive and manage wildfire recovery funding, the SRSS continues to support monitoring, restoration and stewardship initiatives across the Elephant Hill wildfire area and more broadly throughout Secwepemcúl̓ecw through accessing funding, coordinating collaborative projects and facilitating partnerships with provincial and federal agencies and external stakeholders. The SRSS is guided by a Board of Directors comprising elected Chiefs or nominated representatives of member communities, and the First Nations Technical Table comprising Secwépemc natural resource and cultural heritage staff.

Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNRORD)

The BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNRORD) is responsible (under Crown legislation) for the stewardship of provincial 'Crown' land, including the management of forests, wildlife, water and other land-based resources. This includes management of resource tenures (e.g., forest, range) and authorizing associated rights (e.g., to harvest timber or graze cattle) on Crown land. FLNRORD Natural Resource Regions and Natural Resource Districts (formerly referred to as Forest Regions and Forest Districts) are administrative jurisdictions within the overarching Ministry, for the administration of provincial Crown lands (e.g., administration of forest and range licenses, silviculture, construction and maintenance of forest service roads, wildlife management etc.). The Elephant Hill wildfire occurred within the boundaries of the District of Thompson Rivers (DTR, within the Thompson Okanagan Natural Resource Region) and District of 100 Mile House (DMH, within the Cariboo Natural Resource Region).

BC Wildfire Service (BCWS)

As part of FLNRORD, the BCWS is mandated to oversee wildfire management on provincial Crown land, federal Crown land, Treaty Settlement lands, and private lands outside of fire protection areas. Although infrequent and uncommon, the BCWS also has management responsibilities of Crown land within local government areas. BCWS is tasked with managing wildfires through a combination of wildfire prevention, mitigation and suppression strategies. BCWS holds authority for approving and implementing prescribed burns and, under the *Wildfire Act*, to implement fire bans or restrictions. Through the 2017 *Wildfire Services Agreement* between the Province of BC (BCWS) and Canada (Indigenous Services Canada), BCWS also provides wildfire response and suppression services on 'Indian Reserve' lands (i.e., First Nation reserves).

Emergency Management BC (EMBC)

EMBC is the Province of British Columbia's leading emergency management agency for all emergency management activities, including planning, training, testing and exercising, and coordinating BC's response to emergencies and disasters. EMBC's emergency management activities are organized across six regions, each of which include a Regional Office and a Provincial Regional Emergency Operation Centre (PREOC) available for immediate activation in response to an emergency or disaster. EMBC provides coordination support to local governments and First Nations during emergencies such as wildfire through additional activities including through 24/7 emergency coordination centres; coordination of volunteer or technical supports; coordination of emergency support services; dissemination of warning and alert communications; and facilitating reimbursement of emergency response expense claims.

First Nations Emergency Services Society (FNESS)

FNESS is an incorporated society established to assist First Nations in BC through emergency planning, training, response and recovery; fire training, education and prevention; forest fuel and wildfire management; and leadership and collaborative relationships. FNESS's three core program areas are 1) fire services (training, capacity building and resources to support First Nations fire protection and preparedness); 2) forest fuel management (working with First Nation communities and provincial and federal agencies to support access to funding for fuels mitigation and other wildfire prevention activities, such as FireSmart); and 3) emergency management (risk analyses, support to First Nations during responses to emergency events e.g., as liaisons and advisors, and training).

PART 1

The Elephant Hill wildfire

"We just watched the fire that night, burn up the hill...even in that first night we were already feeling the sorrow of what was happening to our land

– FORMER KUKPI7 RYAN DAY, BONAPARTE FIRST NATION

CHAPTER 1

‘A perfect storm’: The 2017 wildfire season in British Columbia

THE 2017 WILDFIRES AND DRIVERS OF ‘MEGA-FIRES’ IN BC

For many British Columbians, the summer of 2017 will be remembered as one of the worst wildfire seasons in the province’s history.

That year, over 1,300 wildfires (42% of which were human caused) burned a record-breaking 1.2 million hectares (ha) (or 12,000 km²) throughout the province, resulting in a 71 day long Provincial State of Emergency from July 7 through until September 15 – the longest, at that time, in the province’s history – and the evacuation of over 65,000 people. By the end of the season total costs for fire suppression had exceeded $649M, with direct losses as well as indirect costs to local economies, environments and health far greater[3].

Following an ‘unusually quiet’ spring wildfire season, fire danger across many regions in B.C. rose significantly throughout June 2017. The Cariboo region in the central interior experienced particularly hot and dry conditions. Then, between July 6 and 8, a series of widespread thunderstorms resulted in over 190 new wildfire starts, the majority concentrated in the Cariboo and in areas close to communities such as Williams Lake, 100 Mile House and Cache Creek. Jamie Jeffreys, Director of Partnerships and Indigenous Relations for BC Wildfire Service (BCWS), described these conditions by saying:

> *“It was kind of a perfect storm, in my mind…it had been a number of years with not a lot of fire activity… and you had those conditions out there as well, the conditions where we had a wet winter, and [then] we had that unusually dry spring. And so when July came about, and the lightning storms that always happened…it was the perfect situation for some big catastrophic fires to start.”*

John Liscomb, forester with Stswecem’c Xget’tem First Nation’s development corporation (SXDC), highlighted the challenges faced when this lightning storm hit:

> *“2017, it was a one of those once in a lifetime kind of things. I like to say that if a terrorist wanted to hit us, that’s the perfect way to hit us. The 100 Mile fire started on Thursday even though it was man made. But the Forest Service sent all their resource to 100 Mile that Thursday. Then all of a sudden when the lighting strikes hit Williams Lake on the weekend, the resources weren’t available here. And then the first lighting strikes hit the airport and shut the airport down, and then they hit along the highway corridor. You couldn’t have planned it better any other way.”*

While BCWS resources were being deployed to the Cariboo, on July 6, what was soon to become known as the ‘Elephant Hill wildfire’ was first reported near the Village of Ashcroft and Ashcroft Indian Band’s reserve, located within the BCWS Kamloops Fire Zone and Kamloops Fire Centre and the Thompson Rivers Natural Resource District (DTR). Within 24 hours this fire grew to over 1,000 ha in size and burned through Ashcroft’s reserve. As it headed north over Elephant Hill Provincial Park, the fire destroyed 45 homes in the Boston Flats mobile home park and was soon burning right to the edge of Stuxwtéws (Bonaparte First Nation’s) ‘Indian Reserve’ (IR) 3. Over the following months, this wildfire continued to burn north throughout Bonaparte’s and neighbouring Secwépemc communities’ territories, prompting the evacuations of the Villages of Cache Creek and Clinton (as well as multiple Secwépemc First Nations) and eventually burning close to 192,000 ha – the third largest fire in the province that year.

3 BC Wildfire Service. 2017 wildfire season summary

Looking back, Darcy LeBourdais from Whispering Pines/Clinton Indian Band reflected on the multiple factors contributing to this 'unprecedented' mega-fire:

> *"The sad part is the vastness of the burn. And the intensity. Which is unprecedented, for many reasons. Mostly the province has done a fantastic job of suppressing fires for a hundred years, causing fuel loading, and climate change is causing hotter drier summers."*

Fire suppression and high fuel loadings were noted by multiple people as a primary contributor to wildfire behaviour and ongoing fire risk. Bert William (Senior Archaeological Advisor, Bonaparte First Nation) similarly attributed the intensity of Elephant Hill to the history of fire suppression in BC:

> *"You know all those years of putting fires out. The fuel just built up, built up, built up. And when that happened, this freak fire came along…they couldn't stop it. They couldn't do nothing with it. It just got bigger and bigger and bigger. They didn't know how to handle it."*

This concern about high fuel loadings was also raised by one BCWS Director, who acknowledged *"the lack of prevention work that had been happening or fuel management out there on the land base"* as a key reason the fires *"behaved the way they did and spread the way they did"*. Others, such as David Majcher (Stewardship Officer, FLNRORD – 100 Mile House Natural Resource District (DMH)) spoke to the impacts of fire suppression on ecosystem structure and processes, and the need to restore 'resilience' across BC's interior dry forests:

> *"These large landscape fires are a result of climate change but also they burned in this way because the forests are out of balance with their natural processes. Our Dry Belt Douglas-fir forests are too thick, we need hundreds of hectares spaced and thinned and harvested in a way that will put the forest back into a more resilient and healthier condition."*

However, many Secwépemc leaders and community members firmly placed responsibility for these fires, and the subsequent devastation to their territories, on the provincial government and its historic and ongoing role in the timber-focussed 'mismanagement' of the forests of Secwepemcúl̓ecw:

> *"It's a direct result of forest practices and being excluded from decision-making… there's a long history of it, but basically the provincial governments past and more importantly present, who are the decision-makers now, are responsible for that destruction. Whether they were in power or not, they're in power now, so they're responsible for the destruction of that forest. And the fire never should have been that big, there shouldn't have been the fuel that there was."*
>
> – FORMER KUKPI7 RYAN DAY, BONAPARTE FIRST NATION

This speaks to the fact that timber-focussed forest management practices, as well as fire suppression, have contributed to the high fuel loads and loss of ecosystem resilience. Kukpi7 Day's view was reflected, to varying degrees, by a number of provincial District staff. One manager put it simply, acknowledging that:

> *"Those fires of 2017…the extent to which they happened and damaged the resources, the environment, was magnified by the fact that we screwed this up. We got our priorities wrong."*

Photo p.14: Elephant Hill wildfire. Photo credit: Paul Simakoff-Ellims

1 KEY FINDINGS

1.1 There is widespread recognition, amongst both Secwépemc and provincial government representatives, of the multiple drivers of the record-breaking 2017 wildfire season: in particular, the impacts of climate change combined with the legacies of close to a century of fire suppression and industrial forest management.

1.2 Secwépemc leadership placed the responsibility for these fires on the provincial government due to their role in promoting a timber-focused 'mismanagement' of the forests of Secwepemcúl̓ecw. This view – and the failings of both historical and contemporary forest management approaches – was echoed by multiple provincial staff.

CHAPTER 2

‘A real feeling of having to do it yourself’: The experiences of Secwépemc communities

THE EXPERIENCES OF SECWÉPEMC COMMUNITIES

Almost everyone we spoke to remembers the moment they first became aware of the Elephant Hill wildfire; when they realized that this fire was like nothing they had experienced before.

Some, living in Kamloops, described the city immediately filling with smoke and the experience of watching the news and *“holding our breaths around the evacuations”*. Others recalled being diverted by highway closures and seeing plumes of smoke rising over the hills in the direction of their homes; in one case, seeing people *“just driving through the flames”* as the fire jumped Highway 97 near Cache Creek. Don Ignace, from Skeetchestn Indian Band, remembers getting calls from family and friends from the Ashcroft reserve, and hearing the devastating news of homes already lost. But for community members from Bonaparte First Nation, perhaps more than anyone, the day of July 7, 2017 will be one they will never forget.

> *“There were sirens going off everywhere, there’s choppers in the air, and the planes – it was just bedlam!*

That morning, Bert William had driven with his mom from their home on Bonaparte’s ‘Indian Reserve 1’ on Highway 99 down to Cache Creek to run some errands. As they came down into town they saw smoke in the distance, and he remembers thinking *“there’s a fire, a fire coming from Ashcroft! Is it here already?!”*. Power was already going out in town; when they couldn’t get gas at the Shell due to the power outages they began to panic, saying *“let’s get home before they shut the roads off!”*. By that time, the fire had already jumped the highway:

> *“It was starting to burn up on the hills as we were coming back from Cache Creek. And between Cache Creek and Bonaparte (IR3), there were little spot fires that appeared on the hillsides, out of nowhere. Within minutes they would just blow up and take right off over the mountain. So I picked up my brother and came back to Bonaparte and by the time we got back down, that whole country was on fire. You could see flames at the top of the hill, way up the air. It was candling in the trees, and the fire was just roaring. There was so much smoke in the air, and so much confusion, like a war zone. There were sirens going off everywhere, there’s choppers in the air, and the planes – it was just bedlam!”*
>
> – BERT WILLIAM, BONAPARTE FIRST NATION

As the wind drove the fire up the valley and through the dry sagebrush and grasslands above Bonaparte’s IR3, and with the Village of Cache Creek already under evacuation order, Bonaparte began to evacuate their reserve under the direction of their Chief and Council. However, for the 60 or so Bonaparte community members who stayed behind to protect their community, the enormity of what they were facing, and the impacts to their land, was already sinking in:

> *“We set up at our band hall because it was kind of the only central place, and it’s right on the highway, so that’s where we set up our kind of command center. And then we just watched the fire that night, burn up the hill and burn up towards the high-tension power lines, which was spectacular to see. And we could see the pine trees that have tonnes of pitch in the top, they were just exploding at night, all the really, really deep red colours – it was pretty surreal to see. I think generally Indigenous people deal with things, deal with emergencies, pretty calmly, so we weren’t panicking in that way. But to see the whole hillside, right above the community, get burnt…even in that first night we were already feeling the sorrow of what was happening to our land.”*
>
> – FORMER KUKPI7 RYAN DAY, BONAPARTE FIRST NATION

Fire scar and retardant above Cache Creek. Photo credit: Paul Simakoff-Ellims

As news started spreading of communities under evacuation and losses to homes and structures, other people described a sense of collective anxiety building across their communities:

> *"I remember it smelling smoky, and just that kind of thing in the back of your head that says something's wrong, something's really really wrong. But I had experienced smoky air before and thought, it's usually containable, it's usually far away even if it smells like it's really close. But then all the locals started getting more and more concerned, and so it was kind of like the entire community's anxiety was heightening all as one."*
>
> – HIGH BAR FIRST NATION STAFF

Similarly, to the north, Secwépemc communities such as T'exelc (Williams Lake First Nation), Xatśūll First Nation and Tsq'escenemc (Canim Lake Indian Band) were under evacuation order or alert due to a number of out-of-control wildfires in the Cariboo region. One staff member from the Thompson Rivers Natural Resource District (DTR) remembers phoning a contact in Canim Lake, who were cut off from an already-evacuated 100 Mile, and:

> *"…having quite a long conversation, which I did not expect. Because I knew that they were under orders. But the person on the other end just needed to tell me, 'this is brutal, we're scared, people are worried, roads are blocked, there's one way in, that way is under threat. There's one way out and that's blocked and there's a caravan of vehicles, they can't move'. It was that kind of conversation. And I just sat there and listened for 45 minutes. And I just listened in awe! I could just feel myself there in his community with him facing this emergency."*
>
> – MAHRUSA SHERSTOBITOFF, FORMER FIRST NATIONS ADVISOR, FLNRORD – DTR

Angie Kane, who at that time was the band, lands and natural resource manager at High Bar First Nation, remembered a similar feeling of helplessness as the fires began closing in and more and more roads were closed. She had been in Kamloops on July 7 and was diverted over an hour (via Highway 5 and 24) to get back to her home in Clinton:

> *"Luckily we got through just in time because within about a half hour after we got through, they closed that road as well. So that's when it hit home and I'm thinking 'okay well I can't go this way and I can't go this way, how would we ever get out of this valley if the fire hits Clinton?' Every day after that, you're sitting on pins and needles, you're waiting thinking 'okay well, this fire has to slow down at some point!'. And every day, you're getting [more and more] anxious because the fire's getting closer and closer to the point where every day you're seeing these huge plumes in the air and they're getting closer, so I had to start thinking and planning 'what am I going to do? We're going to be evacuated, what are the plans?!'"*

Community evacuations

Every major wildfire season – from the 'firestorm' of 2003 to the recent summer of 2021 – thousands of residents in BC are ordered, often at a moment's notice, to pack their bags and leave, to evacuate in the face of wildfire threat. And every year, without fail, some choose to stay behind.

While choosing to remain within an evacuation area can put people (including firefighters) at risk, the narrative of problematic residents defying orders oversimplifies the complex decision-making processes and many reasons behind why people choose to stay.

For some communities, in 2017 and to this day, there is a strong sense that no one is coming to their aid. For others, including local ranchers, their negative experiences of evacuating in 2017 and returning to find their properties burnt or damaged mean they will never evacuate again. Here, we describe these diverse experiences of community evacuations during the 2017 wildfires: both of those that chose to evacuate, and those that chose to stay.

By the middle of July 2017, less than one week into the provincial State of Emergency, Secwépemc communities such as Skeetchestn and Whispering Pines/Clinton had issued their own States of Local Emergency and many others were coordinating the evacuation of their community members. However, as highlighted in the report of the BC *Flood and Fire Review*, First Nation communities across the province experienced significant challenges and "poor treatment" from government agencies and emergency management services throughout the evacuation process.

While First Nations are responsible for managing evacuations of their communities, this jurisdiction was often not recognized or respected by government agencies such as the RCMP. At the same time, despite the provincial government issuing guidance in July 2017 stating that "First Nations will be notified by the BC Wildfire Service, RCMP, or EMBC of the situation and provided information to assist the chief and council in making decisions regarding the health and safety of their community members"[4], then-Kukpi7 Ron Ignace highlighted a lack of communications between local authorities and Secwépemc communities around notification of evacuations:

> *"I went to Big Sky [gas station on Skeetchestn's reserve] at one time and there was about a half a dozen RCMP (Royal Canadian Mounted Police) down there. And I said, 'oh, what have we done? How come you guys are here?' {laughing} And they said 'oh, we're out travelling around informing the people about the impending danger of the fire'. And I said: 'what fire?' And they said 'well, the Elephant Hill wildfire!' And I said: 'well how come nobody's telling us anything about that?' And as it turned out, the provincial government had handed the authority of informing the people down into the municipalities, the Thompson Nicola Regional District. And they have no jurisdiction to deal with federal jurisdiction on reserves. So they weren't going to come and tell us. And this happened throughout Shuswap country."*

This lack of communication with First Nations by local authorities ordering evacuations, such as municipalities and regional Districts, or agencies enforcing evacuations such as the RCMP, was also highlighted by Angie Kane:

> *"Did they reach out to us [at High Bar First Nation]? Not really. I don't think I got contacted by anybody. As far as a band perspective, I never received a phone call from any official or anything 'hey there is this large fire at your doorstep, and by the way, you're evacuated'. There was no communication whatsoever. The only reason I knew anything was because I lived in Clinton, and we just followed the protocols that were going on in our community."*

Many people who remained in or near evacuated areas also struggled to communicate with local law enforcement or fire agency staff. Multiple people described the challenge of establishing consistent communications and relationships with RCMP and Canadian Armed Forces personnel who were staffing roadblocks and managing access to evacuated areas.

4 Government of British Columbia. July 27, 2017. Wildfires and First Nations communities: questions and answers.

Bert William and other residents of Bonaparte's IR1, which was not evacuated because it was farther away from the fire, had to pass through multiple roadblocks or checkpoints every time they needed to go into town (Cache Creek) to get groceries or collect mail. Bert described the frustrating experience of having to explain his situation to RCMP staff (who he described as *"doing their job, but just like machines"*) the first time he tried to drive to Cache Creek in almost a month, and then again every time he passed through. On occasions when he was initially not allowed through, he feared being stuck, unable to return home.

Similarly, two ranchers told us how, even after getting official permits from the BC Range Branch to access their properties or range tenures to locate or feed their livestock, these were often not recognized at check points and they were unable to get through. To address these issues, people strongly recommended having a local representative (e.g., in the case of Bonaparte, a community member) working on these checkpoints, or at the very least consistency in and adequate briefing of staff.

The *Flood and Fire Review* highlighted the traumatic experiences of many First Nations communities during evacuations. In particular, being placed in temporary lodging in community or sports centres was reminiscent of residential 'schools' and communications with RCMP staff was hostile. Anticipating these issues, Skeetchestn took the initiative to liaise with the evacuation centre in Kamloops and worked effectively with Red Cross to ensure the needs of their community members, in particular Elders, were addressed:

> *"It got to a point where it was so bad, the smoke was getting really bad in the valley here. And so we decided that we were going to evacuate our community. So I went into town to meet with Red Cross, to see how and where we could move into town and they put us into the arena because there they had ventilation. And I sat and I talked to them, I said 'look, we have Elders coming in, if it's possible, as soon as possible can we have them moved into motels?' And I said 'we're going to send our community workers, social workers, we said we're going to send them into town, and they'll work with you. We'll keep them on the job but they'll be in town liaising with you, informing you about our people, who our people are, what their needs are, their special needs'. And that's what we did, we evacuated our community and moved everybody into town."*
>
> – FORMER KUKPI7 RON IGNACE, SKEETCHESTN INDIAN BAND

Others spoke highly of the support and sensitivity provided by Red Cross volunteers:

> *"[Red Cross was] a name that I grew up with, it's a household name, but I never really understood what exactly Red Cross did. And so when we were evacuated, we went to 100 Mile, and they were just absolutely amazing. I was floored by the sensitivity of the volunteers and the hard hours that they were working, and that there was a free room there and a restaurant that fed us breakfast, lunch and dinner every day. And the community centre there, we could go for extra supplies and they gave us this huge kit full of garbage bags and all this stuff before we came home to help clean up fire damage or smoke damage. And then just an amazing amount of ongoing support I was floored and really impressed by them."*
>
> – HIGH BAR FIRST NATION STAFF

Stewart Fletcher from High Bar First Nation echoed this experience, and contrasted the generosity he saw during the 2017 evacuations to the selfishness seen during the early days of the Covid-19 pandemic:

> *"Yeah, that was truly amazing what Red Cross did. You know I never felt so taken care of in my whole life and I was telling everybody that…anything you needed was at their community centre. It was so amazing, [I was] just thinking when this Covid thing happened how selfish people seemed to be then, where you couldn't even go and buy toilet paper. And when the evacuation happened, you know you had a big selection of toilet paper at the community centre, if you needed toilet paper there was stacks of it! …there were so many volunteers and so many donations, and then to see when the pandemic came, people were all of a sudden all for themselves."*

Photo credit: Paul Simakoff-Ellims

Secwépemc communities also played a key role in supporting evacuees (both Indigenous and non-Indigenous). For example, Tk'emlúps te Secwépemc opened up the pow wow grounds on their reserve to host evacuees, coordinating donations and providing food and other support services. Angie Kane also recalled members from Tk'emlúps te Secwépemc and Splatsin First Nation bringing donated items, such as salmon, canned goods and blankets, to the High Bar First Nation office to distribute to members.

We also spoke with non-Indigenous local ranchers who evacuated due to the Elephant Hill wildfire. These ranchers described the challenges they faced while evacuated, in particular being unable to access their tenure areas to feed or protect livestock, despite receiving permits to do so, and, more so, upon return to their properties. Two ranchers told us stories of returning home to find their structural protection equipment had been damaged or removed by firefighting activities (e.g., heavy equipment driving over irrigation pipelines, or personal home sprinkler systems removed when BCWS crews packed down) and their properties burnt by prescribed fires. We also heard of reassurances from BCWS that structural protection systems would be put in place, only for this not to occur. Both highlighted the struggle for accountability with BCWS, for example accessing compensation for the impacts of prescribed fire despite numerous witnesses and BCWS having announced this prescribed fire activity.

> *"We felt if we would have actually left, we probably wouldn't have any communities to come back to*

(Note: the *Wildfire Regulation*[5] has since been amended to clarify that damage to private land associated with fire control, that is eligible for compensation, also includes damage to structures and moveable objects. However, it is not clear if this addresses the challenges in accessing compensation described to us).

For these ranchers, these experiences from 2017 have created a strong mistrust in BCWS and the decision that they would not evacuate again.

For other communities such as Stswecem'c Xget'tem First Nation, their semi-remote location hours from firefighting support meant that the community chose to stay and defend, rather than evacuate:

> *"When 2017 came when everyone got evacuated, we did not evacuate. We were actually housing a lot of people from the other First Nations and we ended up fighting three or four fires around our community for days without any assistance. We felt if we would have actually left, we probably wouldn't have any communities to come back to."*
>
> – JOHN LISCOMB, STSWECEM'C XGET'TEM DEVELOPMENT CORPORATION

5 BC Wildfire Service. June 29, 2020. Amendments to the Wildfire Regulation.

Georgina Preston, former Stewardship Manager for Stswecem'c Xgat'tem First Nation, highlighted the traumatic impact of experiencing constant evacuation orders and the mental toll that many community members continue to face each wildfire season:

> *"I can't imagine always being afraid of an evacuation notice. Always being afraid that a fire could start, and you'd have to grab all your stuff and go. I think that was hard on people. I was talking to one of the workers that was working for the department last summer and he was really stressed out because his parents refused to leave when the evacuation order happened. He just wanted to get them out, he wanted to get them to a safe location to know that they were out of harm's way. But they were very adamant that they were going to stay with their house, with their things and that they were going to fight the fire themselves if they had to. And so that was the reality for them."*

This was the reality for many Secwépemc communities during the summer of 2017, and the reality that many First Nations continue to experience: a sense that they are on their own and can't rely on anyone but their own community and Nation to help:

> *"Everybody was supposed to leave the community, that's what the evacuation meant, but it clearly didn't, there were a lot of people that felt that if they left, nobody was going to do it for them. Not only that – and I heard that from Ashcroft as well – not only that no one was going to fight the fire for them but there would be no help afterwards if they needed to rebuild, communities are kind of used to getting shafted, right? So there's a real feeling of having to do it yourself."*
>
> – JOANNE HAMMOND, DIRECTOR OF HERITAGE, SKEETCHESTN NATURAL RESOURCES

This 'feeling of having to do it yourself' is what drove multiple Secwépemc communities to draw on their capacities and skills in emergency and fire management to play a leadership role in protecting their communities.

2 KEY FINDINGS

2.1 Secwépemc communities experienced poor communication and a lack of guidance from provincial or federal authorities, such as the RCMP, BC Wildfire Service or Regional Districts, regarding immediate wildfire threats or evacuations.

2.2 Secwépemc communities issued evacuation orders under their own authority, and often played a leadership role in coordinating with Emergency Social Services or agencies such as the Red Cross to support their evacuated members.

2.3 Individuals who remained in or near evacuation areas similarly experienced frustrations with and inconsistent messaging from law enforcement and fire agency staff. For example, permits to access restricted areas (e.g., to relocate or feed livestock) were often not recognized by checkpoint personnel, and there was a lack of awareness of Indian Reserve boundaries and associated evacuation orders.

2.4 Negative experiences of evacuation, such as returning to find properties damaged from suppression activities, has created a mistrust of fire agencies and opposition to evacuating in future.

2.5 Numerous people stayed behind to protect their communities or properties. There was a strong feeling within Secwépemc communities of 'being on your own' and that there would be little to no support from government agencies, either for fire suppression or subsequent recovery.

CHAPTER 3

‘It was all action!’: Wildfire response and the leadership of Secwépemc communities

AGENCY RESPONSE

For the majority of BC Wildfire Service staff that we spoke to, the 2017 wildfire season was not only unprecedented in terms of area burned, but also in terms of the demand it placed on agency firefighting resources.

With close to 200 new wildfires sparked by dry lightning between July 6 and 8 – many of which grew rapidly and displayed aggressive fire behaviour under the hot, dry and windy conditions – BCWS was stretched to the limit:

> *“We were just barely hanging on until we could get an Incident Management Team in place [for the Elephant Hill wildfire]…the challenge that we faced that day was it was a dry lightning event…and between us and the Cariboo, the Cariboo took it the hardest. I would estimate all of the provincial resources were assigned before sunset. Just because we had so many fires that had not only occurred in the interface, but because of the conditions.”*
>
> – BRAD LITKE, SENIOR OPERATIONS OFFICER, BCWS

After ‘pulling the trigger’ on an Incident Management Team, Brad Litke described how:

> *“… it became very evident that [the Elephant Hill wildfire] was moving away on us…the fire broke loose on us mid-afternoon and then started its run to the north, following the valley. This fire was growing exponentially, very, very rapidly. We kept getting reports into the coordination center, ‘it’s reached this point it’s reached this point!’ And of course, you start getting reports of structure loss and values threatened… we were so reactionary, to how fast the fire was moving. And the first night, all of our resources were focussed simply on keeping the roads cool enough for evacuees to move through them.”*

Other senior BCWS staff similarly spoke of how, in the first few days, their focus was primarily on safely evacuating communities at risk:

> *“Catastrophic fires like Elephant Hill come in stages. So, the first 24, 48 hours we were literally evacuating, tactically evacuating Cache Creek. There was no shared information there. It was, ‘get everybody safe’. And the challenge with Elephant Hill was the majority of the time, we were not protecting resource values, we were only protecting people and homes. When it comes down to people and homes, yeah we can take some input but we’re still more in a reactionary mode.”*
>
> – ROB SCHWEITZER, DIRECTOR OF FIRE CENTRE OPERATIONS, BCWS

This reactionary approach, and the challenge of limited resources, continued throughout the fire. Neville Anderson, who was deployed from the Australian NSW Rural Fire Service to act as a branch director on the Elephant Hill wildfire, recalled first arriving in Cache Creek and quickly realizing *“there was simply not enough upper-level resources”*. Arriving a day early, Neville was able to cross paths with the outgoing branch director who simply told him *“to do the best I could, and he said we’ve gotta try to keep the fire out of the First Nations community (Skeetchestn) as best we can”*. Another BCWS staff who worked on the fire in a heavy equipment role was more explicit in describing the challenges the fire agency faced, and the dominant focus of keeping the fire out of communities:

> *“It was a difficult fire to say the least. Probably in hindsight over the years the second toughest one I was on. But we were pretty much getting our butts kicked and getting chased around and doing what we could to steer that fire…we were so focussed on steering it away from communities, some which were the First Nation communities.”*
>
> – KEN CONWAY-BROWN, FORMER REHABILITATION COORDINATOR, BCWS

Photo credit: Joanne Hammond/Skeetchestn Natural Resources

By the end of July the Elephant Hill wildfire had grown to almost 80,000 ha, and, in addition to the 157 BCWS firefighters on the ground, there were over 300 contractors, structural firefighters, support and incident management staff, and out-of-province firefighters deployed.

Reflecting back on early July 2017, and the challenges faced in responding to the widespread and intense fire activity, Brad Litke (BCWS) said:

> *"In my career of twenty-five years, that was the biggest surge of fire activity for resources that I've ever seen. And it didn't start a tonne of fires – in a lightning bust it's not uncommon for the southern part of the province to pick up three or four hundred fires and I think they only picked up a hundred and change that particular day of July 7th. But it hit us at the right time with the right wind event right behind it, and you know unless you had a crew standing right there with a hose line charged you lost them."*

Darcy LeBourdais (Whispering Pines/Clinton Indian Band), who, along with Tanner LeBourdais (Whispering Pines/Clinton Indian Band) was contracted for fourteen days in 2017 as an equipment supervisor with BCWS, also spoke about the challenging fire weather conditions, saying: *"it seemed like it didn't matter what they tried, they just couldn't really gain any traction unless Mother Nature cooperated"*. Similarly, forest industry staff we spoke to said that while all of their woodlands staff and heavy equipment operators are trained in the S100 Basic Fire Suppression course, they were not prepared to respond to something of this scale or so close to peoples' communities.

Fire agency staff also contrasted 2017 with previous fire seasons, and the increasing time, resources and energy taken to manage complex incidents such as Elephant Hill:

> *"If you go back ten or fifteen years ago, an Incident Management Team would go out and a major fire would be controlled in say one or two [fourteen day] tours. And then you would be done with it. But in '17, we had several IMTs going into one fire. The length that it's taking to put these things out has extended. I think in '17 we were deployed five times, which kind of equates to ten weeks with three days' rest in between and these aren't easy fires. You've got interface issues, you're dealing with politicians from town and Council to Ministers and they're complicated. So they're very taxing, to say the least. And you know you're losing houses and that affects people greatly. They just seem to be more complicated now than they ever were before."*
>
> – BCWS STAFF

Over the course of the fire season, Emergency Management BC (EMBC) Central Region's Provincial Regional Emergency Operations Centre (PREOC) was also activated for 140 days to support local governments in planning, coordination and logistics relating to emergency response. Given the size of these fires and risks to multiple First Nations communities throughout BC, EMBC further adapted to provide specific support for First Nations Emergency Operations Centres (EOCs). Senior EMBC staff in the Central Region highlighted one best practice that emerged from 2017, which was hosting regular coordination calls specifically for First Nations EOCs. These calls allowed First Nations to ask eligibility questions, such as what expenses they could be reimbursed for; to highlight concerns around impacts to culturally significant sites; and to be directed to other agencies or service providers for support. As one EMBC staff said, these calls were:

> *"…just to provide them with the venue to be able to ask questions that they might not have asked in an open forum. Just trying to provide that safe space… not only was it an opportunity to speak about things that are very specific to the Nations, it was actually requested by the Nations to have another venue, another safe forum for those discussions."*

For communities like Bonaparte, who had not experienced an emergency of this type and scale before, the emergency management support provided by organizations such as the First Nations Emergency Services Society was invaluable:

> *"The most support right away was from First Nations Emergency Services. As soon as we called them, before the fire hit, they said 'well get an incident number so we can get the process started'. And they sent a fellow in to give us a hand setting things up, he was awesome, he got there the first evening I believe. And then the next day we got into setting up a command centre, and fortunately he had the knowledge of kind of how things would be set up, with the BC Wildfire and that. And he helped facilitate, so we could just walk in and establish those necessary relationships and how things were going to go. So that was really helpful for me having not dealt with this before."*
>
> – FORMER KUKPI7 RYAN DAY, BONAPARTE FIRST NATION

Yet on the whole the Secwépemc community staff, leaders and community members we spoke with felt they had been left on their own, and their knowledge and capacities ignored throughout the process of wildfire response.

Engagement with Secwépemc communities

During the 2017 wildfire season, views as to the extent to which government agencies engaged, or should have engaged, with First Nations varied dramatically between representatives of Secwépemc communities and BCWS (and even within the Wildfire Service itself). Here, we describe the challenges faced by Secwépemc communities during the Elephant Hill wildfire. While this Chapter is specific to this particular moment in time and this one particular wildfire – and while progress has been made since 2017 in terms of how BCWS collaborates with communities (see Chapter 11) – many of these challenges persist to this day.

In the first few days of Elephant Hill, as the fire was directly threatening Bonaparte First Nation's IR3, both former Kukpi7 Ryan Day and Bert William from Bonaparte recalled a lack of support and resources to help protect their community. While Ryan Day spoke of a few firefighters arriving from Cache Creek to help with structural protection, and one BCWS staff mentioned *"supplying Chief Day with hoses, pumps, that sort of thing"*, we heard repeated frustration from Bonaparte community members about a perceived lack of on-ground support from BCWS within the Bonaparte reserve. In one community member's view: *"the fire could've been stopped. There was a jurisdictional issue, and they let it burn out of Bonaparte reserve before they would actually come and do their job. So we lost all of this on our land, at their cost."*

On April 1, 2017 the bilateral *Emergency Management Services Funding Agreement*[6] and *Wildfire Response Agreement*[7] had been signed between EMBC and the federal Indigenous Services Canada (ISC), and the BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNRORD) and ISC, respectively. Although these agreements provide funding and support to the Province of BC to deliver emergency management and wildfire response services on federal 'Indian Reserve' lands, anecdotes like the one above suggest that jurisdictional boundaries posed a barrier to wildfire response and suppression within First Nations communities in 2017.

6 Emergency Management Services Funding Agreement.
7 BC FLNRORD. Wildfire Response Agreement (fire response services provided in British Columbia by the Province).

In addition to jurisdictional barriers, agency support for and engagement with First Nations was inconsistent and often determined by the different levels of willingness amongst fire agency staff to openly collaborate with First Nations and other local communities. One BCWS staff we spoke with was the Incident Commander on the first Incident Management Team deployed on Elephant Hill. When asked about their experience working directly with First Nations on the fire, they spoke proudly of their approach to establishing communications and informing decision-making:

> *"My team recognized early that we really needed to step up our game with all of the groups that were affected including the First Nations. So we did something there that we hadn't done in the past. To make sure that everybody was on the same page, we invited Chief Day, we invited the Mayors from Ashcroft and from Cache Creek, to come and sit in our plans and operations meetings each day, if they wanted to. So, what that affords them is they get two times a day, if they showed up at both, and most of the time these folks did show up, they get essentially kind of the raw data. They get the up-to-date information on what's going on at the same time I'm getting it from my field staff. And obviously we're always talking about, 'okay what's going on in the last 24 hours?' And then, what our status is right now, and what we hope to do in the next three to five days."*

Provincial government District staff also spoke about reaching out to First Nations communities during the fires to offer their support:

> *"When the fire hit, it was not reasonable to be phoning people saying 'hey what do you think about that cutting permit?' When their house is burning down. So we switched into trying play a more supportive, more advisory role, in the sense that I spent some time phoning communities just finding out 'hey, how are you guys doing? What's going on? Is there anything you need? Is there anything you want to tell me about the roads in and out of your community? You know, anything at all that I can help with in my position with the province?' And so I had some phone calls where people were like 'nope, we're good to go, we're busy we don't need anything'. And others where people just wanted to talk and tell me about the trauma they were experiencing."*
>
> – MAHRUSA SHERSTOBITOFF, FLNRORD – DTR

In addition to sharing information with municipal and First Nations leaders, one BCWS Incident Commander also recalled discussions with Ryan Day about the importance of protecting archaeological sites, particularly when planning and constructing fireguards:

> *"When we engaged with Chief Day there, that's obviously one of the things he brought up. So, what we did was any guards that we were starting to put in around the fire, we actually had employed members of his band to walk with the guard building equipment and basically follow along and looking at the piles of dirt or what's been uncovered to make sure that if there was something of significance that they would be there to identify and help us through that process."*

Yet these initial practices – of inviting Bonaparte leadership to IMT briefings, and of having Bonaparte staff out with line locators building guards – were not continued beyond the first IMT rotation. The IC quoted above explained that the Incident Commander who followed him *"wasn't comfortable"* with inviting external authorities to briefing meetings, and instead set up a separate meeting specifically to update the local Mayors and Chief Day. However, staff from Bonaparte First Nation were critical of this subsequent approach, describing it as having to deal with a *"go between"* who would *"just collate reports and information, and who you could contact to ask questions"*.

Similarly, while staff from Bonaparte First Nation acknowledged the good working relationships that they established with certain BCWS staff, they expressed frustration that this was not maintained as crews and IMTs rotated throughout the season (a barrier to utilization of local knowledge also highlighted in the *Flood and Fire Review*):

> *"I spent a lot of time trying to correspond and just keep up to date with what was going on with the Fire Centre folks. I found some people through BC Wildfire were great. And they would be really keen on getting perspectives and a big thing that we were trying to do was they were putting lots of fireguards in so we were trying to say: 'hey there are some really big arch sites, can you avoid them?' And we were successful in some cases, with some specific people. But then after two weeks the person would change and some people were much less willing to do anything. They have their own perspectives, and they didn't want to listen to the community members or avoid arch sites or do anything like that."*

Neville Anderson from the Australian Rural Fire Service was one agency representative who established a strong working relationship with staff and community members from Skeetchestn. Speaking about the lack of adequate handover he experienced, he described it as *"a shambles! I was stood down and didn't have the next person to take over from me"*. Amidst this constant changeover of agency staff and crews, Secwépemc staff took it upon themselves to seek out information at the daily BCWS briefings. However, at best, these briefings offered an opportunity for one-way information sharing, from government agencies to communities. Multiple community representatives that we spoke to were disappointed in the lack of opportunities to actively participate in these meetings:

> *"There wasn't really an opportunity to ask questions in those meetings. It was more of an operational update and they went into objectives of the day, incidents if any, they went around the table and they asked each division, each part of the org chart, for an update as a group, but they didn't really mention the community unless Mike [Anderson] – you know Mike, he spoke up, every chance he got. But it definitely wasn't as communicative as I would like to have seen, between government and First Nations."*
>
> – TANNER LEBOURDAIS, SECOND PASS FORESTRY & WHISPERING PINES/CLINTON INDIAN BAND

Mike Anderson and other staff from Skeetchestn also travelled to Cache Creek to attend these meetings, and to offer their support for the fire response:

> *"They had a briefing every night at about six o'clock or seven o'clock where they'd brief all of their crew leads out in the bush, kind of thing. And I started attending those and I took a couple of my employees with me who are both hunters and both know the territory very very well. And know the wind patterns and know where all the water is and know where all the roads are and I told those guys, repeatedly told them 'hey, you can have these guys 24/7 if you need them, put them in your command post, pick their brain for information because they know where things are up there.'"*
>
> – MIKE ANDERSON, CEO, SKEETCHESTN NATURAL RESOURCES

However, this offer of community resources – of Secwépemc hunters and range riders who know their territory better than anyone – was not taken up at these meetings. As Mike Anderson saw it, this reflected an arrogance and a lack of acknowledgement of the value of Secwépemc knowledge of fire and the land:

> *"Skeetchestn took two separate hunters down there every blinking night when they were debriefing and said 'hey, these guys are available to you, use them'. And they didn't use them. And then they go and make stupid mistakes."*

Bert William similarly described what he saw as a lack of respect for local knowledge and for the people living in the communities and landscapes most affected by these fires:

> *"We should have been involved with fighting the fire right from the start, and not moved out. They got rid of everybody off the reserve, evacuated everybody, then you've got people coming in from Australia, from Ontario, from different places. They didn't know anything about our country. That hurt a lot. To be kicked out of your home and have some stranger come tell you what to do in your backyard...That's what hurt most, probably. That you're treated like a refugee almost, in your own country."*

When asked about their approach to working with communities, in particular First Nations, during the 2017 wildfire season, most BCWS staff acknowledged the fact that any form of community engagement came too late, if at all:

> *"It [engagement with First Nations] was too late. We were so busy fighting the fire that other things dropped off, one of which was First Nations involvement...usually depending on which part of the province I'm in and the history with First Nations use in the area, that's something that I jump on usually fairly quickly...I'm kind of a little annoyed at myself, or disappointed is probably a better word that I just {sighs} didn't deal with it sooner. It was pretty obvious that we were around First Nations values. And I didn't ask the question and should've been asked at higher levels and it wasn't."*
>
> – KEN CONWAY-BROWN, BCWS

> *"There was no expectation on our Incident Management Teams to openly collaborate*

For a number of BCWS and natural resource District staff, this was one of the key lessons identified from 2017: that *"we need to get to the First Nations communities on day one. Not day one after the fire's out, day one of the start."* However Cliff Chapman, the former Deputy Manager of the Kamloops Centre and current Director of Provincial Operations at BCWS, acknowledged that at the time:

> *"There was no expectation on our Incident Management Teams to openly collaborate, and not just with First Nation communities, but really anybody on the land base... there was still this hesitancy from BC Wildfire Service and particularly some of the operational decision-makers to really know if they could or should invite First Nation communities to the table when it came to tactical decision-making."*

One notable exception to this attitude, as highlighted by former Kukpi7 Ron Ignace, was Neville Anderson from the Australian Rural Fire Service. After BCWS moved the fire camp from Cache Creek to Big Sky gas station on Skeetchestn's reserve (described further in Section 2.4 below), Ron described how Neville sought out the expertise of Skeetchestn's fire knowledge keepers and natural resource staff:

> *"The lead who was an Australian came to us, and said 'could you have someone be our lead to show us in the mountains?' And so we got a couple of our people, Darrell Peters was one of them. And we said 'well, we'll give you Darrell Peters because he's been doing our burning, he hunts and he's been a range rider, driving all over the mountains, and we have our natural resources people who have worked those mountains and know them inside out'. And so they brought them on board, and it was they who told them where to put up their firebreaks. And where to put back burns. And where not to burn, and when the winds in certain valleys in the mountains were going to turn, and things like that eh? And they listened, that Australian was really appreciative, he picked up on us and utilized our peoples' knowledge in helping them become better firefighters."*

Neville recalled one day in particular, when Kukpi7 Ron came down to the incident management station at Big Sky to ask whether it was safe enough for Skeetchestn to rescind their evacuation order and bring their community home. Neville's response was to say, *"come and hop in the helicopter and we'll go for a flight and I'll show you what I've done to stop the fire burning your community"*. When asked about that experience of going up in the air with Kukpi7 Ron, Neville said:

Former Kukpi7 Ron Ignace with Neville Anderson (NSW RFS). Photo provided by Ron Ignace

> *"That was something I will never ever, ever forget. It was unbelievable. Ron was able to show me where their carrot (Lomatium spp.) patch was. He showed me the hoodoo columns, and then he showed me where the deer camp on the edge of the escarpment because they get the updraft, the breeze. And he taught me all about the wind flow up their valley and spoke about their chemist shop and their supermarket [where they harvest their medicine and food plants], which three quarters of that had burnt. And I questioned him about the types of vegetation that were critical to their culture…I can't over-emphasize the working relationship I had with Ron, Mike [Anderson] and Darrell [Peters]. It was one of the most enjoyable parts of my career, as I said I've been in the Rural Fire Service now for fifty-two years, and it was the highlight of my career to work with those people."*

SECWÉPEMC LEADERSHIP IN WILDFIRE AND EMERGENCY MANAGEMENT

Throughout the 2017 fire season, many Secwépemc communities drew on their collective expertise and capacities to play a leadership role in wildfire response and emergency management. This came in many forms, in particular 1) on-ground wildfire response and suppression; 2) community emergency operations and protection; 3) fire watcher programs; and 4) providing support for agency response.

Wildfire response and suppression

On that first day of July 7, 2017, with BCWS focussed on tactically evacuating towns such as Cache Creek and the Elephant Hill wildfire tearing towards Bonaparte's IR3, Bonaparte's community drew on the training and expertise of their members to step up and protect their reserve:

> *"It was all action when the fire hit. We had a number of people who had done wildland firefighting when they were younger and remembered their training and things like that. So they knew what to do in terms of protecting the community, IR3 [and also had] a reasonable idea about how the fire was going to come and where it was going to hit so that we could prepare as best we could with limited amount of water and very limited amount of hose. It was just kind of a scramble around to do what we could, because it was so fast, it happened very quickly, we had less than two hours to be ready for the fire to come barrelling up towards the community."*
>
> – FORMER KUKPI7 RYAN DAY, BONAPARTE FIRST NATION

With a hot and dry wind driving the fire up the valley towards Bonaparte, Ryan Day described the actions they took to save their community and their fear that, if one house burned, it would *"start a chain reaction"* and burn through their whole reserve:

> *"There was one point where the fire would've taken the first house, and then it was our belief that if that house had taken then likely they all would have, because it was over thirty degrees and dry outside, it would have just started jumping house to house and likely would have taken out most of the houses on the reserve. So, there was a critical point there where one or two of our guys did a controlled burn…intentionally lit a fire to make a burnt area between those couple of houses and where the fire was coming. And they were able to do it just in the nick of time, and it burnt straight up the hill next to that house, as fires can do, and made that break…But that was kind of the critical moment that I believe saved the houses on the reserve there."*

Other Secwépemc communities also stepped up to lead the wildfire response and suppression around their communities. Some, such as Stswecem'c Xget'tem First Nation, had learnt from past experiences with wildfire (such as the Dog Creek fire in 2010) and had built their own firefighting capacity:

> *"In 2017 for example when we did have those three little lighting strikes, we had portable mobile water and pumps and bladders, we had numerous piss packs and other tools. And soon we had thirty community members that were fully equipped and clothed that were able to go out and fight these. So, we kind of had our own unit crew."*
>
> – JOHN LISCOMB, STSWECEM'C XGET'TEM DEVELOPMENT CORPORATION

As well as these trained community members, Stswecem'c Xget'tem First Nation had fully trained and equipped contract crews signed up with the BCWS Cariboo Fire Centre. When the 100 Mile (Gustafsen) fire and Williams Lake fires were sparked on July 6 and July 7, Stswecem'c Xget'tem First Nation sent two of their crews to assist. However, their Chief and Council was adamant that their third crew remain to help protect their communities of Dog Creek and Canoe Creek. Whispering Pines/Clinton also had contract firefighting crews, and both Darcy and Tanner LeBourdais were contracted as equipment supervisors through their company's standing offer with BCWS. However, for other communities without these formal agreements, there are significant challenges to engaging in wildland fire suppression in their territories (off-reserve):

> *"It's kind of hard, a fire like that comes up you can't really just dive in and be part of the suppression efforts. Some did. If they had agreements like Whispering Pines band, they have a pretty proactive wildland firefighting crew, and contract crew with BC Wildfire. But if you didn't have that existing standing offer crew it was very difficult to get in as a wildland fire suppression firefighter."*
>
> – FORMER STAFF, FIRST NATIONS EMERGENCY SERVICES SOCIETY

Emergency operations and community preparedness

With the Provincial Government announcing a State of Emergency on July 7, Secwépemc Chiefs and Councils declared their own States of Local Emergency and activated Emergency Operations Centres (EOCs). Within one day Bonaparte had set up their command centre and ended up hosting Ashcroft Indian Band's EOC. Over the following weeks, Bonaparte crews worked day and night FireSmarting houses on the reserves, putting out spot fires, slashing long grass, and driving along Highway 99 wetting down the southern road verge to minimize the risk of embers sparking a new blaze and threatening IR2 and IR1 (located along the highway).

At Skeetchestn, former Kukpi7 Ron Ignace recalls that as soon as they heard about the Elephant Hill wildfire, they *"began some preparations in the valley here and began thinking about how can we be engaged and protect our community?"*. These preparations included opening their EOC and populating the organizational chart; enacting their Community Emergency Plan; attending PREOC meetings; looking at fuel management concerns and priorities for treatment; establishing their 'fire watcher' program (see below) and developing comprehensive lists of all their equipment and human resources on site:

> *"We began to move quickly and to amass some serious planning about how to defend ourselves in the event that fire comes our way. So we did an inventory of all our pickup trucks, our water tanks, loading them up on pickup trucks, and getting a couple of water tankers. And as it got more and more threatening, we were able to bring in a company to put roof top sprinklers on all our community facilities. And we also got the farmer that is leasing our frontage land to grow corn for his cattle, he came in with his equipment and did all kinds of breaks all over the reserve. Firebreaks everywhere, around in our fields here, around the subdivision, around the main village. And we had bulldozers as well, working in the mountains making firebreaks."*
>
> – FORMER KUKPI7 RON IGNACE, SKEETCHESTN INDIAN BAND

These firebreaks included guards around the community school, main village and subdivision as well as around a number of dwellings. In addition, large expanses of dry grass were disked down to bare earth, fuels were cleared around critical infrastructure such as pumps and electricity poles, and a large fireguard was constructed along the western boundary of the reserve. However, a number of BCWS staff we spoke to expressed concern over, or disapproved of, this approach to constructing large fireguards:

> *"They did some things that I don't think they should have done to protect some of their assets. They did it of their own accord. I don't know who paid for it. But I never would have suggested it. You know they did a lot of work with heavy equipment in and around their communities, that I think was hard on the landscape actually. Fire never got near it."*

This BCWS staff member also remembered talking to Ron Ignace at one of the operations meetings in Cache Creek and telling him *"you guys don't have anything to worry about"*. Later, he acknowledged *"the fire got way closer to their Band than I ever would have thought"*.

Another BCWS staff recalls conversations with Skeetchestn around these fireguards, and saying:

> *"'It's not the time, we don't need to be tearing up the hillside yet. The fire's still quite a ways away, there's a trigger point when it hits that then we're going to move closer to the Skeetchestn reserve lands'. But there was a lot of anxiety and it's: 'we're going to do it anyways' and we felt that 'okay well we can't stop you, that's okay. We're just trying to tell you as the professionals that it's too early and that's not how we put in the guards'...But again, right, they're anxious, this was well into the fire, so I understand where they were coming from. And if that's what they needed to do to feel a little bit better well okay fair enough."*
>
> – BRAD LITKE, BCWS

As hinted at here, and later mentioned by Don Ignace (Operations Manager, Skeetchestn Natural Resources), a key driver for Skeetchestn's proactive approach was a lack of trust in information coming from government agencies, and a feeling that it was up to their community to protect their reserve.

Photo credit: Forest Foods Ltd/Lobby Studios

Like Skeetchestn, Stswecem'c Xget'tem First Nation activated their community protection plan to FireSmart homes and structures within their reserves. And, like Skeetchestn, their pride in protecting their community contrasts with the (perceived) support or recognition from government agencies:

> *"We had a plan in place on how to protect any of the structures in the community… We set up those water wingers, the sprinkler systems on the roofs, we paid special attention to the Elders' houses. We started moving firewood away from houses and other kind of FireSmart stuff…I feel very proud for my community that I work for and how we handled it. I just don't think that the government really realizes it sometimes."*
>
> – JOHN LISCOMB, STSWECEM'C XGET'TEM DEVELOPMENT CORPORATION

Fire watcher program

For both Bonaparte and Skeetchestn, a key component of their approach to protecting their communities and territories was establishing a 'fire watcher' program. As Don Ignace (Skeetchestn Natural Resources) explained, the aim of this was to get real time information on fire activity to pass on to community members and to inform decision-making:

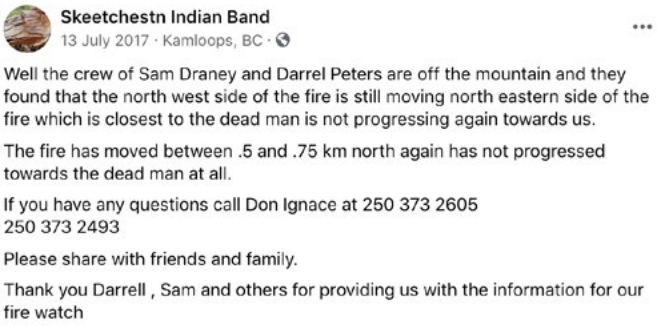
> *"We had fire watchers that were immediately dispatched to monitor the fire, and as it came through Cache Creek and out towards the Arrowstone hills we knew it could come straight down the Back Valley and into the Deadman Valley, so that's when we were really kind of put on high alert. So, our fire watchers were dispatched and they were monitoring the daily movement of that fire, GPS-ing it, and that information would go to our mapping department. Our trust within the government wasn't all that much so we figured we couldn't wait for them to include us, or we couldn't wait for them to pass the information on. It would probably be days old by the time we would have received it. There was still kind of an ingrained mistrust in anything there, if we needed to find something out we usually have to find it out for ourselves. We had people that were very familiar with the area, were very familiar with fire, were long time firefighters. So they were monitoring that for us, literally daily, so we worked seven days a week for months, and months, to continue to monitor this for our community."*

Sam Draney was one of the fire watchers who stayed behind when the community evacuated. For months, she worked closely with Skeetchestn member and fire expert Darrell Peters conducting night patrols and monitoring fire behaviour. As a Skeetchestn community member and Skeetchestn Natural Resource's cultural heritage team lead and GIS technician, her skills and knowledge of the land were quickly recognized as being key to regularly mapping fire boundaries and communicating fire behaviour back to the EOC:

> *"When the fire started, they needed a guide. They needed somebody that could work the iPad and navigate them through the area…[so] myself and Darrell Peters just continuously kept going up and developing the fire watch program hourly. It was a living beast of its own. So we would go up each day in a marked vehicle and we would just patrol the edge of the fire line, between the existing fire and the reserve, Skeetchestn. And eventually it turned into us setting up stations so we could radio in our locations safely and those stations would be linked to a corresponding map. And the stations moved as the fire grew."*

For Skeetchestn community members who were evacuated, as well as for non-Indigenous neighbours, these updates from fire watchers – posted regularly in official updates by Don Ignace on Skeetchestn's facebook page – were a crucial source of reliable information:

> *"Don [Ignace] maintained a site where he was putting this information out to our community because our community was evacuated at some point. Also to the local community and [it] became basically the most reliable source of information about up to date news on the fire, because you couldn't get it through any other source, periodically you'd get some kind of a video from some fire guy, who was on the fire that was sending Youtube [videos] out or something like that that started all sorts of rumours starting, and all sorts of grief. But Don maintained a pretty good up to date assessment of where it was at and what the problems were. And it was much appreciated by our community."*
>
> – MIKE ANDERSON, SKEETCHESTN NATURAL RESOURCES



Skeetchestn Indian Band
13 July 2017 · Kamloops, BC ·

Well the crew of Sam Draney and Darrel Peters are off the mountain and they found that the north west side of the fire is still moving north eastern side of the fire which is closest to the dead man is not progressing again towards us.

The fire has moved between .5 and .75 km north again has not progressed towards the dead man at all.

If you have any questions call Don Ignace at 250 373 2605
250 373 2493

Please share with friends and family.

Thank you Darrell , Sam and others for providing us with the information for our fire watch

The volunteers and natural resource staff who stayed behind also supported evacuees by feeding livestock and pets and watering peoples' gardens:

> *"When you're evacuated, you're pretty darn concerned about what's happening at home and if you left your dog there you're concerned that something's going to happen. So if you know that somebody's taking care of that, watering your garden, those kinds of things, it helps an awful lot to the evacuated people, that's one service we did do."*
>
> – DON IGNACE, SKEETCHESTN NATURAL RESOURCES

However, perhaps the most critical role played by fire watchers and Skeetchestn's fire crews was conducting nighttime patrols and responding to flare ups and spot fires throughout the Deadman Valley:

> *"We had mobile fighting capabilities, guerrilla style warfare!"*
>
> – FORMER KUKPI7 RON IGNACE, SKEETCHESTN INDIAN BAND

> *"We had two roving crews with pickups and firefighting gear, pumps water etc. that were basically going up and down the valley patrolling. Because everything was tinder dry here. And there was a huge fire beside us, and all it would take is one spark to get this valley on fire. Those crews, while they were doing that actually came upon two fires, and put them out I believe, were instrumental in putting them out. Because either one of those little fires could have become another Elephant Hill."*
>
> – DON IGNACE, SKEETCHESTN NATURAL RESOURCES

Fire watchers also described the impact this experience had on them personally, and what they learnt from working with people like Darrell Peters while being out every day observing fire:

> *"It was just quite the experience to be out there and see with your own eyes, see how fast that forest fire that they can actually move…the one day we seen it travelling through the tops of the trees. And the ground wasn't even burning it was travelling through the tops of the trees and eventually the fire dropped to the ground and started the ground on fire…then how even green trees would just light up like a match."*
>
> – COUNCILOR MARSHALL GONZALEZ, SKEETCHESTN INDIAN BAND

> *"It completely changed me in that year. It was a hectic year, but I found the beauty of the fire really hypnotized me…it was beautiful the way it moved and the way it just acted…[the] wind… the way it sucks the power back into itself. It was almost like a spiritual thing to be in that suck back zone. It was pretty incredible, really eye opening."*
>
> – SAM DRANEY, SKEETCHESTN NATURAL RESOURCES

In addition to offering the services of Skeetchestn hunters and scouts, Skeetchestn representatives told us that early on they met with the Incident Commander to speak about their fire watcher program. However, one BCWS officer we spoke to was quite critical of this program:

> *"They were younger people who would go out, we didn't know where they were going, there was no contact, they were self-directed. They'd go out and poke around and see where the fire was and come back and tell the people where the fire was. And maybe tell us…And they would go out at night, and they would go way back in there and the equipment operators and line locators would see them and be shocked. They can tell you where a fire was because they knew where they were, but I'm not convinced that those folks had a good understanding of fire behaviour…There wasn't good communication between them and us on that front. I never got the sense that we were working together."*

While this speaks in part to the lack of communication and relationships established between Secwépemc communities and BCWS at that time, it also highlights the ongoing lack of trust in, and skepticism of, the fire knowledge and skills held by community members.

Providing support for agency response

With BCWS resources stretched across a province in flames, Secwépemc communities – in particular their natural resource departments – were often on site to provide resources and support services to incoming crews:

> *"We had completely snapped into action. Most of our employees were evacuated and not coming in, but our band administrator and our natural resources director was there. And because the Wildfire people that came in didn't have any knowledge of the land or anything, didn't have any printer capability, they were just kind of there and not really able to plan anything. So we offered to print off maps, and kind of help them with the lay of the land, and the way things are going. And we just kind of established a relationship there, especially in terms of getting in and out of the community because the road's blocked off and we needed to still have access because we weren't planning on going anywhere."*
>
> – FORMER KUKPI7 RYAN DAY, BONAPARTE FIRST NATION

BCWS had set up a fire base camp in the grounds of the Cache Creek elementary school for most of summer. However, as the new school year approached and the fire was still burning they needed a new location to host their hundreds of firefighters. Hearing of this, then-Kukpi7 Ron Ignace went down to the camp in Cache Creek and met with Neville Anderson, who was only a few days into his rotation as branch director on the fire:

> *"So I said 'I hear you guys are looking for a place, to move to?' And they said 'yes, we are!' And I said 'oh, I think I just might have the place for you. I'm the Chief at Skeetchestn and we have a Big Sky gas station and five thousand acres of land that's open down there. I could take you for a tour, and show you around, and you decide where you want to set up your camp'. And as it all turned out, they came over and they set up camp by Big Sky."*

After the four hundred plus firefighters were settled into their new base camp, Kukpi7 Ron approached Neville with an offer to host a ceremony to welcome them all to Skeetchestn's territory:

> *"I invited Wayne Christian, our [Shuswap Nation Tribal Council] Tribal Chair, as well as Terry Denault, my Councilor and myself, and I said 'well we're going to go down there and welcome them, after they got their camp all set up, we'll go down there and do a welcome and an honour song. And tell them why it's important, the work that they're doing is important.' And so we did that, first we said we're going to have a smudge ourselves, and before we do our opening prayer to do our welcoming, explaining what we were trying to do, and we started our smudge. I was first, and then Wayne Christian and I think maybe Marshall [Gonzalez] and Terry. And then all of a sudden a whole long line of firefighters was lined up to be smudged as well!"*
>
> – FORMER KUKPI7 RON IGNACE, SKEETCHESTN INDIAN BAND

When asked about this experience, Neville said *"I get goosebumps just talking about it. And I'm going to tell you, whether you believe it or not, I'll tell you exactly what happened"*. After going on to describe the 'welcome ceremony' and 'smoking (smudging) ceremony', Neville then spoke, in amazement, of how:

> *"...there wasn't a single injury with four hundred personnel. Now statistics normally on a fire line would say that we would have ten or a dozen injuries and some reasonably severe. And yet there wasn't a single injury. The next thing that gives me goosebumps, is there wasn't a single drop of rain forecast for anywhere in British Columbia, and the following night we had thirty or forty mil of rain, just on our fire, and nowhere else in British Columbia. Now, whether you choose to believe that or not, that's up to you. I still get goosebumps talking about it, thinking about it...It was the most powerful, unbelievable, life changing experience I've ever come across!"*

This move to Big Sky was the start of a strong working relationship between Neville Anderson and Skeetchestn (described further in the section below). However even before this, Skeetchestn's fire watchers and natural resource staff were regularly assisting BCWS and other government agency staff with evacuations and navigating the mountains and valleys of their territory:

> *"We had daily run ins with the firefighters out in the territory and some of the times they were trying to look for a road or looking for better access into certain areas. And we'd assist them as best as we could. They were very grateful every time we got to sit down and meet with them."*
>
> – COUNCILOR MARSHALL GONZALEZ, SKEETCHESTN INDIAN BAND

> *"We were showing people around the territory, they didn't know the road systems, you know? Making sure that they could get in and out of these areas to warn people that they're under evacuation alert. There's a lot of places that people live out in the back that we know where they are, a lot of these, either RCMP or these natural resource officers didn't know where to go. So that's what our role was, to make sure that they did. Our crews were here to make sure those evacuation routes were free and clear of people, we mapped them out we informed the community of this, in case of an evacuation here's where you need to go. If you can't get out to the south then here's how you get out to the north, and where you're going to end up."*
>
> – DON IGNACE, SKEETCHESTN NATURAL RESOURCES

Despite certain personnel or crews within BCWS and other government agencies appreciating input of local knowledge, almost all Secwépemc people and staff we spoke to felt that the knowledge and expertise within their communities was overlooked, to the detriment of the wildfire response.

"We did our opening prayer, we did our welcoming, and we did an honour song, and then we explained to the firefighters the significance and the importance of that mountain. That that was our breadbasket that fed us. Hihium Lake, it's the fish up there that fed us, and Loon Lake. We hunted and we picked our sxusems and our berries and got our medicines up there so it's really significant and important that we protect that mountain as best we can. And after we did the ceremony, the prayer and the welcome song and explaining about our history on this land, going back ten thousand years, I noticed a mood among the firefighters. A dramatic shift in the atmosphere, when we first got there it felt like three or four hundred firefighters individually there to do a job, to put down a fire. But after we finished that, it felt like there was a team spirit that gelled amongst the firefighters."

– FORMER KUKPI7 RON IGNACE, SKEETCHESTN INDIAN BAND

THE IMPORTANCE OF LOCAL AND SECWÉPEMC KNOWLEDGE

The 2018 *Flood and Fire Review* noted widespread frustrations that Indigenous and local knowledge were not effectively incorporated into firefighting efforts. This was highlighted by many people we spoke with, and was seen as a particular issue when bringing in crews from out of province or country:

> *"You know they had firefighters from Australia they had firefighters from Mexico they had them from Ontario, they had them from Nova Scotia, they had them from just about everywhere else except this part of BC. So none of these guys know the resources that are available, know the land, know the patterns, and I was trying to tell them that 'hey, if anybody knows the land, knows where the roads are, knows where the heavy brush is, it's these guys at Skeetchestn. And of any of these guys at Skeetchestn that knows that, it's the guys that hunt for a living, because they have to know that.'"*
>
> – MIKE ANDERSON, SKEETCHESTN NATURAL RESOURCES

Through her role as a fire watcher Sam Draney witnessed first-hand the challenges faced by these crews who didn't know the land, and the impacts this had on firefighting strategies:

> *"We actually had really minimal contact with BC Wildfire until they caught us {laughing} is basically how I see it. Chief and Council told them we had representatives out there. But we just never had any contact with them. Until I think we were on the Back Valley Road and we found one of the head guys kind of lost, and Darrell Peters, he talked with him and he showed him roads and stuff and they really latched on to Darrell then for his knowledge of how to access the area. You could tell it was somebody that was just thrown on the land and they had no idea where they were, how to get there, the fastest way to get there. They were punching in guards and making these new roads to make it around when they had fairly driveable roads, like roads we were driving every day."*
>
> – SAM DRANEY, SKEETCHESTN NATURAL RESOURCES

As one of these out-of-country firefighters – having flown halfway around the world from the mid-north coast of New South Wales, Australia to the interior of BC – Neville Anderson was acutely aware of the importance of tapping into local knowledge to inform suppression tactics and fire containment strategies. Speaking of his working relationship with Skeetchestn members, in particular Darrell Peters, he emphasized how they were:

> *"…an enormous, enormous help to the strategies deployed and so on, and they were able to describe to me the unique weather system, how that valley system and the cliffs creates its own breeze pattern, they told me that the weather forecasts can predict one direction of wind, but it's not applicable in their valley system, the valley system directs its own winds."*

Despite their lack of 'formal' (provincial government accredited) fire knowledge or training, and the lack of formal systems to integrate community representatives into BCWS's command structure, Neville viewed Mike Anderson, Darrell Peters and Kukpi7 Ron as:

> *"… a very intricate part, important part, of what I saw as the Incident Management Team for that fire. Darrell's knowledge of the fire trails and the lay of the land and where you could actually attempt to put in containment strategies and so on. That was extremely valuable. And I would hope that future Incident Management Teams in that area in particular would adopt a lot more of that local knowledge."*

When speaking with other BCWS staff who were deployed on the Elephant Hill wildfire, we raised the question as to how these forms of local knowledge could best inform operational decision-making, and what value they saw in engaging with local communities. One BCWS Wildfire Officer highlighted the importance of working with community representatives to facilitate evacuations:

> *"I would think that for evacuation planning, local knowledge is essential…maybe the easiest example is a First Nations community, they all know everybody and they know everybody's circumstance, they know their abilities and their limitations and their desires to leave. There's no way you could evacuate a First Nations community without liaison type roles being filled."*

Another Incident Commander acknowledged that *"they've (First Nations) got some of those kind of fine details on the ground that we don't have... so those kinds of things you definitely want to bring into your operational plans, just like any good intel"*. However, when prompted to consider local knowledge around local weather patterns, topography or access, he also said:

> *"Local knowledge to me not so much what you just mentioned. You know, we (BCWS) have people that live in those areas too. We've got people that have lived in the area for twenty, thirty years as well...local knowledge to me is where {pauses} there is some sacred ground, somewhere that is sacred to that particular group."*

These seemingly contradictory statements – recognizing that First Nations hold fine scale local knowledge of their territories that should be utilized, while restricting 'local knowledge' to sacred cultural knowledge – reflect a broad lack of understanding of the diverse knowledges and expertise that Indigenous communities can offer, and a limited view of what local or 'Indigenous knowledge' comprises: both knowledge of access routes or skills with heavy machinery, gained through years of living and working in their territory, and 'traditional' knowledge and practices related to fire and living cultural heritage.

For Neville Anderson, his time at Big Sky and with Kukpi7 Ron and others from Skeetchestn prompted him to reconsider agency definitions or priorities of 'values' to protect:

> *"The most significant asset to European people is their home. Their home is sacred. Now, I'm not convinced that the home to Ron would be as important as some other sites...here in our Rural Fire Service, our aim is to protect life, property and the environment, in that order. So, life of course will always remain number one priority. Property comes second, and then the environment is a distant third. Now, this is where we need to learn from First Nation people that property and the environment are not near as far apart as what we've always believed, as a firefighting organization...[the helicopter flight with Ron] changed my appreciation of the importance to our response."*

Despite comments such as these, the overall experience of Secwépemc communities in 2017 was one of not being listened to, and seeing their territory burn – in their minds – as a result:

> *"The way the wind was going it would never head towards Clinton. The only way it did was they did some back burns and let it cross the Bonaparte River. Because I knew exactly where it was going to come out on the Chasm Road, that's where I would have put in the firefighters. But I didn't have a say in it at the time. Then when I did get out there, it crossed right where I thought it would. You know, understanding the terrain, I think people like us would have been a help to them. Give them advice. But we had no opportunity for that."*
>
> – STEWART FLETCHER, HIGH BAR FIRST NATION

> *"I kept hearing that over and over again, 'had you come to our community we would have been able to help you. We have people with local knowledge that could have helped you'. I think that was the biggest concern and issue, is there was this level of arrogance on the province's side that said, 'we are the professionals, we know what we're doing. We don't need your help. Oh and by the way we're going to bring in all these other people that don't live in our country'. Apparently BC Wildfire felt they knew more than our local communities and First Nations peoples did when it came to fighting a fire in our area. I truly feel that the lack of communication and engagement is the main reason this fire became the size it did."*
>
> – ANGIE KANE, SECWEPEMCÚLECW RESTORATION AND STEWARDSHIP SOCIETY

> *"It's just a disrespect for on the ground knowledge it's a disrespect for traditional knowledge, it's a disrespect for First Nations' connection to the land*

> *"They wouldn't send a crew into somewhere 'cos they couldn't see the access road or the egress road. Well, our guys could have told them that, 'cos they know the ground. Or they go and set up a pump a mile away from a pond that was sitting out in the bush kind of thing that they could have been using. 'Cos they don't know the ground. They don't know the winds. They set a fire up, a backburn up on the way to Clinton, and they set the thing at one o'clock or two o'clock in the afternoon, about the time that the winds change. You talk to any First Nation hunter he'll tell you when the wind changes, cos he has to know that to make his living. So what happened is the wind changed and it jumped highway 97 and another five or ten thousand hectares burned. So that's the importance of local knowledge. It's just a disrespect for on the ground knowledge it's a disrespect for traditional knowledge, it's a disrespect for First Nations' connection to the land."*
>
> – MIKE ANDERSON, SKEETCHESTN NATURAL RESOURCES

And as Neville Anderson cautioned:

> *"The further we get away from local knowledge, with over-trained younger people, the more of that local knowledge we're losing or not using to its potential."*

It is important to recognize that these experiences continue to dominate community perceptions of fire agencies and agency willingness to engage with First Nations, despite many BCWS staff we spoke to emphasizing the importance of working with First Nations to inform wildfire response and the changes that have been made since 2017 (see Chapter 11).

Photo credit: Paul Simakoff-Ellims

3 KEY FINDINGS

3.1 2017 was 'unprecedented' both in terms of area burned and in terms of the demand placed on firefighting resources. This led to a reactionary approach, often focused on facilitating tactical evacuations and protecting structures, as well as poor changeovers between Incident Management Teams/ agency staff.

3.2 BCWS staff acknowledge that engagement with First Nations happened too late, if at all. Support for or engagement with First Nations was inconsistent and largely driven by individual agency staff.

3.3 There was no explicit expectation (from BCWS) on Incident Management Teams to collaborate, and a hesitancy from operational staff to seek input from Indigenous or local communities.

3.4 Despite the Wildfire Response Agreement signed in April 2017, anecdotally these jurisdictional boundaries (i.e., between provincial 'Crown' land and Indian Reserves) posed a barrier to agency response and fire suppression support within First Nations communities.

3.5 Secwépemc communities drew on their collective expertise and capacities to actively protect their communities and territories. This came in the form of 1) on-ground fire suppression both within and in proximity to reserves; 2) activating community emergency plans and emergency operations centers; 3) conducting fuels mitigation around infrastructure; 4) fire watcher programs; and 5) providing support for agency response.

3.6 Secwépemc pride in their ability to protect their communities often contrasts with a (perceived) lack of support or recognition from government agency staff.

3.7 There was widespread frustration that Secwépemc knowledge of fire and their territories (e.g., access/ egress routes, local weather patterns, significant values on the land base) as well as local or First Nation contractor expertise was ignored or disrespected, thereby hindering effective wildfire response. This created a strong mistrust of BCWS that persists to this day.

CHAPTER 4

‘We didn’t want to see the mountains logged bare’: Priorities for land-based recovery

IMPACTS TO THE LAND AND COMMUNITY WELLBEING

The impacts and costs of the 2017 wildfires are often spoken about in numbers that are almost too impossibly large to make sense of: over half a billion dollars in suppression costs; over a million hectares burned; 502 structured lost; years of timber harvest destroyed.

These economic impacts – particularly the direct and indirect consequences of the impacted timber supply – were highlighted by both Secwépemc community members and provincial government staff:

> *“Whispering Pines’ replaceable license got burnt up.”*
>
> – DARCY LEBOURDAIS, SECOND PASS FORESTRY & WHISPERING PINES/CLINTON INDIAN BAND

> *“Just chalk it up as economic opportunity lost. For everybody up there right? Because most of the bands up there have FCARSAs (Forest Consultation and Revenue Sharing Agreements) I think, and the revenues from those are going to go down for the next ten years, forty years, eighty years even because there isn’t the timber up there to be harvested any more, it’s all just going to rot. So the economic impacts probably haven’t been seen yet but they’ve started for us for sure.”*
>
> – TANNER LEBOURDAIS, SECOND PASS FORESTRY & WHISPERING PINES/CLINTON INDIAN BAND

> *“How are those little towns supposed to survive when the mill shuts down, like in Clinton? And there’s no midterm timber supply and the mill shuts down and it’s like, what other industries does that community have to rely on to keep people there? And think of the devastation when you’re working in a small town and your employer shuts down, the whole town shuts down.”*
>
> – BRAD LITKE, BCWS

But for many Secwépemc community members we spoke to, this doesn’t even begin to capture the deep and lasting impacts the Elephant Hill wildfire continues to have on their land and on their individual and collective wellbeing.

While the rehabilitation of disturbances caused by fire suppression activities themselves – in particular, the construction of fireguards throughout the landscape – is key component of wildfire rehabilitation and recovery activities (see Chapter 6 and 7), these impacts are often not captured in media reporting or highlighted in public or policy discourses. Provincial range staff spoke of how BCWS would *“bury our fence lines with guards”* or would *“burn off from the guard on the wrong side”* and burn the fence.

However, fences can be rebuilt; archaeology sites are irreplaceable. Despite the availability of data on many of these sites and efforts from community staff to communicate information to BCWS, this was often ignored:

> *“Bert William, from the Bonaparte band, informed some BCWS staff that there was a very high value archaeology site that he had advised us not to disturb. But the advice was ignored, and we spent tens of thousands of dollars to rehab that site…And I just looked at that and thought, you know, we have this information, it’s registered in the system. Why would we put blades down when there were other options in that area? It was frustrating for me that we had the information, and we didn’t use it.”*
>
> – KEN CONWAY-BROWN, BCWS

The impacts to community members of damaging an archaeology site were highlighted by one former staff member from Stswecem’c Xget’tem First Nation, who told us how:

Photo credit: Tim Hawkins

> *"Chief Patrick [Harry] described the cultural loss of destroying an archaeology site as something that damages your connection to the ancestors and has potentially real-life spiritual consequences to yourself as a person and your community. So, that needs to be taken really seriously."*
>
> – GEORGINA PRESTON, FORMERLY WITH STSWECEM'C XGET'TEM FIRST NATION

Reflecting on the ecological impacts of the fire, one research scientist from FLNRORD highlighted how the 'devastation' from the fire itself was compounded by the significant drought experienced throughout 2017:

> *"It was going to be a huge kick to our, well, everything. Carbon, timber supply, reforestation. 2017 was not only the year of the Elephant Hill wildfire but it was also the most significant drought that we had ever had here. So newly planted stands, basically from under a year to three years, were killed outright by the drought as they were killed by the fire. And then stands up to twenty, thirty years, suffered both in the fire and drought. Anything from a hundred percent annihilation to scattered mortality."*
>
> – FLNRORD STAFF

This widespread tree mortality, on top of existing impacts of forestry activities in watersheds such as the Bonaparte and Deadman Rivers, has contributed to ongoing impacts to communities such as Bonaparte and Skeetchestn. Both communities have experienced significant flooding and landslides since the fires. In 2018, a major landslide on Bonaparte's IR2, right at the western boundary of the fire, resulted in one woman losing her life. These hazards are just some of the long-term impacts of wildfire, and managing or mitigating these impacts are part of the long-term recovery process. Ron Ignace often speaks of water and fire as being interconnected, as two sides of the same coin: both can be agents of renewal, but both can be equally destructive:

> *"Now, we have, I think six huge freshets right into fall in the Deadman River here. Which is totally unusual. And we'd normally have maybe one or two in the spring, and that would be it. But every time there's a big rainstorm, it doesn't stay in the mountains. There's no water left in the mountains, there's nothing to hold it back, to control it. So the mountains are turning, becoming bone dry."*
>
> – FORMER KUKPI7 RON IGNACE, SKEETCHESTN INDIAN

"I think that the government needs to understand the impact of this fire on our territories…that is our sustenance, that is our backyards, that is our livelihoods that we'll never see again… our plants, and our foods, and our medicines, and our culture, and everything that is being completely destroyed by the fire…it has huge social, cultural and economic impacts to us, like 70% of our traditional territory is burnt… it is about our rights as Indigenous people living off the land…we don't have the resources to go hunting anymore, our waters are contaminated, our fishway has blown out, so Bonaparte in every way has been impacted with our right to occupy and use the land… And I don't think that that is taken seriously enough, because we manage our lands for generations and generations, and we have a hundred and ninety-two thousand hectares of complete devastation."

– JENNY ALLEN, BONAPARTE FIRST NATION

Nodding onion (L) and spring beauty (R) harvested within the Elephant Hill wildfire area. Photo credits: Joanne Hammond/Skeetchestn Natural Resources (L), Sarah Dickson-Hoyle (R)

Despite the significant impacts of the 2017 fires to land and property (and the fatal landslide in 2018), this season is spoken of as resulting in no loss of life. However, as Bert William emphasized, countless wildlife lost their homes and their lives, and it is the role of Secwépemc people to *"speak for those that can't speak for themselves"*. Jenny Allen also spoke of *"the brothers and sisters out there on the land that have lost their lives and their habitat"*. This reflects the widely held view amongst Secwépemc community members who we spoke to, that official statistics and reporting on wildfire impacts don't fully recognize the impacts of these fires to Indigenous cultures, economies and ways of life.

> *"We're tied to the land. When you walk across the land, walk across here, you feel the people who were there before you*

For Secwépemc people, the health of the land is intricately connected to community health and wellbeing – not only in a physical sense, but also culturally, mentally and spiritually. As Kukpi7 Ryan Day later emphasized to provincial leaders, Secwépemc wealth and wellbeing is dependent upon the land. Bert William (Bonaparte First Nation) spoke in greater depth to this intimate and longstanding connection he and other Indigenous peoples feel with the land and their territories:

> *"You know I try to tell some people, non-Natives, that we're tied to this land right here. This is home. This whole country's our home. They all say 'well, why can't you go here?' You know, that's somebody else's land over there…they know their land. It's not my land. That's not me. This is where I belong…Where I understand it…That's what people don't understand…. one time it meant everything, it meant life or death. That's what people always said, we're tied to the land. When you walk across the land, walk across here, you feel the people who were there before you."*

Multiple Secwépemc community members spoke of how the fires, on top of drought, destroyed important medicine harvesting sites, and described having to travel further to find key medicine plants. However, particularly after the wet summers of 2018 and 2019, others also observed plants growing that they had never seen before, or the forest understory *"exploding with healthy, culturally valued Indigenous plants that I haven't seen like this in 20 years"*.

The Elephant Hill wildfire also burned through two of Bonaparte's seasonal fishing camp reserves at Loon Lake and Hihium Lake. In one meeting a Bonaparte community member spoke about how the loss of these campgrounds has impacted their ability to sustain important cultural and ceremonial practices. These impacts have been ongoing; Sam Draney, from Skeetchestn, highlighted how ongoing flooding, road closures and the presence of danger trees continue to block their access to fishing at Hihium.

Stewart Fletcher conducting cultural heritage surveys within the Elephant Hill wildfire area. Photo credit: Sarah Dickson-Hoyle

With a second record-breaking wildfire season in 2018 and another 1.3 million hectares burning, communities throughout the province experienced two years in a row of heavy wildfire smoke. For many Secwépemc community members this impacted their ability to get out on the land and access foods and medicines that are vital for sustaining community health and wellbeing:

> *"Vast portions of the traditional territory had been on fire for two summers in a row. We have been choked out, no one's been able to get outside and enjoy nature or get out on the land recently... summertime is usually when people usually take advantage of being out on the land and gather medicines, and berries, fishing and hunting...and just passing on cultural teachings by being out on the land with youth. Especially for people who had health issues, like Elders and knowledge keepers were more prone to having underlying health issues. They didn't want to be out breathing in the smoky air, they probably couldn't be out walking in the smoky air for long periods of time. That was really hard for people."*
>
> – GEORGINA PRESTON, FORMERLY WITH STSWECEM'C XGET'TEM FIRST NATION

Even for community members who were able to get out hunting the following year (in 2018), the fires continued to impact their food supply. Melanie Minnabarriet (Assistant Natural Resource Manager, Bonaparte First Nation) told us:

> *"I know people who hunted the following year, one of my cousins got a deer and its lungs were completely black. Really unhealthy wildlife. So that affects your harvest, and your year of meat."*

Many people also spoke about the psychological impacts of experiencing this wildfire season – as one District staff said: *"when there's a fire of this magnitude...it's traumatic, peoples' lives are impacted, their psyches are impacted"*. For people like Bert William, who stayed home while people around were evacuating, the impacts of the fire – from thick smoke to the feeling of being abandoned by authorities – were compounded by recent health issues:

> *"My condition was – you know, I was having all kinds of problems with it. Trying to deal with the stroke thing and I was dealing with this at the same time. It really just about broke you sometimes. Sometimes you just feel so alone and so lost."*
>
> – BERT WILLIAM, BONAPARTE FIRST NATION

Jenny Allen (Bonaparte First Nation) fought back tears as she described the very personal and lasting impacts of the fire for her and her family – impacts that are obscured through statistics such as 'structures lost':

> *"I was personally affected by the 2017 Elephant Hill wildfire because my great grandparents' house was the only one that burnt down. And my mother had to be rescued by High Bar First Nations band members – she was left there as the fire was ripping through. She can't drive so yes, she is lucky to be alive. And then of course they closed the highways down and wouldn't let my sister through to rescue my mom… my mother she is completely traumatized from this, every time she smells smoke, or she sees fires…So as you can tell it's a pretty traumatizing experience."*

Other Secwépemc field staff we spoke to described the impacts of having to work in the fire area, constantly surrounded by blackened, dead trees, in the months and years following. Bert William spoke of the powerful and spiritual feeling being amongst the tall, quiet forests around their reserve at Loon Lake, and the devastation at seeing it now all burnt and logged. This feeling was echoed by Stewart Fletcher (High Bar First Nation):

> *"Once I got to go out and see some of the area that was burned it was – you know psychologically it was kind of hard to work in the fire, because it was so devastating in a lot of the areas…yeah, I'd say that was a big effect, just the devastation, you know it's going to be a long time before it comes back to what it was."*

For community members such as Don Ignace (Skeetchestn Natural Resources), these multiple and long-term impacts are just one more reason to push for Secwépemc-led restoration and stewardship of their territories:

> *"I think that we're still trying to realize those impacts, as time goes on… we are still out hunting, our natural resource department now goes out and gets medicines…I mean those kinds of things people have to travel further for, or different areas that they don't know of for medicines and food and things like that. We're still realizing the impacts of it, even today. So, you know the impacts were large, and that's why it's so important to protect what else we've got left here."*

SECWÉPEMC CONCERNS AND PRIORITIES FOR LAND-BASED RECOVERY

As the fires were finally declared out in the fall of 2017, the provincial government and Secwépemc communities faced an even greater challenge of how to move forward with both community and land-based recovery. As one District staff put it, *"going through the fire was actually the simple part of this whole journey…the hard part started after the smoke settled"*.

For communities who had been evacuated, the first priority was getting their community members back safely and supporting their community's recovery:

> *"Well, we were pretty exhausted, right afterwards. Our emergency operations centre was trying to figure out how are we going to re-enter our community and make sure everything was fine. Our re-entry plan, things like that."*
>
> – DON IGNACE, SKEETCHESTN NATURAL RESOURCES

At the same time, both provincial government and community staff were raising concerns about the potential post-wildfire impacts to an already sensitive and vulnerable landscape. One Secwépemc staff at the time heard many of these concerns from community members:

> *"The biggest things I remember hearing initially were loss of hunting opportunities, food sources… and impacts to water, like water quality and water quantity, flooding, landslides, all of those issues were the key problems. And to try to stop further impact to that. There was [also] a lot of concern about how salvage harvesting would worsen or impact those, or how hunting pressure could worsen impacts to wildlife, and how ATVs could worsen on the ground recovery."*

Jenny Allen (Bonaparte First Nation) also highlighted the safety concerns of leaving fireguards open for recreational use:

> *"When you're putting in those fireguards you're going to have people that are using them, but they are not roads they are fireguards, they are unsafe, so your safety [concerns for] the community even goes up further."*

Another immediate priority was mitigating the risk of erosion, flooding and landslides that was exacerbated by the land being *"scarified from fire"* and the disturbance caused by hundreds of kilometers of fireguard:

> *"Every month this ground is opened up, there's a chance of a slide, and somebody being killed, and all those dangers and risks."*
>
> – ROB SCHWEITZER, BCWS

Looking forward, community staff – in particular Registered Professional Foresters (RPFs) and those who had witnessed first-hand the impacts of the mountain pine beetle salvage – began to anticipate the forthcoming push from the forest industry and provincial government to 'salvage harvest' burnt forests. While Secwépemc communities varied in terms of their approach to, or desired involvement in, salvage operations, a shared priority was being involved in both decision-making and economic benefits, and being able to shape the future reforestation:

> *"We didn't want to see the whole mountain logged bare and didn't want to see it all planted down to a pine plantation which is probably what the general course of action would be…Because in our mind, what they've done to this territory over the years is they've taken it from a natural forest and turned it into a big pine plantation, that's what they were in the process of doing. It's not necessarily to the benefit of Skeetchestn, it's to the benefit of the logging companies. We didn't want to see that happen again."*
>
> – MIKE ANDERSON, SKEETCHESTN NATURAL RESOURCES

These concerns – about being excluded from decision-making, and about government and industry leading business-as-usual approach to post-fire salvage – provided the catalyst for Secwépemc communities to advocate for a new approach to wildfire recovery.

Photo credit p.47: Paul Simakoff-Ellims

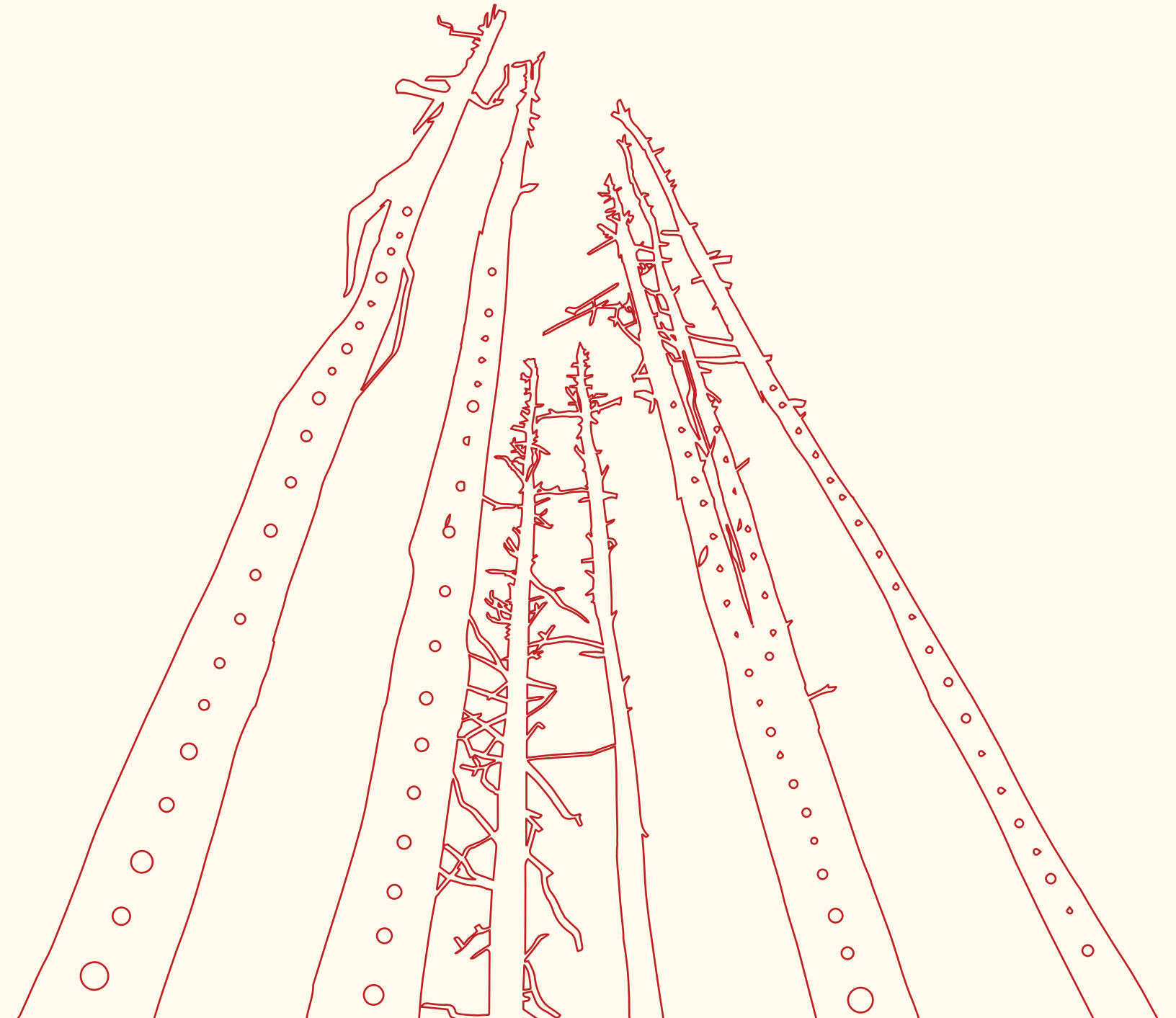
4 KEY FINDINGS

4.1 Secwépemc health, wealth and wellbeing are dependent upon the land.

4.2 The Elephant Hill wildfire caused deep and lasting impacts to Secwépemc territories and communities' cultures, economies and ways of life that are not adequately captured in reporting or recognized by governments.

4.3 The back-to-back 2017 and 2018 wildfire seasons negatively impacted Secwépemc peoples' abilities to get out on the land. This limited access to traditional foods and medicines, as well as abilities to practice and pass on cultural traditions, that are vital for sustaining community health and wellbeing.

4.4 Initial Secwépemc priorities for land-based recovery included protecting and restoring fish and wildlife habitats and populations; mitigating hazards such as flooding and landslides; managing recreational and hunting access; and reducing the impacts of post-fire salvage. Above all, the priority was ensuring Secwépemc leadership in decisions that would affect their territories, as well as supporting community economic recovery through involvement in recovery activities.



PART 2

The joint process of wildfire recovery

"I saw an opportunity for us to come together. We just knew that this was a vulnerable ecosystem. And so…we just decided. We just decided that there was a greater thing that needed to happen here

– FORMER KUKPI7 RYAN DAY, BONAPARTE FIRST NATION

CHAPTER 5

‘We knew we had to work together’: Catalyzing a new approach

DRIVERS OF COLLABORATION

Mega-fires transcend boundaries, territories and disciplines

With evacuees dispersed across the province and smoke descending south to Vancouver, the ‘mega-fires’ of 2017 challenged the idea that forests and wildfires can be controlled within arbitrary and overlapping provincial jurisdictions.

At 192,000 ha, the Elephant Hill wildfire burned across multiple boundaries and territories: two Fire Centres and two Regional Districts; two FLNRORD Natural Resource Regions and Districts; and the territories of multiple Indigenous communities and Nations.

While many people spoke of the incredible challenge of managing and rehabilitating a fire of this scale, others looked on it as an opportunity to pursue a different approach to land-based recovery:

> *“There was an opportunity, given that something rather significant had happened over the territories of a number of Nations…to really do things differently than what we’ve done in the past.”*
>
> – DOUG LEWIS, STEWARDSHIP EVALUATION FORESTER, FLNRORD – RESOURCE PLANNING & ASSESSMENT BRANCH

> *“It led to some of the interesting discussions and challenges we had because of the crossed borders, from a government perspective. And then obviously the crossed borders of traditional areas of First Nations as well. That was one of the exciting opportunities with this…it was one of the first of its kind approaches taken to this, where we just stepped back and said, there’s 150,000 hectares damaged here, and it’s everything from wildlife to plants to water quality to fisheries to everything, not just trees. How can we do things differently?”*
>
> – ROB SCHWEITZER, BCWS

Within the provincial government there was also a recognition that addressing the wide-ranging impacts of this fire required drawing on multiple areas of expertise and bringing together industry and different levels of government (including First Nations):

> *“I think FLNRORD, our management, licensees and First Nations were aware that it’s time and there was just a need that there had to be this collaborative approach. It was a big event affecting livelihoods, forests, a lot of different things. And it was also realized early on that it was a multi-disciplinary approach that was needed from geomorphologists, hydrologists, to reforestation folks, even bug people like me.”*
>
> – FLNRORD STAFF

Another provincial government employee we spoke to mentioned a *“level of frustration within government around our ability to direct what happens on the landscape”* (specifically in terms of forestry and salvage processes that often follow large-scale wildfires and other disturbances such as beetle outbreaks) and recognized the need to *“do something a little different”* to avoid these errors of the past.

The Elephant Hill wildfire also cut across the territories of eight Secwépemc communities. However, the vast majority of the fire was centred in Bonaparte’s traditional territory. Together with Kukpi7 Ron Ignace, Kukpi7 Ryan Day reached out to neighbouring Secwépemc communities, whose territories – to varying degrees – had all been directly impacted by this fire. Ron Ignace described this process of bringing the different communities together, saying:

> *"We had meetings to look at how we could deal with the Elephant Hill wildfire. We started meeting and calling in the communities from Skeetchestn, Bonaparte, High Bar, Clinton and Dog Creek and Pavilion. And at first everybody was talking about 'well, we need this job, or we'll do this ourselves, this community, we'll do this in this area'. And I said: 'well, wouldn't it be better if we worked together?'"*

For Ryan Day, this was a critical opportunity: to set aside the boundaries and barriers imposed on Indigenous Nations through colonization and work together to lead the recovery and restoration of their territories:

> *"The biggest problem in Indian country is coordination. We could have more clout in what we're doing but there's always a coordination problem. And that's a result of the Indian Act and colonization…The way our land was split up, the way the election cycles are, how it defines what your citizenship is, our communities deal with a lot of different problems. So you have to come together, one way or another. And because the fire was so catastrophic, I saw an opportunity for us to come together and work together. And what we were able to do was kind of set aside any boundaries or whatever else, we just knew that this was a vulnerable ecosystem. So we need to work together regardless. And so, we just kind of {pauses} we just decided. We just decided that there was a greater thing that needed to happen here."*

For many Secwépemc community members and staff we spoke to, coming together was about more than capturing the opportunity presented by the fire and the shifting political pendulum at both a federal and provincial level; it was a necessity to have their voices heard:

> *"We knew we had to work together, to get anything done. And to even be dealt with, I think seriously. I know with the feds pushing for the Truth and Reconciliation thing it really pushed the province to deal with us, I think that was really helpful."*
>
> – STEWART FLETCHER, HIGH BAR FIRST NATION

UNDRIP, reconciliation and political change

While the scope and scale of Elephant Hill itself was driving new forms of collaboration within and between governments and communities, the 2017 wildfire season also came at a time when broader political changes and issues were converging to drive a new approach to working with Indigenous peoples.

In 2016, the federal Liberal government officially removed its objector status to the *United Nations Declaration on the Rights of Indigenous Peoples* (UNDRIP)[8], almost a decade after it was formally adopted by the UN General Assembly in 2007. This announcement to adopt and implement UNDRIP followed the 2015 release of the final report of the Truth and Reconciliation Commission[9], which identifies UNDRIP as the framework for reconciliation across all levels and sectors of Canadian society. Then in May 2017 BC held a provincial election, and in July 2017, as the Elephant Hill wildfire was burning, the BC New Democratic Party formed government (ending 16 years of BC Liberal leadership) and committed to implementing UNDRIP.

Numerous provincial staff highlighted this change in government, and the new mandate of implementing UNDRIP and advancing reconciliation with Indigenous peoples, as a key driver for collaborating with Secwépemc communities on wildfire recovery:

> *"What drove it? I mean the biggest thing I would say was that there was an acceptance of the UN Declaration of Rights within government that suggested that we would do things differently."*
>
> – DOUG LEWIS, FLNRORD – RESOURCE PLANNING & ASSESSMENT BRANCH

While Secwépemc leaders recognized the opportunity presented by these political shifts and record-breaking fires, there was a strong sense of frustration that change was only possible in the wake of disaster.

8 United Nations Declaration on the Rights of Indigenous Peoples. September 2007.

9 Truth and Reconciliation Commission of Canada. 2015. What we have learned: principles of truth and reconciliation.

In 2016, the Government of Canada endorsed the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and committed to its full and effective implementation.

In December 2020, the Government of Canada introduced legislation to implement the Declaration. On June 21, 2021, Bill C-15, the *United Nations Declaration on the Rights of Indigenous Peoples Act* received Royal Assent.

UNDRIP recognizes the urgent need to respect and promote the rights of Indigenous peoples, including rights to self-determination and to determine and develop priorities and strategies for the use of their lands or territories. This inherently includes priorities and strategies for land-based recovery and restoration.

Land-based recovery is interconnected with the protection and revitalization of Indigenous cultures, economies and territories. Implementation of UNDRIP requires upholding Indigenous rights and decision-making authorities in this context, as supported by the following Articles:

Article 3

Indigenous peoples have the right to self-determination. By virtue of that right they freely determine their political status and freely pursue their economic, social and cultural development.

Article 11

1. Indigenous peoples have the right to practise and revitalize their cultural traditions and customs. This includes the right to maintain, protect and develop the past, present and future manifestations of their cultures, such as archaeological and historical sites, artefacts, designs, ceremonies, technologies and visual and performing arts and literature.

Article 18

Indigenous peoples have the right to participate in decision-making in matters which would affect their rights, through representatives chosen by themselves in accordance with their own procedures, as well as to maintain and develop their own indigenous decision-making institutions.

Article 20

1. Indigenous peoples have the right to maintain and develop their political, economic and social systems or institutions, to be secure in the enjoyment of their own means of subsistence and development, and to engage freely in all their traditional and other economic activities.
2. Indigenous peoples deprived of their means of subsistence and development are entitled to just and fair redress.

Article 24

1. Indigenous peoples have the right to their traditional medicines and to maintain their health practices, including the conservation of their vital medicinal plants, animals and minerals.

Article 25

Indigenous peoples have the right to maintain and strengthen their distinctive spiritual relationship with their traditionally owned or otherwise occupied and used lands, territories, waters and coastal seas and other resources and to uphold their responsibilities to future generations in this regard.

Article 26

1. Indigenous peoples have the right to the lands, territories and resources which they have traditionally owned, occupied or otherwise used or acquired.
2. Indigenous peoples have the right to own, use, develop and control the lands, territories and resources that they possess by reason of traditional ownership or other traditional occupation or use, as well as those which they have otherwise acquired.
3. States shall give legal recognition and protection to these lands, territories and resources. Such recognition shall be conducted with due respect to the customs, traditions and land tenure systems of the indigenous peoples concerned.

Article 29

1. Indigenous peoples have the right to the conservation and protection of the environment and the productive capacity of their lands or territories and resources. States shall establish and implement assistance programmes for indigenous peoples for such conservation and protection, without discrimination.

Article 32

1. Indigenous peoples have the right to determine and develop priorities and strategies for the development or use of their lands or territories and other resources.

Greg Crookes, former Natural Resource Manager at Bonaparte First Nation, highlighted the fact that:

> *"It had to take tragedy essentially for the government and communities to all come together. And it shouldn't have had to be like that right. The government should have been taking more notice of the First Nations, First Nations should have had a bit better say, the government should have been giving First Nations a bit more money to help come to them to co-manage."*

Reflecting on what it took to establish what would eventually become the Elephant Hill Wildfire Recovery Joint Leadership Council (see Chapter 6), there was a sense of resignation in former Kukpi7 Ryan Day's voice when he acknowledged that:

> *"You know, so much had to happen in order to set that table up. There had to be a catastrophic fire, there had to be a change in government, people had to be fed up with Christy Clark's [BC Liberal] government, and all the lobbying to get UNDRIP recognized and then the mandate letters from [Premier John] Horgan. All this stuff had to happen in order to get a table created in a compromised position."*

Advocating for Secwépemc leadership in wildfire recovery and restoration

Within the window of opportunity for change created by a record-breaking wildfire season and the changing social and political landscape in BC and Canada more broadly, it was the strong leadership from within Secwépemc communities – in particular, of Kukpi7 Ryan Day and Kukpi7 Ron Ignace – that was the driving force behind collaborative wildfire recovery. This leadership was widely recognized by many people we spoke to; as Rob Schweitzer put it, the 'exciting opportunity' was largely due to *"Chief Ron (Ignace) and Chief Ryan (Day), because of their clout, the level of respect that people had for them and their approach."*

On September 6 and 7, 2017, as the Elephant Hill wildfire was still burning and numerous communities were still under evacuation alerts, provincial and First Nations leaders descended on Vancouver to attend the fourth annual BC Cabinet and First Nations Leaders' Gathering. Standing behind a podium marked with the words 'Rights, Respect, Reconciliation', newly elected Premier John Horgan delivered his opening remarks. After acknowledging the 'profound impacts' of the 'worst fire season in BC's history', he highlighted his government's direction to Ministers to 'embrace and implement UNDRIP' and recognize 'without question' the rights and title of Indigenous peoples in BC.

In the midst of these meetings, Ryan Day, Ron Ignace and other Secwépemc leaders hand delivered a letter to the Premier (included in Appendix 2). In this letter, signed by the elected Kukukpi7 (Chiefs) of eleven Secwépemc First Nations[10] of the Secwépemc Nation, Ryan Day wrote of the devastation this fire had caused to Indigenous lands, communities and economies. Together, the Secwépemc Chiefs called on the provincial government to action its commitment to reconciliation by "not mak[ing] any decisions on this land; forest, range, water or wildlife; without engaging with us…as the true caretakers of it – *yucminmenkucw*", and by "supporting the Secwépemc Peoples' leadership in the regeneration of the ecosystem affected by the Elephant Hill wildfire in the months, years and decades to come". As Ryan Day would later say, *"reconciliation means First Nations people doing the work to recover the land"* and this letter – and the response that followed – laid the groundwork for the work that was to follow.

Rachael Pollard, who at that time was the District Manager of the Thompson Rivers Natural Resource District (DTR), remembers *"THE letter"* well. She was already in contact Kukpi7 Day, having started to build a relationship over the course of the fire, and recalls speaking with him about this letter. In tracing what came next, Rachael said:

10 Bonaparte, Skeetchestn, High Bar, Whispering Pines/ Clinton, Esketemc, Simpcw, Neskonlith, Adams Lake, Splatsin, Shuswap and Tk'emlúps te Secwépemc

L–R: Former Kukpi7 Ryan Day (Bonaparte), former Kukpi7 Ron Ignace (Skeetchestn), Rachael Pollard (FLNRORD – DTR) and Rob Schweitzer (BCWS) after a helicopter flight over Elephant Hill. Photo provided by Rob Schweitzer

> *"So what happens in government is when some official correspondence comes in, it goes into the central correspondence system and then it gets delegated to someone who is involved with the work to draft a response. So the letter came to me. We didn't know how government wanted to proceed or how best to respond. Finally, I drafted the reply we hoped government would make – committing to the collaborative work and then waited to see if this approach was endorsed. And it was! The response was sent shortly after by the Minister and that gave us our mandate to really dive into the work."*

As was Ryan Day's hope and intention in drafting this letter, it – and the formal response that followed (Appendix 3) – provided a strong direction to the Ministry's regions, Districts and agencies like BCWS to collaborate with Secwépemc communities on wildfire recovery. Rob Schweitzer (BCWS) told us how this letter established the support and expectation for BCWS' involvement in the joint recovery process that followed:

> *"It really got precipitated by Chief Day's letter to Premier Horgan saying, in a very respectful way but in a very well written way, that we expect more. Our livelihood and our traditional use of the area's considerably impacted. They very clearly linked it back to, in their words, the mismanagement of the natural resource leading up to that point. It was less about the fire than the mismanagement of that land. And that was kind of the precipice for the land managers in this Ministry to say, 'we're being asked and being supported by broader government to take a different approach'."*

However, the process of 'working together' had actually begun before *THE* letter was delivered to the Premier and well before the response from the Minister was penned. Rachael Pollard, who in her role as District Manager (DTR) had existing relationships with Secwépemc community staff such as Mike Anderson, recalled one particular meeting held late in that summer of 2017:

> *"Mike [Anderson] and I were out for coffee… and it was like 'god what are we going to do? This is really big'. So he said: 'well you just gotta pull people together', so I said: 'okay well let's just pull people together'…So me and Chief Ron and Chief Day and Rob Schweitzer went on a helicopter flight and we flew over the fire and looked at the whole thing, and I think it was quite emotional actually. Because when you're up there you see the vastness. And really for Bonaparte, I would say that Bonaparte was the most deeply impacted community just right in the heart of their territory, the biggest percentage of their territory burned. And so we came back, the flight was over we went and sat at a picnic table and shared a lunch of BC Wildfire camp food, and said: 'okay, well I guess we'll just do this together then. We don't really know what it's going to look like, but let's just find a way to do it together.' And we all agreed to that."*

This helicopter ride was described to us, on multiple occasions, as the start of the Elephant Hill Joint Leadership Council (Chapter 6): the moment when then Kukpi7 Ron Ignace highlighted the importance of 'walking on two legs', drawing on both Indigenous knowledge and western science. For Rachael Pollard, this informal agreement to work together as two levels of government (provincial and First Nations) was key. But as she went on to say:

> *"Ultimately, when questioned about why we were doing this, it helped to remind people there was a letter from the Premier… And again, while that wasn't our reason for starting – because we wanted to do it anyhow – it gave us something to tell people when they said 'why the heck are you doing this?' The response then gave us something to hold onto, that we at the provincial level were doing the right thing."*

COMING TOGETHER: EARLY EXPERIENCES AND CHALLENGES

On October 13, 2017, less than one month after the final Evacuation Alert was rescinded and two weeks before Minister Doug Donaldson issued a formal response to the letter from Secwépemc Kukukpi7, leadership and senior staff from Secwépemc communities, FLNRORD and BCWS came together at Skeetchestn to identify wildfire recovery funds and resources to support First Nation led recovery. This meeting marked the first step in the process of bringing communities and governments together, and of beginning to navigate the challenges of building trust, understanding roles and responsibilities, and coming to a collective vision of joint leadership in wildfire recovery.

Attending this first meeting were Kukpi7 Ryan Day (Bonaparte), Kukpi7 Ron Ignace (Skeetchestn) and Kukpi7 Steve Treisera (Whispering Pines/Clinton), supported by Councilors and senior natural resources staff such as then-Councilor (now Kukpi7) Darrel Draney (Skeetchestn), Chelsea Enslow (Bonaparte) and Mike Anderson (Skeetchestn). From the province: District Managers Rachael Pollard (Thompson Rivers) and Pat Byrne (100 Mile House), as well as Ted Zimmerman (Director of Resource Management, Thompson Okanagan Region) and Cliff Chapman, who was then serving as the Deputy Director of the BCWS Kamloops Fire Centre.

Recalling this first meeting, one provincial government manager told us:

> *"The initial meeting was set up, I remember that one pretty vividly actually…It was the first conversation and yeah, we took it on the chin pretty hard. They had a lot of critical feedback, for government. And basically [they] told us they were done letting us figure out how to properly manage their resources. And that they were going to step in and take over and do it differently."*

While acknowledging the challenging nature of these initial conversations, one community's natural resource manager felt that allowing this space for Secwépemc leaders and community members to express the anger and emotions that they were still experiencing was a critical first step in laying the foundation for joint recovery:

> *"A lot of the Chiefs had a LOT of frustrations with the province. And there were some people who worked for the province who weren't super excited to hear that, which is fair. But for the most part, they just kind of were like, 'yeah, okay. I get that. I see your experience and I hear that', and I think even if it's not something that you necessarily agree with, sometimes people need to just have their voice heard. And you don't have to say like, 'yes I agree with that, 100% with what you're saying'. But from both the side of the communities and from one community to each other, to say 'yeah, okay, I hear you. You needed to say that. And maybe it's on topic maybe it isn't, but clearly just to get to the point where we can work together you had to say that to me, and that's okay'. So there was a lot of that at the beginning."*

However, in their opening remarks of that first October meeting Kukpi7 Ron Ignace and Kukpi7 Ryan Day went beyond this immediate hurt and the impacts of the fire to speak to their vision for advancing Secwépemc rights, title and government-to-government relationships; the foundation, as they saw it, for wildfire recovery and stewardship in their territories. Kukpi7 Ron highlighted the Sir Wilfred Laurier Memorial (a document presented to Prime Minister Sir Wilfrid Laurier by a delegation of Chiefs from the Secwépemc, Nlaka'pamux and Sylix Nations in 1910[11]) as a foundation for how to *"move forward and build our relationship on more amiable grounds and the generosity of our ancestors"*.

Both Kukpi7 Ron and Kukpi7 Ryan spoke to the ongoing impacts of colonialism on Secwépemc governance institutions and social structures, and the necessary challenge of rebuilding the Secwépemc Nation based on Secwépemc laws, language and ways of understanding. In the words of Kukpi7 Ryan: *"We are at a place where we have to start dreaming of a different future beyond the models we have grown up with. Not just sharing resources 50/50 but world views and creating a new reality."*

Yet soon after these opening remarks, the conversations shifted to the 'nuts and bolts' of recovery. One of the first questions raised related to the various mandates and responsibilities for wildfire recovery (described further in Chapter 6 below). Amidst these discussions, this meeting and those that soon followed were characterized by a broad lack of trust – in each other, and in the process overall:

> *"At the leadership table, at first I think that there were the usual comments about opportunities, rights and title, economy and multiple values…the usual statements when voices need to be heard. But as the discussion wore on we decided to focus on the land together, so we're here, and that perspective allowed us to pivot towards a common goal. And we're going to have a nice lunch {laughs} which traditionally allows us to ingest shared information. So, we were definitely not in that ethical space at first but that common goal allowed us to work toward that."*
>
> – FLNRORD STAFF

> *"I guess when I got involved, there was a lot of skepticism of okay, are we actually here to make decisions or are we being sat in a room and shown what's going to happen and we're expected to leave quietly after that?"*
>
> – DAVE HORNE, FORMER REHABILITATION SUPERVISOR, BCWS

Bert William (Bonaparte First Nation) recalled attending one of the first meetings and the drive to ensure his community was involved from the start; and, at the same time, a feeling of having to really push down doors with the provincial government for this to happen:

11 Memorial to Sir Wilfred Laurier 1910.

THE MEMORIAL TO SIR WILFRED LAURIER

From the Chiefs of the Shuswap, Okanagan and Couteau Tribes of British Columbia

In the summer of 1910, Prime Minister Sir Wilfred Laurier set out across the country on a "non-political" pre-election campaign tour. On August 25th he stopped in Kamloops where he was met by a delegation of Chiefs from the Secwépemc, Nlaka'pamux and Syilx Nations, who greeted their guest with an unequivocal message…The Interior Chiefs asserted the persistence of their Aboriginal Nations' title and sovereignty over their respective territories, vowing that they would continue to struggle for a just and reciprocal relationship with the government until it was achieved.

The Memorial is a historical document that demonstrates the involvement of the Interior Nations in pressing for title, rights, and sovereignty in the early twentieth century. It is also a historical narrative in itself, which tells the story of the previous hundred years of relations with European newcomers from the Aboriginal point of view. The Memorial charts the first contact with fur traders (*seme7úw'i* or "real whites") and the ensuing fur trade period, throughout which Aboriginal people maintained control of their land and resources. It then documents the arrival of miners, the laying out of large reserves, and the continual curtailment of Aboriginal rights as more and more settlers poured into the land.

It also reflects Interior Aboriginal Peoples' continued and consistent traditional concepts around being the hosts in their lands, and the reciprocity that the host-guest relationship entails. It underscores the Aboriginal concepts of land ownership and tenure, Aboriginal political authority, and sovereign relations with the Crown and government.

> *"When they first came among us, there were only Indians here. They found the people of each tribe supreme in their own territory and having tribal boundaries known and recognized by all. The country of each tribe was just the same as a very large farm or ranch (belonging to all the people of the tribe) from which they gathered their food and clothing, etc., fish which they got in plenty for food, grass and vegetation on which their horses grazed, and the game lived, and much of which furnished materials for manufactures, etc., stone which furnished pipes, utensils, and tools, etc., trees which furnished firewood, materials for houses and utensils, plants, roots, seeds, nuts and berries which grew abundantly and were gathered in their season just the same as the crops on a ranch, and used for food; minerals, shells, etc., which were used for ornament and for plants, etc., water which was free to all. Thus, fire, water, food, clothing and all the necessaries of life were obtained in abundance from the lands of each tribe, and all the people had equal rights of access to everything they required. You will see the ranch of each tribe was the same as its life, and without it, the people could not have lived…*
>
> *With us when a person enters our house he becomes our guest, and we must treat him hospitably as long as he shows no hostile intentions. At the same time we expect him to return to us equal treatment for what he receives. Some of our Chiefs said, "These people [white settlers] wish to be partners with us in our country. We must, therefore, be the same as brothers to them, and live as one family. We will share equally in everything half and half in land, water and timber, etc. What is ours will be theirs, and what is theirs will be ours. We will help each other to be great and good."*

Excerpts from: 'Shuswap Nation Tribal Council. 2010. The Memorial to Sir Wilfred Laurier – Commemorating the 100th Anniversary, 1910-2010'.

> *"It wasn't without a great deal of effort from our part. Going to the door, knocking on the door all the time saying: 'wait a minute guys, how come we're not there?'… It was so new to the government and everybody. They didn't know how it was going to look, who was going to do what. But we knew at the start that we had to be involved. Our territory, our land. But I think they (the provincial government) were so scared at the start to lose control, to give up control…[it's like] they're behind their door locked in there, and like 'oooh I don't know, I take care of that! That's my thing'…each department trying to take control of it all…And in the end, it was sort of opening doors and everybody had to meet together… this thing was beyond them, it was beyond everybody."*

As these meetings continued throughout the fall and into the winter of 2017/2018, more Secwépemc communities and their leadership were brought in. Once again, Kukpi7 Ryan Day played a key role in bringing neighbouring communities together and ensuring Bonaparte's active involvement and leadership throughout:

> *"Our community Bonaparte is always really fighting for the land. Segments within our band. So, it was a no-brainer for me to spend that much time dealing with that. And we knew that we would have more clout if we were all together. So it was important to do that, and that's why I invested time in it. But also we felt that we were most affected by the fire, because it was mostly in the Bonaparte watershed."*
>
> – FORMER KUKPI7 RYAN DAY, BONAPARTE FIRST NATION

For Angie Kane, then at High Bar First Nation, it was important to support High Bar's Kukpi7 Larry Fletcher at these meetings to ensure their community's voice was heard:

> *"When Chief Larry Fletcher was asked to attend the meeting with the province and BC Wildfire and the other First Nation communities, we definitely jumped on board and were there…I guess the biggest thing for us was making sure that High Bar's needs and concerns were addressed. I had some meetings with some of the community members and their biggest concern was the impact of the fire on the salmon habitat and the wildlife… I wanted High Bar to be able to be represented and that their voice be heard, and that their concerns be brought to that table."*

This view was echoed by Stewart Fletcher, who became involved through his role as High Bar's manager of archaeology and cultural and traditional heritage:

> *"We wanted things to be different, because like I said in the past we were totally ignored. And really had no say in it, and we still see the devastation out there not only from the fire, but from them fighting the fire. And we didn't want that to happen again, we just tried to push for an actual recovery plan and to be involved in creating that recovery plan. It's just all to make things better."*

Photo credit p.59: Sarah Dickson-Hoyle

5 KEY FINDINGS

5.1 The scope and scale of the Elephant Hill wildfire – crossing multiple provincial jurisdictions and Indigenous territorial boundaries – combined with broader political changes and commitments to reconciliation created a window of opportunity for a new approach to recovery between the Province of BC and First Nations.

5.2 There is persistent frustration amongst Secwépemc communities that change could only occur following such widespread devastation.

5.3 Secwépemc Kukukpi7 (Chiefs) strongly advocated for Secwépemc leadership in recovering and restoring their territories in the months years and decades to come. A letter delivered to Premier John Horgan, and the subsequent response from the Minister of FLNRORD, provided support for this collaborative approach.

5.4 Allowing time and space for Indigenous leadership and community members to share their experiences and frustrations of wildfire response, and to acknowledge the significant impacts on communities, was a critical early step in establishing trust and openness to collaboration.

CHAPTER 6

‘Trying to put it back better’: Negotiating the scope and process for joint wildfire recovery

OVERVIEW

On the morning of February 5, 2018, after months of coming together to share concerns and priorities for collaborating on wildfire recovery, Secwépemc leadership and both Secwépemc and provincial government senior staff met to discuss the governance of the emerging government-to-government recovery process.

The minutes of that February meeting highlight key words raised by participants (who included elected Chiefs and Councilors from Secwépemc First Nations including Bonaparte, Canim Lake and Skeetchestn), such as ‘joint’, ‘visioning’, ‘operational’ and ‘leadership’. At this meeting, leadership also proposed creating a Secwépemc Nation-wide political table (e.g., with BC Ministers and Secwépemc Chiefs) to help advance higher level discussions and decisions (however, this was never fully realized, see Chapter 10). This meeting marked the formal establishment of the ‘Elephant Hill Wildfire Recovery Joint Leadership Council’ (JLC).

Only three weeks earlier, provincial government and Secwépemc natural resources, stewardship and other technical staff came together for the first time as a ‘technical committee’, driven by the pressing need to develop guidance for timber salvaging across the fire. This was the first meeting of what would later be formalized as the ‘Elephant Hill Wildfire Recovery Joint Technical Committee’ (JTC).

This Chapter describes the iterative and emergent process that arose from the early meetings of Secwépemc and provincial leadership, from negotiating the scope of ‘wildfire recovery’ to formalizing governance structures and processes that would guide the on-ground recovery.

NEGOTIATING THE SCOPE AND PRIORITIES FOR ‘RECOVERY’

Even at the first meeting in October 2017 the tensions between the broader goals of advancing Secwépemc rights and co-management of their territory on the one hand, and addressing the ‘acute needs’ of land-based recovery on the other, were becoming apparent.

In their letter to Premier Horgan, Secwépemc Chiefs called for *“the time of marginalizing Indigenous peoples in forest management [to] come to an end”* and for the provincial government to enact legislative and policy change to enable true implementation of UNDRIP through a *“new relationship with the Secwépemc”* that respects Secwépemc knowledge, experiences and rights to land. As such, for Secwépemc leadership at the table, this letter and their participation in wildfire recovery were about more than just the rehabilitation of a fire-affected landscape; it was about *“Secwépemc title…the fire is only a small subset of this issue”*. As then-Kukpi7 Steve Treisera (Whispering Pines/Clinton Indian Band) highlighted at that first meeting, *“we have a natural disaster that has hurt the land badly… [but] we can’t forget the path we are on, government-to-government, Nation-to-Nation…we know the direction we want to go, 50/50 [co-management]”*.

At the same time, Kukpi7 Ron Ignace and Kukpi7 Ryan Day recognized the need to get to the ‘nuts and bolts’ of wildfire recovery. This included minimizing impacts to ‘green timber’ and conducting archaeological surveys of fireguards before any rehabilitation. Below, we describe some of the key discussions that followed, and the process of coming to shared priorities for the recovery and rehabilitation of Elephant Hill.

Determining (limits to) mandate and authority

While BCWS is mandated to oversee wildfire management through various wildfire prevention, mitigation and suppression strategies on both Crown and private lands (outside of organized areas such as municipalities), and is the lead agency for wildfire response, the governance of wildfire recovery is far more complex. Understanding the decision-making authorities of the different provincial jurisdictions and representatives at the JLC was therefore one of the first major challenges faced.

Despite initial discussions as to whether there was a need to bring representatives from the Ministry of Indigenous Relations and Reconciliation (MIRR) to the table, given the issues of Aboriginal rights and title being raised, the provincial government's involvement at both a leadership and technical level primarily remained through the FLNRORD Regions and Districts. This was due to the fact that decisions regarding many activities that traditionally come under the umbrella of 'wildfire recovery', such as salvaging burnt timber or managing impacts to wildlife, come under these jurisdictions. In the first leadership meeting in October 2017, Rachael Pollard (FLNRORD – DTR) admitted that she didn't *"even know who is doing what yet…[it's] just being sorted out now"*.

From the perspective of BCWS, their role in wildfire recovery was largely defined by their provisions under the *Wildfire Act* to rehabilitate disturbances caused during fire suppression (such as the construction of fireguards), and to fund activities associated with this rehabilitation. For Rob Schweitzer (BCWS), this was both a fortunate and challenging position to be in:

> *"I was the one that was lucky enough to essentially be holding the pot of money…[but] it's tricky from where I sit because I don't approve the activities on the land base, or the prescriptions. I fund them. So in the role that I was in on that table from an authority perspective, it was more of a sit back, listen, and make sure that I could fund what we were talking about. Or, say 'no I can't and we're going to have to go to broader government or another funding source.'"*

However, he later acknowledged that BC's adoption in 2018 of the *Sendai Framework for Disaster Risk Reduction*[12] created a greater flexibility around what BCWS could fund in terms of rehabilitation and recovery. This framework highlights disaster recovery as a critical opportunity to 'build back better' by revitalizing community livelihoods and economies in a way that addresses disaster risk reduction and builds both environmental and social resilience.

Rob Schweitzer also described these early processes of understanding roles and building relationships as *"a lot of push and pull…[and] understanding who had what type of authority for who they were representing in that room"*. These 'push-pull' discussions were driven by a desire from Secwépemc leadership to know *"when to kick things upstairs"* and to ensure the decision-makers for both First Nations and the provincial government were at the table.

In the October 2017 meeting Pat Byrne (DMH) sought to clarify the role and decision-making authority of District Managers, explaining that *"we are statutory decision-makers, but our authority only goes so far – to localized and operational decisions, programmatic decisions"*. In the context of wildfire recovery, this authority includes issuing cutting permits (e.g., for salvage harvesting) and managing forest licenses within the respective Timber Supply Areas (TSAs); range management; and implementing area restrictions under the *Forest & Range Practices Act*.

In describing the limits to District Managers' authority, Pat Byrne further cautioned against mixing the Elephant Hill discussions with other high-level government-to-government processes and instead keeping a tight focus on recovering the wildfire impacted land base. These other processes include modern treaty negotiations between the Northern Secwépemc te Qelmucw (Northern Shuswap Tribal Council, comprising four northern Secwépemc communities including Canim Lake Indian Band and Stswecem'c Xget'tem First Nation that are both involved in Elephant Hill) and the Province of BC; and the Letter of Commitment between the Province of BC and seven Secwépemc community signatories (including Skeetchestn and Tk'emlúps te Secwépemc)

12 Sendai Framework for Disaster Risk Reduction 2015-2030

of the Qwelmínte Secwépemc[13] (QS) government-to-government table that is working to advance reconciliation and Secwépemc capacity and roles in land management and economic development.

However, others highlighted the role of District Managers and Directors of Resource Management as *"one of influence"*, that is, influencing Ministers' decision-making:

> *"Early on Pat [Byrne] and I tried to say 'look, there's going to be some things that you want, that are totally outside the scope of our authority'. And we all agreed to focus on the health of the land, as the most important thing. So we agreed, if there's something important to the communities that is outside the scope of our authority to do, instead of spending a bunch of our effort and not being able to satisfy anyone because we don't have the authority to do it, we will help connect you to the people that you need to talk to about that, we'll try and find ways to raise that…Because sometimes what happens is at our G2G tables we have these ongoing conversations about things that the people at the table are not able to do anything about and it's not satisfying and it's not productive."*
>
> – RACHAEL POLLARD, FLNRORD – DTR

These 'things' that were beyond the scope of FLNRORD Districts' jurisdiction, but that were a priority for a number of Secwépemc communities involved, included the provincial government permanently rescinding licenses for cattle grazing on 'Crown' land within the fire area and pulling back timber cutting permits from forest industry licensees to reduce the pressure on 'green timber'. One District staff spoke to the challenge of navigating these different expectations of recovery and the role of these tables, describing the 'tough conversations' that followed:

> *"We were being told by First Nations, 'cows are a problem, we don't want cows on our traditional territory'. And you know I was pretty frank at those meetings, I wasn't sugar coating anything, I wasn't trying to piss anybody off, but I was trying to be very frank about the fact that I don't have the mandate to take all the cows off your land base. Government has obligations with tenure holders. Longstanding obligations. And we can't just rip that out of their hands because you don't like cows on the land base. And that's a much higher-level conversation you're going to want to have with the Minister. He's the one that's going to own that decision, if that happens. We can't solve those kinds of problems at this table. We have to live with what we have and figure out how we move forward in a better way. And if it's how we manage cows differently, okay, that's a problem we can solve. Those were tough conversations."*

As outlined in Chapter 7, concerns about cattle were partially addressed by 'directed non-use' of grazing tenures for a set period of time after the fire to allow the land to recover. However, these concerns – as well as frustrations at limits to the mandate or authority of government officials at the table – continued to be raised by communities and were never fully resolved over the years to come.

Defining the meaning of 'wildfire recovery'

While the agreement between the provincial government and Secwépemc First Nations to work together on the wildfire recovery came early, the process of understanding and negotiating collective goals and an approach to 'recovery' continued long after that first October meeting. A key reason for this, as multiple people highlighted, was the fact that no one – either within the provincial government or Secwépemc communities – had ever been faced with the task of recovering from fire of this size, let alone working collaboratively within and between governments to do so. As one provincial government manager said:

13 https://www.qwelminte.ca/governance

> *"Initially it was what it was, it was organic. We didn't have a template or a model to work from. Or at least we weren't aware of one or we didn't go look for one. We just kind of sat at the table and listened and tried to figure out how to make it work going forward."*

Another government staff described these first meetings as:

> *"…really exploratory. It was like 'okay we received the letter saying that you want to be involved, tell us more. What does that mean to you? What do we do from here?' I would call it a storming kind of a phase, when you come together and everybody's trying to figure out 'okay, what is it you're looking for and what is it you can offer?' And it was a hodgepodge of people, it was people at my level, people at my District Manager's level, there were Chiefs at the table there were referrals staff and technical staff. We're all kind of in one big room, just talking. Trying to figure out what's the most important thing. Trying to figure out how we go forward and what forward is."*
>
> – MAHRUSA SHERSTOBITOFF, FLNRORD – DTR

This diverse group of people – from Secwépemc elected Chiefs to provincial government technical staff – held vastly different ideas as to what 'wildfire recovery' entailed. For some, 'recovery' was too broad a term; instead, they felt that they were actually focussed on 'rehabilitating' impacts to the land base caused by the fire and fire suppression activities:

> *"My definition is almost like the stabilization of the landscape…getting trees growing, getting soil stabilized, getting things stable again. There's some initial things that you need to do, from the man-made disturbances such as the fireguards, you can deal with those. Get those rehabilitated right away. Anything to me that gets the natural processes stabilized and going again is wildfire recovery."*
>
> – MARINA IRWIN, RESOURCE MANAGER, FLNRORD – DTR

> *"The wildfire recovery piece, I don't like that aspect of the name… rehabilitation is very much land based, what did we disturb through fire suppression related activities? And recovery is so much bigger than that. Recovery is not even just about the land base. It's about everything that had an impact, because of that massive wildfire. And I would say in this case we were pretty focussed on the land base."*
>
> – ROB SCHWEITZER, BCWS

BCWS staff explicitly acknowledged the fact that for them, 'wildfire recovery' was defined by BCWS's obligations under the *Wildfire Act* and *Wildfire Regulations*[14], in particular those relating to stabilizing and re-vegetating disturbed soils and drainage patterns:

> *"From my role it meant environmental safety and rehabbing the guards and safety areas and things like that. The steering committee had a broader approach because they were, again we were talking about seed mixes to apply…[and] the wildlife aspects of it."*
>
> – DAVE HORNE, BCWS

However, as Dave mentions above, other representatives at these recovery tables took a much broader view of 'wildfire recovery', encompassing restoration of ecological function and processes:

> *"In my mind I think of wildfire recovery in the sense of recovering the forest. A lot of times the other people that think about wildfire recovery are thinking about just rehabilitating the damage that was caused by the wildfire fighting. For me it's a much bigger thing."*
>
> – DAVID MAJCHER, FLNRORD – DMH

> *"Looking back on it now, what wildfire recovery means to me is any of the pieces of work that need to be done associated with restoring the ecosystem back to kind of pre-fire condition."*
>
> – FLNRORD STAFF

Yet this emphasis on restoring to a 'pre-fire' condition was seen by some as ignoring the broader context and history of landscape degradation in which the fire occurred:

14 Wildfire Regulation. Section 17 Rehabilitation if government carries out fire control.

> *"Quite frankly even without the fires, we've got a recovery problem to begin with. A lot of our management just focusses on species recovery, landscape recovery, already. And so this just added an order of magnitude of concern onto that."*
>
> – FLNRORD STAFF

Perhaps unsurprisingly, these diverse views on the meaning and scope of 'wildfire recovery' were strongly linked to peoples' roles (e.g., as rehabilitation coordinator versus stewardship officer) and 'expertise'; something acknowledged by a number of people we spoke to:

> *"It depends on the context of who you are talking to. [For the] Fire Centre, it might be until the fire is out, until the last smoke's gone. A rancher he can look at recovery and say when I get grass back. When I can get my cows out. Because they were shut out of the fires for a few years. As a forester I look at when I see trees growing back and I feel the ground is stable. I think hydrologists and engineers have a totally different perspective of what recovery is. Wildlife people the same. So I think for me it's a general reestablishment of the forest and its processes years after and there is different degrees of how you count that recovery."*
>
> – JOHN LISCOMB, STSWECEM'C XGET'TEM DEVELOPMENT CORPORATION

> *"If you're a biologist, then it's about increasing habitat values for ungulates and small mammals and birds. If you're a forester, and you want to develop a forest license for economic opportunities, you want to see some salvage and replanting operations, if you're an archaeologist you want to see things protected so it depends on who you ask. So what that looks like, yeah it's tricky. I think just rehabilitation, healing the land. But also seeing opportunities for communities to either protect the forest, and let it heal, or utilize the resources that are available."*
>
> – TANNER LEBOURDAIS, SECOND PASS FORESTRY & WHISPERING PINES/CLINTON INDIAN BAND

Wildfire recovery is about more than healing the land – it's also about supporting community and economic recovery. This once again speaks to the connections and interdependence between Indigenous peoples, cultures, economies and their territories, and the distinction between physical rehabilitation and broader ecological, social and cultural recovery.

This broader view of recovery was formalized into government policy when, in October 2018, BC became the first Canadian province to adopt the *Sendai Framework for Disaster Risk Reduction* and its principle of 'building back better'. When asked to describe what 'wildfire recovery' meant to her, Joanne Hammond (Skeetchestn Natural Resources) indirectly touched on this concept. While acknowledging the impacts of this fire on Indigenous livelihoods and ways of life, she also recognized that wildfires such as Elephant Hill offer both the challenge and opportunity to advance a more sustainable approach.

"[Wildfire recovery] means finding ways to substitute the opportunities that have been lost by the fire with more sustainable opportunities. Like logging, a community like Bonaparte lost vast amounts of income because of their reliance on forest industry because of the burn in their territory. So what do we do instead of that? How do we replace those opportunities? Also the opportunities for hunting and gathering in both the sense of as a traditional cultural practice that's integral to communities' cultural wellbeing, but also economic, right? If it takes now two tanks of gas to go somewhere to get your meat, how do we subsidize that? How do we support that? Or how do we offer an alternative way for people to make a living if the landscape is burned? And then presumably more opportunities that are a little bit harder to put your finger on based on landscape degradation. The inability of some of these forests to regenerate given climate change. The fire wiped out some of those opportunities that we didn't really question before."

– JOANNE HAMMOND, SKEETCHESTN NATURAL RESOURCES

The challenge of reconciling these diverse perspectives and coming to a shared understanding of what 'recovery' entails would continue to shape communities' and the provincial government's priorities for the joint process that followed.

Establishing priorities for recovery

From the outset, both Secwépemc and provincial government representatives highlighted the overarching goal of 'healing the land' and taking a 'stewardship lens' to all aspects of wildfire recovery.

For Secwépemc leaders such as Kukpi7 Ron Ignace, 'healing the land' also meant capitalizing on the critical opportunity presented by such widespread and significant fire impacts to address priorities for their communities, such as reducing the impacts of cattle on sensitive habitats and waterways throughout their territory (on 'Crown' land); understanding the impacts to, and promoting better management of, 'non-timber forest products' such as food and medicine plants; protecting and restoring riparian areas; reducing hunting pressures and restoring ungulate populations; and revitalizing cultural practices such as burning. In the eyes of community representatives (as well as some in the provincial government), these issues were all part of the cumulative impacts to this landscape and formed the broader context for land-based recovery.

The fire touched on all of these issues and more, and the biggest challenge was knowing where to begin:

> *"A fire of this magnitude gets put out in the fall, you're up against winter, [so] what do we do with this disturbed soil all across the landscape? Hundreds of kilometers of fireguard trail? If you don't do something with it, it's going to be in the creek next spring. And you don't want to take a road out and then next thing you put it back in to go get that pile of wood at the end. You don't want to leave the pile of wood, 'cos that's going to bring beetles. So it's just trying to get your head around the enormity of all those things that have to be done… there's a million different things, they all interact, and they all affect each other, and you've gotta figure out a place to start. And that can be such a daunting thing. So I think that it was just getting to that point where everybody was clear on what step one would be. This is a disaster, what do we do?"*
>
> MAHRUSA SHERSTOBITOFF, FLNRORD – DTR

> *"There is no right way of doing things and when catastrophic events like happen it takes everybody's input in order to [address it], because where do you start? That's the biggest thing, is where do you start? You're in panic mode."*
>
> – JENNY ALLEN, BONAPARTE FIRST NATION

By January 2018, the list of topics for discussion at the JLC and to address at a technical level had grown to include principles for reforestation (e.g., species selection and approach to reforesting non-salvaged areas); protecting key fish spawning habitats; streambank stabilization and erosion control; ground truthing burn severity; managing motorized vehicle access on burned areas; building capacity of First Nations to conduct burns and respond to future wildfires; regulating the anticipated morel mushroom harvest in burned areas; a moratorium on land sales around Hihium Lake (due to the view firefighting resources are diverted to protect lakeside cabins and structures); and, again, managing the impacts of cattle.

However, the first leadership meeting identified 'three takeaways' or immediate priorities: to rehabilitate fireguards (and conduct the associated archaeology), repair damaged highway fences to contain cows and prevent vehicle accidents, and develop guidelines for timber salvage to minimize harvesting of unburnt green trees.

Addressing public safety issues was paramount, and one of the first tasks was repairing highway fences to keep cattle from roaming on to the highway:

> *"There were some things like the highway fencing, we had to have some pretty hard conversations because ultimately if someone dies, because we're sitting around talking and can't figure out how to build a fence that keeps the cows out of the highway, that's on us."*
>
> – RACHAEL POLLARD, FLNRORD – DTR

> *"There was a lot of discussion about erosion issues. There had been those really severe floods that year [in 2017] and the year before, so that was at the top of everybody's minds, we just imagined that the next year would bring similar flooding, and that combined with the lack of forest cover was a real concern for everybody. So, getting out where possible and immediately starting to re-seed and identify places that were going to be issues for erosion control [was a priority]."*
>
> – JOANNE HAMMOND, SKEETCHESTN NATURAL RESOURCES

As highlighted in Chapter 4, multiple Secwépemc representatives also expressed concern about the direct impacts of the fire on wildlife and the potential for increased hunting pressures (e.g., due to increased ATV access along fireguards) to exacerbate these impacts. Due to these concerns, rehabilitating fireguards and implementing measures to restrict access and manage hunting within the fire area was also a priority.

For other Secwépemc staff and community members we spoke to, being involved in the recovery efforts brought other tangible benefits in terms of providing economic opportunities such as being part of salvage operations, while simultaneously fast-tracking reforestation:

> *"Finding someone to take out some of the dead trees before they weren't merchantable [was a priority]. Doing that was I think was a priority for the community, for not just economic gain but also restoration and thinking of danger trees and allowing for recovery to come back there. So I think that was a main priority for us."*
>
> – GEORGINA PRESTON, FORMERLY WITH STSWECEM'C XGET'TEM FIRST NATION

> *"We knew at the start that we had to be involved. Our territory, our land*

> *"Personally, our band is fairly economically driven, we're so small we need opportunities when they come. We wanted to see as much salvage opportunity as possible…to have seen more economic benefit in the short term, while at the same time being involved in the long-term management of that ecosystem, it comes with oversight… Being so small, we needed the harvesting to happen up there."*
>
> – TANNER LEBOURDAIS, SECOND PASS FORESTRY & WHISPERING PINES/CLINTON INDIAN BAND

However, Secwépemc involvement in the recovery efforts was about something much bigger than this: it was about asserting their rights in and stewardship over their territories. As Bert William put it: *"We knew at the start that we had to be involved. Our territory, our land"*. And early on, a priority area for Secwépemc communities to be involved in was archaeology.

At the very first meeting in October 2017, Kukpi7 Ron Ignace raised *"the need to talk about archaeology"*; specifically, for First Nations to lead archaeological assessments across the fire before any further ground disturbance occurred. Joanne Hammond (Skeetchestn Natural Resources) spoke about the importance of taking:

> *"…that opportunity that was presented by the fireguards in particular, to survey them. Because obviously as soon as they started talking about rehab, it became clear they meant to go back out to these fireguards and use heavy machinery to close over these wounds in order to reduce access and erosion and those kinds of things. Then Mike [Anderson] immediately put up his hand for the opportunity to go and look at the ground before that happened."*

The approach to and challenges of conducting archaeological assessments across such a vast area are detailed further in Chapters 7 and 10 (respectively). These challenges, in particular the cost of conducting field reconnaissance and potential archaeological impact assessments across the hundreds of kilometers of fireguards and fences,

were recognized early. Such assessments are part of conducting due diligence to avoid damage or alteration to heritage objects (e.g., archaeological artifacts) that are protected under the *Heritage Conservation Act*. But for Secwépemc communities, the need to be involved in archaeology went beyond meeting these statutory requirements: it was about mitigating the kinds of serious impacts associated with damage to archaeological sites that Georgina Preston mentioned in Chapter 2, understanding their histories and connection to land and culture, and asserting sovereignty over cultural heritage and within their territories.

Narrowing the scope: the 'three great goals'

Given these complex and divergent views of what 'wildfire recovery' should entail, a lack of established process as to how to approach recovery planning, and in the face of such a daunting task of recovering close to 200,000 hectares of burnt landscape, the leadership table soon agreed that there was a need to focus on addressing immediate concerns.

At first meeting in October 2017 Kukpi7 Ron Ignace acknowledged the need to step back momentarily from these larger issues and planning processes and, *"in urgency"*, come to agreement on how to *"deal with those acute issues"*. Others similarly described the *"sense of urgency"* dominating the initial meetings, which drove a reactionary approach where *"you just picked one [task] and started working on it"*. Despite a number of provincial staff raising concerns, in interviews, about the lack of longer-term planning (see Chapter 10), 'wildfire recovery' on Elephant Hill soon came to be defined by these immediate and tangible tasks of rehabilitating and mitigating further impacts to the land.

Over the following months, the 'three takeaways' from the first leadership meeting solidified into what became known as the 'three great goals' for the collaborative wildfire recovery efforts: salvage, fireguard rehabilitation, and range recovery (specifically, rebuilding fences on Crown range land), with archaeology forming a key piece underlying all three.

In describing the rationale for these three goals, Marina Irwin (FLNRORD – DTR) said:

> *"There were many pieces, so we said we're not going to be able to do it all. We don't have the resources we don't have the people we don't have the money, this isn't the Shangri La of wildfire recovery. What can we realistically do? So that's when we came up with the three great goals: fireguard rehab, range recovery, and salvage…[and] when the wildfire recovery rolled out, it was very specific, you have three years of funding for wildfire recovery. So that was the window to get those things done and I think that's why it was so important to go to the great goals because they were tangible things that could be done within three years."*

These goals were tangible in the sense that progress could be quantified: the volume of timber salvaged from burnt areas and the kilometers of fireguards rehabilitated or fences rebuilt. Chapter 7 presents an overview of the approach to and outcomes of each of these three goals/activities, as well as other core components of land-based recovery. Below, we summarize the key rationale behind each of these three goals.

Following wildfires, government and forest industries soon turn to discussions of 'salvage' harvesting i.e., harvesting burnt forests to reduce the loss of timber supply. One of the first priorities of the joint wildfire recovery tables was establishing principles to inform timber salvage across the land base and promoting strategic retention of trees in environmentally and culturally sensitive areas. This was described as a priority for both the provincial government (who, at the FLNRORD District level, approve salvage plans and issue cutting permits to forest licensees) and Secwépemc communities, who all expressed a desire to minimize further disturbance and promote reforestation:

> *"Developing the salvage principles [was a top priority]. It was a priority because the province knew that cutting permits would be coming in, applications would be coming in, and they have a certain reasonable amount of time before they can say yes or no to those. And there's a shelf life to the value of the wood. And for both the communities and the province, having something in place that was going to guide how those applications were presented so that the ecosystem was compromised as little as possible."*
>
> – FLNRORD STAFF

The need to develop guidelines for the forthcoming salvage (and the pressure from forest industry licensees to move forward with salvage operations) was a key reason behind bringing together Secwépemc and provincial government 'technical' staff (i.e., natural resource and cultural heritage managers and scientific staff). Numerous people recalled the first joint technical in January 2018: held in the Skeetchestn gymnasium, food was provided and a 'ceremonial song' was performed by children from the Skeetchestn community school. This meeting brought together 30 to 40 staff from Secwépemc communities and FLNRORD to collectively develop salvage principles and was described to us as a *"momentous kick off meeting, in a real true fashion of folks coming together"*. Despite the skepticism amongst some provincial staff about the possibility of coming to agreement on salvage principles in a single meeting, by the end of the day a set of principles had been drafted.

However, within and amongst Secwépemc communities (and even within government) there was a diversity of perspectives in terms of how much should be salvaged (or whether forests should be salvaged at all), and communities had varying levels of involvement in salvage operations. As such, there were different views on what a successful outcome of this 'great goal' should be, and it does not appear that clear targets were ever defined or agreed upon.

The second 'great goal' of rehabilitating fireguards was largely driven by Section 17 of the *Wildfire Regulation* ('Rehabilitation if government carries out fire control'). As such, this goal had a clear target of rehabilitating all fireguards constructed across Elephant Hill. In addition to these legal obligations, BCWS rehabilitation staff acknowledged the importance of addressing the risk of landslides (associated with increased runoff or other changed drainage patterns) or increased access for hunters:

> *"Controlling the water is the main reason we're out there [rehabilitating disturbance]. Another important reason is eliminating access and the pressure on the wildlife from hunters and people and the distribution of invasive species, because people are out there on quads. I believe this was an important issue for the communities, just trying to alleviate some of that hunting pressure."*
>
> – KEN CONWAY-BROWN, BCWS

The final 'great goal' of range recovery related both to allowing the ecological recovery of Crown rangeland (e.g., in terms of the regeneration of forage species and the stabilization of soils) and the rebuilding of fences and other range infrastructure across both Crown and private land that had been burnt in the fire. In addition to the safety concerns associated with burnt highway fences (i.e., cows roaming on to the highways), ranchers – many of whom are represented by the BC Cattlemen's Association – along with the BC Ministry of Agriculture and FLNRORD's Range Branch were concerned about the loss of access to Crown range land:

> *"The reason that Crown range is critical to all the BC ranches [is] there's not very many ranches that are big enough to house the livestock on private land year round. Producers need to have somewhere to put their livestock during the growing season to allow their fields to grow so they can harvest the hay and feed the animals over winter…But with the fires they had to put them on their hay fields. So they're not getting any hay, and it's actually wrecking their fields for the future too."*
>
> – FLNRORD STAFF

Despite the range of concerns and priorities, and diverse meanings of 'wildfire recovery' highlighted above, these 'three great goals' would end up defining much of the collaborative approach to wildfire recovery that was to follow.

GOVERNANCE AND DECISION-MAKING

Below, we provide an overview of the governance structure and approach to joint decision-making that emerged and that would come to guide collaborative recovery efforts across Elephant Hill.

However, two key points should be noted at the outset. Firstly, as the fire spanned two FLNRORD Resource Regions, the provincial government recognized the need to come to agreement as to how to work together across these boundaries. This resulted in the agreement within government, between the Directors of Resource Management from the Thompson Okanagan Natural Resource Region and the Cariboo Natural Resource Region, that the Thompson Okanagan Natural Resource Region would be the lead for land-based wildfire recovery within Elephant Hill. While the two Districts involved – DTR (in the Thompson Okanagan Region) and DMH (in the Cariboo Region) – maintained their established jurisdiction, such as issuing cutting permits or managing range licenses within their associated forest and range tenure areas, and *"tried to work on equal footing"*, the Thompson Okanagan Region *"had the latitude"* to shape that approach and push for consideration of multiple values, such as hydrology, fish or wildlife habitat, and cultural heritage. In the same vein, the Kamloops Fire Centre took the lead for BCWS on the Elephant Hill recovery.

Secondly, the fact that the provincial government and Secwépemc First Nations worked together on wildfire recovery for some time before developing a formal governance structure or Terms of Reference. Allowing these governance arrangements to emerge organically and being open to new possibilities of what this might look like was mentioned by many people as one of the key factors contributing to the success of the process (see Chapter 9). As Rob Schweitzer (BCWS) noted:

> *"It didn't evolve to a well-formed joint leadership council with the eight First Nation groups and different nations and all this overnight. It took some time. But it was those early conceptual conversations of not allowing us to hold back. And frankly, people in the room really speaking passionately about what the opportunity could be."*

The following sub-sections describe the governance processes and structures that emerged over the months and years following the Elephant Hill wildfire.

'Joint leadership' and consensus-based decision-making

As implied by the name, the JLC was defined by the concept of 'joint leadership'. In interviews, we asked people what this concept meant to them. For some, it was a recognition of the leadership roles and decision-making authorities held by both Secwépemc elected Chiefs and provincial District Managers:

> *"It wasn't just that we're generally working together, talking about stuff, it was the recognition that the Chiefs are leaders in their territories and they have that ability to make decisions for their own community. And the District Managers are also leaders in their respective roles."*
>
> – FORMER SECWÉPEMC COMMUNITY STAFF

Similarly, others highlighted joint leadership as a process whereby leaders come together to advance a shared goal:

> *"I would say it is that equal partnership where you're both going the same direction. You're both providing that leadership within government, within First Nations communities, saying we are standing up together, we're going to the same place. We may have some different ways and different lenses that we look at the how, how that gets done, and we may not agree on how that gets done. And that's okay. But as long as the end game is we're all trying to get to the same place, I think that's what the Joint Leadership Council does."*
>
> – MARINA IRWIN, FLNRORD – DTR

> *"Joint leadership to me means that a group of people that have one common goal in mind. I really like that terminology, joint leadership, because it's not just one person leading it's a group of people leading and a group of people working together for a better outcome."*
>
> – ANGIE KANE, SECWEPEMCÚLECW RESTORATION & STEWARDSHIP SOCIETY

For others, joint leadership was about going beyond statutory requirements of 'consultation' with Indigenous peoples and recognizing that while the provincial government has the formal mandate to *"lead across this province, we're not doing it on our own. We're doing it in partnership with First Nations peoples and local governments"*. One senior government official described joint leadership in the following terms:

> *"Government was very hung up on consultation and accommodation. That's what the courts had told us we had to do, and that's what we did. And then when UNDRIP and all that sort of thing was starting to come online, we realized that it doesn't always have to be that way. And then that's when we took advantage of a Joint Leadership Council, we're going to bring thoughts, decisions and ideas to this table, and we're going to talk about it. Not going to send you a letter and a map and say you've got thirty days to comment and go back and forth, because we don't have that time. And we actually won't get the outcome that we're looking for. Let's have a conversation, a collaborative conversation. So that's what it means to me."*

While ideas of what 'joint leadership' entailed varied, people were in agreement that both the JLC and JTC were established to facilitate these 'collaborative conversations' and decision-making at both strategic and operational levels of wildfire recovery. There was no formalized decision-making protocol defined for these tables beyond the fact that the JTC would provide recommendations to the JLC for ratification or endorsement. However, there was a general understanding that decisions were made by consensus:

> *"We made joint decisions that ranged from directing our technical tables, to actually statutory decisions we made with First Nation Chiefs. We decided to do it because we felt that we both had an interest in whatever the thing was, like say an off-road vehicle closure. And we worked together as a group over a period of time to make sure everyone was good with the direction moving forward. And we weren't going to sign it without everyone being in consensus about what we wanted to do."*
>
> – FLNRORD STAFF

> *"I think the process was essentially consensus based. Or maybe consensus minus one, we didn't have a terms of reference [at the start]...Looking back now, I know that some people from the province were not okay with some of the [salvage] principles, but I think they were relatively quiet about that at the time."*
>
> – FLNRORD STAFF

As noted above, even statutory decisions were made jointly between the provincial government and Secwépemc elected Chiefs. However, this did not change the fact that the provincial government representatives at the table were, under Canadian and BC law, the statutory decision-makers at the table. One senior staff from BCWS acknowledged this persistent imbalance of power, making the distinction between collaboration and 'shared decision-making':

> *"Joint leadership council to me means collaboration. Full collaboration. It doesn't necessarily mean shared decision-making...For me, and then this is my personal opinion, shared decision-making is fifty-fifty. You both have equal say, and equal decision-making opportunities and essentially veto. And that's why, at least in my mind I'm very careful when I use the term shared decision-making because I don't think it was shared decision-making, in this case. It wasn't legally, the legal framework is currently not there under the current policy and legislation."*
>
> – ROB SCHWEITZER, BCWS

However, Rob went on to clarify that in his mind *"I don't think it (shared decision-making) was needed here, and that's the beauty of it"*. Here, he is referring to the fact that while the provincial government still asserts jurisdiction over provincial 'Crown' land and holds final say over many of the decisions relating to wildfire recovery, he felt that the JLC was able to operate in a way that put this aside in agreement to work together and take everyone's input to make the best decision for the land base; a view shared by Rachael Pollard (FLNRORD – DTR):

> *"Ryan [Day] had said early on that one of the principles was 'we're just going to try and come to agreement'. So we're not going to fight the fact that we don't like that you're the statutory decision-maker. That's one of those things outside the scope of this process. We don't like it, but let's just try and come to agreement so that for all intents and purposes it's a rubber stamp. And we said 'yeah, sounds good. Let's try and do that'."*

Despite these general agreements about the importance of 'joint leadership' and pursuing consensus-based decision-making, some people we spoke to, particularly within the provincial government, expressed concern over the lack of clear mechanisms to promote timely decision-making – a challenge discussed further in Chapter 10.

Governance structure: the JLC, JTC and 'sub-committees'

The JLC brought together Chiefs of the eight Secwépemc communities directly impacted by the Elephant Hill wildfire to partner with District Managers of the 100 Mile House and Thompson Rivers Natural Resource Districts; the BC Wildfire Service Manager of the Kamloops Fire Centre; and the Director of Resource Management, Thompson-Okanagan Natural Resource District. From its inception, the JLC was co-chaired by then-Kukpi7 Ryan Day and Rachael Pollard (then the District Manager, DTR).

The second level of governance was the Elephant Hill Wildfire 'Joint Technical Committee' (JTC). As a distinct committee that sat beneath the JLC, the JTC comprised natural resources, stewardship and other 'technical' staff from the eight participating Secwépemc communities as well as from FLNRORD Regions, Districts and BCWS.

Grasslands above Cache Creek. Photo credit: Sarah Dickson-Hoyle

As outlined in the 'Elephant Hill Joint Leadership Council and Wildfire Technical Committee Terms of Reference' (ToR, see Appendix 4), first drafted in July 2018 and endorsed at a meeting of the JLC in October 2018, the role of the JLC was to:

guide the direction for Wildfire Recovery. The committee will act as a governing body over the Elephant Hill Wildfire Recovery process. The Joint Leadership Council will make decisions to be implemented by the Technical Committee.

In contrast, the JTC was established to:

make recommendations to inform implementation, monitoring and the development of operational plans to support wildfire recovery efforts.

Specifically, the JTC worked to:

- provide advice and recommendations to the JLC regarding wildfire recovery within the bounds of the Elephant Hill wildfire, and implement the decisions of the JLC;
- provide operational and technical expertise to develop recommendations, guidance, principles and strategies for wildfire recovery;
- review data and information from various aspects of wildfire recovery, including monitoring data and resource information linked to the land base (e.g., relating to range, wildlife, fisheries, water etc.); and
- guide and implement further monitoring, stakeholder engagement, communication and other recovery-related activities within or related to the Elephant Hill wildfire.

This distinction between the JLC as providing the strategic direction and oversight for recovery, and the JTC being the operational decision-makers and 'boots on the ground' implementors of recovery activities, was further described in the following terms:

> *"Joint leadership from the Indigenous perspective is about the Chiefs coming together in unity to deal with all of these [issues], because obviously our traditional territories have been impacted. So joint being working together and leadership providing the direction, on a government-to-government level…And then the joint technical is the boots on the ground, the technical skilled people that actually go out there and do the work…[and the] planning and coordination."*
>
> – JENNY ALLEN, BONAPARTE FIRST NATION

This separation of the leadership and technical tables was seen by many as central to effectively working together to achieve the goals of wildfire recovery (see Chapter 9). As one government manager said: *"we really wanted to make sure that there was a clear distinction between political conversations and then operational, actually dealing with fire recovery"*. Rachael Pollard (FLNRORD – DTR) also recalled Kukpi7 Ryan Day's *"really strong vision of First Nations technicians being out on the land, with their iPads, doing things… that yecwmín̓men role"*.

From the inaugural meetings of the JLC (October 2017) and JTC (January 2018), these tables met frequently – often every month – at different locations (but often at the Bonaparte First Nation band office or the FLNRORD offices in Kamloops). This continued until early 2020, when the Covid-19 pandemic disrupted face-to-face meetings.

In addition to these government-to-government meetings, natural resource and cultural heritage staff from the participating Secwépemc communities frequently met to align their perspectives and reach consensus on key decisions. Following the establishment of the SRSS in early 2019, in July 2019 this 'First Nations Technical Table' set a standing monthly meeting – a practice that is ongoing at the time of writing. We heard how District staff similarly met (within and between Districts) to align their views prior to joint meetings.

Throughout 2020, JLC and JTC meetings continued over virtual platforms (e.g., Zoom) on a less frequent basis, bringing provincial government and Secwépemc staff and leaders together to update and continue to collectively make key decisions for ongoing wildfire recovery.

The final component to the governance structure was what became known as 'sub-committees'. Given the scope and scale of work involved in land-based wildfire recovery, it was soon recognized that there was a need to establish more focussed working groups to advance specific activities and recovery goals. Between July and September 2018, the JTC established the following 'sub-committees':

- **ACCESS MANAGEMENT** (initiated July 2018), incorporating representatives from Districts, BCWS, and habitat, engineering and resource management specialists. Goal to develop access management principles and a strategy for road deactivation, including inventory of resource roads within Elephant Hill wildfire and surrounding area and planting trees along fireguards;
- **SILVICULTURE** (initiated July 2018). Goal to develop silviculture principles to guide reforestation within the Elephant Hill wildfire, including proposed reforestation activities, stocking standards and communication and engagement; and
- **COLLABORATIVE MONITORING** (initiated September 2018) to identify potential funding for collaborative/First Nations-led monitoring within the DTR and DMH and associated training needs, and establish monitoring priorities.

In April 2019, a fourth group was set up: the Douglas-fir beetle sub-committee, to guide monitoring and management of Douglas-fir beetle within the fire and adjacent areas.

These sub-committees were often referred to as the 'doers' or driving force behind these different aspects of wildfire recovery. Sub-committees brought together key technical staff and 'experts' (e.g., entomologists, RPFs or wildlife biologists) from both First Nations and the provincial government in a smaller core group focussed on a specific issue and tangible task. In this way, they were able to identify clear and measurable goals to *"get the work done faster"*. Everyone we spoke to about these sub-committees was strongly supportive of them and expressed hope they would continue and expand in scope beyond the Elephant Hill wildfire, becoming part of the everyday work of collaboratively making decisions and monitoring within Secwepemcúl̓ecw.

RECOVERY FUNDING AND ESTABLISHING THE SECWEPEMCÚL̓ECW RESTORATION AND STEWARDSHIP SOCIETY

By late 2017 it had become clear that a stronger funding commitment was required to support collaboration, strategic planning and joint implementation of land-based recovery activities. Pat Byrne (District Manager, DMH) met with the Indigenous relations advisor for the provincial disaster recovery branch, as well as other senior managers from FLNRORD, and impressed upon them the need to *"get out in front of the archaeology issue"* and provide funding to move this work forward. One outcome of this meeting was the allocation of $500,000 in wildfire recovery funding, from EMBC, to the Elephant Hill JLC and joint recovery. This funding was confirmed in a meeting of the JLC in January 2018.

From January to March 2018, the JLC met frequently to discuss the possible uses of and priorities for this funding. Pat Byrne's initial goal was to leverage this funding to conduct an 'archaeological inventory' for the fire and 'clear the deck' so they could move forward with activities such as fireguard rehabilitation and fence reconstruction that first required archaeological surveys. However, when this funding was discussed at the JLC it was framed as supporting strategic planning, prioritization and First Nations involvement in joint decision-making.

Communities and representatives from the Thompson Okanagan Natural Resource District and DTR also clearly stated that there would be 'no accommodation language' tied to the funding, and that it would support strategic collaboration rather than 'transactional' consultation. Upon reaching consensus to access this funding, the JLC then raised the possibility of using the funding to conduct a strategic cultural heritage and archaeological study. Kukpi7 Ron Ignace advocated for moving beyond a 'stones and bones' approach to archaeology to conduct a 'seasonal round' study, compiling existing information from Secwépemc communities to document historical and ongoing use of their territory.

In February 2018, the JLC met again to discuss principles and deliverables for the funding. Additional items included managing the anticipated morel mushroom harvest and developing a Declaration on the Understory (see Chapter 7). The minutes from this meeting list key priorities of developing strategies for understory restoration and management, and cultural heritage; supporting community participation and 'ground truthing'; and conducting a seasonal round cultural heritage study. However, these discussions soon shifted to the need to establish a 'vehicle' to manage (secure, hold and disperse) these funds. One outcome of this meeting was the proposal to create a society or limited partnership, and for Kukpi7 Ryan Day and Mike Anderson to assist with drafting a funding agreement.

On June 14, 2018, the 'Elephant Hill Initiative Agreement' (between the Province of British Columbia, and the eight participating Secwépemc communities) was signed by Kukpi7 Ryan Day. Key deliverables were:

- establishment of a designated entity (e.g., a society) to receive and manage funding;
- development of a work plan and priorities for land-based recovery;
- appointment of a resource manager by the JLC, to coordinate joint activities of the JLC and JTC;
- development of land-based recovery principles through the JLC; and
- implementation of the wildfire recovery plan by March 31, 2020.

In 2018 an additional $670,000 in funding was made available from the Canadian Red Cross to support on-ground recovery activities. This funded the design and implementation of the morel permit program (Chapter 7) with the remainder distributed to the participating Secwépemc communities to support establishment of territorial patrol (providing uniforms, iPads, truck decals etc., as well as short-term funding for staff time).

On February 13, 2019, the Secwepemcúl̓ecw Restoration and Stewardship Society (SRSS) was incorporated, and Angie Kane (former band, land and natural resource manager at High Bar First Nation) was hired as CEO, in a coordinator role. Since early 2019, the SRSS has continued to support collaboration between Secwépemc First Nations and the Province of BC on wildfire recovery, playing a key role in coordinating activities (e.g., archaeology surveys, monitoring) across participating communities. The SRSS continues to seek additional funding and support broader monitoring and restoration activities within the Elephant Hill wildfire area (see Chapter 13).

Photo credit: Tim Hawkins

6 KEY FINDINGS

6.1 There was a lack of clarity, both within Secwépemc communities and the provincial government, regarding the various responsibilities relevant to wildfire recovery. Understanding the mandates and decision-making authorities of the different provincial jurisdictions and representatives was an early challenge.

6.2 Secwépemc leadership experienced frustrations at the limits to authority of the provincial representatives at the table, and the lack of access to or involvement of higher-level decision authorities within government (e.g., Regional Executive Directors or Ministers).

6.3 There were diverse and often conflicting perspectives as to the scope and meaning of 'wildfire recovery' that shaped distinct priorities and approaches. These were never fully reconciled, leading to distinct concerns about either scope creep (on the one hand), or limited vision and long-term planning (on the other).

6.4 For Secwépemc Kukukpi7, 'healing the land' also meant capturing the opportunity presented by the wildfire to address interconnected community priorities and cumulative impacts to the land (e.g., associated with resource extraction and fire suppression).

6.5 Given these divergent perspectives and a lack of clear process for recovery planning, the Joint Leadership Council agreed to initially focus on immediate concerns of public safety and mitigating further hazards or impacts. This resulted in 'wildfire recovery' being narrowed to the 'three great goals' of fireguard rehabilitation, range recovery and salvage harvesting.

6.6 The Province of BC and Secwépemc First Nations began collaborating on wildfire recovery in the absence of any formal agreements. The governance structure of a Joint Leadership Council, Joint Technical Committee and focused sub-committees emerged organically over approximately 6-9 months.

6.7 The Joint Leadership Council provided strategic direction and acted as a governing body for recovery. The Joint Technical Committee provided operational and technical expertise to develop recommendations, guidance and strategies for wildfire recovery while implementing the decisions of the JLC.

6.8 There is ongoing and widespread support for continuing the sub-committees, and a hope that these will expand in scope beyond the Elephant Hill wildfire to guide the every day work of collaborative decision-making and monitoring in Secwepemcúl̓ecw.

6.9 From mid 2018, Elephant Hill wildfire recovery was supported by funding from Emergency Management BC and the Canadian Red Cross. EMBC provided $500,000 over three years, with the Secwepemcúl̓ecw Restoration and Stewardship Society initially established to receive and manage this funding, and to coordinate activities of the JLC and JTC.

CHAPTER 7

Wildfire recovery activities on Elephant Hill

OVERVIEW

Given the complexities and challenges of 'recovering' such vast impacts, the project of 'joint wildfire recovery' was soon narrowed down to focus on a defined set of relatively short-term (within three years) activities.

These comprised the 'three great goals' of fireguard rehabilitation, range recovery and timber salvage, and associated activities of:

- → Silviculture and reforestation;
- → Douglas-fir beetle management;
- → Access management (managing motorized vehicle access and hunting within sensitive areas);
- → Archaeology (conducting archaeological assessments prior to any further ground disturbance associated with salvage, fireguard rehabilitation or fence construction); and
- → Managing impacts associated with the 2018 morel mushroom harvest.

In this Chapter, we step back from the collective story of Elephant Hill to provide an overview of these wildfire recovery activities and outcomes across Elephant Hill.

To guide these activities the JLC and JTC created the following sets of principles, which were shared with forest licensees within the Kamloops and 100 Mile House Timber Supply Areas:

- Principles for timber salvage (Appendix 5)
- Principles for silviculture and reforestation (Appendix 6)
- Principles for access management (Appendix 7)

In addition, FLNRORD commissioned or developed a number of guidance documents including (but not limited to):

- 'Seeding of areas burned by wildfires'[15] (July 2017, Range Branch)
- 'Post-wildfire natural hazards risk analysis: Elephant Hill wildfire (K20637, 2017)' including detailed risk analysis and mitigation measures (December 2017, SNT Geotechnical)[16]
- 'Post-natural disturbance forest retention guidance'[17] (January 2018, Office of the Chief Forester and Resource Stewardship Division)
- 'Post-wildfire hydrologic concerns and recommendations for salvage logging in the southern interior'[18] (February 2018, Rita Winkler, FLNRORD)
- 'Douglas-fir beetle sub-group: guidance document'[19] '(September 2019, Lorraine Maclauchlan, FLNRORD))
- 'Small scale salvage program information package'[20] (September 2019, 100 Mile House Natural Resource District)

Links to these wildfire recovery documents are also collated in Appendix 8.

15 Range Branch, Ministry of Forests, Lands, and Natural Resource Operations. 2017. Seeding of areas burned by wildfires.
16 SNT Geotechnical. 2017. Post-wildfire natural hazards risk analysis: Elephant Hill wildfire (K20637, 2017). Report to the Ministry of Forests, Lands and Natural Resource Operations.
17 Office of the Chief Forester. 2018. Post-natural disturbance forest retention guidance.
18 Winkler, R. 2018. Post-wildfire hydrologic concerns and recommendations for salvage logging in the southern interior.
19 Douglas-fir beetle subgroup. 2019. Forest health objectives and tools for managing Douglas-fir beetle in conjunction with sanitation harvest.
20 100 Mile House Natural Resource District 2019. 100 Mile House Natural Resource District small scale salvage program information package.

Finally, a key project (yet one seen by many in the provincial government as falling outside 'wildfire recovery') for Secwépemc communities was the 2018 'Secwépemc territory morel harvest emergency land management program' that managed the influx and impacts of the 2018 morel mushroom harvest across the fire.

Below, we briefly summarize each of these activities in terms of approach taken, key considerations (e.g., challenges and decisions), outcomes and outputs, and involvement of Secwépemc communities.

KNUCWENTWÉCW-KT ES PELQENTÉM RE TMICW TE M-QWEMPÚLECW TE TSERTSERPÚLECW, ELL ES YECWMENÚLECW-KT

Knucwentwécw-kt ne7élye ne Secwepemcúlecw re Secwépemc ell re tkwenm7iple7s re B.C. es pelqentém re tmicw te m-qwempúlecw te tsertserpúlecw te sts7emét.s "Elephant Hill Wildfire" te tsilmes te m-sq7es re stetex7ém-kt re syecwmíns, ell es yecwmenúlecw-kt cú7tsem xwexwéyt re stem ne tmicw-kt.

Ye7éne me7 tsetsúwet-kt:

- Me7 tsexúlecwentem thé7e k qwempúlecwes.
- Me7 knucwentwécw-kt es yecwmenúlecwmentem es kúlem-kt te tsílmes te m-sq7es wel me7 yews.
- Me7 xpqenwéntem tkenhé7e me xílltmes es p7ecws re sle7s re syecwmenúlecwems ne xwexwéyt re Secwepemcúlecw.

"Me7 élkstmentwécwmentem es yecwmíntem re tmicw-kt wel me7 yews. Tsílem yerí7 te swuméc-kt re tmicw-kt, tikwemtús me7 re syecwmenúlecw-kt tsílem te m-sq'7es le stetex7ém-kt."

COLLABORATION ON WILDFIRE RECOVERY AND LAND MANAGEMENT

Secwépemc communities and the Province of B.C. are working collaboratively on wildfire recovery and land base management in the Elephant Hill Wildfire area and surrounding area.

Activities associated with the Elephant Hill Wildfire area include:

- Secwépmec Territorial Patrols,
- Collaborative recovery and management initiatives,
- Guidance for forestry activities and other economic development.

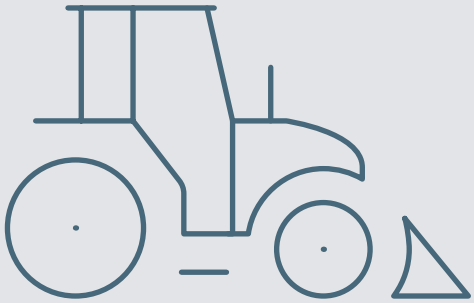
"Working towards a thriving and sustainable relationship in stewardship"

BRITISH COLUMBIA | Ministry of Forests, Lands, Natural Resource Operations and Rural Development

192,000 ha

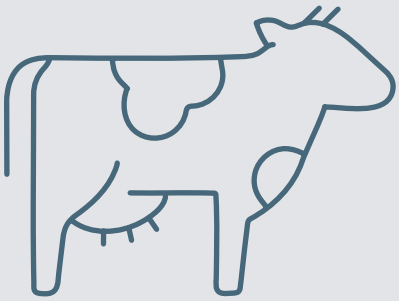
AREA BURNED

582 km



FIREGUARDS REHABILITATED

360 km



FENCES REBUILT

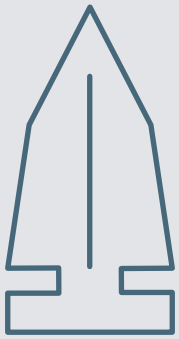
1.03M m^3

TIMBER HARVESTED

35.3M

TREES PLANTED*

218



ARCHAEOLOGICAL SITES RECORDED

*under Forest Carbon Initiative/Forests for Tomorrow

THE 'THREE GREAT GOALS'

Fireguard rehabilitation

Overview and approach:

Wildfire suppression can create a number of disturbances on the land base. These include fireguards (now referred to as 'control lines', i.e., cleared strips of land around a wildfire that can slow or stop the growth of a fire and assist with containment) and safety zones (larger cleared areas where equipment can be staged and where firefighters can take refuge from an approaching fire). A total of 581.7 km of fireguards were constructed throughout Elephant Hill: 194.5 km within the DTR and 387.5 within the DMH.

Under Section 9 of the *Wildfire Act* and Section 17 of the *Wildfire Regulation*, government has responsibilities to rehabilitate these disturbances. This involves assessing these disturbances for potential hazards (e.g., landslides or erosion that could pose public safety issues or impact water quality, fish habitat or archaeological sites), prioritizing sites for treatment, and developing prescriptions for each site to identify necessary rehabilitation measures. In 2017 BCWS was responsible for developing, implementing and funding rehabilitation plans, however in 2018 the responsibility for development and implementation began to transition to the Resource Districts (with formal handover in 2021). Yet given the jurisdictional complexity of Elephant Hill (multiple Resource Regions, Districts and BCWS Fire Centres), BCWS coordinated all aspects of rehabilitation on this fire.

Rehabilitation activities included:

- rehabilitating fireguards and other cleared areas ('pulling back' the vegetation and debris/dirt that was removed to construct the guard, possibly hand or helicopter seeding with grass seed to stabilize soils and manage invasive species, and in some cases planting with tree seedlings);
- installing cross ditches and constructing water bars to maintain or restore natural drainage patterns; and
- repairing disturbances at stream crossings.

Key considerations:

Key decisions and challenges associated with fireguard rehabilitation related to:

- extent and intensity of archaeology surveys: other areas in BC (e.g., within the Cariboo Natural Resource Region) only conducted surveys on 'high archaeological potential' areas. For Elephant Hill, Secwépemc communities successfully advocated to survey all 581.7 km
- grass seed mix: there was extensive debate as to the appropriate seed mix to grass seed disturbed areas, with conflicting perspectives regarding the use of native vs non-native species
- order of rehabilitation activities: for example, there were instances in which fireguards were seeded, and then 'pull back' subsequently occurred (covering the seed mix, requiring additional hand seeding)
- managing access: identifying key areas, such as important wildlife habitat areas, to prioritize closing access (making guards impassable through rehabilitation)

Involvement of Secwépemc communities:

Secwépemc communities were directly and indirectly involved in fireguard rehabilitation in the following ways:

- Rehabilitation supervision: Jenny Allen from Bonaparte First Nation contracted by BCWS to supervise rehabilitation
- Heavy equipment contracts: approximately 50% of the heavy equipment work was prioritized for Secwépemc-owned/operated contractors
- Preliminary field reconnaissance and archaeological impact assessments: Secwépemc field crews surveyed every kilometer of fireguard prior to any rehabilitation being conducted. Secwépemc archaeologists and staff also worked closely with BCWS rehabilitation coordinators throughout to discuss proposed rehabilitation measures and to mitigate any additional risks to archaeology or other cultural heritage values

Outcomes:

- 581.7 km of fireguards rehabilitated (100%)
- Strong working relationship and trust developed between BCWS rehabilitation coordinators and Secwépemc communities
- Economic opportunities for both First Nation and non-First Nation contractors

In April 2021, FLNRORD released a guidebook on 'Wildfire Suppression Activities with Heavy Equipment: Construction and Rehabilitation Guidance'. This specifically draws on lessons and best practices from Elephant Hill (amongst other fires) and recommends 'establish[ing] partnerships with local First Nations throughout the planning, decision-making and implementation processes' of rehabilitation activities, and considering archaeology assessments during the plan development.

Range recovery

Overview and approach:

The majority of range land (grazing land for livestock) in BC is on 'Crown' land: that is, grasslands, forests and wetlands within provincial range tenures. The Elephant Hill wildfire significantly impacted these range lands, both by burning vegetation and also destroying range infrastructure (e.g., fences and cattleguards). A total of 456.04 km of Crown range fences were damaged or destroyed by the Elephant Hill wildfire (308 km in DMH and 148.04 within DTR), in addition to fences on private land. Range recovery work on Elephant Hill comprised three key activities:

- repairing fences and other range infrastructure;
- select reseeding of burned areas; and
- assisting natural regeneration and soil stabilization by delaying grazing.

This final activity involved the decision to rescind Crown range tenure licenses for up to three years (i.e., removing cattle from the majority of the fire area), under a 'directed non-use of Crown range' order.

Key considerations:

Key challenges and concerns for range recovery echoed many of those for fireguard rehabilitation, specifically conflicting perspectives on grass seed mix, mismatch in timing (e.g., between range recovery and salvage, with fences rebuilt then having to be cut to provide access to timber) and the extent of archaeology.

The majority of fences burnt in the fire were proposed to be rebuilt in the same locations. However, this range infrastructure was largely constructed many years ago, without any archaeological assessment. Further, while some people (such as range staff or local ranchers, as well as, initially, some staff within the Archaeology Branch) assumed that fence construction is a 'low impact', this is no longer necessarily the case. Joanne Hammond, archaeologist with Skeetchestn Natural Resources, explained how a common approach now taken is to use heavy machinery such as a bulldozer to blade the fence right-of-ways down to mineral soil – often requiring tree clearance – thereby creating a new impact. Once representatives from Archaeology Branch became aware of this level of disturbance, they issued a set of directives to Range Branch clarifying the obligations around protecting heritage objects (such as archaeological artifacts) and standards for surveys and site recording. Chapter 10 discusses the challenging relationship between range and archaeology in greater detail. Future recovery work and funding, as with any range activities involving ground disturbance, must incorporate these costs associated with conducting archaeology.

A final issue raised by communities was the level of recovery funding provided to BC Cattlemen's as part of the joint provincial-federal Agri-Recovery program ($20 million available to BC ranchers and farmers affected by the 2017 wildfires). This was of particular concern given the challenges faced in accessing adequate funding to conduct archaeology. This concern was elevated by the fact that this funding was announced on the same day as the BC First Nations Leadership Gathering, at a time when First Nations were advocating for support for First Nations-led wildfire recovery.

Role of Secwépemc communities:

The JTC made key decisions relating to range recovery, specifically the selection of grass seed mix (see fireguard rehabilitation above) and the decision to rescind range tenure licenses. As with fireguards, Secwépemc field staff and archaeologists conducted preliminary field reconnaissance and archaeological assessments for the majority of fence lines prior to reconstruction. Secwépemc cultural heritage staff and archaeologists such as Bert William and Joanne Hammond played an important role in working with range staff on the ground to negotiate fence design and mitigate further impacts.

Outcomes and outputs:

By September 2021, the following range recovery activities were completed:

- 359.66 km fences repaired on Crown range (233.9 km in DMH, 125.76 in DTR), with an additional 121.87 km in progress or under contract
- 24 directed non-uses issued to range tenure holders (19 in DMH, 5 in DTR): all rescinded by August 2019 (earlier than anticipated due to greater than expected recovery in 2018–2019)
- Creation of guidance document: 'Seeding of areas burned by wildfires' (July 2017, Range Branch)
- Aerial and hand seeding of select areas (e.g., fireguards, some private land), including through funding from the Regional Districts

Salvage guidelines and salvaging

Overview and approach:

The 2017 wildfires in BC burned over 1 million ha of forested land, equating to approximately 34 million cubic metres (m^3) of timber volume (both green and previously dead) on the timber harvesting land base. In BC and throughout much of western North America, wildfires such as these – as well as other large-scale natural disturbances such as insect outbreaks – are often followed by 'salvage logging'. 'Salvage' is defined as the harvest of dead/dying timber; trees damaged or infested with insects and will die within one year; or logging residue. The 2017 wildfires occurred throughout a landscape already heavily impacted by the 1999 – 2015 mountain pine beetle outbreak and the associated widespread and intensive salvage harvesting of impacted forest stands.

Salvage harvesting is promoted under the rationale of minimizing economic losses/loss of timber supply by harvesting trees for lumber, plywood or pulp, while also facilitating greater reforestation (as forest licensees have an obligation to replant following harvest). Following a high severity wildfire like Elephant Hill, the general view is that there is only two to three-year window in which salvage can occur before the burnt timber degrades and loses commercial value. Salvaging is also often promoted as a 'sanitation harvest' to target areas infested by or at risk of additional impacts from insects such as bark beetles (see Douglas-fir beetle management).

Across Elephant Hill, salvaging was led by major forest industry licensees (West Fraser and Tolko), as well as BC Timber Sales, with cutblocks approved and cutting permits issued by the relevant District Manager (of DMH or DTR, in the case of Elephant Hill). (Note: BC Timber Sales is a provincial government program established to develop and auction timber sales licenses. BCTS manages approximately 20 percent of BC's annual allowable cut for Crown timber). In addition, a Small Scale Salvage Program was developed by FLNRORD to target salvage opportunities less than 2,000 m^3, without creating continuous clearcut openings, that treat stands with current infestations of Douglas-fir or spruce bark beetles, with the tenure issued typically a Forestry Licence to Cut.

As described in Chapter 6, one of the first priorities of both Secwépemc communities and the provincial Districts was developing guidance to inform salvage harvesting. In January 2018 the Office of the Chief Forester released a document 'Post-natural disturbance forest retention guidance' to provide guidance to forest professionals who would be planning and implementing 'retention strategies' in areas impacted by the 2017 wildfires. Retention planning referred to "the required planning for landscape connectivity, interior forest and intact ecosystem attributes (e.g., overstory trees, vegetation communities, soils and other live and decaying

forest structure) that will be retained for habitat, hydrologic function, mid-term timber supply and to support recovery at stand and landscape scales". The document provides guidance on retention of specific values, as well as in the context of planning and legal considerations/designations, safety, forest health and soil and riparian management. It acknowledges that previous salvage logging has had negative effects on ecosystem values and highlights the need to focus on 'what to retain, rather than on what to log'.

Simultaneously, the Elephant Hill JLC and technical staff were discussing the need to jointly guide salvage harvesting within the Elephant Hill wildfire area. In January 2018, technical staff from Secwépemc communities and the provincial government met at Skeetchestn and collectively drafted the 'Timber salvage principles for Elephant Hill'. These were then endorsed by the JLC and sent to forest licensees within the Kamloops and 100 Mile House Timber Supply Areas by District Managers Rachael Pollard (DTR) and Pat Byrne (DMH) in February 2018. In the accompanying letter, these District Managers wrote that while these principles "do not form a legal direction" they do "represent consensus by Ministry staff and First Nations about how to best recover ecological values on the land base" and "a way that First Nations rights and interests can be addressed during post-wildfire timber salvage". The principles were accompanied by a guidance document developed by Rita Winkler (Research Hydrologist, FLNRORD) outlining hydrologic concerns and presenting recommendations for mitigating impacts of salvage logging. These principles were the first collaborative output of the JTC and helped build confidence in the process.

Key considerations:

Salvage logging was, and continues to be, one of the most contentious aspects of post-fire recovery. On the one hand, economic and forest health concerns are used to push for greater salvage of burned forests. FLNRORD staff often raised the concern that *"if we are not salvaging this fire, [forest industry] licensees are going to fulfil their cutting responsibilities in the rest of the green forest"* and that without salvage, licensees may cease operating in these areas and more sawmills may close. Minimizing the number of green trees harvested in the broader landscape of and around Elephant Hill was also major priority for communities, with numerous community foresters adamantly opposing any proposed harvesting of green Douglas-fir (particularly outside the fire perimeter). While this meant there was a level of support amongst Secwépemc communities for salvaging (although this varied between communities), Kukpi7 Ryan Day also highlighted the *"failed balancing act [of] trading off green and burnt [timber]*. By this, he was looking at the bigger picture of needing to address the extensive and unsustainable logging of their territories and to say: *"a lot less trees need to hit the ground"*.

This speaks to the other set of concerns regarding salvage, particularly when considering the scale and rapid timelines of logging operations (i.e., taking more timber from larger areas of land, often using clearcut harvesting, than during standard logging). Numerous studies have shown that large-scale post-fire salvage can negatively impact environmental values such as small mammal habitat and other species that depend on dead wood and high structural diversity; slow understory vegetation recovery; or increase runoff and sedimentation. Further, salvage harvesting often (and did within Elephant Hill) creates large clearcuts with minimal overstory retention. In addition to reducing ecological legacies and structural diversity, these clearcuts also present challenges for reforestation with Douglas-fir (see Silviculture below) resulting in a greater proportion of lodgepole pine in the landscape.

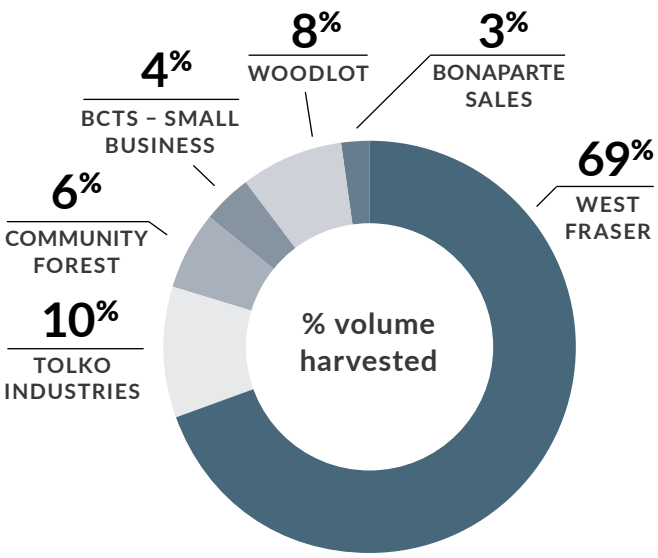
Despite the dissemination of retention guidance and the salvage principles, community staff often raised concerns at the JTC that they were seeing harvesting of green trees or proposed cutting permits within retention areas. (note: these concerns continue to be raised following the 2021 wildfires, with Secwépemc field staff seeing salvage harvesting being proposed in stands with only low to moderate severity burns and substantial green trees remaining). FLNRORD staff also acknowledged the lack of direction provided by the provincial government and the need to more proactively plan salvage operations in future (see Chapter 10).

Role of Secwépemc communities:

As with fireguard rehabilitation and fence construction, and in accordance with the Kamloops Archaeological Overview Assessment (AOA) process, Secwépemc field staff conducted cultural heritage assessments to any salvage activities to mitigate potential impacts on cultural heritage. A number of Secwépemc communities also received permits to salvage burnt timber (for e.g., Stswecem'c Xget'tem Development Corporation managed salvage/recovery of timber from fireguards on behalf of Whispering Pines/Clinton Indian Band, High Bar First Nation, Canim Lake Indian Band and Stswecem'c Xget'tem First Nation under one license, partnering with Norbord).

Outcomes and outputs:

- Principles for Timber Salvage, Elephant Hill
- Approximately 1,030,500 m^3 of timber harvested within the Elephant Hill wildfire perimeter from November 2017 to September 2021 (inclusive)
    - Approximately 98,700 m^3 in DTR and 931,800 m^3 in DMH
    - Note: comprises volume harvested under Forest Licenses; Community Forest Agreements; Woodlot Licenses; Forest Licence, Sec 47.3 F.A.; and Small Business – Timber Sale Licence – Section 20 (BCTS tenure).



SILVICULTURE AND REFORESTATION

Overview and approach:

The majority of the approximately 192,000 ha burned by Elephant Hill was forested land. Replanting these burned areas is an important component of re-establishing wildlife habitat and forest structure, stabilizing soils and ensuring future timber supply. Given the scale and intensity of Elephant Hill, reforestation of priority areas – those where significant natural regeneration is unlikely due to high fire intensity or stands comprising young trees – will likely continue for at least 10 years.

In some areas, the fire burned through young plantations (yet to reach 'free to grow') planted by forest licensees to replace previous harvests. In these cases, licensees had an obligation to reforest after the fire. The BC government allocated $70 million to support the reforestation of plantations burned by wildfires in 2017. In other areas the provincial government has been leading reforestation efforts, funded through various sources including Forests for Tomorrow and projects under the joint provincial-federal Forest Carbon Initiative (a $290 million program launched in 2017). Some areas of Elephant Hill, such as those that burned at low intensity or that were dominated by species such as lodgepole pine that regenerate prolifically after fire, are expected to naturally regenerate over time. At the time of writing, three years of planting (2019, 2020, 2021) had been conducted across Elephant Hill, with a total of approximately 19,192 ha anticipated to be planted under FFT/FCI by 2022 (in addition to licensee reforestation – data unavailable at the time of writing).

To support reforestation, the JTC developed a set of 13 principles to guide silviculture and reforestation planning by both licensees and the provincial government (Appendix 6). These were shared by the District Managers with all licensees in the Kamloops and 100 Mile House Timber Supply Areas. While not legally binding, there was an expectation that these would be followed. Implementation of these principles was supported by variations to stocking standards within the Elephant Hill wildfire perimeter, and FLNRORD's broader development of 'enhanced

stocking standards' (as part of enhanced basic silviculture guidance issued in September 2017), largely to promote increased stocking densities, and associated adjustments to timber pricing policies (e.g., stumpage rates).

Key considerations:

The primary concerns raised by Secwépemc representatives related to 1) stand species conversion (i.e., post-wildfire conversion of interior Douglas-fir or spruce dominated stands to lodgepole pine dominated stands) and 2) impacts on deciduous and other ecologically and culturally important species. These concerns drove the development of principles including maintaining deciduous species; protecting browse and culturally important plants; planting riparian tree species in riparian areas; and ensuring that reforestation strategies facilitate natural succession pathways towards pre-wildfire/ pre-salvage species composition.

The concern about widespread stand conversion with lodgepole pine dominated many discussions at the JTC and JLC. A large proportion of the Elephant Hill fire and subsequent salvaging occurred within the Interior Douglas Fir biogeoclimatic zone, which is best managed with selective harvesting or partial cutting rather than clearcutting. However, salvage harvesting of the fire has resulted in large clearcuts, posing challenges for initial reforestation with Douglas-fir (which is susceptible to frost and to a lesser extent drought/moisture deficit and can have lower seedling survival rates). While this can be partly addressed by 'obstacle planting' and appropriate site preparation, and silviculture staff reported high survival rates from 2019 and 2020 plantings, this challenge was frequently raised by provincial and forest licensee staff. However, Secwépemc staff continued to emphasize concerns that planting of lodgepole pine (a pioneer species) would result in stand conversion, rather than form part of longer-term strategies to facilitate progression back to a Douglas-fir dominated stand. Secwépemc communities also opposed planting of species such as larch as part of assisted migration and climate adaptation, due to this species not historically being present within this area.

Additional challenges related to seed supply (adequate supply for such extensive reforestation efforts; desire for local seed source and deciduous seed stock) and ensuring the principles were adequately communicated to consultants and contractors responsible for prescription development and planting and integrated into site plans. Finally, we heard a desire from some provincial staff and forest industry representatives to involve forest licensees earlier in the process for any future recovery discussions (e.g., in developing principles).

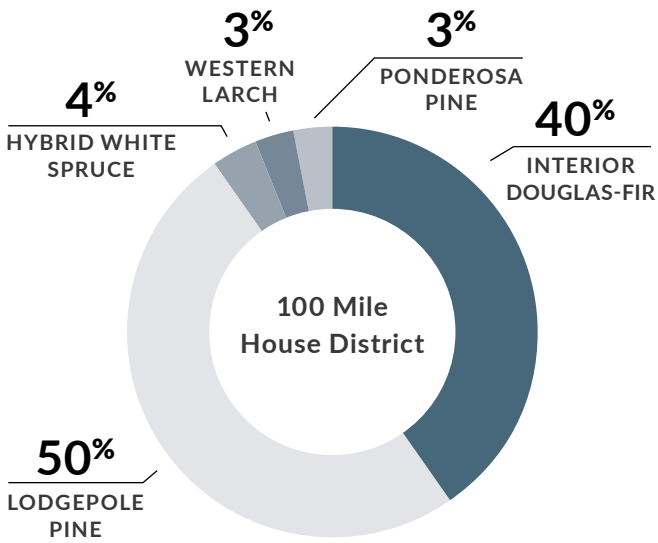
Role of Secwépemc communities:

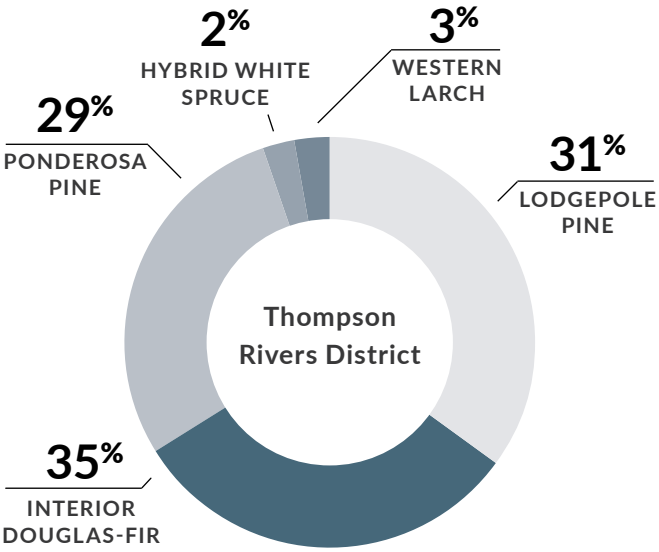
The silviculture and reforestation principles were jointly developed by Secwépemc and provincial government technical staff in the JTC and silviculture sub-committee. Secwépemc territorial patrol conducted incidental monitoring of plantings, with findings reported back to the JTC. A number of communities who conducted salvage subsequently were responsible for post-harvest reforestation.

Outcomes and outputs:

- Principles for Silviculture and Reforestation in Elephant Hill
- Approximately 19,192 ha within Elephant Hill reforested under Forests for Tomorrow/Forest Carbon Initiative funded projects (10,961 ha in DMH, 8,231 ha in DTR), 2019-2022
- Approximately 35.3 million seedlings planted within Elephant Hill under Forests for Tomorrow/ Forest Carbon Initiative funded projects (20.1 M in DMH, 15.1 M in DTR), 2019-2022

Douglas-fir beetle attack. Photo credit: Lorraine Maclauchlan





DOUGLAS-FIR BEETLE MANAGEMENT

Overview and approach:

Fire can weaken, damage or stress trees and make them more susceptible to insect attack. Following wildfires, insects such as bark beetles, woodborers, ambrosia beetles and wood wasps are attracted to fire-affected areas and fire-damaged host trees. Stand disturbances such as wildfires or windthrow can initiate bark beetle outbreaks, such as of Douglas-fir bark beetle (*Dendroctonus pseudotsugae*). Douglas-fir beetles infest both recently fire-killed trees and fire-damaged trees that are still alive and then have the potential to move into and attack healthy, live trees. As such, there were significant concerns about potential Douglas-fir beetle outbreaks and associated tree mortality (particularly in the Interior Douglas-fir biogeoclimatic zone, i.e., the dominant BEC zone across Elephant Hill) following the Elephant Hill wildfire.

The aim of Douglas-fir beetle management was to minimize future tree mortality from Douglas-fir beetle by facilitating the removal of Douglas-fir beetle through targeted control strategies, as well as monitoring bark beetle populations within the burn perimeter and within a critical distance (1-5 km) outside the burn perimeter. In addition to promoting targeted salvage ('sanitation harvest') of beetle-infested stands (e.g., through small scale salvage, blanket salvage permits and BC Timber Sales Timber Sale Licenses), FLNRORD and the Douglas-fir

beetle sub-committee promoted three key tools for controlling Douglas-fir beetle populations, all of which were deployed to varying degrees across Elephant Hill. These were:

1. Mass trapping using Lindgren funnel traps;
2. Trap trees (large, live Douglas-fir trees felled prior to Douglas-fir beetle flight, to attract beetles within defined areas such as harvest blocks); and
3. MCH (3-methylcylohex-2-en-1-one) anti-aggregation pheromone. MCH must be used in conjunction with other strategies (sanitation harvest, trapping or trap trees), and is used to protect small groups of trees or a small stand (e.g., part of an Old Growth Management Area or green tree retention area).

The DMH Small Scale Salvage Program specifically aimed to harvest stands that have infestations of Douglas-fir beetle, targeting salvage opportunities less than 2000m³ and less than five ha continuous clearcut openings, in areas that would not normally be addressed through major licensees or BC Timber Sales.

Key considerations:

Given the limited availability of potential trap trees (large, live Douglas-fir) throughout much of the fire area, mass funnel trapping was used extensively throughout Elephant Hill. Tree baits (containing attractive pheromones), which are usually deployed in a grid within a block, were not used across Elephant Hill as this can result in beetles spreading their attack across more trees, resulting in greater mortality.

There were widespread and ongoing concerns that these strategies were not successful in containing Douglas-fir beetle, and about ongoing mortality both within and adjacent to the fire area. A number of staff both in Secwépemc communities and the provincial government raised concerns about that salvage harvesting was not 'aggressively' or proactively targeting beetle-infested or at-risk stands. In particular, some professional foresters from Secwépemc communities expressed frustration that major timber licensees were not adequately addressing 'the beetle issue', and at the lack of directive from the provincial governments to harvest beetle-infested areas. Others felt that the salvage principle requiring all green trees to be retained impeded proactive Douglas-fir beetle management. However, as described above these views on the appropriate extent and approach to salvage were not consistent across either Secwépemc communities or the provincial government.

Role of Secwépemc communities:

Secwépemc natural resource staff were involved in the Douglas-fir beetle sub-committee, and territorial patrol implemented the Douglas-fir beetle monitoring protocol (see below). In addition, field staff from Secwépemc communities, including Bonaparte First Nation, were involved in conducting field reconnaissance to identify areas for treatments (i.e., locating and probing in attack areas), installing and monitoring baited funnel traps to attract and capture Douglas-fir beetles.

Outcomes and outputs:

Following the 2017 wildfires, Lorraine Maclauchlan (Entomologist, FLNRORD) updated and released 'Best practices for managing Douglas-fir beetle: Douglas-fir beetle and wildfire' (November 2017)[21].

In addition, the Douglas-fir beetle sub-committee (led by Lorraine Maclauchlan and David Majcher, FLNRORD) developed guidance documents for Douglas-fir beetle management, including the following two created in September 2019:

- Douglas-fir beetle: tools to support sanitation harvest and green tree protection; and
- Development of an Elephant Hill insect, beetle and Douglas-fir control treatment strategy (methodology for surveying/identifying potential treatment units and developing and implementing treatments)

The Douglas-fir beetle sub-committee and collaborative monitoring sub-committee also developed a survey protocol for monitoring Douglas-fir beetle. This survey was implemented by Secwépemc territorial patrol, utilizing the Survey 123 platform.

21 Maclauchlan, L. 2017. Best practices for managing Douglas-fir beetle: Douglas-fir beetle and wildfire.

ACCESS MANAGEMENT

Overview and approach:

Following wildfire, a key concern is that motorized vehicle use on disturbed soils, and increased access facilitated by fireguards, will worsen soil disturbance (and associated hazards of landslides and flooding) and increase hunting pressures on vulnerable wildlife populations. To address these risks, various approaches to 'access management' were implemented across the Elephant Hill wildfire. These were:

- implementation of a 'Section 58' order (or 'Recreational Order') under Section 58 (1) of the *Forests and Range Practices Act*, closing access to motorized vehicles and all types of off-road recreational vehicles within the Elephant Hill wildfire area, except on existing roads. This was signed into effect by the District Managers of DMH and DTR in May 2018 and in effect until December 2018
    - in January 2019 this was extended to encompass the Allie Lake wildfire area and was in effect until December 31, 2020
- implementation of ATV hunting closed areas in specified Wildlife Management Units (under the *Wildlife Act Motor Vehicle Prohibition Regulation*) in the fall hunting season of 2017 (continued to date)
- installation of signage at key locations throughout Elephant Hill regarding the motorized vehicle closure and ATV hunting restrictions
- reduction in Limited Entry Hunting tags available for moose hunting within the Thompson Okanagan Region

The access management sub-committee has also engaged with forest licensees and focussed on promoting resource road inventory and deactivation. Francis Iredale (Wildlife Biologist, Thompson Okanagan Natural Resource Region) led a successful proposal on behalf of this committee to access funding through the Forest Carbon Initiative to reforest deactivated resource roads. The access management and collaborative monitoring sub-committees are continuing to conduct priority watershed assessments to identify priority watersheds within the DTR and DMH for road deactivation and inform cumulative effects modelling.

Secwépemc morel permit and motorized vehicle closure signs. Photo credit: Forest Foods Ltd/Lobby Studios

Key considerations:

The aims of implementing off-road and ATV hunting closures were allowing the restoration and natural regeneration of grasslands and other sensitive ecosystems, mitigating the risk of additional disturbance/hazards, and reducing pressures on wildlife populations. The First Nations Technical Table was seeking a further extension to the Section 58 order beyond December 2020, however this was denied by the District Managers.

A key consideration when planning resource road deactivation is considering future access needs for salvage or silviculture, or other shorter term rehabilitation activities. This requires close collaboration with resource users/industry representatives. The access management sub-committee provides a strong model for government-to-government collaboration that can also serve as a platform to connect with broader stakeholders.

Role of Secwépemc communities:

Secwépemc staff were involved and continue to participate in the access management sub-committee. Secwépemc field staff continue to conduct resource road monitoring to inform assessment of cumulative impacts and potential road deactivation. Territorial patrol also record incidental data on wildlife populations, hunting and off-road compliance and road status.

Outcomes and outputs:

In addition to the access management closures listed above, and the ongoing work to deactivate resource roads throughout Elephant Hill and surrounding areas, a key output of the access management project was the creation of a set of 'Principles for Access Management', covering both new development and landscape-level planning (Appendix 7).

ARCHAEOLOGY

Overview and approach:

Wildfire suppression activities, as well as the subsequent rehabilitation and reforestation, can negatively impact archaeological sites and other cultural heritage values on the land base (such as historic sites, traditional use sites, heritage trails). Many of these sites hold significant historical and contemporary value and significance for First Nations communities. Wildfires also present a unique opportunity to conduct large-scale inventory due to extensive ground exposures created by the fire and fire suppression activity.

Secwépemc communities strongly advocated through the JLC and JTC for the opportunity to survey all fireguards and fence lines prior to any further works being conducted. This approach of First Nations-led archaeology within their respective territories was strongly established in the DTR as part of the 'Archaeological Overview Assessment (AOA) Process for Forest Development Planning in the Kamloops TSA'. This AOA process was first implemented in 1999, guided by an AOA steering committee comprising Secwépemc archaeologists, representatives from the District and forest licensees. This established a process for engaging with First Nations in forest planning and ensuring First Nation leadership in assessing and mitigating potential impacts to cultural heritage values.

Given the agreement that the Thompson Okanagan Natural Resource Region was to be the lead for provincial wildfire recovery on Elephant Hill, this AOA process was utilized for archaeology on Elephant Hill. Specifically, this meant that affected Secwépemc communities were the lead for archaeology work within their territories. This contrasted to the approach taken in other parts of the province, where archaeology work was largely contracted through competitive tenders. Further, in other Districts (or other fires in the DMH), only a subset of fireguards were surveyed: those deemed to be of 'high archaeological potential' based on predictive models.

In parallel to discussions at the Elephant Hill JTC and JLC, in 2018 the provincial Archaeology Branch decided to pilot a novel approach of taking out a 'blanket permit' for the entire province (with some area exceptions). This permit authorized archaeological impact assessments of fire suppression activities, wildfire-related infrastructure upgrades and reforestation activities proposed by FLNRORD. The purpose of this pilot approach was to allow for assessment of burned areas, fireguards, damaged range infrastructure as well as address potential impacts arising from post-wildfire activities such as timber salvage, removal of danger trees, site preparation and planting, guided by the directives provided by the Archaeology Branch.

Work conducted under the initial permit (2018-0275) was then transitioned into a new permit (2020-0034) which expires in 2023; it is anticipated that archaeology work associated with the 2021 wildfires will also be conducted under this permit. The permit incorporates methods and specific directions and best practices for surveying fireguards and fence lines, such as focussing on surface inspection and providing a definition of survey footprints. While it allowed for AOAs or preliminary field reconnaissance (PFRs) to be conducted by non-permitted archaeologists (e.g., First Nations cultural heritage field staff), it required site records and reports to be completed/submitted by permitted archaeologists. Some Secwépemc communities have archaeologists on staff, while others individually or collectively contracted consultant archaeologists. Regardless, Secwépemc communities and field staff led all archaeology across Elephant Hill.

Key considerations:

Archaeology was one of the most challenging components of wildfire recovery due to conflicting perspectives on the required scope and intensity of work, the costs involved, and extension of the DTR AOA process into the DMH and Cariboo Natural Resource Region. These tensions are largely unresolved (see Chapter 10).

First Nations have the right to make decisions regarding their cultural heritage, which necessarily means being involved in/leading cultural heritage (including archaeology) assessments within their territories and mitigating any potential impacts. This right is supported under Article 11 of UNDRIP, which states *"Indigenous peoples have the right to practise and revitalize their cultural traditions and customs. This includes the right to maintain, protect and develop the past, present and future manifestations of their cultures, such as archaeological and historical sites, artefacts, designs, ceremonies, technologies and visual and performing arts and literature."* (emphasis added)

All archaeological sites that date to 1846 or earlier are protected by the *Heritage Conservation Act*, while access to non-archaeological cultural heritage resources is a constitutionally protected Aboriginal right.

The use of predictive models, such as the AOA model that defines areas as being of high, medium or low archaeological potential, was also contentious. As the findings of Elephant Hill post-fire archaeology show, these models are often inadequate in predicting the occurrence of archaeological sites. Secwépemc communities also raised concerns that the use of such models can be used to bypass consultation and minimize First Nation involvement (see Chapter 8).

Finally, both Secwépemc and provincial staff raised concerns throughout 2018 and 2019 that archaeology sites recorded as part of fireguard and fence surveys were not being communicated in a timely manner to forest licensees. This resulted in some archaeology sites being located within proposed salvage blocks (i.e., within the boundaries of proposed harvesting).

Role of Secwépemc communities:

All archaeological work within Elephant Hill was direct awarded to Secwépemc communities (with some communities contracting a permitted archaeologist to support the work). Community field staff led PFRs along all fireguards and impacted fence lines and were involved in all archaeological impact assessments. Communities often supported one another in completing the work in each other's territories.

Outcomes:

- First Nations led archaeology is part of communities asserting their rights and sovereignty over cultural heritage in their territories. The true outcomes are those defined by Secwépemc communities: the opportunity to 'piece together' and demonstrate their historical and ongoing connection to their land, build capacity, and *"learn the people that came before, the ancestors"*
- The extent and location of sites throughout the fire provide evidence of the rich and extensive historical presence and use of Secwepemcúl̓ecw by Secwépemc people, and demonstrate inadequacies in predictive models used to determine archaeological potential
- Preliminary field reconnaissance (PFRs) completed for 405.08 km of fence lines (293.2 km in DMH, 111.88 km in DTR) and 581.7 km of fireguards
- 218 archaeological sites recorded by Secwépemc communities within Elephant Hill wildfire area (204 new sites and 14 previously recorded sites that were revisited and verified/updated)
- Note: site recording to the Archaeology Branch is ongoing, total number will be higher
- Note: these sites vary (e.g., from lithic scatters to roasting pits and other sensitive/significant sites), and the *number* of sites should not be interpreted as the measure of 'value' or 'outcome'

Amongst the many artifacts found across this landscape are tools such as arrowheads, axe heads and spear tips dating to at least 7,000 years old (if not older).

Morel mushrooms harvested from within the Elephant Hill wildfire area in 2018. Photo credit: Forest Foods Ltd/Lobby Studios

THE ELEPHANT HILL EMERGENCY LAND MANAGEMENT PROGRAM (MOREL PERMIT PROGRAM)

Overview and approach:

One of the first concerns raised by Secwépemc communities was the impact of the anticipated influx of morel mushroom harvesters and buyers that always follows a high severity wildfire. From early 2018, the JLC began discussing a proposal to manage this harvest through a permitting system implemented by Secwépemc territorial patrol. Over the summer of 2018 (from launch date of May 4th to August 6th), the Secwépemc territorial patrol implemented a strategy to mitigate the ecological and human health impacts of this commercial morel mushroom harvest across the Elephant Hill wildfire area. This was done in the absence of provincial government management strategies or regulations, seeing the practical application of Secwépemc law and jurisdiction over the forest understory. This program was funded by the Canadian Red Cross wildfire recovery funding and designed and implemented by Forest Foods Ltd., which was engaged by the Elephant Hill JLC. A full report on this program is available online[22] and a documentary video is available on the SRSS website at https://www.srssociety.com/projects.htm

This program involved:

- territorial patrol training for patrol members (including training in emergency response protocols, communication and planning; OH&S; digital navigation and data collection; field documentation of permits; environmental and wildlife monitoring; compliance; conflict management and communication);
- installation of signage on all road systems entering the fire-impacted area;
- mapping and establishment of designated campsites for pickers and buyers, including waste bins and portable toilets;
- creation of a permit system for all pickers and buyers (free for First Nation individuals), including harvester orientation packages;
- regular patrol by territorial patrol (monitoring of permit compliance, safety issues, road condition and other items; inspection of campsites; provision of services e.g., waste disposal and navigation support; and responding to critical incidents); and
- establishment of communications platforms (social media, website).

22 Forest Foods Ltd. 2018. 2018 Secwépemc territory morel harvest: emergency land management program.

Role of Secwépemc communities:

The program involved and was led on the ground by territorial patrol from Bonaparte First Nation, Skeetchestn Indian Band, High Bar First Nation, Ts'kw'aylaxw First Nation and Whispering Pines/ Clinton Indian Band. The base of operations was hosted by Whispering Pines/Clinton at their Clinton Indian Band office. Once the majority of infrastructure (e.g., campsites) was decommissioned, Forest Foods Ltd. handed the project over to Skeetchestn Natural Resources who continued to deploy personnel for three weeks to continue monitoring remaining harvesters and buyers.

Outcomes:

The program report documents the following outcomes:

- Management and service provision for 25 approved campsites
- Safe disposal of 12,500 gallons of sewage waste and an estimated 14,760 lbs of mixed garbage and recyclables
- Response to 25 critical incidents in the field
- Issuance of 352 permits and management of the influx of an estimated 700 commercial and recreational mushroom harvesters, buyers and processors (collecting $16,200 in permit costs)

The program is a precedent-setting example of asserting and implementing Secwépemc rights and jurisdiction and supported outreach and positive engagement with the public and land-users. The program also built capacity of Secwépemc territorial patrol through training and field experience.

DECLARATION ON THE UNDERSTORY WITHIN THE FORESTS OF SECWEPEMCÚL̓ECW

The morel permit program was supported by the creation of the *Declaration on the understory within the forests of Secwepemcúl̓ecw* ('the Declaration'). The understory – that is, the plant community beneath the forest canopy, comprising plants such as grasses, wildflowers and berry bushes – is critical for the ecological health of the forests and the health and wellbeing of Secwépemc people. Led by Kukpi7 Ron Ignace and Dr. Marianne Ignace, this Declaration was created to highlight the importance of the understory for Secwépemc communities and economies and to assert Secwépemc rights and jurisdiction over the understory, to manage, protect and utilize it for the benefit of Secwépemc people. The Declaration was drafted with Secwépemc Elders, drawing on Secwépemc language and knowledge as the foundation. The Declaration is included in this report in Appendix 9.

Together, the Declaration and the morel mushroom program demonstrate one approach to implementing UNDRIP on the land, including upholding Secwépemc rights to practice and revitalize cultural traditions and customs; rights to traditional medicines, including conservation of plants and animals; and the rights to use and control Secwépemc territories.

Specifically, UNDRIP states:

> ***Article 24***
>
> Indigenous peoples have the right to their traditional medicines and to maintain their health practices, including the conservation of their vital medicinal plants, animals and minerals. Indigenous individuals also have the right to access, without any discrimination, all social and health services.
>
> ***Article 31***
>
> 1. Indigenous peoples have the right to maintain, control, protect and develop their cultural heritage, traditional knowledge and traditional cultural expressions, as well as the manifestations of their sciences, technologies and cultures, including human and genetic resources, seeds, medicines, knowledge of the properties of fauna and flora, oral traditions, literatures, designs, sports and traditional games and visual and performing arts.

In the words of Kukpi7 Ron Ignace, the Declaration speaks to how *"we continue to implement our jurisdiction over our homelands as yecwmín̓men – caretakers of the land."*

7 KEY FINDINGS

7.1 Joint wildfire recovery focused on relatively short-term activities: the 'three great goals' of fireguard rehabilitation, range recovery and salvage; and associated activities of silviculture and reforestation; Douglas-fir beetle management; access management; archaeology; and establishing a permit program for the 2018 morel mushroom harvest.

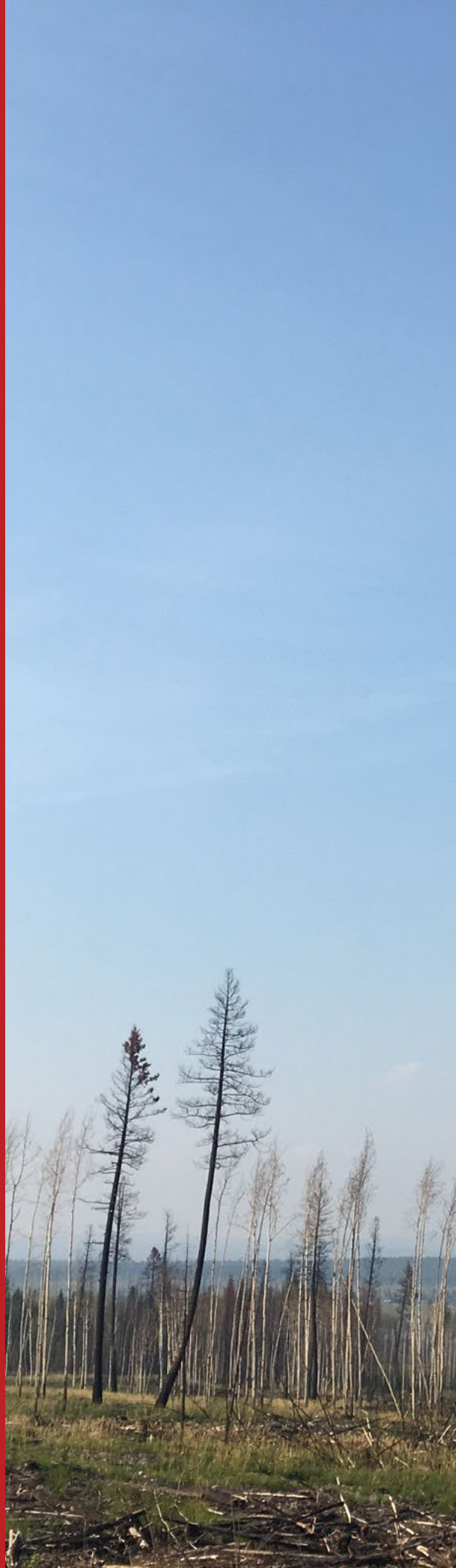
7.2 The JLC and JTC created and endorsed principles for timber salvage, silviculture and reforestation, and access management across Elephant Hill. These were shared by the District Managers with forest licensees in the Kamloops and 100 Mile House Timber Supply Areas. This report collates these and other guidance documents.

7.3 Key outcomes included: rehabilitation of 581.7 km of fireguards; 359.66 km of fences rebuilt/repaired; 24 directed non-uses issued to range tenure holders; 19,192 ha (35.3 million seedlings) planted under Forests for Tomorrow or Forest Carbon Initiative funded projects (in addition to licensee planting); implementation of motorized vehicle and ATV hunting closures; restriction in Limited Entry Hunting tags for moose; direct awarding of archaeology work to First Nations; Preliminary Field Reconnaissance surveys completed for 405.08 km of fence lines and 581.7 km of fireguards; recording of 218 archaeology sites; implementation of the Secwépemc morel permit program; and creation of Declaration on the Understory in the Forests of Secwepemcúl̓ecw.

7.4 The extent of archaeological sites recorded throughout the fire area provides evidence of the rich and extensive historical presence and use of this landscape by Secwépemc people.

7.5 Findings from archaeology surveys also demonstrate inadequacies in predictive models used to determine archaeological potential. While some provincial staff and forest industry representatives hope that this archaeological dataset could be used to update existing models to better predict archaeological potential, Secwépemc communities raise concerns that predictive modelling would be used to bypass consultation and on-ground surveys.

7.6 Key concerns and challenges related to the approach to archaeology (including the extent and intensity of surveys); choice of seed mix for direct seeding; mismatch in timing of activities; concerns over stand species conversion to lodgepole pine; availability of suitable tree seed; and costs.



Salvage harvesting within the 2017 wildfires in the Cariboo.
Photo credit: Sarah Dickson-Hoyle

PART 3

Reflections on ‘success’ and lessons learned

“We want control and resources to do it right, and not just the outcome based, but the identity that comes with doing that work, the skills, the way that it helps people to live, and rebuild who we are and our relationship to the land

– FORMER KUKPI7 RYAN DAY, BONAPARTE FIRST NATION

CHAPTER 8

‘Our voices are stronger together’: Reflections on recovery, success and the value of joint leadership

The Elephant Hill wildfire recovery *was* about ‘healing the land’.

However, for participants in these tables the successes arising from this joint process were spoken of not (just) in terms of ‘recovering’ fire affected landscapes. Instead, the value and strength of this new approach were described in terms of the new relationships and trust and that were established; the opportunities for Secwépemc communities to build their capacity, have their expertise recognized and their voices heard, and to get out on the land; the knowledge and cultural connections gained through Secwépemc-led archaeology; and the creation of a new ‘model’ for collaboration moving forward.

REFLECTIONS ON RECOVERY

In addition to the emphasis on building trust, relationships and a new model for collaboration (described in the following sections), people also shared their perspectives and observations on the recovery of the land itself.

Secwépemc field crews described the progress of natural recovery and regeneration across their territories. In particular, we heard about the strong regeneration of deciduous species, including shrubs such as willows and trees such as black cottonwood and trembling aspen, throughout the fire. People described *“banging their knees because the brush is already up to their chest”* and trembling aspen coming back *“like a weed… just popping up everywhere in [the Green Lake area]”*.

Jimmy Rosette from Stswecem’c Xget’tem First Nation, who conducted riparian surveys throughout the fire, described how the deciduous plants *“were all just thriving really good by the time we came back through, raspberry plants, all the blueberry plants and things that, actually after a few years of the burn being gone, were all coming back beautifully”*. Others noted the dense regeneration of lodgepole pine seedlings in certain areas, even from stands as young as twenty years old at the time of the fire, and the fact that *“there’s forage, there’s water everywhere”* as an indicator that the landscape is on a pathway to recovery.

In other areas – such as areas that burned at high intensity – the natural regeneration has been less successful. A silviculture specialist, who conducted surveys throughout the fire, told us that:

> *“Some places where the fire was so harsh, we’re still looking at areas where there’s zero germinants. So, in some cases it was quite clear that nothing was ever going to come back there. I mean, I don’t mean never, but in a hundred years.”*
>
> – SILVICULTURE CONSULTANT

Multiple people raised concerns that wildfire recovery did not adequately address issues of terrain stability and associated hazards such as landslides and flooding, which have continued to cause significant impacts since the fire. Despite the mitigation measures presented in the ‘Post-wildfire natural hazards risk analysis: Elephant Hill wildfire’ report, Rachael Pollard (FLNRORD – DTR) expressed frustration that *“we don’t really have a mechanism to do anything about [all those landslides across the land]. And I don’t even know what we’d do! But they’re really impactful for the communities.”*

Photo credit: Joanne Hammond/Skeetchestn Natural Resources

> *"The fire is just one thing. And as much as we did a lot of good work in the recovery, we need to recover from more than just the fire*

Joanne Hammond (Skeetchestn Natural Resources) also emphasized the need to put the impacts of the fire in context of the broader pre-existing impacts to this fire-affected landscape. When asked if she felt the landscape was on a trajectory towards recovery, her response was:

> *"No. I'm sorry to say. Despite all the really good work that's been done, the impacts were enormous. Right? The biomass that was lost, the disturbance from the fireguards and roads and the access that's enabled. And the lack of oversight, the lack of compliance and enforcement effort to really keep track of what's going on on that land base. I don't think it's enough. Because it's cumulative, right? I think maybe, possibly if it was just the fire, we might have done enough to get the land and communities back on their feet. But it wasn't just the fire. It was the fire following fifty years of reprehensible logging practices. Roads to every bit of the territory. Failures in managing game resources and hunting and those kinds of things. Let alone getting into salmon habitat and overfishing and those kinds of things. The fire is just one thing. And as much as we did a lot of good work in the recovery, we need to recover from more than just the fire."*

These reflections on landscape recovery were always grounded in peoples' diverse perspectives on what recovery actually involves. For Joanne, it meant more than just planting trees and rehabilitating fireguards; it's about finding new, alternative economic, cultural and other opportunities "*that are a little bit harder to put your finger on*" in place of those that were lost due to the fire. For Rachael Pollard (FLNRORD – DTR), it means a more holistic view encompassing both economic recovery and supporting the recovery of the ecosystem itself, while mitigating further impacts to the land.

These different views of 'recovery', and the different emphases people placed on the different outcomes described below, continue to shape diverse perspectives on the 'success' of the joint approach to wildfire recovery.

REFLECTIONS ON 'SUCCESS'

In every interview with provincial government and Secwépemc representatives, we asked the same question: *"if we were to ask you how successful the Elephant Hill wildfire recovery has been, what would be the key factors that you'd look at and what conclusion would you come to?"* Here, we share these different perspectives – from the Districts and Regions, BCWS, and Secwépemc communities – on the 'success' of the joint recovery process as a whole, and the many ways this is defined by those involved.

Overall, the majority of people we spoke to felt that the joint approach to wildfire recovery on Elephant Hill had been successful.

Some people spoke about success in terms of achieving defined goals, such as fireguard rehabilitation or fence reconstruction. Even for people who did not define success in these terms, there was a widespread acknowledgement that these types of quantifiable outcomes would likely be scrutinized by government decision-makers when evaluating this approach:

> *"I don't know if [kilometers of fence lines built is] how you measure success, but it certainly is how some people measure it and that's data that decision-makers are going to want if we're talking about how to do this, if we do this again, and how we do it next time and how we prepare. Then there's got to be some quantifiable outcomes that we can show what worked and what didn't, or how much you can even hope to get done in the time following a fire like that. Like how long is it going to take, to reach those objectives?"*
>
> – JOANNE HAMMOND, SKEETCHESTN NATURAL RESOURCES

However, there was some criticism that, with the exception of fireguard rehabilitation, range recovery and salvage (to an extent), the wildfire recovery process did not define key metrics or goals, which in turn made it difficult to evaluate success. Further, when considering the goal of 'salvage', views on success were much more mixed:

> *"I would say the fireguard rehab, hundred percent. Could it have been done a bit quicker? Once again, with that checklist of what would we do next time, yep, you bet. There's probably things that could have been a bit more efficient. But at the end of the day, got done. Fencing, same thing. Getting very, very close. It's been a struggle for everybody in navigating this world of archaeology…We're all learning how that interaction happens. But at the end of the day, cattle are back out, people are able to run their operations again, and most of the fences are back up. So I would say that's been successful. Salvage, I would say not successful, in that we should've got there quicker."*
>
> MARINA IRWIN, FLNRORD – DTR

These concerns about the lack or slow progress of salvage were echoed by one Secwépemc staff, who felt that *"the whole landscape management of that Elephant Hill after the fire was very, very poorly done"*. Other people highlighted delays in making key decisions such as grass seed mix. Some District staff also raised concerns about the delays in rehabilitating fireguards, or the costs involved (in particular for archaeology).

From communities' perspectives, there was an associated concern that these higher costs would cast a negative light on the whole process, or lead to it not being implemented again in future:

> *"I think the process is good as long as it doesn't get a sour taste from the first one, basically. And sure, it might have been expensive but that's the price, it's growing pains in my eyes, it needs to happen."*
>
> – DARCY LEBOURDAIS, SECOND PASS FORESTRY & WHISPERING PINES/CLINTON INDIAN BAND

> *"I just hope at the end of it, if the government looks at a budget or something silly like that from a bean counter that it's not frowned upon in the future, it needs to happen at every major event."*
>
> – TANNER LEBOURDAIS, SECOND PASS FORESTRY & WHISPERING PINES/CLINTON INDIAN BAND

However, all BCWS staff involved in either supervising or allocating funding for fireguard rehabilitation expressed satisfaction with the process, and felt that the costs were justified:

> *"Having the steering team was a big help, it was another success… what we saw was we got through our consultation with the First Nations faster. You could talk to people, right? And identify where maybe they have a pressure and maybe we can help out. And then having that one table where people can raise concerns, from grass seeding for example… having people able to start working through some of that stuff expediates the process… you're able to negotiate and come to a resolution faster."*
>
> – BRAD LITKE, BCWS

"The JLC process undoubtedly increased costs, but I never felt uncomfortable with the investments that I was asked to support."

– ROB SCHWEITZER, BCWS

These quotes reflect the widespread view amongst provincial government managers and technical staff, that overall, despite the many challenges faced, the joint recovery was a success:

"There's other areas of the province who are a lot farther along. But they weren't working in a joint collaborative manner, in the way that we were, with Indigenous communities. And so I think this demonstrates a huge step forward. And a huge learning opportunity and a path forward to set things up for the future. And so in that I would say it was successful."

– FLNRORD STAFF

"I think it was a great process, it was an example of all kinds of people working together. And hopefully next time it'll just be natural to form these groups, 'cos I thought they were great. It was wonderful! You sit around and you just hammer it out; you know it was West Fraser and Tolko and BCTS and the First Nations reps and us as government District staff, on the ground doing the necessary work; and me as the scientist that was sitting there – or in the field – trying to tell them something about Douglas-fir beetle. So it was great."

– FLNRORD STAFF

"I'd think that this was very successful. There were times that it was very painful. And very unclear. But I think that the outcomes were very beneficial, both from the personal and relationship side, as well as the outcomes on the landscape. And maybe the outcomes on the landscape are a little more nuanced, but the obvious benefits [are] with the relationships, and I think that over time we will start to agree that those outcomes are maybe more significant in their benefit than we would have even known today."

– FLNRORD STAFF

> *"Part of the success is the legacy that it leaves, which is that we're likely never going to go back to old ways of doing things*

"In terms of really demonstrating a different way to work together, I think we were really successful. Was it perfect? No. Could we have done better? Sure… [but] I think part of the success is the legacy that it leaves, which is that we're likely never going to go back to old ways of doing things. The world is different going forward. At least locally, in how we can work together. And Mike [Anderson] will be the first to say that the legacy is really the relationships that have endured and knowing that we can work together. So I think from that perspective it's been very successful."

– RACHAEL POLLARD, FLNRORD – DTR

These views on success were also held within BCWS – both by those involved at a leadership level and those responsible for implementing fireguard rehabilitation. BCWS representatives spoke of the successes in terms of providing economic opportunities for First Nations and collaborating on diverse aspects of land-based recovery, and expressed their hope that this approach would continue and assist future collaborations:

"Although I know not everyone that sat at that table maybe feel it was successful, I feel it was successful. Because it brought together that group, from where we didn't know each other's names, to where we're funnelling and sharing millions of dollars and essentially collaborating on activities on the land base. And not from just, 'hey we're going to rehab this guard'. From everything under the sun, the trees we plant, the fish, the archaeology, the plant species, the hunting, the mushrooms."

– ROB SCHWEITZER, BCWS

> *"I think it was a great idea, what we did, and I hope it will help government and First Nations in the future for sure, to get the First Nations communities involved."*
>
> – KEN CONWAY-BROWN, BCWS

As the following quotes make clear, the majority of people looked beyond the success of the three great goals to consider recovery more broadly in terms of ecological and stewardship outcomes on the land:

> *"I think looking at the land and seeing the condition of the land. Is it better than it would've been if we never had the table? And is there better stewardship as a result of that process? ...if there is, well then that's great, then we achieved something. So it'll be really interesting to see years down the road, how is that forest regenerating? What is the terrain stability like, after a number of years? Has it improved? Those kinds of things. I think that's the proof in your pudding, is the landscape recovering?"*
>
> MAHRUSA SHERSTOBITOFF, FLNRORD – DTR

> *"I would look at how the fire area was bouncing back. Wildlife surveys, vegetation surveys, stream surveys like the stream rehabilitation program."*
>
> – GEORGINA PRESTON, FORMERLY WITH STSWECEM'C XGET'TEM FIRST NATION

Georgina then went on to acknowledge that success also related to the outcomes and benefits for communities, and advances in how archaeology and cultural heritage are considered in wildfire recovery:

> *"I don't think archaeology has been so much focused on before in wildfire rehabilitation. And so I'd look at that and what benefits that was giving the communities as well as the provincial government in learning about archaeology and about cultural heritage."*

Archaeology is just one aspect that, perhaps in the past, was not considered to be a key measure of success for 'wildfire recovery'. Similarly, people spoke about success in terms of less tangible outcomes, such as relationships and trust, that can't be captured in a 'SMART' goal:

> *"It's tough to put into words but it's a level of comfort or joint understanding... I think creating a new process that underpins or recognizes not just western science but somehow culture as well...a process that works is adaptable to achieve whatever set objectives of the respective group, I think would be a measure of success. I think for me having a trusted open transparent environment where we could learn together. And being accepting that mistakes can happen, we're all learning together."*
>
> – FLNRORD STAFF

On further reflection, people such as the government staff member quoted above, who emphasized that the 'proof in your pudding' is whether the landscape is recovering, acknowledged that we may need to look beyond immediate outcomes on the Elephant Hill land base, and that, perhaps, these new relationships will indeed prove to be the true measure of success:

> *"Maybe it won't be the Elephant Hill wildfire that'll show us, maybe it will be other projects, a better working relationship say with the QS forestry working group, maybe that's the result and not the Elephant Hill trees growing back or whatever."*
>
> – MAHRUSA SHERSTOBITOFF, FLNRORD – DTR

However, others within the provincial government were more hesitant to ascribe success to wildfire recovery on Elephant Hill. While accepting that aspects of the joint recovery process were a success, the following two quotes reflect concerns about a lack of clear recovery goals, or measurable impacts on the land base:

> *"In terms of engaging and collaborating with First Nations, and building strong relationships to move forward with, you know {pauses} eight out of ten. From where we were which was maybe a two out of ten. Huge improvement, good experience, I feel rewarded in that we were successful in building that stuff. As tough as the conversations were...still a good experience...I have a lot of respect for a lot of the people at the table. In terms of our ability to be really effective in achieving the recovery outcomes we wanted to? I would give that a three out of ten. We could have done it a lot better."*
>
> – FLNRORD STAFF

> *"I would say I'm fairly unsatisfied, because if someone was to ask me [if we've been successful] I would say I don't know. I don't know what a recovered landscape – well I personally know how I would do it. But I don't know if everyone has thought about that and would be able to tell you that what we've done and what we're currently doing, is putting is on a trajectory to get there. So in that way I would say I'm dissatisfied with the overall process but I was satisfied certainly with some of the things that happened along the way."*
>
> – DOUG LEWIS, FLNRORD – RESOURCE PLANNING & ASSESSMENT BRANCH

In a similar vein, some Secwépemc staff acknowledged the challenges of evaluating success without clear goals and given the completely new approach being taken. Yet overall, the view of Secwépemc staff we spoke with was that this joint approach to wildfire recovery has been a great success:

> *"At the end of the day it's a positive. It's hard to measure success when it hasn't really been done before. So, at the end of the day I think the model is working and we can all learn from bringing people together and what worked and what didn't work. So, I think the success has just been positive, and I hope it doesn't stop. It just keeps progressing and evolving into something bigger and better."*
>
> – TANNER LEBOURDAIS, SECOND PASS FORESTRY & WHISPERING PINES/CLINTON INDIAN BAND

Secwépemc staff highlighted how the Elephant Hill tables created opportunities for participation in wildfire recovery and engaging with government far beyond anything they had experienced before.

> *"By far, this has been the best seat dealing with the government that I've seen. Based on my referrals and dealings with the government and the last twenty years of working in the forest industry."*
>
> – TRAVIS PETERS, FORMER NATURAL RESOURCE MANAGER, TS'KW'AYLAXW FIRST NATION

> *"We're very very happy with how the Elephant Hill wildfire was managed out of the Kamloops TSA, and our participation in with it. We've had more participation Elephant Hill wildfire than all of our other fires around our communities together."*
>
> – JOHN LISCOMB, STSWECEM'C XGET'TEM DEVELOPMENT CORPORATION

We also heard how Secwépemc leadership were supportive of this table and often promoted it as an example of successful collaboration:

> *"I know Chief Patrick [Harry] was always really admiring the strength of that table and the audience that the Chiefs were given and that their staff were given with people that could actually exact real change within those areas. He liked to use it as an example of a success story whenever he was talking to federal and provincial governments with Big Bar Slide. It was important for Stswecem'c Xget'tem First Nation in that regard."*
>
> – GEORGINA PRESTON, FORMERLY WITH STSWECEM'C XGET'TEM FIRST NATION

Kukpi7 Ron Ignace has often said that to move forward, you have to know where you've come from. In reflecting on 'success', Angie Kane (Secwepemcúl̓ecw Restoration and Stewardship Society) echoed this sentiment and emphasized how far the joint process has come since the first meetings in 2017:

> *"I think we have to look back to figure out how far we've actually come. Because I think we get lost, in the day-to-day stuff. And I know for me I have. I tend to get caught up in everything that's going on and tend to forget to stop and reflect on where we started and what we have accomplished – we have really come a long way! Like from those first initial meetings to what we've done and what we've accomplished to date. It's pretty phenomenal!"*

However, while for Stewart Fletcher (High Bar First Nation) the joint recovery and SRSS that came from it was *"really what I've hoped for"*, others emphasized that any successes found within Elephant Hill need to be put into perspective in the context of the long-term and larger changes that Indigenous peoples and communities are *"hoping for our land and our people"*:

> *"It may be good, it may be better than the past, but it's not even close to what we want*

> *"I don't think we're all the way there. We just got a part of the work done. You look at the person component, the bands coming together component, okay well that's close to a hundred percent right. But how big is that on the grand scale of things? How much did we actually change in where we're going? So when you think about those things Sarah, I {sighs} I think there's successes there and we don't want to ignore them. But we're so far away from doing things sustainably, that this is just a step."*
>
> – GREG CROOKES, FORMERLY WITH BONAPARTE FIRST NATION

> *"You know we can make it sound like a victory or whatever…but it's all from a compromised position, it's not what we want. It may be good, it may be better than the past, but it's not even close to what we want. You know we're still in pain from what happened, we're still in an abusive process where we're not the decision-makers. And we can pat ourselves on the back for working cooperatively or whatever but it's not what we want. We want control and resources to do it right, and not just the outcome based, but the identity that comes with doing that work, the skills, the way that it helps people to live, and rebuild who we are and our relationship to the land."*
>
> – FORMER KUKPI7 RYAN DAY, BONAPARTE FIRST NATION

While these reflections on success considered the joint recovery process as a whole, they do not necessarily capture the true value of this collaboration for the communities and government staff involved. The following sections describe the most significant impacts and outcomes that arose from the joint process of wildfire recovery, and the value that these new relationships and ways of working together have beyond the tightly defined project of 'wildfire recovery'.

NEW RELATIONSHIPS AND COLLABORATION

Almost everyone we spoke to highlighted the importance of the relationships that have been built through participating in the joint recovery process: between the provincial government and First Nations, and among Secwépemc communities themselves.

Over months and years of coming together – sitting around a table at monthly meetings of the JLC or JTC, breaking off into sub-committees, getting out on the land for group field visits and trainings, or just 'kicking the dirt' together while discussing the best approach to rehabilitating a fireguard – people were able to build trust and strong working relationships that weren't there at the start. For Joanne Hammond (Skeetchestn Natural Resources), this trust between communities and the province was the biggest outcome of these processes, which only came through:

> *"…the mutual demonstration on the part of the province and on the part of the community that you did what you said you were going to do. I think that that is a big issue, is that so many promises [have been] broken over time, that you're just not likely to believe somebody until you see it happen before your eyes. And that was happening a lot, the province said: 'what can we do?' And you told them what they could do and then they did it. And vice versa, so that the province is able to build up confidence in the ability of the community to provide those services and the feedback. And then everybody is empowered by the idea that they're being listened to, right? To see the results of their recommendations and ideas being enacted by government, and I think that's invaluable. Because that has definitely bled out to a lot of other areas and opportunities since then because we've shown each other that we can do that work."*

Mike Anderson (Skeetchestn Natural Resources) similarly said:

> *"I think one of the better things to come out of this fire was that we were able to establish the relationship with government whereby we can sit at the same table and come to mutual agreement on how some things are to be done…the relationship we have whereby we can co-manage."*

For multiple staff from BCWS, these relationships were key to achieving their recovery goals. Despite the concerns raised by other people, at various times (see Chapter 10), over perceived delays in rehabilitating fireguards or rebuilding fences, one BCWS staff who was involved in the rehabilitation supervision said:

> *"This roundtable, the Elephant Hill working group, from what I heard and what I saw led the way in the province on how to develop the relationships and how to deal with these recovery priorities in a more timely manner."*
>
> – KEN CONWAY-BROWN, BCWS

Others in the provincial government highlighted how the Elephant Hill wildfire recovery process also created *"a chance, even just internally, to work between the District and the regional staff in a way that we hadn't for years"*.

These new relationships continue to foster collaboration and confidence in how to work together, beyond wildfire recovery:

> *"For myself, as the manager for stewardship, almost everything my staff does touches communities. And so instead of me going 'oh gosh, you know, I don't know who to talk to, how do we do this? I don't want to offend anybody!' I feel that I've got a relationship and I can call up Mike and say: 'hey Mike, this is what's going on?' Or 'something ugly happened, and we're like oh my gosh what are we going to do? How are we going to solve it? We need some help.' Where I feel that that can just be a normal conversation, it's not a scary proposition… you've got your go-to people in the community…to me, hands down, that has been the most incredible benefit of the whole process."*
>
> – MARINA IRWIN, FLNRORD – DTR

> *"It's helped even foster relationships outside of the Elephant Hill wildfire, there's some proponents that we work with at these tables that's to do with the Elephant Hill wildfire but then we're working with them outside of that area as well. So when you get a referral you're like 'oh I know her!' Or 'I know him'. There's already that familiarity and that ease to work together."*
>
> – HIGH BAR FIRST NATION STAFF

These collaborations have expanded into new opportunities, such as Secwépemc participation in monitoring the impacts of forest and range activities on values such as biodiversity, fish habitat and riparian areas, and water quality under the provincial Forest and Range Evaluation Program (FREP). Communities have also used the technical tables and collaborative monitoring sub-committee to raise concern about studies such as mule deer research being conducted without First Nations involvement and are increasingly advocating for active First Nation participation in any research or monitoring activities taking place within their territories (particularly those relating to wildlife).

One FLNRORD wildlife biologist described how their involvement with the access management sub-committee led to further discussions with Bonaparte's natural resource staff about how they could work together on wildlife monitoring and management more broadly:

> *"I was there [at Bonaparte] for the road [deactivation] project, but you know, developing this working relationship with the Bonaparte community, it was just a random opportunity that they wanted to start talking about wildlife values. And there's a couple of keen young community members there that were like 'this a passion for us, we appreciate the experience that you bring to the table, how can we kind of work together on some of these initiatives?'"*

Angie Kane (Secwepemcúl̓ecw Restoration and Stewardship Society) has seen the growth in these types of opportunities for First Nations to collaborate with the province, both in terms of providing services (such as monitoring staff and field technicians) and also taking part in decision-making:

"We're seeing more direct awarding of contracts from the province to specific communities because we have created that pathway, and that connection, and I think it's that awareness too that 'hey, we're not going to sit back and let you go and do whatever you want anymore'. We want to work together to plan for a future forest that is resilient, healthy in biodiversity and abundant in wildlife for future generations to come. I think that for me the strongest thing that's come out of this whole process."

> *"There are personal elements to Elephant Hill now…I think I will feel forever committed to that*

The trust and strong working relationships with key provincial officials such as Rachael Pollard have also influenced broader government-to-government initiatives, such as the Qwelmínte Secwépemc Government to Government table:

"In terms of direct impacts, I feel that the way that the government-to-government work is going with the Secwépemc has a connection to Elephant Hill. Because through the work that Rachael Pollard did in Elephant Hill, she was invited to participate in the Qwelmínte Secwépemc G2G work, as co-chair of the forestry working group. She wasn't originally formally included as a District Manager, because there was MIRR (Ministry of Indigenous Relations and Reconciliation) staff, there was regional staff, there was a whole bunch of other staff, and so District Managers were not included in that structure. And so she, on the recommendation of Secwépemc people, was invited to be the co-chair. I think that's REALLY really huge… it's not very often that you hear First Nations say: 'we actually like what this provincial person did'. I don't often hear those words! And we want more of that, right? And we're doing a lot with that forestry working group that previous processes that pre-dated the current G2G table weren't able to achieve."

– MAHRUSA SHERSTOBITOFF, FLNRORD – DTR

However, these new relationships do not just shape high level G2G processes or pragmatic changes in how people work together. Many people also talked about how their involvement in these joint recovery tables, and the personal connections they made, profoundly (re)shaped the way they think about their work and their commitment to supporting Indigenous recovery and stewardship goals:

"Historically, we've been able to separate ourselves from the human, the personal part of recovery… I think I would consider myself quite an insightful person, but it's easy to detach yourself from that when you kind of work everywhere and you're busy and whatever. And there are personal elements to Elephant Hill now, that I think are different for me. I think it's given me more of a human component to it… It's changed the priority that I place on being involved in things where I think we can make meaningful changes, and way I look at that dimension or that element of my work…I was asked to come out and speak to interest groups because you know Elephant Hill, there's so many opportunities in there, right? And it almost feels insulting to me sometimes because I'm like, Bert and his family have been here forever, and this is where he lives, he's never going anywhere this is his home. And I feel like I made commitments to Bert, and others, when we had these conversations about what's important. And we made changes, and so I think I will forever feel committed to that. And I don't think I would have looked at it like that in another place."

– FLNRORD STAFF

Others in the provincial government described the value for them and their staff in terms of gaining insights into *"what collaborating with First Nation communities is all about"*:

"I had about twenty-eight staff participate in some way shape or form… from talking with one of our biologists who got into a subgroup to talk about seed mix for rehab of the fireguards, and just being involved in that deep dynamic of staunch Ministry perspectives that were dated, she found herself more aligned not with the Ministry representation but with the Indigenous representation. Those types of experiences are really valuable for our staff. That biologist has a story that no other biologist in our area has. And now we've had other situations where we've needed to do this, and she is a mentor for those new staff that are facing these similar challenges. So that type of experience is so invaluable."

– FLNRORD STAFF

For former Kukpi7 Ryan Day, building this greater depth of understanding amongst non-Indigenous peoples – the intent and mechanism to form a deeper relationship with *"the people from that land, and the teachings from that land, and the way to live on that land"* – was the only way that these processes were going to work, and go beyond the *"topical things [and get at] the things deep under the surface"*.

"When you get a greater depth of understanding – or at least I hope, and I feel that I'm a pretty good read of people – is that when you are tired, and you're finished up working that evening or night or whatever, you think of those things and you go further. You do more. Because you have that deeper, deeper sense of duty and motivation than you have otherwise, or you have more and greater conversations with your family or your co-workers or whatever else. And I felt like that was likely happening. I mean it has to, those were not people who punch in and punch out of work. And they're not there just to advance their careers, or whatever else. They're there because they care about the land and they recognize that to get a full depth of that, that understanding what we're saying, is important."

– FORMER KUKPI7 RYAN DAY, BONAPARTE FIRST NATION

Arrowhead found within the Elephant Hill wildfire area. Photo credit: Joanne Hammond/Skeetchestn Natural Resources

Continuing on, Kukpi7 Day emphasized that:

"…those relationships are everything, that's the only way. You know, you can have all the agreements that you want, you can have all this surface level stuff, but it doesn't matter. And you can have all the money you want, too. You can throw money at these things too, but unless that money creates and enables those spaces to be created, where people can do that work within themselves and amongst each other, and that they're ready to do that, and willing, and not tied by time and mandates, then we're just not dealing with the problem, not the real problem. And we're not going to get there."

Perhaps the greatest impact these new relationships have had is the creation of new expectations around 'collaboration' versus transactional 'consultation', and of a new way of working together that is needed to collectively address ongoing challenges such as climate change.

"The social and cultural processes that were developed and relationships that were affirmed are absolutely the biggest success. And not because they solved all the problems. But because it established a new way of doing things that will allow us to solve the bigger problems that are coming. And I think often of climate change and the kinds of action that we're going to have to take collectively to be able to manage the impacts of climate change. It's going to take those kinds of organizations and relationships to do it. We would never be able to tackle it under the old winner takes all, government regulating industry sort of system and leaving First Nations and communities out of the loop. That was never going to work. So I think that that is a major, major victory."

– JOANNE HAMMOND, SKEETCHESTN NATURAL RESOURCES

Given these new relationships, many feel that there is now a strong foundation for ongoing and future collaboration between the Province of BC and the Secwépemc communities involved:

> *"I firmly believe that the next time there's a significant emergency event, similar to a wildfire, there is now documentation and processes that have been established and put in place that can at least help people get started. We didn't have any of that. We were flying by the seat of our pants, as we went through all this."*
>
> – FLNRORD STAFF

Similarly, multiple people expressed a desire that, in the case of future wildfires within these same territories and jurisdictions (and even beyond), a similar table and government-to-government process would be quickly established:

> *"In my opinion, the most important thing was the forming of the group. It's more likely to happen now that the Districts are doing the rehabilitation plans as well. They have a better ongoing relationship with First Nations than BCWS does."*
>
> – KEN CONWAY-BROWN, BCWS

> *"It's 2020, we don't smoke when we're pregnant we don't drink when we're pregnant, just 'cos we used to do it doesn't mean that we should do it anymore. There's maybe some things from Elephant Hill that aren't feasible to do everywhere… But the expectation that we be able to work together, in a G2G way everywhere? It's 2020, government has made commitments to working together like this, and yeah we should!"*
>
> – RACHAEL POLLARD, FLNRORD – DTR

> *"Whenever big changes happen, the world is never quite the same afterwards. And I kind of feel that way about Elephant Hill*

Rachael Pollard continued to sum up these impacts by saying:

> *"We got some s**t done. We really did. And we did it together. And we did it in a way that built confidence in our ability to do it together and created lots of opportunities for work for the communities and the SRSS. There's some real legacies that I think we can forget about when we're busy, and focus on 'well we didn't get as much salvage as we should have' or whatever, right?…You know, whenever big changes happen, something happens, and then the world is never quite the same afterwards. And I kind of feel that way about Elephant Hill."*

Establishing a precedent for collaborative recovery

The Elephant Hill Joint Leadership Council and Joint Technical Committees are often spoken of as a model for collaboration in wildfire and disaster recovery. Similarly, many of the Secwépemc communities involved continue to draw on this as an example of how First Nations can and should be involved in wildfire recovery:

> *"We have our Wild Goose fire which is right outside the community of Canoe Creek from 2018 and we're trying to use that one as an example in the Williams Lake or the Central Cariboo Fire District of how we would like these things managed in terms of PFRs for the fireguards and rehab and road deactivation. It's been nice to be a part of the Elephant Hill because we have been using that as an example and we've been gaining a little bit of credence off of that fire."*
>
> – JOHN LISCOMB, STSWECEM'C XGET'TEM DEVELOPMENT CORPORATION

> *"To me, probably the best thing that's come out of this fire is that joint table, that collaborative table where we're talking collaboratively about how we heal this land. It's not just BC forging ahead with the companies, kind of thing. Which in the past is how this has happened. In the past if there's been anybody involved in healing the land after a fire it's been BC and industry, and in this case it's BC and the First Nations."*
>
> MIKE ANDERSON, SKEETCHESTN NATURAL RESOURCES

Secwépemc Kukukpi7 also spoke of the Elephant Hill wildfire and subsequent response as *"precedent setting and a good example to use to be able to get more jurisdiction and governance over the traditional territory"*. Georgina Preston (formerly with Stswecem'c Xget'tem First Nation) recalls speaking with then-Kukpi7 Patrick Harry about Elephant Hill, and him talking about the firsthand access this got him with Regional Executive Directors and Ministers from FLNRORD to be able to make joint decisions with provincial and federal governments.

The morel permit program was widely seen as a 'precedent-setting' initiative that demonstrated ongoing Secwépemc jurisdiction over the understory and provided support to establish Secwépemc territorial patrol.

Soon, other First Nations within the Secwépemc Nation (and more broadly) began to look to Elephant Hill as an example that could support similar initiatives elsewhere in BC. At one First Nations Technical Table meeting in September 2019, Joanne Hammond (Skeetchestn Natural Resources) and another Secwépemc archaeologist shared how they had been approached by representatives from Secwépemc and Sylix First Nations who were interested in hearing more about the Elephant Hill archaeology process. This prompted a discussion about taking this process *"on a road show"*; as one participant said: *"there are fires happening all over the place…[but] no other fires are getting the treatment Elephant Hill has"*. Georgina Preston heard similar interest from fellow northern Secwépemc communities:

> *"I think the other communities, Williams Lake and Soda Creek were like 'well why didn't we get an Elephant Hill Joint Technical working committee for the Hanceville fire or for the White Lake fire that almost took over Williams Lake?'. We got funding for those mushroom picking permits and for territorial patrols much quicker than they did. We got access to Red Cross funding through being part of the SRSS. And they didn't. And I think they were looking at that as something that could be done up here."*

However, with increasing eyes on Elephant Hill there was a feeling of pressure and a sense that the success, or otherwise, of the Elephant Hill recovery would shape future opportunities and approaches to wildfire recovery:

> *"[Our approach] was very different. And that came up a lot, that was something government said again and again. Was, 'but look! We're doing this! We're awesome, somebody pat us on the back cos we're actually doing it!' And it wasn't happening anywhere else. And then, on the flipside there was a lot of awareness that because it wasn't happening anywhere else, we were meant to be modelling this in the best possible way. So, we had to really knock it out of the park, or they'd take away our funding next time, or they wouldn't let it happen in other Districts, or those kinds of things. So an awareness that we're piloting something that if we wanted it to be more widespread, then we had to do a really really great job of it, and for cheap. Keeping everybody happy."*
>
> – JOANNE HAMMOND, SKEETCHESTN NATURAL RESOURCES

Despite these concerns, Elephant Hill continues to be promoted within the provincial government as a model for government-to-government relationships:

> *"Certainly the Elephant Hill was a good template for governments to say 'hey, in recognition of UNDRIP we're going to recover the land, however you define recovery, but in a way that involves local First Nations at the table so we can jointly come up with solutions and ideas and principles for how to recover the land base.'"*
>
> – FLNRORD STAFF

> *"Knowing how that model of the G2G leadership table and the G2G technical table worked, I think helps me with ideas about how we could apply the approach to other things. I know that Eric Valdal was pretty instrumental in working with the communities for the Big Bar landslide project. And he took that approach, leadership and technical, and implemented it there and it was just so effective."*
>
> – RACHAEL POLLARD, FLNRORD – DTR

This example of the Big Bar landslide in the Fraser River was mentioned numerous times by both provincial staff and representatives from Stswecem'c Xget'tem First Nation and High Bar First Nation (the two Secwépemc communities with asserted rights over this territory in which the slide occurred). As one senior FLNRORD staff explained:

> *"When the Big Bar landslide happened, I was one of three FLNR[ORD] Directors that worked with the coastguard, worked with [federal] Department of Fisheries and Oceans, worked with the upper Fraser Aboriginal secretariat to say we need to establish a leadership table to guide all of the technical recovery work… I talked about these experiences and the opportunity we have as leaders to engage all the leaders in the Fraser watershed. And we did it. We actually went for it. And the results I think were also positive."*

The governance of Big Bar slide response and remediation has mirrored Elephant Hill in some respects – for example, the establishment of a trilateral (government-to-government-to-government) 'Joint Executive Steering Committee' (JESC, mirroring the JTC) and a higher level First Nations Leadership Panel (FNLP) involving leadership from First Nations throughout the Fraser River watershed (with initial contact, participation and moderation led by the Fraser River Aboriginal Fisheries Secretariat) to guide the JESC.

However, Secwépemc staff we spoke to raised some serious concerns regarding how this joint recovery and ongoing project response have proceeded, and how this has negatively impacted their communities' rights over cultural heritage. These different perspectives as to how the Big Bar response compared to Elephant Hill are discussed in more detail in Chapter 13. Despite these conflicting views, it is clear that the 'model' established through Elephant Hill has created new expectations for joint leadership and technical collaboration and a platform for First Nations to collectively advocate for this new approach.

A UNITED VOICE

Beyond these new relationships with the provincial government, many Secwépemc representatives emphasized the importance of the Elephant Hill tables in bringing communities together to share their concerns and experiences and to collectively influence outcomes on the land:

> *"I think it has been a blessing to participate in the Elephant Hill committee, at least from our community…And I think if anything it got a lot of the communities together. We are going through treaty, I don't think that everybody else is really welcoming that. Everybody has their own differences between some of the communities. But at this table, everybody was equal partner."*
>
> – JOHN LISCOMB, STSWECEM'C XGET'TEM DEVELOPMENT CORPORATION

> *"We've been introduced to other bands now… going at the Covid thing has really brought some of the bands back together again, a lot of the coalitions and the health caucuses that have sprung up has really brought Secwépemc bands together to be able to make sure that we're working together towards something, and it's about our communities and protection of our people overall. So I think that there's a lot of different things that have brought us together over the last few years and Elephant Hill was definitely one of them."*
>
> – DON IGNACE, SKEETCHESTN NATURAL RESOURCES

Many Secwépemc staff we talked with, from natural resource and cultural heritage managers to field technicians, spoke of finally feeling like their voices were being heard by government. Jimmy Rosette, community member and field technician with Stswecem'c Xget'tem First Nation, spent a field season conducting riparian surveys for the SRSS-led Elephant Hill riparian restoration project, and described:

> *"…the big benefit of being able to have input on what they put back along the creeks and rivers along there. And have the input on what the country's going to look like in the future."*

People highlighted the importance of the *"equity of voices at that [Elephant Hill] table"*, and of involving as many community voices as possible to ensure that key issues got raised. Others, such as Darcy LeBourdais and Tanner LeBourdais (Whispering Pines/Clinton Indian Band), saw how Elephant Hill, and the technical tables and SRSS that arose, were critical in strengthening their community's voice:

> *"This is the closest that we might get to forming a cooperating Nation. Because we all are part of the Secwépemc Nation… our band because we're so small…this SRSS table is as close as we can get to being part of a big voice."*
>
> – TANNER LEBOURDAIS

> *"Our voices are stronger together. If you try to attack this as an individual Nation thing it's tough. But if you do it as a group, absolutely I believe it is better. And it's more productive. I believe these tables are fantastic for discussions and getting the topics moved forward and brought up as high as we can go."*
>
> – DARCY LEBOURDAIS

> *"When we sat at that table, as the group of four, five communities strong, we realized that we could make a difference*

During meetings of the SRSS First Nations Technical Table we often heard Secwépemc staff and community members express frustration at what they termed the 'divide and conquer' approach taken to First Nations by provincial and federal governments. A key outcome of the Elephant Hill process was the creation of a space where First Nations could come together to collectively advocate for their rights and shared goals:

> *"I think the key take away from this whole process is that we all realized that have such a stronger voice when we stand together, than we do independently. When we sat around the table and talked, it was all the same concerns regarding cultural heritage, archaeology, wildlife and the impacts of harvesting and development on the land. And when we sat at that table, as the group of four, five communities strong, we realized that we could make a difference. That we could now finally have a pushback mechanism that we never had before as individual communities. And I think the strongest thing that's come out of this whole process, is when we stand united we stand strong and our voices are much louder."*
>
> – ANGIE KANE, SECWEPEMCÚLECW RESTORATION & STEWARDSHIP SOCIETY

Staff within the provincial government also recognized the value of these Elephant Hill tables in terms of communities being able to raise issues directly with government representatives. As Marina Irwin (FLNRORD – DTR) said, this often resulted in issues being raised at the tables that she saw as not directly related to 'wildfire recovery':

> *"I think they don't get a lot of opportunities to feel like they're speaking to government and they'll take any opportunity they can, to get their voice heard. If they felt like they were getting their voices heard and they felt like they were getting listened to at a high level, they wouldn't probably be bringing those issues up at the table."*

However, for many community staff and representatives – and as captured in the concept of 'build back better' – wildfire recovery and 'healing the land' is about more than just rehabilitating back to a pre-fire condition; as Mike Anderson (Skeetchestn Natural Resources) described it:

> *"What we're trying to do is build a resilient land base for the next disaster to come along. Whereas I'm pretty sure if we hadn't been involved government would have sat down with industry and they'd be talking about how fast do we plant a pine plantation and get this up into a so called 'working forest' once more. And that's not necessarily the best way to build a resilient or biodiverse landscape."*

Cultural heritage FREP training.

ECONOMIC OPPORTUNITIES, TRAINING AND RECOGNITION OF SECWÉPEMC CAPACITY

The Secwépemc First Nations who were involved in the Elephant Hill tables saw increased economic and training opportunities arise as part of the implementation of recovery activities. Some communities, such as Stswecem'c Xget'tem First Nation, pushed early on to be involved in the salvage operations and to ensure that the economic benefits were shared amongst Secwépemc First Nations, with John Liscomb (RFP, SXDC) managing a salvage project for Stswecem'c Xget'tem First Nation, Canim Lake Indian Band, Whispering Pines/Clinton Indian Band and High Bar First Nation.

A key outcome was the decision to direct award a large proportion of the work arising from recovery activities (including all of the archaeological assessment work) to the participating First Nations on whose territories this work was being done. This included approximately 50% of the heavy equipment work contracted to rehabilitate fireguards. From BCWS's perspective, this was of definite benefit to both Secwépemc communities and to getting the work done:

> *"We were lucky enough to be able to bring these eight groups together and they were able to sort out their business arrangement to essentially employ the majority of their resources, which we were willing to do, and get a significant portion of the work done."*
>
> – ROB SCHWEITZER, BCWS

In describing BCWS' approach to direct awarding work on the Elephant Hill wildfire to Secwépemc First Nations, Rob Schweitzer went on to say:

> *"To be successful, I knew we would have to work outside of strict government contracting policies and direct some of the work to the local First Nations. I took on this risk and was comfortable doing so – to build the relationships while leaving enough work to be awarded competitively."*

Speaking with BCWS rehabilitation staff in September 2021, after another significant wildfire season, we heard that multiple Districts are direct-awarding rehabilitation contracts to First Nations for these 2021 fires. In addition to between approximately 50-100% of the rehabilitation implementation being conducted by affected First Nations, a 'significant improvement' is the involvement of First Nations in developing rehabilitation plans and prescriptions.

Secwépemc natural resource managers also highlighted the value for their departments and staff of being able to participate in such a wide range of recovery activities, from building field capacity and skills to conduct PFRs along fireguards and fence lines, to gaining new experience in riparian assessments:

> *"It was great for our field season. It was great to get people out there getting more experience with PFRs… elevating our cultural heritage field workers' skill level by going out and assessing those areas was really important. A whole other skill set was learned when we sent people to do riparian studies. People really hadn't had experience judging whether a riparian area was healthy, was resilient, had certain species. So that training was really valuable I think and will give them more opportunity to assess the streams in other parts of the territory."*
>
> – GEORGINA PRESTON, FORMERLY WITH STSWECEM'C XGET'TEM FIRST NATION

Through the Elephant Hill Joint Technical Committee – and later the SRSS – communities were also able to access a diverse range of training opportunities for their field and natural resource staff, including training in:

- → FREP monitoring, for the following values: riparian, biodiversity, water quality and cultural heritage
- → Training in data collection templates and techniques, such as use of 'Survey 123'
- → Invasive species
- → Douglas-fir beetle monitoring
- → Conflict resolution
- → Territorial patrol training
- → Riparian habitat assessment

The SRSS also utilized wildfire recovery funding from the Red Cross to purchase equipment for community-based territorial patrol, including uniforms for two patrol members per community; decals for trucks; and iPads.

As well as building skills and capacity within communities, training also offered an opportunity for field and technical staff from both communities and the provincial government to learn from each other in the field, and share their perspectives:

> *"It was really nice when we got out as groups and got some of the training… All the bands out there, that was nice, I hope with this pandemic we can get around that and get that much participation out there. Like I said you can learn something from anybody, you know you may all be there to learn something but you might know something that the rest of us don't. Or see things a little differently. Respect of a different perspective, that's usually, in my mind it's always been a good thing."*
>
> – STEWART FLETCHER, HIGH BAR FIRST NATION

In addition to these formal training opportunities, largely delivered by provincial government staff, wildfire recovery offered an opportunity for different communities to work together in the field and for senior staff to share their knowledge and expertise with newer recruits. For Stewart Fletcher, who is always generously sharing his knowledge of archaeology, plants and his territory, this was one of the most valuable parts of working on wildfire recovery:

> *"We partnered up with Pavilion (Ts'kw'aylaxw First Nation) 'cos the first year we had so much work that we couldn't do it all just ourselves, with any hope of getting it done. But it was a pretty amazing partnership, I ended up working with some fairly green crews, others had had some experience at it. But they were amazing. You know they definitely came to work and were quite excited to learn whatever I could teach them out there."*

Another goal and outcome of Secwépemc communities undertaking much of the 'boots on the ground' recovery work was promoting a greater recognition, within the provincial government, of the capacities and skills that exist within First Nations. As Joanne Hammond mentioned earlier, a key component of working together was demonstrating the ability of communities to provide services such as archaeological assessments and heavy equipment contracts, as well as input to decision-making; something Mike Anderson (Skeetchestn Natural Resources) saw as being achieved over the four years of collaborative wildfire recovery:

> *"I think the government probably respects that our level of expertise is a lot higher than what they initially thought."*

Promoting this greater recognition of Secwépemc capacities and expertise across government and industries continues to be a key goal of the SRSS. This is being achieved by the creation of 'capacity databases' for each member community, seeking funding for training, and advocating for direct awarding of contracts to First Nations. However, while many communities continue to support training and certification of their staff and members there is an ongoing struggle to have other forms of expertise (i.e., that aren't achieved through professional education or certification) recognized. This is a particular challenge in the context of wildfire response and fire management; something discussed further in Chapter 11.

'FIRE ARCHAEOLOGY' AND GETTING OUT ON THE LAND

While the increased work for Secwépemc natural resources departments and field technicians was one obvious outcome of participating in the joint recovery, this was not just seen in terms of economic benefit. For the Secwépemc staff we spoke to, this was also an important opportunity to spend time on their territory and observe first-hand how the land was recovering:

> *"I was able to tie [my territory] together a bit more, because [the work] was a little bit more concentrated in the one area. I like to see the changes too. Like when the first year we were out there everything was devastated there was not a lot on the ground. Where the last year (2019) we were out there, you know fireweed's about a foot over my head, so overgrown, so amazed... Just to see how much it came back, you know some things came back better than it would have, and there's just very few plants that were really heavily affected like all the slower growing plants were the ones that were really affected by it. But you know, to figure that out, I think I really liked that."*
>
> – STEWART FLETCHER, HIGH BAR FIRST NATION

Skeetchestn staff conducting archaeological assessments within the Elephant Hill wildfire area. Photo credit: Joanne Hammond/ Skeetchestn Natural Resources

When asked what they most enjoyed or found most valuable about the field work they conducted across Elephant Hill, Bonaparte First Nation community members and natural resource staff Melanie Minnabarriet and Fawn Pierro-Zabotel said:

> *Melanie: "I think just being on the land, really. You know we can drive around it, but getting out and walking it, and then knowing of cute little areas – we found this tiny little waterfall one day. We picked some [nodding] onions, we saw sxusem (soapberry)."*
>
> *Fawn: "We found a pretty good raspberry patch, that was great!"*
>
> *Melanie: "Oh and actually swamp tea, we found a big patch of that. Labrador tea. Fawn's aunt harvests it, and when I got a cold she brought me some Labrador tea leaves down...we mark it on all the maps that we're working, so we have all these maps of honey holes of great areas."*

Melanie and Fawn were just two of the many Secwépemc technicians who conducted PFRs along the hundreds of kilometers of fireguards and fence lines throughout the fire area. As Melanie put it, this opportunity to conduct archaeological surveys across widespread areas of Secwépemc territories, from the valley bottoms to the mountain tops, was a *"tiny miniscule plus"* of the fire; a bittersweet opportunity, amidst the devastation, to demonstrate their Nation's history and use of their territory:

> *"Long story short, in that whole process we were able to determine that the whole Bonaparte plateau is one huge arch site. This fire had a bittersweet piece to it, bitter because of the devastation, sweet because it unearthed so many archaeological finds, and so many opportunities for identifying the First Nations' presence within that area and that territory."*
>
> – ANGIE KANE, SECWEPEMCÚLECW RESTORATION & STEWARDSHIP SOCIETY

> *"I think one of the impacts it had on the archaeology end of things [is how] it's kind of opened up the government to archaeology on the landscape. That has been a really big positive, with all the fireguards and all of the thousands of kilometers of area that we've walked and talked about and shown them that firsthand, this is what we're finding out there, this is the evidence on the ground, I mean come on out we'll show it to you."*
>
> – DON IGNACE, SKEETCHESTN NATURAL RESOURCES

In this interview with Don, Mike Anderson (Skeetchestn Natural Resources) went on to say:

> *"That's probably the biggest [impact] really. Because prior to this there's been a perception that archaeology's all in the valleys close to where the salmon run, kind of thing. With very little happening in the mountains except the odd medicine picking, or some hunting, but I think the archaeology we've done on the Elephant Hill wildfire has proved that those mountains are full of archaeology."*

Joanne Hammond sees the value of this extensive work in terms of:

> *"... showing people that it's worth looking everywhere, basically. That the rules that archaeologists have typically used to say where this is or is not potential are not as solid as we thought they were... I think it can be used in a way that models the findings without being predictive... we can make some pretty big statements about how different archaeological potential is on the ground from how it was modelled using those GIS-based predictive models. Because Skeetchestn recorded such a huge number of sites and in an area where there weren't that many recorded before. So, we can definitely use that to learn about where those sites are likely to be."*

Numerous people emphasized the high density and richness of archaeological sites in the Elephant Hill wildfire area, from the Fraser River in the west to Kamloops in the east, and how the work on Elephant Hill is a clear demonstration that none of this landscape is clearly 'low potential'. This context, along with provincial commitments to implementing UNDRIP, provides strong justification for supporting First Nations led archaeology and cultural heritage work within their territories.

> *"Slow it down, slow it down. It'll get done but slow it down. This land is our land. Gotta remember that*

The collaborative approach and coordination (from early 2019) by the SRSS not only enabled communities to advocate for First Nations-led archaeology across the fire area, but also supported them in sharing resources and capacity to undertake such an immense scale of work. Speaking with Bert William (Bonaparte First Nation) during the summer of 2021, as wildfires were once again burning throughout Secwepemcúlecw, he expressed a hope that the work done on Elephant Hill has established a process for moving forward with post-fire archaeology.

> *"I think it all should be in place already, by what happened four years ago. I think that, from the start, from the very start of everything, we gotta be involved. Chief and Council should go in there right away, like right now [while the 2021 fires are burning], make your way in there, have somebody there with really strong opinions. Someone that knows this stuff, that knows archaeology, that knows what's been done what's been impacted. And just stay on them, stay on them, be involved at every step of the way. Because you just want to run out there and do everything, but slow it down, slow it down. It'll get done but slow it down. This land is our land. Gotta remember that."*

Secwépemc communities continue to fight for their rights and sovereignty over their cultural heritage and territories, and the importance of First Nation-led archaeology as a way of *"getting people to learn the people that came before them, the ancestors"* (Bert William, Bonaparte First Nation).

8 KEY FINDINGS

8.1 Overall, the majority of people interviewed felt that the Elephant Hill joint wildfire recovery process was successful.

8.2 The lack of clearly defined or measurable goals poses a challenge to evaluating the success of recovery activities.

8.3 People noted a failure to mitigate post-fire impacts such as landslides, flooding or Douglas-fir beetle-induced tree mortality.

8.4 Despite the focus on the 'three great goals', 'success' was largely defined in terms of less tangible outcomes such as trust and confidence in the ability to work together.

8.5 The value of this process was seen in terms of

- → creation of new relationships between Secwépemc communities and the Province of BC, and amongst communities themselves, that established trust and continue to foster opportunities beyond recovery;
- → establishing a precedent or 'model' for government-to-government recovery;
- → promoting collaboration amongst Secwépemc communities, and a united voice to collectively influence outcomes on the land;
- → economic and training opportunities, and recognition of Secwépemc capacity and expertise; and
- → supporting First Nations-led archaeology, which demonstrated the density and richness of archaeological sites and historical use across this landscape.

8.6 The new and strengthened relationships were seen by many as the greatest success. Secwépemc staff felt that the Elephant Hill tables created opportunities for meaningful collaboration with government, and participation in wildfire recovery activities, far beyond anything they had experienced before.

8.7 The 'model' established through Elephant Hill has created new expectations for joint leadership and technical collaboration between First Nations and the provincial government. For First Nations, a key component of this model was the platform for communities to come together to share concerns and experiences, and collectively advocate for their rights and mutual goals.

8.8 Despite certain provincial staff raising concerns about the cost of certain activities (e.g., archaeology), BCWS staff who were responsible for funding these felt that costs were justified and were supportive of the approach.

8.9 Secwépemc staff and leadership cautioned that any 'successes' from the Elephant Hill joint recovery needed to be viewed in the context of the longer-term and larger changes they are seeking: to be able to rebuild and revitalize their lands, cultures and communities and have their rights and jurisdiction upheld throughout their territories.

"We can make it sound like a victory…but it's all from a compromised position, it's not what we want. It may be good, it may be better than the past, but it's not even close to what we want. We're still in pain from what happened, we're still in an abusive process where we're not the decision-makers. And we can pat ourselves on the back for working cooperatively or whatever but it's not what we want. We want control and resources to do it right, and not just the outcome based, but the identity that comes with doing that work, the skills, the way that it helps people to live, and rebuild who we are and our relationship to the land…it's refreshing to hear from the technicians that things are changing and they're empowered, but it's a consolation prize that we're forced to celebrate, or told to celebrate, and it's really still just the very heart of colonialism…it's a good process. But it's not a model for something. It's a step in the right direction, [but] it only happened because the stars aligned where our land was destroyed."

– FORMER KUKPI7 RYAN DAY, BONAPARTE FIRST NATION

CHAPTER 9

‘The sky’s the limit here’: Strengths and lessons for future collaborations

While the factors outlined in Chapter 5 – the scope and scale of fire impacts, and a new government committed to implementing UNDRIP – catalyzed a new approach to wildfire recovery, interviewees identified a number of factors that were key in building and sustaining these collaborations moving forward.

We have grouped these into the following broad themes:

- → strong leadership and coordination from both Secwépemc communities and the province;
- → flexibility to allow new processes to emerge;
- → the eventual governance structure of a leadership council and technical committee;
- → developing shared understandings and shared values; and
- → open, honest communication *in communities* to build trust.

STRONG LEADERSHIP AND COORDINATION

Secwépemc leadership – in particular, then-Kukpi7 Ryan Day – were the driving force for ensuring Secwépemc involvement and joint leadership in the wildfire recovery. Yet bringing together multiple levels of government also required the presence and willingness of key leaders within the province. Even before the Joint Leadership Council was formalized, a core group was beginning to form:

> *“It was really Rob [Schweitzer], Rachael [Pollard], Ryan Day and Pat [Byrne] who were just like, ‘we gotta do this and we have to do this differently’. And Chief Ron Ignace who was a big push behind this, saying we need to do this together, government to government. We need to do this a different way. This is a significant landscape that’s been impacted, significant impacts to the communities, this is the long game…this is a longer-term vision. So we need to do it together. Right from the beginning, those individuals made that decision and pioneered this and were the champions of it. And they essentially were the Joint Leadership Council.”*
>
> – MARINA IRWIN, FLNRORD – DTR

The success of initiatives such as Elephant Hill often hinges strongly on the presence and ongoing participation of these key leaders who are aligned in vision and values:

> *“Not all provincial leaders would do that work, or they got dragged into it by their peers. And not all First Nation Chiefs will do what we did there, or what those Chiefs did. And it also takes leadership that will pull other leaders together. Which I’ve seen with other kind of First Nation leadership groups, there’s usually a galvanizing force. And if that person leaves the whole thing falls apart. Even though the concept’s still the same the opportunities are the same. And on the First Nation side, to me, that was Ryan Day. And on the provincial side both Rachael and I were aligned with the opportunity and need and desire to work together.”*
>
> – FLNRORD STAFF

Many people we spoke to, both Secwépemc and non-Indigenous, noted the high level of respect they and others held for Kukpi7 Day and Kukpi7 Ignace. The strength of this partnership and the importance of them continuing to ‘show up’ and demonstrate true leadership was key in bringing their communities together:

Photo credit: Sarah Dickson-Hoyle

> *"[It was Kukpi7 Day's] leadership and cultural integrity to the land [that] really played a big role in getting all that moving forward. I really see him as a role model or as good Kukpi7 for taking care of our land and our people."*
>
> – JENNY ALLEN, BONAPARTE FIRST NATION

> *"That combination of Kukpi7 Ron and Kukpi7 Ryan was amazing. Because Kukpi7 Ron is, as you know, a visionary guy. And he is full of ideas. And so you had the old guy and the young guy and they were really connected in terms of their vision. I think for us that was serendipitous to have those two. Because it might not have been the same. Both of them really leaned in. Ryan really leaned in on the process and spent a lot of time and effort and it was really the two of them, of anyone, working to make things work. So I just have to give credit to them, who continued to show up. And maybe that's it too, you know I had a boss once who was like 'you know what, leaders show up'. And so that's what we did, we showed up to this leadership table."*
>
> – RACHAEL POLLARD, FLNRORD – DTR

However, 'showing up' means more than just attending scheduled meetings to follow a set agenda:

> *"…it's almost like a 24/7 type of thing. You connect on the weekends, or whenever. Both myself and Rachael and our rural development director met with Chief Ryan, and we went to A&W, and then we got takeout and we went back, and we mostly just ate lunch for two hours. And then we talked for another two hours, and there was no real set agenda but we kind of just riffed off each other and talked about a few topics and some direction comes out at the end of that."*
>
> – FLNRORD STAFF

Former Kukpi7 Ron Ignace, reflecting on the leadership partnership he developed with Kukpi7 Ryan Day, described the strengths each brought to the distinct leadership roles they took on:

> *"Ryan Day was wonderful to work with, it was good to have two of us bouncing ideas off each other and working. And I could do the political lobbying around, and he could work on the ground, we had a good division of labour there."*

> *"For our people it's a feeling. It's an identity, an attachment, and that's one of the things that we have to offer*

Kukpi7 Day highlighted the critical role that Indigenous leaders take on when negotiating or working with government and other stakeholders, and the challenges they continue to face in bringing a greater depth of understanding and in working towards real change:

> *"Myself and Kukpi7 Ron, almost every meeting when we were discussing something and it wasn't that depth of understanding or commitment we would stop, and we would kind of digress and explain the full extent of why we were wanting something that maybe didn't seem that important. We had to explain the depth of that so that we could reach their emotions and their hearts. Because we know that they were well meaning and they got into it and they studied it in university and [were] working because of these values, but then we were able to push that deeper. Because for our people it's a feeling. You know, it's an identity, an attachment, and that's one of the things that we have to offer. And so that was really important in making the group work too, is to really show them, whether it's almost shaking voices or whatever, that's what needs to be done. And it takes a lot of energy. And so many of our leaders all over the place do that, and they're not treated with respect and they're not listened to, and they're berated or pushed aside, or whatever else. And it's hard work."*
>
> – FORMER KUKPI7 RYAN DAY, BONAPARTE FIRST NATION

Another key role was a coordinator at the technical level; a partnership shared, initially, by Chelsea Enslow (then the natural resource manager at Bonaparte First Nation) and Danielle Cuthbertson from FLNRORD. This partnership was identified as important in doing the actual work of bringing together technical staff from both communities and the province as well as background work such as establishing agendas and workplans. In this context, people emphasized the importance of having someone with facilitation skills and training:

> *"Those facilitation skills are really important. And they require someone that's experienced to do that, and to do it in a way that's genuine and offers that sense of collaboration and partnership. Rather than being a mediator or a negotiator. So Danielle [Cuthbertson] was instrumental in having the technical team move forward."*

Later, as communities were playing a more and more active role in recovery activities and as more and more initiatives came to the table, numerous people spoke to the important role of the SRSS in coordinating projects and keeping things on track:

> *"Angie (Kane) was pretty good at keeping things moving, and I think if it wasn't for her leadership and her ability to do that then I don't think we'd be where we are."*
>
> – FLNRORD STAFF

Joanne Hammond also highlighted the value of having one person within the Archaeology Branch eventually appointed to focus solely on managing the blanket permit for the 2017 wildfires and recommended having a dedicated coordinator appointed in future.

Beyond practical skills like facilitation or project coordination, in the end, we heard that leadership is about the person; about their willingness to set aside process and their openness to working together in a respectful and collaborative way, above all else.

> *"You know what, I think it boils down to the person. Rachael Pollard is amazing, and the fact that yes, she has her guidelines and rules that she has to follow, but it was her energy, positivity and willingness to genuinely listen that made all the difference in the world."*
>
> – ANGIE KANE, SECWEPEMCÚLECW RESTORATION & STEWARDSHIP SOCIETY

FLEXIBILITY AND EMERGENT PROCESSES

Through this process of seeking out 'lessons' or best practices from Elephant Hill, a number of people expressed a desire to develop a 'playbook' or operational checklist that could be used to guide future wildfire response and recovery.

However, while many people we spoke to could see the value in having guidance to support better recovery planning, others also highlighted the fact that the flexible, emergent nature of this collaboration – not being tied to process or policies – was a key factor in its success.

Part of this was a willingness on the part of provincial government staff to pursue creative solutions to different recovery challenges:

> *"I think a big key was that a lot of the people involved were willing to kind of think outside of the box for solutions to ideas. They weren't overly concerned about being pinned to their super specific mandates…just being more loose about the interpretation of how to do things, in that unique circumstance, was very helpful."*
>
> – FLNRORD STAFF

The diversity of people involved – in particular, at the technical committees – while at times posing a challenge (see Chapter 10), also brought a diversity of knowledge and ideas to the table, which helped push the boundaries of what 'wildfire recovery' entailed:

> *"It was really exciting for me to take my background and knowledge in what we could do and link it with all these other smart people both in the Indigenous communities as well as the rest of government to say, 'the sky's the limit here'. And there were some times where I would say I was getting a little bit worried about how creative we were getting. With that said though, in the end I think we landed in a really good place."*
>
> – ROB SCHWEITZER, BCWS

This openness to new ideas and the commitment to working together without any formal agreements in place was also an important part of establishing trust and moving forward with 'getting things done'. In contrasting the Elephant Hill recovery process with other government-to-government agreements, one senior staff from the provincial government said:

> *"Normally we have our Ministry of Indigenous Relations [and Reconciliation] kind of strike out all these deals. And by the time they strike a deal about how to work together, there are high levels of animosity which transfers over into implementation. Whereas this was, okay we're just going to not write anything down on paper right now, we're just going to start working together. So that was a very rare situation in this province…We just decided we're going to do something, and we ended up with some trickies later on because we didn't have a terms of reference, we had verbal agreements and we kind of had to figure out our terms of reference on the fly, usually when some things kind of went wrong a little bit. But it was that type of verbal agreement to say 'okay we have this common problem that we're going to focus on together'. And so that's really important."*
>
> – FLNRORD STAFF

However, Rob Schweitzer (BCWS) acknowledged that there can sometimes be a hesitancy within government to take these risks in going outside of normal policy or procedure and that this constrains innovation and forward thinking.

In closing our interview, one provincial Stewardship Officer highlighted this tension between a desire to distill and follow a step-by-step process or formula, and being open to new ways of working, grounded in relationships:

> *"A lot of times people try to make process out of things that – yeah process is good to an extent, but process can just be confusing for people too! {laughs} And you know, as humans some of us like process and some of us don't. Some of us like paperwork and spreadsheets and tables, and First Nations have oral histories. So, you have to understand both sides of this thing if you're going to work together. Like I said if you get good relationships, even if you don't like each other you'll probably work better because you'll understand everyone's position."*
>
> – DAVID MAJCHER, FLNRORD – DMH

THE STRUCTURE OF A LEADERSHIP COUNCIL AND TECHNICAL COMMITTEE

Despite this emphasis on maintaining this flexible and open process, we heard time and time again that the key – and perhaps, at the time, unique – factor contributing to the success of the Elephant Hill recovery process was the structure of the Joint Leadership Council and Joint Technical Committee. Key to these structures was not only the government-to-government approach, but also the fact that they brought multiple communities and provincial jurisdictions together around one table.

In particular, senior provincial government staff highlighted the importance of a leadership table in being a space where high level issues such as rights, title and governance could be addressed:

> *"Having a leadership panel is the number one thing that makes this type of work successful. It's not what we've ever done before. Usually we strike an agreement with leadership and then we go and work at the technical level. And that technical level, if they feel like they need to speak about past injustice or rights and title, or shared decision-making, nothing ever happens… Our technical staff [in government] aren't empowered to action any of those challenges, and it holds up any progress on actually managing. So having that leadership table where we can say to the technical folks, 'okay, what you're identifying is important, but that is going to be dealt with at the leadership table'; having those clear roles to say leadership is going to deal with shared decision-making, rights and title, all of those things enable technical teams to work together. It's number one thing that I recommend anywhere."*
>
> – FLNRORD STAFF

> *"For me the joint leadership council is the most important piece there, and it's what the unique piece was. Because I've been a part of a lot of committees and task groups and things like that where we work with First Nations but nothing like this."*
>
> – ROB SCHWEITZER, BCWS

However, Cliff Chapman (BCWS) expressed a hope that, in future, there would not be the need for a formal JLC or terms of reference *"based on the way we are trying to move as an organization and the way government's trying to move in terms of reconciliation."* As such, there is not consensus as to whether a formal joint leadership and technical table is needed or should be promoted for wildfire recovery (see Chapter 10). Like many aspects of collaborative wildfire recovery (and land stewardship more broadly), these key decisions – from governance structure to goals and objectives – must be considered in the context of the specific territories and impacts and be determined by affected First Nations, and will likely be shaped by the existing relationships (or lack thereof).

Others explicitly spoke about the importance of separating *"the politics from the technical on ground stuff"* and the role of the leadership council in providing support for, and empowering, the technical staff to drive the operational 'boots on the ground' work and decision-making:

> *"The operations level decision-making, that was jointly made. So those [technical] tables with literally half provincial staff and half First Nations staff, that's the joint decision-making we're looking for. That's what feeds it, is those technical and operations level people who are making decisions together, and then you're basically elevating it to joint leadership to approve because they're the ones that have the authority to give approval for those kinds of things. But it can't come from them. The top down doesn't work. I think what works so well about the Elephant Hill table and the AOA table that preceded it is that it's a ground up solution. So, the decisions that are made are based on actual experiences, people who are doing the work."*
>
> – JOANNE HAMMOND, SKEETCHESTN NATURAL RESOURCES

Joanne's view here reflects that of many Secwépemc community members and employees that we spoke to (who were involved in in the technical committees), that – while a leadership council plays a key role in advocating for issues or authorizing decisions at a higher level – it is the technical level that sustains these collaborations and drives change:

> *"There needs to be this technical level to go along with the Joint Leadership Council…I like the structure of this, of SRSS and the Elephant Hill technical working group, because you gotta have this technical level, boots on the ground level. And just all the knowledge that this level has. You also need the political level, but to keep them separate is very important 'cos once it gets to the political level everybody knows what happens when it gets to the political level. And I didn't want this group to be lost."*
>
> – STEWART FLETCHER, HIGH BAR FIRST NATION

> *"The good thing about Elephant Hill is there's operational tables where we do sit down, technician to technician between us and the government, and that's where you start to change things on the ground."*
>
> – MIKE ANDERSON, SKEETCHESTN NATURAL RESOURCES

One government resource manager who was involved at both the leadership and technical level described the importance of having a technical table comprising natural resource 'professionals' – many of whom who played a dual role of representing their community (in the case of Secwépemc staff) while also bringing their technical expertise to the table:

> *"I think what really made it work was the technical table was made of technical resource people from the communities. It wasn't just a community representative. It was First Nations foresters. First Nations people in their natural resource department. It wasn't just, 'let's have a representative from the community at the technical table'. It was very knowledgeable people, and that made all the difference in the world…A representative from the community does bring that bigger community vision, but not the how to get it done, they're not talking about technical things. They're not talking about where the road goes. They're talking about whether it's appropriate to access this area, because your road is going to prevent access to a traditional plant gathering site that our Elders go to and where our family camp is, those kind of things…the difference with the wildfire recovery table was the Joint Leadership Council was really providing that community vision, and the technical team were the doers. You had technicians talking to technicians. People who knew how to apply this on the ground, but also knew the views of their community. So to me, that was critical."*
>
> – MARINA IRWIN, FLNRORD – DTR

While having this 'technical' involvement at the JTC was undoubtedly critical to its success, it does raise the question of what counts as 'expertise' and the fact that 'technical' knowledge is still viewed through the lens of western, 'professional' certification.

In terms of governance structure, multiple people also highlighted the important role of sub-committees in getting into the 'nitty gritty' of developing and implementing workplans in areas as diverse as access management or Douglas-fir beetle monitoring:

> *"I am a real firm believer in the sub-committees because you need these sub-committees to get the work done faster and to identify the values and what your goals and your objectives are at that time for that sub-committee. And by having access management and the silviculture and all of that, it's just often too onerous to just take all of that and to put it all into one basket, so you really need to separate it out."*
>
> – JENNY ALLEN, BONAPARTE FIRST NATION

Within this governance structure, some people emphasized the value of regular, scheduled meetings in building and maintaining strong relationships and keeping things on track. Across these technical levels, people kept coming back to the fact that, despite differences in opinion, as 'professionals' they were always able to arrive at a joint decision based on shared values:

> *"The cool thing about this joint technical table was we were all able to somehow make a joint decision, and a lot of that I think was because we're professionals, right? So, I think for the most part we were always able to find a solution that worked for both of us."*
>
> – GREG CROOKES, FORMERLY WITH BONAPARTE FIRST NATION

UNDERSTANDING SHARED VALUES

Understanding and recognizing shared values is critical not only for building trust and relationships, but also for reaching shared decisions as to how to recover the land base. Secwépemc and provincial government technical staff alike highlighted the value of the technical tables in promoting this shared understanding:

> *I think we realize that the government, the rank and file of the government doesn't think so far from what we think. You know, there was a meeting of a lot of minds at these tables, I see that we have an awful lot of the same thoughts and probably want to see very similar things for the land base."*
>
> MIKE ANDERSON, SKEETCHESTN NATURAL RESOURCES

> *"What we really realized early on is that there was a lot of shared values and similar thinking. So we were really driven by conserving things on the landscape… that stewardship ethic was very much aligned."*
>
> – DOUG LEWIS, FLNRORD – RESOURCE PLANNING & ASSESSMENT BRANCH

A number of people spoke about the first official meeting of the Joint Technical Committee in January 2018, and their success in working through the salvage and retention guidelines, as a pivotal moment when they realized that First Nations and government technical staff were aligned in many ways:

> *"There were representatives from almost every community… Everybody sat down, we made a huge giant circle in the gymnasium. We went around, everybody said what they thought was really important to consider in salvage principles. And we just did it. From my perspective looking around everybody felt comfortable saying their piece, everybody said it openly, and any time anybody spoke regardless of if it was First Nation or province, people would be nodding around the table saying: 'yeah, that's one of mine too.'"*
>
> – MAHRUSA SHERSTOBITOFF, FLNRORD – DTR

> *"At that [first technical] meeting we basically brought folks together, all the technical people. And had a meal together and started to hammer the salvage retention [principles]. But I think there was a bit of a revelation like 'oh, we all care about the same thing'… Eric said something much later, he said: 'you know, the path to relationships or reconciliation', or something along those lines, 'is paved with shared values'. And that for me really resonates because I think we got there, and it was like 'oh. Yeah. We care about the same things. So we can do this together.'"*
>
> – RACHAEL POLLARD, FLNRORD – DTR

For Secwépemc staff, this opportunity to come together on a regular basis with provincial staff was important for promoting a broader understanding of issues and recognizing each other's expertise:

> *"There's a broad level of technical experience around the table. I really found that the eight Secwepemc bands really worked well together, that there was a lot of technical support from the provincial government and that we were able to bring forward priority issues and discussions and talk about them and come to resolutions at that table. I think that in the eyes of all of us we all see it from a different perspective…we all have our strengths and weaknesses when it comes to the work that we do and that's why we do the work that we do. So I found that by bringing all of the technicians together, you are able to see things in a much broader picture. You're able to look beyond your scope of practice and see what others have to say and talk about it."*
>
> JENNY ALLEN, BONAPARTE FIRST NATION

For other staff within the provincial government, it was an opportunity to demonstrate that in some cases, government's approach to wildfire and ecosystem recovery can align with First Nations' values and objectives:

> *"The beautiful part of becoming part of the group was that we got to talk to them about a lot of stuff, and I think that they heard in our voice similar things to what they would expect their Elders to say, and that was powerful. We would say, 'it would be better for the moose if you left it without the conifers as long as possible, just let the brush species, and hardwood trees grow naturally'. They think that our purpose as foresters is to only grow wood for timber supply. And yeah, that's a big part of our business, but we're also managers of lots of other things. We have Old Growth Management Areas and we understand why we have them. We have streams that have critical habitat requirements, we understand that. Part of our job is to provide all these other things that nobody puts their hand up and says {pauses} 'I need this.' But we know it's needed for proper ecological function, we know a healthy ecosystem is going to provide a healthy forest…So our goal is to do all of those things, and I think that aligns with First Nations values."*
>
> – DAVID MAJCHER, FLNRORD – DMH

This recognition of shared values between First Nations and the provincial government not only helped the technical tables arrive at shared decisions, helped some provincial staff advocate for change within broader government:

> *"There's a lot of alignment with communities and ourselves through how we manage collectively. So it certainly adds another voice to us to stress or to advocate for common values to District or Executive Ministry staff. So maybe we can change policies, maybe we can start doing things a little bit differently. Everything is so structured [in government]. But let's have some flexibility on the land base, for some of the things that are important to myself and for wildlife."*
>
> – FLNRORD STAFF

First Nations and provincial government staff also regularly met internally (i.e., First Nation only meetings and provincial government only meetings). For example, provincial staff from the Thompson Okanagan Natural Resource Region and the associated Thompson Rivers District would hold internal meetings to discuss their position on key topics or decisions (something which also occurred within DMH and between the two Districts), and the First Nations similarly held meetings open to the eight participating Secwépemc communities (which became monthly meetings of the SRSS First Nations Technical Table from July 2019 onwards). This was an important process for getting internally aligned before the larger joint meetings:

> *"We would also talk internally [within the provincial government] about what we thought the things were that mattered from our perspective in advance of the meetings, so that we weren't doing that thinking and brainstorming there, taking away from the hearing and the listening. As well as being clear about what it is that we do have, because obviously even internally we don't necessarily agree, but we don't actually need to be fighting at the table, nor do we not need to be clear about what we actually want. I think that was helpful, from our end, anyway we were learning how to work together."*
>
> – FLNRORD STAFF

While this practice of internal meetings – as well as factors discussed earlier, such as a skilled facilitator and regular face to face meetings at both leadership and technical levels – are recommended for any similar processes moving forward, there is no standard 'recipe for success'. Angie Kane (Secwepemcúl̓ecw Restoration and Stewardship Society) acknowledged that despite the challenges faced:

> *"I don't think I could change anything...I think the key thing for us was learning how to talk to each other and learning how we're all on the same page and we all have the same common goals, it's just how do we get there? Basically it's the same outcome, we're just speaking in a little different language and trying to figure that out."*

TRANSPARENCY, COMMUNICATION AND TRUST BUILDING

While there is similarly no clear 'recipe' or standard checklist for forming strong working relationships, some key factors emerged from our interviews that were seen as central to building trust in each other and the joint process. These were:

- being open to, and listening to each other throughout, difficult conversations;
- honest and transparent communications, particularly when things went wrong; and
- taking the time to meet *in person* in communities or on the land to 'kick the dirt'.

Kukpi7 Ryan Day was keenly aware that meaningful change would only come through an active process of *"peeling away of beliefs"* and becoming conscious of each other's ways of understanding and knowing. In his opening remarks at the first leadership meeting, he emphasized that the *"solution to a problem will only appear when all of the voices and all the ideas are expressed and heard and listened to, and until that happens the path forward will not materialize in front of us."*

As valuable as it was coming to an understanding of shared values and goals, at the same time we repeatedly heard of the importance of allowing time and space for people to have different opinions, and *"not having that be what causes the table to fall apart"*.

Reflecting on the first meetings of what would become the JLC, Angie Kane (Secwepemcúl̓ecw Restoration and Stewardship Society) emphasized the importance of the provincial representatives spending time listening to Secwépemc Chiefs' concerns and really understanding the impacts of this fire on Secwépemc territories and communities (p. 129).

Photo credit: p.128: Paul Simakoff-Ellims

"I remember that [first] meeting, it was just an opportunity that needed to happen for Chiefs to vent their concerns and share how they felt about how they were treated; the lack of communication and what had happened [during the fire]. The province was really good and same with BC Wildfire, because they took the time to listen. I think they knew that they screwed up. And so they came to that meeting with open ears, and sat there and listened and kudos to them. There were some pretty harsh words said. But they sat there, they listened, they took it. So this meeting was all about the Chiefs relaying their concerns and telling their story.

The next meeting was the same…just the rawness of everything was still so there and so present. I think it was something that really needed to happen, and I think that's how that relationship was built. Because there was the space for them to talk about how it made them feel, and how it impacted their communities. It was really important for the province to understand, not just the physical but the emotional impacts of what had happened during that fire to their community members. Had that not happened I don't think we would be here. I think that was a very key element to the whole process of creating that group."

– ANGIE KANE, SECWEPEMCÚLECW RESTORATION AND STEWARDSHIP SOCIETY

High severity burn near Hihium Lake. Photo credit: Sarah Dickson-Hoyle

This openness to criticism, and willingness to work through conflict, was also noted by a number of senior provincial staff:

> *"[In] the first conversation, we took it on the chin pretty hard. They had a lot of critical feedback, for government. And basically told us, they were done letting us figure out how to properly manage their resources. And that they were going to step in and take over and do it differently…I understood where they were coming from. I didn't actually disagree with them in a lot of ways. I think we've screwed the pooch on our land base and resources for the last three decades, four decades, and we have a lot of work to do to fix it. First Nations recognized it, I recognized it, I didn't disagree with them."*
>
> – FLNRORD STAFF

> *"From a relationship perspective, what I did witness, which I think was reassuring, was that there was real conversation and real openness and almost conflict that would come up at the JLC meetings. Not in a bad way, but in a very honest way, and I don't think you get that, especially both ways, unless there's some forming of a relationship."*
>
> – CLIFF CHAPMAN, BCWS

While the JLC and JTC meetings offered an opportunity have these discussions and build relationships, some people found these large groups challenging and highlighted the parallel need to make time and space to connect with 'the quiet ones'. As Bert William (Bonaparte First Nation) said:

> *"You got to sit back and observe sometimes, and listen. I think the great Chiefs of past have said that listening is 99% of making things happen."*

People also highlighted the open and honest communication between provincial staff and Secwépemc representatives as key to developing trust. This included being upfront about the scope of possibilities and limits to provincial mandates, as well as being honest and transparent when sharing information or data (and the interpretations or implications of this):

> *"Overall, we did pretty good {laughs}. But I think part of that's being honest. It was like, so we're just going to be totally honest about the things that we can do and the things that we can't do. And we committed that within the scope of our authority to going to the very outside of that, and being as creative as possible in order to do the things that need to be done at this table."*
>
> – RACHAEL POLLARD, FLNRORD – DTR

> *"When you're bringing information forward, be honest and be credible. Anytime we've gone in with information often it's sort of like 'uh oh, things aren't looking that good for the value'. And they (Secwépemc communities) appreciated that honesty. And they said: 'okay, so we're not going to spend time crying over spilt milk, what do we do about it?' And that was it. If you go in there and you're trying to hide information or make things rosier than they are, then you're going to lose credibility and they're not going to trust you. But if you're honest and say: 'look, it's not looking good', it's like 'well let's get past that let's move on'. And that's the place you want to get to."*
>
> – DOUG LEWIS, FLNRORD – RESOURCE PLANNING & ASSESSMENT BRANCH

> *"Find out who the players are…drive down and have a visit with them. If we'd done that first we would have broken down a lot more barriers, we would have built some personal relationships where we would have been kinder to each other*

While there can often be a temptation to hide or gloss over negative information, this only serves to damage credibility and trust. The importance of being able to own up when things go wrong and to take ownership of inevitable 'screw ups' was demonstrated in the following account from Dave Horne, who was contracted by BCWS to supervise the rehabilitation of fireguards:

> *"I had to go to Don Ignace [at Skeetchestn] at one point and say: 'you know, there was an area there where Joanne [Hammond] had asked us not to rehab [due to it being an archaeological site], and we rehabbed it'. I went up to the site and I said: 'oh where's such and such an operator?' And they said: 'oh he took the day off but we brought a new guy in' and I went 'where's the new guy working?' And he said: 'he's down there' and I said: 'oh no!' {laughing}. You know and sure enough, I had told the other guy 'don't go past this point'. But the new guy didn't know that.*
>
> *And so anyways, we rehabbed it, an area that I had agreed not to. And I had to go to Don Ignace and say: 'Don, I screwed up. There was this area that we agreed not to rehab, and a new operator came in and it got rehabbed'. And he looked at me and he said: 'thanks for telling me', he says 'I know you wouldn't do it on purpose' and he says 'quite frankly I'm surprised this hasn't happened before this and more often'. And so then I said: 'okay well what do you want to do about it?' And he said: 'well, because it's been disturbed again, I'd like to put the crews back over it to recover any artefacts that might have been turned up, because of the second disturbance'. And I said you know, 'done'. And that was the end of it. Again, it became sort of a cooperative thing."*

Provincial staff such as Dave Horne and Nina Sigloch also held field trips where they invited representatives from Secwépemc communities – and, in the case of silviculture tours, industry licensees. These helped effectively communicate the considerations behind the decision-making processes, as well as the on-ground realities of rehabilitation or reforestation. As one FLNRORD staff acknowledged:

> *"We don't, as forest professionals, do a very good job of articulating our decision process. I think there's a common set of rules that I think we know and understand. Even as simply as if I were out laying out a block, I have to think 'okay so how is it going to be safe for the equipment? Where does it make sense for the timber profile? How does it make sense for roads?' Like you have these fifty things that you think about and then you hang the ribbon on the tree. And so all people see is the ribbon on the tree. And we don't describe how we got there…part of it is being able to articulate that decision process, and just be open about what it means. And what the outcomes will be."*

Looking forward, David Majcher (FLNRORD – DMH) recommended being more intentional and spending more time at the start to *"remove the tension"* by getting out together on the land:

> *"I think the first thing that I would tell people if they had to do this again, is find out who the players are. And make sure you drive down and have a visit with them. That's it. So they know your voice, they know your background…We should have just got in a truck and drove around the fire, First Nations and Government people for a week, you know 'I'm going with you, we're going to drive this fire, we're going to walk, we're going to talk. We're going to go visit some sites, you're going to show me some stuff I'm going to show you some stuff.' And if we would have done that first we'd have broken down a lot more barriers, we would have built some personal relationships where we would have been kinder to each other, we would have been less on edge, we'd have been less stressed. We probably could have got down to the business of having those harder conversations easier, with some level of trust."*

The commitment of particular provincial staff to 'showing up' and taking the time to meet face-to-face in communities was also crucial for effectively and efficiently making decisions. In particular, the two personnel contracted by BCWS to coordinate and supervise fireguard rehabilitation were spoken of highly by a number of Secwépemc staff:

> *"It wasn't unusual for them just to go out to the community every time they wanted to talk to somebody. They weren't just sending notifications, right? Which is so common, such a common way of dealing with Indigenous communities is you just tell them what you're going to do and wait for somebody to respond to it. Ken Conway-Brown and Dave Horne actually showing up and talking to people about what needed to be done and offering resources and being supportive instead of instructive, I think that was a major help in those decisions being made quickly, and to everybody's satisfaction. I can't see it happening any other way, it had to be that in person contact – that worked really really well."*
>
> – JOANNE HAMMOND, SKEETCHESTN NATURAL RESOURCES

Joanne went on to describe how this approach was also a good way to tap into the resources of a community, whether this be natural resource staff or equipment operators:

> *"When you show up in the office at Skeetchestn Natural Resources and talk to Don Ignace for example, right away you're going to be put in touch with the guy who has the loader that you could use for that project. So all that seemed like a really efficient way to do it. Despite the fact that showing up in person seems like a pain in the ass. But it meant you didn't have to bounce around a whole bunch of emails and have a whole bunch of meetings to get things done, decisions were made on a community-by-community basis."*

A key message coming from these experiences is that making joint decisions about land-based recovery required getting out together *on* the land. As Marina Irwin (FLNRORD – DTR) put it:

> *"It wasn't just about let's sit in a room and make decisions together. It's let's recover this land base together. And intuitively that means being out on the land base together. And kicking dirt together. And looking at the same things and talking about the same hills and all that kind of thing. I don't think they explicitly laid it out, but I think they probably knew in their guts that's what had to happen."*

However again, as one provincial staff acknowledged, *"in terms of people building their knowledge and their trust, there's no recipe for that."*. By this, they mean there is no simple check-box exercise that can speed up a process; instead, it's about a constant process of building and maintaining relationships with First Nations:

> *"Just to know who they are, so they know who you are, know what you're doing, try to work together any chance you get, so that when you have a big fire or another catastrophe flood whatever, you know who to call and you have a certain level of trust to start with and you have a basis to work from."*
>
> – MAHRUSA SHERSTOBITOFF, FLNRORD – DTR

9 KEY FINDINGS

9.1 Key factors for building and sustaining effective and meaningful collaboration were:

- → strong leadership and coordination from both Secwépemc communities and the Province of BC;
- → flexibility and a willingness, particularly on the part of the provincial government, to work outside of usual policy or process;
- → the governance structure of a Joint Leadership Council, Joint Technical Committee and sub-committees;
- → spending time to develop shared understandings and identify shared values; and
- → open, honest communication in communities to build trust.

9.2 Strong and actively engaged Secwépemc leadership, in particular the partnership between then-Kukpi7 Ron Ignace and Kukpi7 Ryan Day, brought communities together and ensured a greater depth of understanding of the issues and challenges faced.

9.3 The Secwepemcúl̓ecw Restoration and Stewardship Society played a key role in coordinating projects and facilitating communication with the Districts. In addition to this coordinator role, having a skilled and respected facilitator at both the leadership and technical level is key.

9.4 An openness to new approaches and a commitment to working together without a formal government-to-government agreement, in a process jointly determined by communities and the provincial government, helped establish trust and a collaborative working relationship.

9.5 The Joint Leadership Council provided a space where high level issues such as rights, title and governance could be raised – issues that are intertwined with and fundamental to land-based recovery.

9.6 The Joint Technical Committee and sub-committees were seen – particularly by Secwépemc staff – as key to sustaining collaboration, developing and implementing workplans, and reaching joint decisions.

- → These tables were successful not only due to their government-to-government approach, but also their emphasis on bringing together, rather than siloing, multiple communities and jurisdictions.

9.7 Trust was also built over time through being open to, and listening to each other throughout, difficult conversations; honest and transparent communications, particularly when things went ‘wrong’; and taking time to meet in person in communities or on the land to ‘kick the dirt’. Jointly making decisions about land-based recovery requires getting out together on the land.

9.8 The process of developing joint principles (e.g., for timber salvage or silviculture) promoted a greater understanding of shared values and a mutual recognition of expertise.

CHAPTER 10

We started with nothing': Barriers and persistent challenges to collaborative recovery

Despite the many strengths and successes of the joint recovery process, communities and the provincial government faced multiple challenges throughout.

Many of these challenges have not been overcome and continue to pose a barrier to collaboration. These barriers and challenges fall into two broad categories. The first are more pragmatic or technical challenges: of capacity – a persistent challenge that has no 'quick fix' but rather requires long-term investment – and a lack of planning or decision-making mechanisms to support effective and strategic recovery. The second set of challenges relates to issues of governance and jurisdiction, participation, trust and power, and how these shaped diverse and often divergent perspectives and expectations for 'recovery'.

CAPACITY

Of all the challenges associated with working together to recover the Elephant Hill wildfire area, 'capacity' was one of the greatest. We heard this in almost interview we conducted; it is also raised time and time again at meetings of the First Nations Technical Table and regularly within the offices and amongst staff of communities. This is a complex and ever-pressing issue faced on a daily basis, and like many people we spoke to, we acknowledge there is no silver bullet solution to the many aspects of this challenge. However, below we try to shed light on some of the different aspects of the 'capacity' challenge that were faced throughout the Elephant Hill wildfire recovery.

Scope and scale of work

From the outset, it was clear that the scale of work involved in wildfire recovery across 192,000 ha of affected land – from the approximately 580 km of fireguards to rehabilitate and approximately 360 km of fences to rebuild, to conducting archaeology on all of these areas and planning and implementing salvage – posed a major challenge for both the provincial government and Secwépemc staff. One silviculture consultant put this scale in context, saying:

> *"The other fires I had worked on previous to this, when you put them inside the Elephant Hill wildfire they're tiny. And then when you put the Elephant Hill wildfire inside the [Fraser] plateau fire and some of those northern fires, it looks tiny! So it's kind of mind blowing the amount of area that burnt, actually."*

One BCWS staff tasked with coordinating fireguard rehabilitation similarly acknowledged that the scope of this rehabilitation was far beyond anything he had worked on before:

> *"We'd never seen fires this size either and it took until August to realize we weren't going to get [the fireguard rehabilitation] done…typically fire rehab's done either that year or by the following year…[but] there was approximately 600km of guard. That's a lot of ground and the decision was made to walk it all [to complete the archaeological assessments]…there was no way they would get through it all in 2018. There just wasn't enough staff to get it done that quickly, either in First Nations or government. And the First Nations had their other priorities. They were dealing with the District on fences, they had to deal with the referrals with licensees, so it was just way too much work."*
>
> – KEN CONWAY-BROWN, BCWS

High severity burn near Green Lake. Photo credit: Sarah Dickson-Hoyle

As mentioned in Chapter 7, it is an offence under the *Heritage Conservation Act* to damage heritage sites and objects (such as archaeological artifacts) and an associated expectation – particularly within the DTR – that this is avoided by First Nations conducting archaeology surveys prior to any ground disturbance. In the context of wildfire recovery activities, this placed a huge pressure on Secwépemc cultural heritage staff to conduct surveys across such a vast area, and on archaeologists (either working for or contracted by Secwépemc communities) to finalize these reports. One forest industry representative acknowledged this challenge, and the need to support First Nations in building this capacity:

> *"It was a huge, huge undertaking for not just us but for the communities too. Think of the pressure that was put on the communities to step up and provide us with this [archaeological or cultural heritage] information. There wasn't capacity to do that! There wasn't capacity on our end to do that! So to me, I think that's a huge learning, is to really support the communities to make sure that they've got the capacity to do these things, cos we're still doing that, right? Even if we're chasing fir beetle around now, for forest health, if we want any kind of a regular cutting permit we need the communities."*
>
> – FORESTRY LICENSEE STAFF

This sentiment was echoed by Joanne Hammond (Skeetchestn Natural Resources), who felt *"we were given a lot of opportunities this time, but not a lot of support to get that work done. Or not enough."*

However, another provincial government employee instead expressed shock that the provincial Districts would choose to develop a new collaborative approach and expand the model of First Nations-led archaeology, given the scope and scale of wildfire impacts:

> *"I was just flabbergasted that they would do something like this, still while we were still reeling and dealing with all of this, the largest fire we've ever had since the 1800s I think."*
>
> – FLNRORD STAFF

In addition to the scale of on-ground recovery work, the JLC and JTC required a substantial time commitment from all involved. This often extended beyond attendance at formal meetings and working groups to being an *"almost 24/7 type of thing"*. While the provincial government hired a wildfire recovery coordinator (who was kept on as a District Resource Manager) for Elephant Hill, and Angie Kane was appointed to lead the SRSS and provide project management, administrative and coordination support for communities, we often heard how participation in these meetings and keeping up with

administrative requirements associated with wildfire recovery work was almost a full-time job within each community. For the Big Bar slide Stswecem'c Xget'tem First Nation was able to hire a dedicated coordinator to manage their involvement, however this has not been the case for Elephant Hill.

One senior District staff described how this joint approach to wildfire recovery dominated his workload for almost three years after the fire:

> *"Rachael and I started with nothing. And we had to figure this out and learn it as we experienced it for the two to three years. And it was tough. It consumed more than fifty percent of my time here… And I didn't have it. I don't have that kind of time, but I couldn't not commit. And so it meant I dropped a whole lot of other things that needed to happen. And it was, you know I remember having conversations with my Regional Executive Director and my Assistant Deputy Minister a year and a half later saying, 'I'm losing it!'"*

This quote speaks to the challenge faced by many provincial and Secwépemc staff of not only establishing a new way of doing things, but of sustaining participation and involvement in recovery activities over the years to follow.

Sustaining capacity to undertake recovery activities

Secwépemc natural resource and stewardship departments soon found their staff and resources spread thin across the multitude of fire recovery activities. However, many people also highlighted the fact that within First Nations, staff and elected leadership are often already stretched across multiple projects and community priorities that compete for their time and attention. Even before the fire, this posed a challenge for communities in addressing longer-term or bigger picture stewardship goals, or being proactive in areas such as fire management:

> *"Particularly for Bonaparte, which has low capacity, a rapid turnover, political turmoil up until I was there, you're not really doing much in the way of thinking about things that aren't pressing issues. We were just constantly responding to referrals and pushing back on West Fraser and the province on everything land related. As you know, all these decisions are being made without adequate involvement, or respect for our rights. So thinking about how to care for the landscape is not something that we spent time on because we're too busy reacting and fighting to get the very basics of not destroying the landscape, never mind remediating what has happened. So, thinking about fire and use of it, we weren't doing it. We just were not in a position to do that, because of capacity."*
>
> – FORMER KUKPI7 RYAN DAY, BONAPARTE FIRST NATION

This can then pose a particular challenge during an emergency such as a wildfire, with different communities having different abilities to divert staff and resources to emergency response:

> *"Part of the challenge with the First Nations communities [is] a capacity issue, because even if there is a flood or a fire, they still have either a housing issue, a water issue, there's still a number of community issues that they need to address. So for them to release staff and to not address these issues on a day-to-day basis, can be a challenge."*
>
> – EMBC STAFF

While capacity issues are by no means limited to First Nations, Rob Schweitzer (BCWS) recognized the particular nature of this challenge faced by Secwépemc (and many other First Nation) communities:

> *"Cliff [Chapman, BCWS] was starting to touch on [the capacity issue] with the commitment of eight Chiefs to be at a table when they've got communities to run. Like, we think we're busy [because] we've got a program to run, they've got a community to run! Yet they're giving up their time to be part of this, and that's the significance of it."*

Former Kukpi7 Ryan Day highlighted the fact that *"we all had our different emergencies and things in our own communities. So keeping it together was a chore."*. The fact that they could 'keep it together' is testament to the commitment of Secwépemc leadership and staff to the process. However, this quote also speaks to the fact that Elephant Hill was just one (albeit major) emergency and priority issue facing these communities at this time.

Georgina Preston (formerly with Stswecem'c Xget'tem First Nation) also highlighted this challenge, and the fact that the additional funding and economic development opportunities that often come with recovery or other stewardship initiatives have at times outpaced communities' abilities to grow capacity (or, perhaps more accurately, have not come with the required support and long-term planning to build capacity):

> *"There were a billion other emergencies and projects that all of a sudden we had gotten funding for. I think that is one of the crazy things about this political climate right now… all of a sudden it has become a lot more prevalent that government bodies and non-government bodies will offer funding to do environmental projects to First Nations communities, which is great. But I think because of that, a lot us have just jumped on the funding, and just expected to take off and go running with it… So that's an interesting challenge, it's a good thing I guess. We have too much money that we are being offered. It's just finding the people."*

This need to focus more intentionally on long-term capacity building, beyond just providing funding, was also recognized by some people within the provincial government:

> *"In terms of the provincial side, some thought should be put to capacity, on that front. In [my] experience in working with First Nations communities it's one person sitting in an office, and they are juggling soup to nuts, they're doing everything. They're the emergency response person and they're the referrals person and if need be, they run out and they run the backhoe for a bit and then they come in and they fix the computer for the guy next, they do everything for all people and it's one person. So you can't load something else onto that plate, for a community, and expect that they're going to be able to achieve it without somehow finding a way to fund that role. And not just fund it, but also develop the capacity to be able to fill it."*
>
> – MAHRUSA SHERSTOBITOFF, FLNRORD – DTR

The challenges of building long-term capacity are compounded by the short-term nature and project-specific funding that is often associated with stewardship initiatives. This was the case with wildfire recovery, which in the case of Elephant Hill was defined by available recovery funding as being a three-year initiative.

Short-term funding poses difficulties in terms of hiring (e.g., not guaranteeing job security beyond project end-date) and of sustaining employment and training opportunities after the peak of project activities (in this case wildfire recovery activities) is passed:

> *"For First Nations communities, you live and work in a small community and there's a limited number of people there. And so when you suddenly have a huge amount of stuff to do it's not like you can just go, okay we're going to hire ten people. Because they might not be there…And it's tricky to provide people with short-term jobs for something like wildfire recovery…In the back of my mind was 'okay, we're training a lot of these people, we're giving them these great jobs, we've got a lot of people working', and they loved the work. But I was a bit worried that, okay the fire stuff won't be forever. And now that so much of the territory is damaged the natural resource work generally might be lower, in four or five years, so all these people have these great jobs now and might not in three or four, five years."*
>
> – FORMER SECWÉPEMC STAFF

These impacts associated with the short-term nature of wildfire recovery work are already being realized:

> *"Unfortunately, with a big wildfire there's a peak. And that's trailing off now. And so they've had this really nice taste, it was like their golden years, and they'll talk about it for ten or fifteen years, but there's only so much you can do, or that gets done. So that's also a something to pay attention to when these things happen, that there's going to be an economic ride, you know. They'll be building capacity building capacity! Also we've got this great capacity and we can do all these different things! But there's no work. And it sort of falls apart, right?"*
>
> – DAVID MAJCHER, FLNRORD – DMH

> *"You have to create a sustainable position for people who are going to be called upon to do these things in times of stress or need. You can't just snap your fingers and have those people appear*

Building capacity is a long-term project, and one that can't be solved simply by providing funding *solely* for short-term positions, or funding that is tied to defined projects or 'participation':

> *"[Capacity] is a big issue. It's a daily issue right? And some of it is so unlikely to be resolved in the short term that it's hard to come up with solutions. Because it takes so long to build capacity. And then to maintain it, it's a very difficult thing to tackle because it's hard for the bands to keep up with the demands. And the temptation is just to write a cheque, right? We'll give you some money to come to the meeting, pay you ninety dollars an hour to come sit at this meeting. Well, that's not a job. What does that person do the rest of the time? You have to create a sustainable position for people who are going to be called upon to do these things in times of stress or need. You can't just snap your fingers and have those people appear in your office, it has to be organized in advance. So that is very challenging."*
>
> – JOANNE HAMMOND, SKEETCHESTN NATURAL RESOURCES

Constantly in 'reboot mode': challenges with turnover

Another challenge – particularly for maintaining strong relationships – was the high level of turn-over of staff, both within the provincial government and Secwépemc leadership and natural resources departments.

In the case of BCWS, this was particularly prominent in the Cariboo Fire Centre. As John Liscomb (Stswecem'c Xget'tem Development Corporation) explained, this has resulted in the loss of institutional memory as well as a lack of recognition amongst current staff of both the needs and expertise within Stswecem'c Xget'tem First Nation:

> *"Most of the [BCWS] staff that we worked with in 2017 aren't even in those positions anymore and it's a whole new whack of people again, whether it is Districts, Ministry, the staff turnover has been quite great and with that they kind of lose the history. A lot of times we are hearing things like 'oh this is the first time we are hearing these issues'. And we are like 'no you are the next person in line to hear it'."*

In the context of recovery, John also highlighted how many of the key BCWS rehabilitation personnel, such as Ken Conway-Brown and Dave Horne, were brought back from retirement to work on Elephant Hill, and have now, once again, retired, leaving *"a whole new group of people that may not be educated enough on this process to know that there is some success in it"*.

Similarly, both Secwépemc and provincial staff described a frequent changeover of staff within the FLNRORD Ministry, with people moving on to new positions in different departments. As now-retired Dave Horne said, this sort of turnover poses a barrier to building and sustaining trusting working relationships:

> *"It becomes tricky as well, in that people move on. And so you develop a certain process based on your personal relationship with a person on the other side, and then that person leaves. And if Bert William has a trust in me and I have a trust in Bert, when Bert says: 'don't go there [with your machinery], I can't tell you why but don't go there', and then Bert leaves and somebody else comes and says: 'don't go there', I don't necessarily have the same trust that it went through the same set of filters that Bert put it through, or vice versa of course."*

A number Secwépemc staff noted the challenge associated with frequent band council election cycles (regulated under the *Indian Act* or the *First Nations Elections Act*) and changes in leadership, which are often associated with changes in staff. While establishing economic development corporations (such as Skeetchestn Natural Resources, or Stswecem'c Xget'tem Development Corporation) can address some of this uncertainty, there are still challenges associated with maintaining positions beyond defined project cycles:

> *"The number one thing I've heard is that they have no problem in filling a position, they have a lot of trouble retaining that person, because all their funding is project to project. And you can't plan a position, you can't fund staff or a long-term employee contract to contract. Because any individual looking out for their self-interest and a family and house and bla bla bla isn't going to stay in that role if they're offered stable long-term employment somewhere else. And so you often see a revolving door of really great people but they don't stay around because they don't have a lot of security."*
>
> – MAHRUSA SHERSTOBITOFF, FLNRORD – DTR

This turnover is even reflected in the list of people we interviewed for this project: two former Secwépemc employees we spoke to had already left during 2020, and another had moved to a position at another Secwépemc First Nation. One of these people, Georgina Preston, spoke of her sadness at *"now [being] part of the turnover problem at the Nation, because I think that's how trust is built, and relationships are built within communities"*.

Due to the many moving parts of Elephant Hill wildfire recovery, and in trying to plan broader stewardship initiatives or develop funding applications under the SRSS, Angie Kane (Secwepemcúl̓ecw Restoration and Stewardship Society) described how much of her time is taken up in briefing new staff or elected leadership and bringing them up to speed:

> *"I have to really work hard to try and make sure everybody's up to date. Because as you know, we get change in leadership, we get change in staff. So Kukpi7 Ron the other day said something to me, he said: 'so you're in constant reboot mode?' And I said: 'exactly! I'm in constant reboot mode right now!' 'Cos every time I turn around, I'm rebooting another community. So that makes it a little challenging."*

Reflecting on the changeover in staff that he has seen in Bonaparte and neighbouring communities, former Kukpi7 Ryan Day once again brought home the message that formed the foundation of his advocacy for Secwépemc leadership in wildfire recovery and restoration of their lands – that *"there is no one better to lead the way in recovery than the people of this land, the Secwépemc"*:

> *"There's an attrition rate. It's difficult, I know because I've been through employees, non-Indigenous employees in natural resources, who don't have that depth of identity with the land and so they wash out, because it's hard. And they don't get paid as much… you can always leave, you can always isolate when you're with the province or with the feds, there's always somewhere you can go where you can still get paid…because you don't have that vested interest, your feet are not rooted in that land. And so you can go. And you can leave. And not feel like you've turned your back on anything, you haven't turned your back on your identity or your people or your land or all these things that we think about…our duty here that our ancestors have passed on to us, that we're always talking about…because that's fundamentally what is missing, is that deep identification with place. And how can you do the work and how can you be responsible if you don't have an identity that's rooted in place? And the only people that can do that, and can facilitate that, are the people that are from this place."*

LACK OF PLANNING OR CLEAR DECISION MECHANISMS

A second set of challenges identified by both provincial and Secwépemc representatives related to the lack of strategic and landscape-level planning for recovery activities, and a lack of clear decision mechanisms to ensure timely decision-making. However, we found that these challenges were raised much more frequently by provincial staff, compared to representatives from communities.

Lack of strategic or coordinated planning

While many people acknowledged the 'unprecedented' nature of Elephant Hill, and that *"you can't criticize somebody for not planning for something they couldn't foresee"*, we often heard frustration at the reactionary nature of the recovery process that followed:

> *"I think there was a lack of vision…the emphasis was on things like immediate safety concerns around flooding and debris. Very reactionary stuff, 'oh we really gotta focus on archaeology so that we can get salvage permits going'. But there really wasn't a commitment to a long-term plan that sort of said: 'here's what we want the landscape to look like, over the long-term'."*
>
> – DOUG LEWIS, FLNRORD – RESOURCE PLANNING & ASSESSMENT BRANCH

> *"We ran from priority to priority and couldn't get ahead of it – we had to build some fireguards so now let's try and get rid of those on the land base. Let's salvage the timber, so that's an economic thing. Let's throw down some grass seed because we hope it will help with erosion and maybe our cows will like it while we wait for the natural grasses to recover. We built fences, then punched through some in order to get our equipment in for salvage and reforestation, so we better fix those. That's kind of what we thought about, the things that were right in front of us. I don't know that we really had the luxury to think proactively about it, especially from a landscape perspective, the actual recovery of the ecosystem itself, even though that was our ultimate goal."*
>
> – RACHAEL POLLARD, FLNRORD – DTR

Photo credit: Sarah Dickson-Hoyle

This reactionary approach not only resulted in a lack of clear goals or expectations for land-based recovery being defined, but also meant that immediate issues such as addressing safety issues or facilitating salvage were often prioritized over and before any longer-term strategic planning or consideration of the larger picture of what wildfire and ecosystem 'recovery' should address.

> *"I found wildfire recovery to be very piecemeal…But there wasn't [a process of] collectively looking at portions of the landscape and saying 'this area was less burned and this and that and so maybe we should be managing so that ten years from now, we've planted it, we've pulled the roads from a water management perspective and an access management perspective and all these other kinds of things. Because we can do that here but we're not going to alienate future timber.' It has to be more of a cohesive plan. Instead, I felt that the wildfire recovery was just little bits and pieces and there was no cohesion. People were just out doing stuff. I always kind of say you would never build a home this way! Things have to kind of happen in an order, right? And in order to manage access you have to know where you're going to harvest and where you're going to reforest and where you want to manage for refugia for certain wildlife, it has to be planned. Instead, they were just going out there and doing easy wins I guess."*
>
> – DOUG LEWIS, FLNRORD – RESOURCE PLANNING & ASSESSMENT BRANCH

Rachael Pollard (FLNRORD – DTR) also acknowledged the fact that wildfire recovery activities weren't pursued in a logical order, and the need for more 'aggressive' planning in the future:

> *"Now knowing what I know I would probably do a lot of things different. Not the G2G approach, but I think some of the technical things, [we would take a] much more aggressive proactive planning approach to getting the salvage done in a logical way across the whole fire, as opposed to leaving it up to individual licensees to do their salvage planning without any coordination. This led to a lot of unfortunate frustration on all sides. I think [we should have] gone in there and laid out all our values layers and got someone on the planning and figured it out…what activities and in what order. You know, it was like 'so we're keeping the cattle out so that the ground can recover but then three years later we go in and salvage'? We were trying to figure out what to do, at the same time as we were trying to do it. There's a logical order of things, and we could have been more aggressive about understanding that and planning for it."*

Despite the forest retention planning guidance issued by the Chief Forester's Office, and the jointly developed salvage principles for the Elephant Hill wildfire, the lack of clear direction or planning from the Districts meant that cutting permits continued to be reviewed on a permit-by-permit basis, and salvage areas were often identified within the proposed retention areas. These issues were raised at a meeting of the JTC in September 2018, when it was acknowledged that Districts still *"don't have a big picture [of salvage] across the fire"*.

Talking to Secwépemc staff following the 2021 wildfires, we heard that the push to rapidly salvage burnt timber once again means that there is still a lack of strategic or landscape-level planning around salvage and retention.

One consultant silviculture specialist we spoke with, who was involved in developing silviculture prescriptions for both government funded and industry reforestation, described the impact that this lack of government planning had on reforestation operations:

> *"At the very beginning of the fire there was a large push for salvage harvesting, it was just – I don't even know how to describe it. Ribbon craziness! People were running out there and ribboning out everything that they could see, to try and salvage harvest it. And then after that initial push, it sat there for a long time. But because it was kind of claimed for salvage harvesting, we (the provincial government) needed to stay out of those areas [for reforestation] and allow those processes to go first. The ground was shifting all the time. Someone would say they didn't want to harvest it and then they changed their mind and it would become available. And of course, with tree planting there's a two-year horizon on when you order trees and when they go in the ground, so in some cases we would have ordered trees for a certain area and then in the two-year time period the ground would disappear and we'd have to find new ground. It's still going on now, it's still a bit of a game of shifting sands."*

There was also a lack of coordination between different wildfire recovery activities and the different people involved. For example, multiple people spoke with frustration about the fact that areas such as fireguards, staging areas and other mineral soils exposed by fire suppression activities were seeded with a grass mix prior to rehabilitation being fully complete. In some cases, this led to 'pull back' being conducted over seeded areas and then requiring additional hand seeding. In other cases, it resulted in fences being built then subsequently torn down due to the need to create new road access for salvage operations.

This mismatch in timing between range recovery and salvaging also led to frustrations between range staff/ranchers and silviculture staff/licensees. In particular, there were concerns as to why cattle were being kept off the fire for three years to allow soils to stabilize and vegetation to regrow, if these same areas would later be disturbed due to salvage activities or mechanical site preparation for reforestation.

Within the context of archaeology there was also a lack of understanding at the tables of what was involved in adequately and accurately recording and reporting an identified archaeological site. This resulted in challenging negotiations as to who would bear the cost of this full process, as well as a lack of effective or coordinated data management. Joanne Hammond (Skeetchestn Natural Resources) described how:

> *"The archaeology discussions, they were very brief before action was taken…Crews were already out there doing surveys for archaeology but no arrangements had been made to deal with the data or to deal with the artifacts themselves…There was no planning, and I'm still dealing with the fall out of that – very expensive and cumbersome issues that came from getting the approval to do it and then just basically running out there and doing it with no plan to keep track of the data, or what the follow up might need to be. So for example, once you find a site you have to report the site. It's not enough to just drop a GPS pin and know that it's there. If you're finding it and especially if your client is the government, there's an obligation to report it. So there was no understanding at that table of what that meant, of what was required in terms of resources and knowledge to be able to record a site to the standards of the Archaeology Branch and be able to submit the documentation the provincial heritage registry."*

These issues resulted in an expensive and onerous process of cleaning up data that were collected differently amongst, and even within, different Secwépemc communities. Given the amount of data being collected in a relatively short period of time, in 2020 communities such as Skeetchestn were still working through the process of submitting site forms. Since 2018 Secwépemc territorial patrol have been using a standard data collection platform (Survey 123), with surveys jointly developed with the province, for collaborative monitoring activities, and the SRSS has recently begun using the open-source Solstice data platform. However, these tools did not exist for the fire archaeology work.

Looking forward, Joanne Hammond stressed the need for a *"step by step [process], a list and a flowchart of what you have to do and when. How you handle the data that comes out of it, what format it's in, what you need to collect, who gets access to it, where it gets stored, how it gets moved from raw data into reports"* and the potential for Secwépemc communities to lead the development of these systems with the support of professional organizations and potentially the BC Archaeology Branch.

Lack of clear decision-making processes

Finally, people noted the challenges associated with advancing key decisions related to wildfire recovery activities. The SRSS held a visioning day in February 2021 to address the longstanding concerns raised by Secwépemc leadership at the JLC, and the First Nations Technical Committee, regarding the need for a clear governance and decision-making structure for the SRSS (see Chapter 13). However, this section instead focusses on the concerns highlighted by (largely provincial government) representatives relating to perceived delays in coming to consensus on particular decisions, and the challenges faced by the JTC in balancing their role as 'doers' with the need to come to agreement on technical recommendations.

Multiple provincial government staff expressed concerns about the delays in implementing particular recovery actions. In particular, we often heard concerns about how long it took to come to a decision on the grass seed mix to be used to seed disturbed areas, which resulted in missing the timing 'window':

> *"The grass seeding is one that had a huge impact on [us] when we first rolled in there. Decisions still hadn't been made on which seed mixes we were going to use and we had already missed the lower elevation [grass seeding] window because we still hadn't made a decision on that…more needed to be done during the winter [of 2017-2018]. It was all to do with species mix, and high and low elevation [mixes] and in the end, we used the same one because it's just a temporary seed mix that's there to reduce erosion and to try and reduce the spread of invasive species. Like I say it was, the most frustrated I was during my involvement with the project!"*
>
> – KEN CONWAY-BROWN, BCWS

However, it was often challenging to come to a decision on these specific technical issues while also trying to negotiate shared principles for a new approach to wildfire recovery and reach a shared understanding of all the different activities and priorities to address:

> *"Processes were having to be spun up and compromised, conversations around interests and compromises were being made to deal with those very emergent issues. While in the background we were having the conversations about our overarching principles and guidance that we wanted to follow for the rest of the work that wasn't so emergent in nature. Hindsight's twenty-twenty and looking back at things, we needed to be having those conversations months before we were having them. When I look at grass seeding in particular, we completely lost the window. And we're now in a process where we're monitoring the grass seeding that occurred, and the intent was to manage for erosion, manage for invasive weed spread etc. And we weren't very successful on that. And part of that was how long it took for us to come to decisions on things."*
>
> – FLNRORD STAFF

Another aspect of the lack of long-term planning was a lack of clear timelines for different activities and associated decisions. One District staff felt that having such a timeline would have helped prioritise decisions and focus discussions:

> *"We had all these different things and we should have said okay, when do they all have to be done by? Okay, that means we have to have the decision made by this time. And we should have had more of a schedule, like a schedule of decisions that needed to be made and by when. I think that would make things easier, and more clear for people, and made them probably feel a bit more comfortable. Like, maybe you have the luxury to debate everything, maybe you don't!"*

Finally, despite a Terms of Reference and established governance structure of the JLC, JTC and sub-committees, some provincial technical staff described feeling an *"angst…from feeling the weight of these decisions, when we're not decision-makers. We're just implementers"*. This challenge was faced by many at the JTC, who were tasked with being both 'doers' and technical decision-makers, while delegating detailed discussions to the sub-committees. Two District staff highlighted this difficult balancing act, and the need for greater guidance from the leadership level to move key decisions forward:

> *"Sometimes we were getting a bit mired down in the details. Where it's like no, the technical team should make recommendations, get some decisions, move things along, but it still needs to really keep that more strategic eye looking at everything. If we want to talk about the details, the details should be a real small group that gets their marching orders from the bigger group, but they're the doers. So the doers go off and do and the technical team comes up with the plan. And the joint leadership council says we agree with that, or if it's a big gnarly decision they take that off the shoulders of the technical team."*
>
> – MARINA IRWIN, FLNRORD – DTR

> *"I think we needed management, right? Management's at the JLC and they obviously didn't want to interfere with the technical team. But we probably should have been bringing them in sooner, as a decision-maker. We should have been going to them sooner as a group to say hey, we're having trouble, this is the two sides or three sides or four sides, however many sides, and have them make a decision. And I think that was what was missing, was that decision mechanism."*
>
> – FLNRORD STAFF

CONFLICTING PERSPECTIVES ON THE SCOPE OF AND APPROACH TO 'RECOVERY'

Despite the diversity of perspectives both within and between the provincial government and Secwépemc communities on the meaning and scope of 'wildfire recovery', there was never an explicit discussion or attempt to define 'wildfire recovery' or an agreement as to what could or would fall within the joint approach.

This lack of clarity, and the different views and understandings, strongly shaped discussions – and at time, conflicts – at the JLC and JTC regarding the scope of issues these tables were addressing, and their approach to recovering and rehabilitating the fire-affected land base.

A number of provincial government staff expressed concern that discussions at these tables evolved to encompass issues that weren't within the realm of 'wildfire recovery'. For example, Marina Irwin (FLNRORD – DTR) drew a line between wildfire recovery and broader land or forest management planning, arguing that certain discussions relating to wildlife management were beyond the scope of the former:

> *"When we started talking about moose populations and hunting regulations and some things going on with trap lines and different things like that, it started to be, okay we're into land management planning, forest management planning, we're into broader things here. Not wildfire recovery specific… that's a different table. But what was happening was there was no other table. And the technicians, especially from the First Nations communities, they definitely didn't have other tables where they were working and seeing things getting done. So they were holding fiercely to this table, and starting to [say]: 'well can we bring this in?'"*

This concern about scope creep or issues being raised that were outside the mandate of provincial staff involved resulted in a frequent push from provincial representatives to move discussions to other higher-level government-to-government tables such as the Qwelmínte Secwépemc.

The following quote from a provincial manager reflects the view held by multiple people in the provincial government, that the JLC and work done on Elephant Hill was defined by short term funding and goals (e.g., salvage, fireguard rehabilitation and range recovery):

Photo credit: Sarah Dickson-Hoyle

> *"The discussions we were having at the table were starting to lead to much broader landscape level initiatives that had nothing to do with the fire anymore. They were just initiatives First Nations wanted to advance. And my feeling was okay, I'm not here for that. That's not my role, that's a Ministry of Indigenous Relations and Reconciliation thing, strategic engagement. Qwelmínte Secwépemc, you guys have that conversation going on. I'm not mixing the two and getting it all convoluted. You need to have that discussion there. The JLC as far as I'm concerned, we've done our job. Time to move on and get back to whatever else it is we do. And that QS table figures out those broader landscape level initiatives."*
>
> – FLNRORD STAFF

As the 'three great goals' neared completion, provincial government staff began to push to 'close out' the Elephant Hill process and the structures of the JLC and JTC. This contrasts with the view of many community representatives, and the intention of *THE* letter from Kukpi7 Day and fellow Kukukpi7 in calling for upholding commitments to reconciliation and supporting Secwépemc leadership in the recovery and restoration of this landscape over months, years and decades to come.

From the very first meeting of the leadership table, Secwépemc communities were raising these broader issues of reconciliation and Indigenous stewardship and sovereignty as intimately connected to wildfire impacts and recovery.

Secwépemc leadership further emphasized the underlying desire to build off a collaborative approach to wildfire recovery to address broader contributing issues (e.g., relating to forest management) and advance Indigenous rights and title within their territories.

The fact that the Elephant Hill process was not based on (nor relied on) the negotiation of formal agreements (e.g., treaty, reconciliation or co-management agreements) – something seen by many as key to its success (see Chapter 9) – was linked to two further challenges. The first is understanding how the joint recovery process relates to, or could be brought together with, these broader government-to-government processes being advanced within the Secwépemc Nation.

The second challenge, raised by one senior FLNRORD staff, relates to government's ability to pursue future 'interest-based collaborations' (as opposed to formal co-management or reconciliation agreements) like Elephant Hill. Looking forward, this person felt that *"it's hard to do exactly what we did at Elephant Hill"*, as the focus is increasingly on pursuing legislative change and formalizing joint decision-making (and the concern that, if successful collaborations can occur without these larger changes, then they may not be needed):

> *"Things are a little bit different now…at that time we were generally able to focus on interest-based collaboration. Whereas now, for many communities, it seems that that's not where they want to be. Where they want to be is a legislated joint decision-maker. Which is a good aspiration and probably their right. However, it seems to come at the expense of doing the collaborative interest-based management now. I still have a mandate to manage for moose and habitat and steelhead and other things and would like to do that with communities. But it's harder and harder to do that with communities until we likely have some legislative change to support joint management and decision-making."*
>
> – FLNRORD STAFF

Balancing or resolving these different perspectives on the scope of and approach to 'wildfire recovery', and bringing together wildfire recovery with higher-level governance processes, has remained a key challenge, and one that underlies many of the ongoing debates as to the future role of the Elephant Hill tables. This is particularly relevant in the context of the SRSS and its ongoing work to support Secwépemc-led restoration and stewardship. Over time, the SRSS has come to define its role as coordinating 'operational' or 'boots on the ground' activities, such as watershed restoration or collaborative monitoring, rather than a political organization focussed on advancing rights and title.

However, as former Kukpi7 Ron Ignace said at a recent SRSS 'visioning' meeting, *"we are always mindful of our rights of ownership and jurisdiction to our lands and forests. This has to guide our technical work and thinking"*. This view was supported by other Kukukpi7 present that day, who viewed the SRSS as *"one organization underneath title and rights, that we fight for as a Nation"*.

Any activities or decisions on the land base – even those with a very technical or 'operational' focus – are always inextricably tied to larger issues of governance, rights and jurisdiction.

In the same way, 'healing the land', in the minds of Secwépemc communities and some in government, was always more than just rehabilitating wildfire impacts; it was about advancing Indigenous-led recovery and restoration of their territories.

REPRESENTATION AND PARTICIPATION

Another challenge mentioned by interviewees was ensuring adequate and 'appropriate' participation and representation in the joint recovery process and meetings. This has multiple elements:

- ensuring full Secwépemc representation and equal decision-making powers at the tables;
- balancing the need for bringing in specific expertise with the need to keep groups, such as the JTC, focussed and functional; and
- concerns expressed both by provincial staff and as well as forest licensees and local ranchers that these external stakeholders were not engaged in decisions that affected them.

Four Secwépemc communities (Bonaparte, Skeetchestn, Whispering Pines/Clinton and High Bar) were represented at the first leadership meetings between October and December 2017. However, early on Kukpi7 Ryan Day emphasized the need to bring in their neighbouring communities who were also directly impacted by the Elephant Hill wildfire. While membership in the Elephant Hill tables and the SRSS was soon broadened to include Tk'emlúps te Secwépemc, Canim Lake, Ts'kw'aylaxw and Stswecem'c Xget'tem First Nations, a number of Secwépemc natural resource and cultural heritage staff identified the challenge of maintaining adequate representation from all communities at tables, including the ongoing First Nations Technical Table – a challenge once again linked to capacity.

The Secwépemc representatives at these tables were usually the natural resource or cultural heritage managers within their departments, and, in addition to field work and administrative demands, they were often responsible for representing their communities at other resource-related governance and negotiation tables. Mike Anderson (Skeetchestn Natural Resources) highlighted the importance of this representation, saying: *"if we're to co-manage, and we're to get serious about that, we have to have adequate representation, we have to have informed representation, it has to be on a regular basis."*

People also acknowledged the challenge of having the appropriate decision-makers involved and present at the JLC. At a JLC meeting in February 2018, Kukpi7 Ryan Day provided an overview of the Council's progress so far and acknowledged that while they hadn't yet *"hit any roadblocks in actioning our recommendations"* he anticipated that would happen down the road (for example, in the context of making decisions around range licenses or Annual Allowable Cut) at which point discussions would need to be elevated above the District Managers to a higher-level decision-maker within the provincial government. This concern touches once again on the limits to authority and mandate (Chapter 6) of provincial District Managers represented at the table, and reflects the initial desire to have a higher-level 'political' table above the JLC that would involve provincial Ministers sitting side by side with Secwépemc elected Chiefs; a goal that was never realized.

This discrepancy of decision-making authority and leadership level between Secwépemc leadership and provincial leadership at the JLC was highlighted by Rob Schweitzer (BCWS), who said:

> *"Listening to Chief Ignace or Chief Day, they were pretty clear that we were not at their level, because they should be talking to a Minister, or a Deputy Minister. And I'd never thought of it that way, but they weren't wrong in that sense. They have complete decision-making autonomy over their band, or their community. Do I have that same level of authority? And that's what they were questioning. Okay if we're going to get somewhere, we need the decision-makers at the table in the room…Some would be offended by that, but their point was really good, was that if you can't sit here and make those decisions with us, then maybe you're not the right level of government that is here."*

> *"The decision-makers aren't talking to each other directly. To see the emotion and the impact to that community. That's what a leader should be doing*

Despite the lack of 'roadblocks' experienced back in February 2018, when we spoke to Secwépemc staff in 2020 and 2021 many expressed frustration at the lack of involvement of high-level provincial leadership (both at Elephant Hill meetings, and often in natural resource related discussions more broadly) and at the barriers they face in elevating key decisions:

> *"We've been at some meetings with Chief and Council with government and as high as we get is the District Manager. And that's great. But at the end of the day every decision that's major that needs to happen goes above the District Manager, it goes to the Regional Executive Director, and we've never met that person. And they're the ones that we get the letter from saying no. So really, leader to leader meetings and committees aren't happening…The District Managers, they've been great. They're good at their jobs. They say: 'oh we're going to try this we're going to do that we're going to try that'. But they don't make the decisions. So I think that's definitely a place of frustration, is that the decision-makers aren't talking to each other directly. To see the emotion and the impact to that community. That's what a leader should be doing."*
>
> – TANNER LEBOURDAIS, SECOND PASS FORESTRY & WHISPERING PINES/CLINTON INDIAN BAND

At the technical level, multiple people in both the provincial government and Secwépemc communities highlighted the difficulties faced in terms of ensuring the right people were involved in the right decision at the right time. One key driver for the formalization of the distinct leadership and technical tables was the early challenge of having multiple interests and levels of discussion at the one meeting:

> *"When we came together we just started meeting, and whoever showed up at the meeting was there and included. So it was everybody from the technical person, to the referrals person, to the Chief, to the Councilors, they were all there! And in our staff I had my District Manager, my resource manager, myself, sometimes the tenures forester or stewardship forester, we were all there. And we were all trying to work together but it was a struggle because there was a real mix of interests. The Chiefs wanted their rights and title recognized, they wanted to talk about title. Whereas the technical people are like log, fireguard, what do we do?! So having those two sets of people at the same table at the same time, trying to have a conversation, I feel wasn't as productive as it could have been."*
>
> – MAHRUSA SHERSTOBITOFF, FLNRORD – DTR

Even after the JTC was established, the group of people involved at this technical level continued to grow organically to the point that the *"meeting invite list was just unwieldy!"*. As Marina Irwin (FLNRORD – DTR) explained, 'specialists' – such as entomologists or hydrologists – were often invited to contribute their expertise on a specific issue. However, what often happened was as the process or decisions moved on *"the specialists hung on. But we didn't need that anymore! And it was cumulative, so before you know it you have like thirty people!"*.

Despite this, one Secwépemc staff noted that the emphasis on being a 'government-to-government' technical table meant that "*local experts weren't brought in…Our band doesn't have silviculture expertise and other bands are in the same boat. But doesn't mean that those people don't exist and shouldn't have been at that table*". However, this person went on to echo Marina's recommendation to keep the overarching technical team 'tighter'. While the establishment of

sub-committees achieved this to some degree, the JTC persisted as a large – what many saw as too large – overarching group comprising a range of management and 'specialist' staff:

> *"Early 2019 I think we went to the first meeting in Clinton…there were 28 people at that meeting and zero things got done. Everything got talked about but then got broken up into other sub-committees and in my eyes that was too many people. You can't make a decision with twenty-eight individuals at the table. And the right people – even government had too many people at the table. It was a good idea in theory, I just think it needs to be more focussed moving forward."*
>
> – TANNER LEBOURDAIS, SECOND PASS FORESTRY & WHISPERING PINES/CLINTON INDIAN BAND

Despite the range of technical staff involved, some people expressed concern that the overwhelming focus – and the strongest voices at the table – related to archaeology. While archaeology does cut across multiple areas of wildfire recovery, from fireguard rehabilitation and fence reconstruction to salvage operations, one Secwépemc forester saw this focus on archaeology as impeding effective and efficient landscape management and salvaging across the fire area:

> *"I'll just go back to the landscape level management that was happening…it was at a standstill. Like I said the scope of the people at the table were too narrowed, and there wasn't a variety from each community, what the values were to everybody. The focus to me was purely archaeological. And everything else was second priority to that. And look what happened, the amount of harvesting that happened is far less than it should have been."*

Conversely, Joanne Hammond (Skeetchestn Natural Resources) argued that there was a need to have a representative from the Archaeology Branch involved, even if just at the beginning to *"make it clear to government what their obligations are, and then to work with the First Nations on what kind of flexibility we could have in the approach."* However, we heard that there was limited engagement or responsiveness from Archaeology Branch (until the coordinator was appointed, see Chapter 9).

Multiple people in government also raised the point that, in focussing on creating a new government-to-government approach to wildfire recovery, other key stakeholders who were impacted by the decisions being made were 'left behind':

> *"I think [that] in putting so much effort into the G2G part of things, which needed to happen, we kind of left the other folks behind… our forest licensees, our range licensees, and the public. Non-Indigenous folks living in the communities impacted by the fire. We did not do enough communication and engagement with them to explain what we were doing. We needed our licensees to go and do that salvage, especially if we were going to do what I wish we would have done, which is that more proactive and aggressive planning. And I think we could have engaged them better, in a better way, without giving up what we were getting, without compromising our G2G process."*
>
> – RACHAEL POLLARD, FLNRORD – DTR

> *"The [forestry] licensees should have been brought in way earlier. And I understand why the communities didn't want that, they were very protective of this being a government-to-government process, they didn't see industry as holding a stake in that. But at the end of the day, you were talking about forestry operations. Really, the licensees should have been part of those conversations. And I'm not saying they should have been at the G2G table, but they definitely should have been brought into a subgroup, or had some input into the principles, as far as what economically is feasible. Because at the end of the day, you can have a vision of how you think it should roll out, but these are business. They have to be economically viable in those operations. And so there's a reality there. And I think that was missed."*
>
> – MARINA IRWIN, FLNRORD – DTR

Forest licensee staff we spoke to agreed, highlighting their *"decades of forest management experience in the areas that were impacted by the fire"*. A representative of one major forest licensee conducting salvage in the fire area, which was tasked with implementing the salvage and silviculture principles, said:

> *"It would have been helpful to provide an operational lens around safety, timing, forest health, silviculture etc. This would have helped to minimize any confusion and questions on how to implement the guidance put forward. I think it just really gives industry an opportunity to speak to the challenges that they're going to face, what this all means, and just have a voice at the table and bring their ideas of stewardship and that kind of thing, because we are all Registered Professional Foresters as well… it just really helps industry when you're included as part of it to know that you are a valued participant here."*

However, in the same interview they acknowledged that this was a government-to-government process and *"there's sensitivities there, as far as from the communities' perspective. And working with government. So maybe it just wasn't appropriate at the time."* Similarly, one Secwépemc staff said that in hindsight they should have invited forest industry or ranching groups to the table to *"make it a little more open and transparent"*, but acknowledged that *"that has to happen with trust. We didn't have that at the start of this committee, I think they do now."*

We also spoke to local (non-Indigenous) ranchers, whose range tenures and cattle ranches were directly impacted by the fire. While on the whole these ranchers understood the need to keep cattle off burnt areas for some time after the fire to allow the soils and vegetation to stabilize and recover, they spoke about feeling disempowered and excluded throughout the whole recovery process. None could recall being informed of the joint approach to recovery, and it soon became clear that this had resulted in misinformation or misunderstandings amongst the broader community (for example, that the joint recovery and the requirements for First Nation-led archaeology was part of a 'pilot project' recommended by the *Flood and Fire Review*).

One rancher described the feeling of being left out and having new processes 'imposed' upon them while they were going through *"a tremendous grief process"* of recovering from the fire and seeing the impacts to the landscape. Further, while these ranchers had been able to access the BC Agri-recovery funding, they all spoke about the economic losses and impacts of the fire to their livelihoods. As smaller scale ranchers, there was also a feeling (particularly with one we spoke to) that industry groups such as BC Cattlemen's do not represent all ranchers, and that there was a real lack of engagement at a local level.

At the very least, these final perspectives highlight the need for greater communication throughout the process of wildfire recovery, and – if and where appropriate – bringing in affected stakeholders, without compromising the government-to-government approach.

LACK OF PRE-EXISTING RELATIONSHIPS AND TRUST

In cutting across multiple provincial government boundaries, the Elephant Hill wildfire challenged many long-held and often fiercely contested provincial jurisdictions and organizational silos. At the same time, as Kukpi7 Ryan Day mentioned earlier (Chapter 5), the colonial structures imposed on Indigenous communities and the 'divide and conquer' approach of governments and industries continue to pose barriers to coordination between First Nations – even those within the same Nation – while also creating a long-standing sense of distrust of government agencies. As one provincial government staff acknowledged: *"I am not naïve to the fact that I work for the province and may not be trusted by First Nations because of this fact alone"*. This was the context that provincial and Secwépemc leadership and staff were working and living in when the Elephant Hill wildfire occurred.

As a result, one of the biggest initial challenges to be overcome was this lack of trust and of pre-existing relationships between (and to a certain degree within) First Nations and the province:

> *"We could have done it a lot better. We could've done it a lot more expeditiously. We could have done it a lot cheaper. And that was I think largely a result of a lack of the relationship, the trust-based relationship that we needed to have…It was not there."*
>
> – FLNRORD STAFF

One forest licensee staff similarly acknowledged that a lack of trust in forest industry, particularly stemming from the approach to mountain pine beetle salvage, hindered salvage progress across Elephant Hill:

> *"As a forester, I would have liked to see more salvaged quickly. But that requires trust on all levels to know that there's going to be a good approach taken to doing that. And it was tough with the historical legacy of pine beetle and the amount of salvage that had already taken place, that to do more salvage on an already so heavily impacted land base, that's a tough sell."*

This lack of trust was also due to the fact that previous relationships between First Nations and the provincial government were largely framed around 'transactional consultation'; that is, the statutory obligation of the Province to 'consult and accommodate' First Nations on land and resource decisions that may affect Indigenous rights and interests. This includes ensuring consultation on industry-proposed activities, such forestry or other resource extraction; something that often involved *"just sending out referrals, engaging in consultation, lots of letters or phone calls that kind of thing."*

A senior manager from DMH similarly acknowledged that, while their District had worked closely with their 'four core bands' of Canim Lake, Whispering Pines/Clinton, High Bar and Stswecem'c Xget'tem First Nations in terms of *"developing economies opportunities, tenures, range stuff"*, they didn't spend a lot of time building relationships other Secwépemc communities, or the other twenty plus First Nations with whom they had an obligation to consult. As one District staff said: *"we didn't know anybody from Adam either, I didn't know anybody at those tables!"*.

The lack of collaborative working relationships fed into a lack of trust in the information shared by provincial technical staff, and a skepticism that decisions made jointly at the JLC or JTC would not be enforced. For example, Secwépemc staff often raised concerns at the JTC that green trees were being harvested as part of salvage operations, in contravention of the jointly developed salvage principles; that lodgepole pine was being preferentially planted in lieu of species such as Douglas-fir; or that information on ungulate population health was not accurately reflecting what communities were observing. As Doug Lewis (FLNRORD – Resource Planning and Assessment Branch) acknowledged:

> *"There was a bit of a distrust of government, among some of the First Nations, about how we assess and monitor things. And government is big it's everything from giving out tenures to cutting down trees to wildfire management to the stewardship side of things. So you kind of get grouped in as government. So [it's] building that trust that you're actually there to represent certain things. And that they believe the information that you're bringing them, and not trying to pull wool over their eyes. It took a little bit of time."*

From the perspective of some Secwépemc staff, the shift from transactional consultation to joint leadership and collaboration was not always widely accepted or embraced within the provincial government, or by those around the tables:

> *"Sometimes it got heated. Sometimes you could sense resistance and resentment for having to work in this kind of environment and having to collaborate this much and having to put in effort to communicate their reasoning behind things. Whereas in the past they hadn't really had to do that…And that is a simplification, they don't all think the same way. But they were less used to having to be accountable to outside parties."*
>
> – GEORGINA PRESTON, FORMERLY WITH STSWECEM'C XGET'TEM FIRST NATION

One exception to this lack of pre-existing relationships was in the case of archaeology within the Kamloops TSA (within the jurisdiction of DTR). Through the Secwépemc AOA committee Secwépemc communities within the DTR had developed strong relationships with this District and a clearly defined process for First Nations-led archaeology. This pre-existing process was instrumental in shaping the approach to archaeology on Elephant Hill:

> *"The fact that the Elephant Hill technical working group grew out of this Secwépemc AOA committee, in structure and intent, really helped promote a couple of things. One is just involvement in archaeology, period, a responsibility for archaeology. But also the role of the First Nations liaisons in decision-making."*
>
> – JOANNE HAMMOND, SKEETCHESTN NATURAL RESOURCES

However, the extension of this Secwépemc AOA approach to the DMH/Cariboo Natural Resource Region, and to wildfire recovery activities in general, was a point of tension that is yet to be fully resolved (see below). These inconsistencies and lack of coordination between provincial jurisdictions – even those within the same Ministry – and the associated challenges this raised are discussed further below.

JURISDICTIONAL SILOS AND CONFLICTS WITHIN GOVERNMENT

The Elephant Hill wildfire recovery brought together staff from across multiple jurisdictions and divisions of the provincial FLNRORD Ministry, from the Archaeology Branch, Fish and Wildlife Branch, Range Branch and the Resource Stewardship Division; to District level range, stewardship and First Nations advisory staff; to ecosystems, silviculture and stewardship resource management staff within the Thompson Okanagan and Cariboo Natural Resource Regions. Navigating this complex Ministry structure was challenging not only for Secwépemc and other non-government representatives, but also for government staff themselves.

One of the key challenges described to us by provincial government staff was that of having to collaborate and develop coordinated approaches across these entrenched jurisdictional boundaries and silos.

This challenge was particularly apparent in the context of developing a joint approach between the two Districts involved: DTR and DMH. Rachael Pollard (FLNRORD – DTR) highlighted this process of building relationships across government as one of the biggest challenges, saying:

> *"Our Thompson Rivers District and 100 Mile District are vastly different. 100 Mile is Cariboo all the way, right? They're cowboys and they get things done! And then we have Kamloops which is much more sort of Okanagan-ish. We have very different ways of doing things, different pressures and priorities, all that stuff. And we didn't have strong relationships because we didn't really work closely together in the past. And I would say that that was one of our challenges – but also a great outcome of the whole thing, building those relationships between our staff, and alignment across the two Districts!"*

One provincial manager further elaborated on these differences between DTR and DMH, describing the DTR as *"an anomaly as a forest District office"*, due to being based in a larger regional city (Kamloops) that is less tied to the local (often forestry dependent) community compared to somewhere like 100 Mile House. This dynamic between the two Districts and their associated regions (Thompson Okanagan and Cariboo) played out in their conflicting perspectives on or priorities for wildfire recovery:

> *"On the Thompson Okanagan side we wanted to manage for multiple values consistent with Chief Forester guidance on post-wildfire recovery. On the Cariboo region side they had different set of values that they were managing for. Prior to the wildfire, they had mills that were closing and I suspect felt pressure to feed them. They had a more contentious relationship with Secwépemc than we did, especially with regard to heritage assessments. So there was that dynamic, there was a really significant amount of concern from the District Manager…[and] those dynamics [within the Ministry] are the root of what makes things work or not."*
>
> – FLNRORD STAFF

> *"We were often at odds, honestly. What Kamloops was trying to do going through this, and what we were trying to do, often at odds. Different agendas, different perspectives. It was a tough one. And you know, I would say that the internal struggle was maybe as tough as trying to figure out how to align ourselves with what First Nations want."*
>
> – FLNRORD STAFF

Outside of wildfire recovery activities, communities often struggle to understand the complex organizational structures within the provincial government. In the context of the joint wildfire recovery, working across these jurisdictions was made even more challenging for communities by the obvious conflicts and differing approaches taken between Districts:

> *"Challenges were for sure related to the divide between the Districts. And I think that from working with the communities it was really challenging to understand the District division, because it doesn't make sense to you – why is it different here than here? This is the same watershed! It feels very silly and confusing. But from the District side, that's how they've been operating for many many many years, so they're like, 'obviously we work differently and obviously we have our own systems and we don't like what you're doing over there!' I don't know that I have real suggestions for how to navigate that better, because a lot of it is about different cultures in different areas and different offices, and different personalities of people."*
>
> – FORMER SECWÉPEMC STAFF

These challenging relationships between Districts were also observed by one BCWS staff, who also noted how the priorities of the respective District Managers were central in shaping the distinct approaches:

> *"I saw more frustration on the government side…that push pull…what I saw was two Districts and District Managers viewing the land base two different ways. And some frustration there about how quickly things were or weren't moving, mostly weren't, like whether we were going to be able to salvage any of the timber that was in there. So certainly the more impacted forest District was 100 Mile. They were particularly concerned from a timber perspective, and it's hard to blame them for that given the economic impacts of the fire season on their whole timber area. Whereas the Thompson Rivers District I think was really trying to focus in on this relationship and this JLC and this collaborative approach and 'yes it might be taking more time but it's a better outcome'."*

> *"We were standing in our own way most of the time, internally*

However, this conflict between Districts was highlighted much more frequently by provincial District and Region staff (compared to Secwépemc representatives), which speaks to the pervasive and entrenched nature of these government silos and 'cultures'; something that was as, if not more, challenging to overcome than the differences between the province and First Nations:

> *"I think the worst part of it is, and the funny part is, I wasn't actually opposed to any of the First Nations' views or opinions, at all really. It was the internal staff. We were standing in our own way most of the time, internally. And so I think that was a real eye opener."*
>
> – FLNRORD STAFF

In particular, many staff from DMH found themselves *"caught in the middle"* of the Thompson Okanagan Region (which, as noted earlier, was the agreed lead for the joint wildfire recovery on Elephant Hill) and the Cariboo Region in which DMH is located and administered. This 'push pull' was mentioned multiple times in the context of the Secwépemc AOA system, which staff from DMH felt was being imposed upon them by Secwépemc communities and DTR staff. David Majcher (FLNRORD – DMH) described how his District had *"evolved an archeology process of doing things to a less intense level, because it wasn't needed"* due to the view that there was less intensive First Nation historical use on the plateau, where DMH is located, compared to the lower elevation areas in DTR.

These quotes speak to how parts of the Ministry tended to hold tightly on to their authority within their defined area and a feeling that other offices or divisions should not overstep these jurisdictional boundaries. Another FLNRORD staff experienced this in terms of different levels of openness to, or acceptance of, information (such as cumulative effects modelling or monitoring data) by the different Districts, in particular when this was seen as infringing on their established approach to managing their landscape.

Beyond these differences between Districts, historical silos between different divisions or 'specialists' within FLNRORD also posed a challenge for inter-government collaboration. However, wildfire – particularly a wildfire of the scale of Elephant Hill – requires a multi-disciplinary approach. Even defined activities such as grass seeding of rehabilitated fireguards impact and therefore require input from areas ranging from wildlife management to range. However, until Elephant Hill, these diverse groups within government did not often communicate or collaborate with one another:

> *"We'd forgotten how to do the proper internal engagement with each other on what's important. Where you have something like grass seeding as an example, that is not one team's to own, there's so many pieces in play right? Is it the range people? Not really. Is it the terrain stability people? Not really. Is it the biologists? No. Everybody comes at it with a different perspective and we're now getting better, and this is just internally speaking, at all coming together, sharing our perspectives, coming up with something that works. But it's not the way that we've worked necessarily over the past couple of decades."*
>
> – RACHAEL POLLARD, FLNRORD – DTR

However, she followed up by saying that *"it will get better, given our experience here (with Elephant Hill)*. Given the strong likelihood that future wildfires will again cross these jurisdictional boundaries, establishing greater planning and collaboration between FLNRORD Regions and Districts and understanding roles and responsibilities will be critical to ensuring a coordinated approach to wildfire recovery.

Relationship between archaeology and range

In addition to the new approach (within DMH) of requiring First Nations-led archaeological surveys and assessments for any proposed developments, a key point of tension throughout the wildfire recovery was navigating the obligations of range in terms of archaeology.

The statutory obligations around heritage were new to many District staff, particularly range officers. Joanne Hammond (Skeetchestn Natural Resources) recalled an early meeting in which she first impressed upon range staff the requirements to conduct archaeology surveys on fence lines prior to any ground disturbance or construction:

> *"Range was at that table and the rebuilding of fences was a priority for them obviously, but they'd never been really seriously engaged in archaeology. And that was a big stumbling block for them. I recall the representative from 100 Mile range, when we were talking about the kind of archaeology that she would have to organize in order to rebuild some of these fences that were literally through archaeological sites, and as they were starting to get the understanding that they were going to have to bear some of these costs for, or divert their fences and go and make different plans from their original plans, the realization that what we were talking about was going to necessarily apply to more than just this fire, and just 100 Mile, and just Kamloops, that if range started doing archaeology on fences, that they would have to do it everywhere. And that was terrifying for them because they've been left out of that loop for a really long time. Nobody's asked them to be accountable for that."*

Over the course of the following two to three years, these statutory obligations and *"implications of putting a fence through a sensitive site"* were gradually understood by those involved. One range staff also described the *"big learning process"* associated with developing new direct award contracts for First Nations archaeology, but then admitted that *"I don't think I'll be so scared of archaeology going forward. Because once we got going, it wasn't that bad. It was just the getting going part, building the contracts…we had to change everything…It's not that big of a deal now"*.

As discussions between Range Branch and Archaeology Branch have continued, First Nations have also had to continue to push for their involvement in these provincial processes. At a meeting of the First Nations Technical Committee in January 2020 there was discussion of an upcoming meeting between the BC Archaeology and Range

Branches to discuss wildfire and range recovery issues. At that point, only two First Nations representatives had been invited due to it being 'too onerous' to invite all First Nations at this early stage. Bert William, the Senior Archaeological Advisor from Bonaparte First Nation, was not on this invite list despite – as Joanne Hammond stressed – it being in *"his backyard. He has every right to be there"*. This experience is just one example of the ongoing challenge that many community representatives describe, in terms of having to constantly push for adequate and timely engagement and full collaboration, and speaks to some of the persistent tensions and concerns that remain from the work done on Elephant Hill.

UNRESOLVED TENSIONS AND LASTING CONCERNS

By documenting these 'lessons learned' – the successes, strengths and challenges – from Elephant Hill, many people, particularly in the provincial government, have expressed a hope that these could be distilled into a set of clear and operational guidelines to direct future wildfire recovery. However, there are numerous unresolved tensions and concerns, and divergent perspectives, relating to if and how the Elephant Hill recovery process could serve as a 'model' for future recovery efforts.

There are three distinct sets of persistent tensions and challenges:

- conflicting perspectives on the desired approach to and scope of specific wildfire recovery activities, in particular archaeology and salvage;
- differing views on the intent and value of Elephant Hill in 'modelling' joint wildfire recovery; and
- concerns around (a lack of) documentation and sharing of guidance and operational processes from Elephant Hill.

In the context of archaeology, Joanne Hammond admitted that *"frankly, I don't know that there's too much that's worth embracing and taking forward [from Elephant Hill]"*. Here, she is not referring to the overarching approach of broad-scale Secwépemc-led archaeology, but rather the challenges related to top-down management from the Archaeology Branch, the lack of consistent processes across communities, and the lack of data management systems. This report presents some recommendations for overcoming these specific issues in future. However, the bigger challenge relates to differing perspectives on the goal and expectations for archaeology, as well as salvage.

As the province and communities are looking towards the recovery from the 2021 wildfires it is clear that there are fundamental differences of opinion, in particular regarding salvage (i.e., how much should be salvaged, or if we should even salvage at all) and approach to archaeology. From interviews and what we have observed in meetings we have also heard concerns from District staff relating archaeology obligations, in particular those associated with range activities, and differing perspectives as to what level of post-fire archaeology is feasible or required.

Speaking to one Secwépemc staff in the fall of 2021, we heard how they had recently learned that BC Timber Sales had put out a request for proposals from archaeological consultants on BC Bid to support First Nation archaeology. The fact that this was done unilaterally, without any consultation or engagement with the relevant First Nations to understand if and how consultants could support training and capacity building, speaks to the persistent challenges First Nations face in ensuring involvement in decisions and actions that affect their communities, territories and heritage.

While some staff in government, and representatives from forest industry, have expressed the hope that the archaeology dataset from Elephant Hill could be used to adapt existing archaeological models to better predict archaeological potential of an area, there is pushback on this from communities due to concerns that predictive modelling would be used to 'bypass consultation'

Further, while there have been meetings between the BC Archaeology Branch and BC Range Branch to try and understand the relationship between these activities, neither range staff we spoke with, nor Secwépemc archaeologists, were confident that they would not face the same conflicts in the future. One Secwépemc staff emphasized that *"there's still a level*

of discomfort with the additional spending, the timelines, and having to share the decision-making around your operations". Similarly, one District range officer described the pressure they continue to feel regarding archaeology obligations, and concerns about a lack of capacity on the Districts' side to meet these:

> *"Now Districts have to do archaeology projects, contracts, and this other work that came out of the fires. There are more tables and more meetings that government and First Nation want to have, and they want to get more into the shared decision-making. I agree that this is really important, however will there be capacity with the First Nations and District staff to do these things?...I'm concerned with us not being able to deliver for whatever reason, if I get brought back down to two additional people. I'm going to have to streamline my methods and I won't necessarily have time or money to do all of these extras. And meanwhile we've raised that bar."*
>
> – FLNRORD STAFF

This speaks to the second set of tensions: between those who saw Elephant Hill as a 'pilot', and those who saw it as establishing the new way of doing things. At the same time, there are diverse understandings of what this new 'model' actually entails.

The above quote reflects concerns from multiple provincial staff that Elephant Hill has created new expectations for collaboration and direct awarding of work to First Nations that were challenged by capacity constraints or conflicted with dominant approaches (e.g., within the Cariboo Natural Resource Region). Others in government were clear in saying they hope the structure of the JTC and sub-committees continues beyond Elephant Hill, and highlighted the risks of losing this structure:

> *"If we don't have those groups or that formal structure, I'm not sure that we know, still, how to continue to make things happen...we have relationships with some of the other folks [in Secwépemc communities... but] people are changing over...so what does that mean for how we continue to work together on some of those important decisions? I know that some other folks involved think that we could transition to something else, but that thing is un-formed."*
>
> – FLNRORD STAFF

Some Secwépemc community staff similarly expressed a wish for Elephant Hill tables to be sustained, while recognizing the persistent challenges of capacity and the lack of long-term funding:

> *"I really don't want to see these tables disintegrate out of all the work that we've done. That work needs to continue to move forward to restore the resiliency and biodiversity on the land...The wildfire recovery funds have now run out, and I think that the province needs to respect the fact that the impacts to our traditional territories still exist and they will exist and that they need to be allocating or providing more funding to continue the good works that have gone on in the Sťuxwtéws territory."*
>
> – JENNY ALLEN, BONAPARTE FIRST NATION

Amongst those supportive of this new 'model' for collaboration there was another key concern: that an over-emphasis on distilling Elephant Hill into a generalized process risks prioritizing 'operational' outcomes (e.g., volume of timber salvaged) over meaningful collaboration.

One provincial staff highlighted the unrealistic goal of creating a 'checklist' approach to joint recovery, saying:

> *"Each [Indigenous] community is so different, and each Nation is even more different...I think particularly our provincial folks want to have a very generalized processes that they can check a box and follow and then they can say: 'we did the Elephant Hill process here so I don't see why you're mad!' {laughing} So that's a big caveat and a big challenge."*
>
> – FLNRORD STAFF

The challenges of working across government jurisdictions highlights another key tension: between a common desire within provincial and federal governments to create a streamlined or generalized process for engagement with First Nations, and the lack of standard approaches or internal coordination between many provincial jurisdictions themselves.

There is a risk that the relatively narrow focus of the 'three great goals' for Elephant Hill recovery will come to dominate future recovery efforts, despite initial goals and priorities of Secwépemc communities being much broader.

Similarly, while there is fairly widespread support for drawing on the jointly developed principles and guidelines (e.g., for silviculture and reforestation, or salvage) as a starting point in future recovery efforts, we heard concerns that this may be used to try and 'fast-track' collaboration.

This risks losing the critical value of spending time to develop shared understandings and collectively define recovery goals, and promotes the value of the 'model' in terms of moving forward with pre-determined recovery activities rather than demonstrating a process of working together to advance a joint vision of landscape recovery.

As Bert William emphasized, there is sometimes simply a need to "slow it down...This land is our land. Gotta remember that".

High severity burn near Hihium Lake. Photo credit: Sarah Dickson-Hoyle

While this report does identify key findings and actionable recommendations for improving collaboration in wildfire preparedness, response and recovery (see final Summary of Findings and Recommendations), a number of provincial staff feel that the processes and existing guidance documents from Elephant Hill have not been adequately documented or shared – either within government, or with the public more broadly:

> *"One of the things that we didn't do was actually create a procedure that says these are the things we should do…if somebody wanted to replicate the stuff that I did, the next time a fire happens, I'm not sure they would be able to. Because we haven't set that up and no one took the time to do it and learn from that and put those things in place. Or to even follow up for that matter, with the information that was produced, and sort of say: 'what did we learn from this?' And share those learnings with the broader community."*
>
> – DOUG LEWIS, FLNRORD – RESOURCE PLANNING & ASSESSMENT BRANCH

Another provincial scientist highlighted the *"continual flow of new staff, new people, new policies, new ways of doing thing"* and the need to create a centralized repository, such as a public facing website, that contains key recovery-related documents (such as guidance to manage Douglas-fir beetle or hydrological impacts, or processes for assessing cumulative effects). While FLNRORD has set up a Sharepoint site, which is also accessible by SRSS member communities, this provincial staff argued that this was not sufficient as *"you sort of have to be a member of the club"* to access it:

> *"So unless it's a top secret document that no-one can read, you shouldn't have to search. If it's about science and how to deal with things…if it's valuable information that lays a road map or guidance as to how to go forward with a similar event, okay tidy them up a bit, put them out there for whoever needs them and make them readable."*
>
> – FLNRORD STAFF

The SRSS and the Districts involved in Elephant Hill thus have an important role to play in consolidating and sharing these lessons learned. And, for the Secwépemc communities still involved in the SRSS, maintaining the momentum and joint decision-making processes developed through Elephant Hill and applying these lessons throughout Secwepemcúl̓ecw is a key priority moving forward. As highlighted under Secwépemc views of 'success', Elephant Hill was just the first step, and wildfire impacts will continue to be felt for years to come.

In the following chapters, we continue to look forward: to the priorities and persistent barriers faced for supporting Indigenous leadership in (wild) fire management, in particular wildfire response, and to the role of the SRSS in advancing the legacies of Elephant Hill throughout Secwepemcúl̓ecw.

10 KEY FINDINGS

10.1 Numerous challenges were experienced throughout joint recovery, many of which have not been overcome and pose potential barriers to future collaboration. These are grouped into the broad categories of 1) more pragmatic challenges of capacity and a lack of clear planning or decision mechanisms; and 2) issues of governance and jurisdiction, and how these shaped conflicting expectations for 'recovery'.

10.2 Capacity was a significant challenge, due to the scope and scale of work; the funding and economic development opportunities not coming with required support and long-term planning to build capacity; and high levels of staff turnover.

10.3 There was a lack of landscape-level or strategic planning for recovery activities, as well as a lack of clear decision mechanisms to ensure timely decision-making.

10.4 The reactionary approach and short-term vision resulted in a lack of clear goals or expectations for recovery, and meant that immediate issues (e.g., public safety, salvage) were prioritized over longer-term planning for ecosystem recovery.

10.5 A lack of clear understanding or process for adequately recording and reporting archaeology led to conflicts over costs, and challenges with data management. This resulted in additional expenses and time requirements imposed on communities.

10.6 There was never an explicit discussion to define 'wildfire recovery' or an agreement as to what would fall within the joint approach. The province was concerned about scope creep and has pushed to 'close out' the Elephant Hill tables. In contrast, many Secwépemc communities continue to advocate for longer-term funding and support to continue recovery and restoration as part of broader visions for landscape change and co-management.

10.7 Ensuring adequate and appropriate representation in the joint recovery process was a key challenge. This related to ensuring full Secwépemc representation and equal decision-making powers, and balancing the need to bring in specific expertise while keeping groups focused and functional.

10.8 Provincial staff as well as forest and range licensees raised concerns that these external stakeholders were not engaged in decisions that affected them. This resulted in misinformation and misunderstandings of this process in the broader community, and concerns about implementation of principles.

10.9 The Elephant Hill wildfire challenged many long-held provincial jurisdictions and entrenched silos in government. Despite a common desire within government to streamline engagement with First Nations, a major challenge – highlighted most often by provincial staff – was navigating the complex Ministry structure and ensuring a coordinated approach between Districts.

10.10 Key tensions remain relating to conflicting perspectives on the approach to activities such as archaeology and salvage; different views on the intent and value of Elephant Hill in 'modelling' joint recovery; and concerns around the lack of documentation and sharing of operational processes and guidelines.

10.11 An over-emphasis on distilling Elephant Hill into a generalized process of 'joint recovery' risks prioritizing efficiency of operational outcomes over meaningful collaboration and joint decision-making.

PART 4

Beyond Elephant Hill

"We have been here for 10,000 years and we will be here for time immemorial...we really are walking on two legs

– JENNY ALLEN, BONAPARTE FIRST NATION

CHAPTER 11

‘A very clear resistance to change’: Barriers to achieving equal partnerships in (wild)fire management

The first recommendation of the 2018 *Flood and Fire Review* was to establish First Nations as ‘true partners and leaders’ across all levels of emergency management: not just in recovery, but throughout planning/preparedness and response.

In Part 3, we documented the successes, strengths and challenges relating to First Nations collaboration in wildfire recovery. In this and the following Chapter we step back from the joint recovery process to highlight persistent barriers to achieving this recommendation, particularly in the context of wildfire response, and the priorities of Secwépemc communities for involvement and leadership in (wild)fire management.

LIVING WITH FIRE IN FIRE-ADAPTED TERRITORIES

At the time of finalizing this report, in late summer of 2021, over 1,500 wildfires have burned over 850,000 ha throughout the province this year, making 2021 the third worst fire season on record in BC by area burned (after only 2017 and 2018). The majority of area burned is in BC’s southern and south-central interior, including over 300,000 ha in the heartland of Secwepemcúl̓ecw.

The 2021 wildfires again highlight the critical need to support First Nations leadership and capacities in emergency management and wildfire preparedness and response.

Reading through quotes from interviews conducted over the fall and winter of 2020-2021, the acknowledgement of wildfire risk and expectation that BC has yet to see ‘the big one’ seems to anticipate the devastating wildfire season that was to come:

> *“I still believe that we have yet to see the mother of all fires here in BC. We had some huge ones, but we could have one that goes from the US Canada border all the ways up to Yukon. Massive, and it will transform the ecosystem of BC. And with the pine beetle kill, that was transformative in and of itself, so if you look back that all has got to accumulate, the effects of all of that will accumulate eh? To one catastrophic event coming up.”*
>
> – FORMER KUKPI7 RON IGNACE, SKEETCHESTN INDIAN BAND

> *“I’ve always known that we were overdue for the big one. I live in a natural disturbance type with stand maintaining fires, so for me it’s not a big surprise that this is happening. And you know it’s not going to be a stand maintaining fire, just because of the fuel load. You look at the old photos, you talk to people that were here even the homesteaders that came fifty years ago and what the forest looked like then, what it looks like now, and you can see the ingress on all the places that used to be grasslands, and the forest thickening.”*
>
> – DAVID MAJCHER, FLNRORD – DMH

Climate change was once again a major factor contributing to these 2021 wildfires, with record-breaking heatwaves at the end of June resulting in extreme fire danger and multiple wildfire starts throughout the province. However, as touched on in the opening Chapter of this report and hinted at by David Majcher above, another factor contributing to these ‘mega-fires’ is the past century of fire suppression and exclusion of Indigenous fire stewardship:

Sparks Lake wildfire. Photo credit: Joanne Hammond/Skeetchestn Natural Resources

> *"There was a lot of talk after the 2017 fires of how the fires are only getting larger and larger. I have a very good map on my wall in my office that shows every fire in Stswecem'c Xgat'tem's traditional territory from 1880, from when they first recorded them up to last year. It was very apparent, you know the 1920s and 1930s when all the bands, all the First Nations were restricted from stopping fires. The methodology came to suppress all the fires. There's 40 or 50 years of a gap of fires in there. And all of a sudden fire start popping up and it's very apparent the fires now days are a lot larger. Especially in the Interior Douglas-fir, instead of them being low ground fires sustained fires, it is catastrophic, wiping off the map type of fires."*
>
> – JOHN LISCOMB, STSWECEM'C XGET'TEM DEVELOPMENT CORPORATION

> *"It's becoming more and more apparent as we see these mega-fires. Frankly, [the issue] has been our suppression policy for the last 60 to 80 years. We've suppressed fire, which has led to incredible amounts of fuel on the ground. So putting a controlled fire on the land base is more challenging than ever. Because it's difficult to control."*
>
> – ROB SCHWEITZER, BCWS

This over-emphasis on fire suppression and resulting changes to forest ecosystems was also acknowledged by a forest licensee representative we spoke with, who admitted that *"there's areas in the [Elephant Hill] fire that we're planting, that I think probably shouldn't even be planted. They might be better as grasslands."* The changes to forest structure and ecosystem processes not only pose a risk to semi-remote Secwépemc communities who are surrounded by these high fuel hazards, but also impact Secwépemc peoples' ability to access and use the land for cultural practices:

> *"I have also heard that people don't really want to use that forest anymore. They don't go out to hunt within those areas, they don't go out and gather in those areas, because you can't walk through those stands. They think that deer are actually avoiding mule deer winter range because there is so much dead fall and it's hard to get through at that time. And don't get me wrong, everyone acknowledges that small patches of dead trees are important. Wildlife trees are very important on the landscape, but to the scale we are seeing it at around Dog Creek and Canoe Creek everyone is really concerned."*
>
> – GEORGINA PRESTON, FORMERLY WITH STSWECEM'C XGET'TEM FIRST NATION

Only four years out from 2017, many of these concerns and impacts have only grown greater. For Indigenous and non-Indigenous communities alike there is an ever-growing need to act on the recommendations highlighted over multiple provincial reviews and inquiries and by Indigenous communities themselves, to support more meaningful First Nations leadership and engagement in (wild)fire management.

PROGRESS SINCE THE 2018 FLOOD AND FIRE REVIEW

It is a common pattern worldwide: after every 'devastating' and 'unprecedented' wildfire season, governments call for another review or Royal Commission to investigate failings and present recommendations to support improved emergency preparedness, response and 'community resilience'. Yet despite the changes to BC's approach to fire and emergency management in recent years, there is a widespread view that meaningful change in the way that agencies partner with communities has yet to come.

In BC, the *Firestorm 2003: Provincial Review* report[23] (Filmon 2004) presented recommendations to improve wildfire prevention and preparedness (e.g., through fuels treatments, prescribed burning and FireSmart activities); emergency management and response (e.g., mandatory local emergency plans); wildfire response (e.g., accessing local firefighting expertise and knowledge) and many more. While this resulted in improvements in some areas of emergency response coordination and communications, and new funding programs for community wildfire protection planning, implementation of many recommendations was inadequate or lacking.

After the 2017 wildfire season and the flood season that immediately preceded it, the Province of BC commissioned another independent review to examine and assess government response to these flood and wildfire events and provide recommendations spanning the phases of planning and preparedness, prevention and mitigation, response and recovery. Of the 108 recommendations included in the 2018 *Flood and Fire Review* report, numerous focus on the need to better work with and support Indigenous communities throughout all stages of emergency and wildfire management. These include (but are by no means limited to):

- recognizing First Nations jurisdiction in their traditional territories and supporting capacity development through training and accreditation (recommendation #4);
- committing time and resources, and spending time with communities *in* their communities, to develop and sustain relationships (#6);
- developing a toolkit for Indigenous communities to assist during emergencies (#11); and
- reviewing traditional First Nations burning practices for their applicability and suitability for future forest and fuel management (#57).

The multiple provincial government action plans and responses to the *Flood and Fire Review* released since 2018 document the completion of, or substantial improvement in, the majority of these 108 recommendations. Similarly, BCWS staff we spoke with highlighted the many changes made within BCWS since 2017 on their approach to wildfire preparedness, response and community engagement. However, many of the Secwépemc representatives we spoke with, as well as non-Indigenous community members (e.g., local ranchers), remain frustrated at what they see as a lack of any real change, and persistent barriers to meaningful involvement during wildfire response.

When we asked BCWS staff about changes since 2017, responses fell into four broad categories: strategic engagement; public communication; funding for preparedness and fuels mitigation; and both proactive and on-ground engagement during fire response.

For Cliff Chapman, who in 2017 was the Deputy Manager of the BCWS Kamloops Fire Centre, the 2017 wildfire season forced a recognition of a need to change their approach to wildfire response:

23 Filmon, G. 2003. Firestorm 2003: Provincial review.

> *"Historically we've very much operated in that siloed environment where we came in and we did what we thought was the best thing to do to put that fire out, and it kind of had been working for us for a while. I think there was certainly some hint that we needed to shift and I think 2017 was {laughs} was not a hint anymore, it was an absolute 'yes this needs to change!'"*

One such change was the creation of a new strategic engagement team focused on building and sustaining high-level partnerships and agreements, including with First Nations organizations. Jamie Jeffreys (BCWS) highlighted the development of emergency management and partnership agreements, such as the 2019 tripartite *Emergency Management Services Memorandum of Understanding*[24] between the Province of BC, Indigenous Services Canada and the First Nations Leadership Council; the *Collaborative Emergency Management Agreement* with the Tsilhqot'in National Government[25]; and regional level emergency management partnership tables between EMBC and First Nations representatives. In doing so, she said:

> *"I think there's been a lot of progress…I think that those agreements have been a big catalyst to helping resource First Nations communities…The Indigenous relations team, that's a lot of the priority work, working with those Nations. So working at the provincial level, as well as working with Nations, and then all the signatory agencies to those agreements to build out the work plans and implement the work plans and then continue to get the work plans then trickle down to the Fire Centre level."*

Another major change, also acknowledged by Secwépemc staff, has been an improvement in public-facing communications during wildfire events. This has been achieved through active social media outreach (e.g., Twitter); an improved website and development of an app to track wildfire starts, fire boundaries and evacuation alerts and orders; regular 'community bulletins' updating progress and response to 'fires of note'; and the hiring of additional communications officers.

Since 2017 there has also been increased funding provided for wildfire risk mitigation. In 2018 the provincial government transitioned the former Strategic Wildfire Prevention Initiative (SWPI) funding program, which provided funding to local municipalities to develop Community Wildfire Protection Plans and implement fuels treatments in the Wildland Urban Interface, to a new Community Resiliency Investment Program. While SWPI had provided $81 million to communities over 15 years it was a cost-shared program that did not support planning or fuels reduction on private land, on First Nation reserves, or areas outside the 2 km WUI boundary around communities. The new funding programs aimed to address these gaps by providing funding for FireSmart activities on private land and reserves and supporting landscape-level or regional collaborative approaches to fuel reduction on Crown land.

Numerous Secwépemc First Nations have accessed funding for wildfire mitigation and planning under the CRI, including Bonaparte First Nation (funding to update their Community Wildfire Resilience Plan and develop fuels treatment prescriptions) and Whispering Pines/Clinton, who are actively engaged in conducting fuels treatments.

Finally, both Directors and Wildfire Officers from BCWS spoke about the increasing focus on proactive engagement with communities prior to wildfire seasons, as well as changing 'norms' related to engaging communities during a wildfire event. Responding to a comment about the lack of pre-season engagement, one Fire Zone staff spoke of regularly reaching out to local First Nations contacts during the winter and spring of 2021 with the hope of discussing needs or planning approaches prior to the fire season (although in multiple cases, never hearing back).

24 Emergency Management Services Memorandum of Understanding between the Union of British Columbia Indian Chiefs, Canada and the Province of British Columbia. 2019.

25 Collaborative Emergency Management Agreement between the Tsilhqot'in Nation and Canada. 2018.

Other approaches include the establishment of community wildfire 'roundtables', such as the Clinton and Area Community Wildfire Roundtable (funded by BCWS and supported by the Fraser Basin Council over two years) that hosted its inaugural meeting in February 2020. These roundtables bring together local and First Nations governments, volunteer fire departments, fire brigades, ranchers, forest industry representatives and other stakeholders to facilitate coordination and communication around wildfire risk reduction. However, while this particular table lists High Bar First Nation, Whispering Pines/Clinton Indian Band, Bonaparte First Nation, Ts'kw'aylaxw First Nation and Skeetchestn Indian Band as members, only High Bar has been represented at one of the two meetings so far[26].

This speaks to two key issues: firstly, the ongoing challenge of capacity in First Nations communities; and secondly, the fact that inviting a community representative to a roundtable meeting or asking for input over email or surveys (a common approach, particularly during Covid) does not constitute meaningful 'engagement'.

In addition to formal mechanisms for engagement during emergency events such as the EMBC facilitated wildfire coordination calls (described in Chapter 3), a number of BCWS staff highlighted changes in their approach to on-ground engagement with First Nations and other local communities when a wildfire occurs. One Wildfire Officer emphasized the *"huge improvement coming out of 2017 and 2018"* in terms of bringing on community liaisons (discussed further in Section 4 below). Cliff Chapman (BCWS) also told us how, in 2018 when he was the Acting Kamloops Fire Centre Manager, he drew on lessons learned from 2017 and worked closely with the Lower Similkameen Indian Band (a Syilx/Okanagan Nation community) to ensure close collaboration throughout fire response in their territory:

> *"They were at the planning table, they told us where they did and didn't want fireguards. We were open with them about, 'if we don't do this, this is the potential impact', and we continued to sort of meet at this place of, I would say trust, where it was give and take both ways…I would say that one was more driven by me, as the acting Fire Centre Manager at the time. Obviously the Incident Management Team would be on the ground, more daily connected, and that's the beauty of that pre-established relationship. The Chief of Lower Similkameen knew he could call me any time, any place, but he and I were not diving into the details of where guards were. That was left at the operational level, his resource department and their own command structure that they had set up that was working with our comparable command structure through the Incident Management Team. And then if there was a challenge, Chief Crow would phone me and say 'hey, we gotta come together.'"*

However, this contrasted with the overall view of one staff from Stswecem'c Xget'tem First Nation regarding the changes – or lack thereof – in the Cariboo Fire Centre immediately following 2017:

> *"To be honest I don't think much changed in 2018… from a Ministry perspective they were still trying to digest 2017 when 2018 came along. I think some of the 2017 fires were still smouldering, they made it right through the winter. So I think everybody was more or less trying to digest it and get through it. I don't think there was really much change."*
>
> – JOHN LISCOMB, STSWECEM'C XGET'TEM DEVELOPMENT CORPORATION

Yet Jamie Jeffreys (BCWS) recounted how in 2018, further north in the province, the Incident Management Team for the Shovel Lake fire near Burns Lake hired a Stellat'en First Nation (a Dakelh Nation) member to act as an 'Aboriginal liaison'. Jamie described how this liaison worked closely with the IMT, attending meetings and providing updates and information to both the IMT and their community. However, in a report released by the Nadleh Whut'en First Nation – another Dakelh community affected by the Shovel Lake fire – in 2018[27]

26 Fraser Basin Council. 2021. Clinton and Area Community Wildfire Preparedness Roundtable: Terms of Reference.

27 Sharp, K. and Krebs, A. 2018. Trial by Fire: Nadleh Whut'en and the Shovel Lake fire, 2018. Report commissioned by the Chief and Council of the Nadleh Whut'en First Nation.

they identified that "the discretion to hire an Aboriginal liaison seems to have been made locally, and not part of BCWS protocols" and that communication with First Nations was at the discretion of the Incident Commander at the time.

Jamie Jeffreys further described how, after this experience in 2018, BCWS created the structure to have a community liaison any time an IMT was deployed and how they *"gathered community liaison names and resources that we would utilize the following season, for 2019, if we needed to"*. According to Jamie, this liaison officer role was formally incorporated into the IMT organizational structure – working closely with the Operations Section Chief and reporting to the Incident Commander – and this program was 'rolled out' at the spring 2019 training to IMT staff. The intention is that these liaison officers remain in that role for the duration of the incident, rather than rotating out after 14 days with the IMT.

Despite these stated changes, we have continued to hear of varying levels of receptiveness by Incident Commanders and other IMT staff to working with (in particular receiving operational input from) liaison officers.

Further, in summer 2021 we heard from local ranchers that the program of having BC Cattlemen's liaisons for local ranching communities *"isn't working the way they (Cattlemen's) wanted it to work…It's a joke…I know of one [liaison] who quit, because they lit a backburn on his family's place…and people were in there!…the communication wasn't there."*

As Rob Schweitzer (BCWS) acknowledged:

> *"I don't know if I would go as far as saying it's (the community liaison program) formal. I would say it's welcome. And so communities that have done this work and have identified somebody, we will utilize them. Happily. Both from an initial response, 'hey there's a fire in and around your community'. To, 'hey you can come to our incident command post and get the daily briefings and provide your local input'. We would be encouraging our senior operational staff to receive that input [from local and Indigenous communities]."*

Despite localized examples of strong collaboration such as Cliff Chapman described above, the dominant perspective amongst numerous Secwépemc representatives we spoke with (both in 2020 and 2021) is that there has been little meaningful change in how BCWS engages with local communities either prior to or during a fire event. While some Secwépemc staff acknowledge the relationships that they have developed with certain local BCWS staff, and progress made during the 2021 fires in Secwepemcúl̓ecw, there is a strong feeling that they still have to fight to be involved during fire response in their territories and that the lessons identified in the many government reviews have not been *learned* or consistently implemented. As such, a key recommendation of this report is to strengthen the First Nation liaison officer program and role (Chapter 12).

For example, Don Ignace (Skeetchestn Natural Resources) spoke of the relationship he has established with the local Wildfire Officer, Hugh Murdoch, since 2017. Don described how *"now, when a fire starts out, they phone us directly and ask us well how do we want to be involved in that? So that has grown"*. Yet he went on to say that:

> *"I think that's due to political pressure, as well as them realizing that we are organized and coordinated… [but] there still has to be that discussion to formalize that relationship [with BCWS]. They're not inclined to, or they haven't been instructed to deal with us. Outside of maybe a cursory kind of involvement or something. So we have to keep pushing the door open to make sure that we step through because we are going to, we're not going anyway. People come and go around here, you know we're here. And we're not going anywhere."*

The perceived lack of widespread in-community engagement from BCWS, particularly for proactive planning, was also highlighted by Tanner LeBourdais (Second Pass Forestry and Whispering Pines/Clinton Indian Band):

> *"In terms of Wildfire Branch talking to us, it hasn't existed*

> *"In terms of communication and anything else between the Wildfire Branch (BCWS) and our band has been nil, to be honest. I don't think anything's changed in that sense since 2017, if they said it has, where is it? The amount of funding available is a positive, we'll take the fuel management all day, it's a proactive approach, it's definitely of benefit. But in terms of Wildfire Branch talking to us, it hasn't existed."*

Tanner went on to emphasize that their community is *"in the fire realm, absolutely"*, and to describe the type of in-community engagement wanted from BCWS:

> *"I mean, Covid stinks but when it's all said and done hopefully at some point [they can organize] a BBQ or an information session and bring out youth to get them involved and to educate community members. And it might cost them some money but so what?...I think they have the staff to have more of a presence in communities and it's such a big piece. All of our family wants to be firefighters they just haven't taken the final jump to go work for Wildfire Branch, they'd rather work for the band crew. So it's an important thing to our community and the lack of interest from Wildfire Service in the community is, it's not surprising but it's a little bit disappointing."*

These quotes suggest that the 'trickle down' from strategic agreements and workplans to the Fire Centre or Zone level is not necessarily occurring in a consistent or timely manner. Further, the development of new regional tables has not translated into active outreach or engagement with First Nations who often struggle with capacity issues that pose a barrier to participating in these regional meetings. While the impact of the Covid-19 pandemic and shift to virtual communication should be acknowledged (i.e., in terms of posing a barrier to in-community engagement), Secwépemc staff have raised concerns that 'Indigenous engagement' in BCWS or other government-led projects still comes too late.

For example, in early 2021 the SRSS First Nations Technical Table became aware that BCWS was initiating a project to develop training resources and operating procedures for crews to be able to identify and protect culturally sensitive sites, and to add this content into a training module for the 2021 season. However, there are concerns that this duplicates the FNESS-coordinated *First Nations Values Data Assembly Project* completed for BCWS (co-authored by Joanne Hammond), which presented recommendations and produced training modules for this exact purpose. Joanne told us how, throughout that project, she was 'totally roadblocked' by BCWS from contacting First Nations and expressed frustration that this new project in 2021 was reinventing the wheel due to *"such a culture of doing things themselves...[they're] not aware of all the work already done"*. Joanne further highlighted how this most recent project had not yet engaged with any First Nations (despite having a team and charter put together); a level of involvement that was 'unacceptable'.

This example speaks to different understandings or expectations around 'engagement'.

There is a common approach of establishing a project then seeking to engage First Nations representatives at discrete points in time down the track. In contrast, collaboration means that communities will be involved from the start, supported by adequate resourcing and professional capacity building rather than one-off honoraria to participate in a meeting.

Given BCWS's awareness of the JLC and SRSS, there was also an expectation that the First Nations Technical Table would be an obvious platform to connect with Secwépemc communities about work in their territory.

As highlighted further below, any changes in on-ground engagement also seem to be dependent on the particular manager or Incident Commander at the time, posing a barrier to widespread change. And despite the many recommendations and new relationships arising from the 2017 fires in Secwepemcúl̓ecw, in 2021 Secwépemc communities spoke about still facing challenges in accessing information or ensuring

Photo credit: Joanne Hammond/Skeetchestn Natural Resources

collaboration throughout another devastating wildfire season (**Box 1**). In the wake of this most recent wildfire season, we again heard concerns that the lessons from 2017 have still not been fully learned. Given the successes arising from 2021, in particular the widespread (e.g., in media) recognition of the working relationship between Skeetchestn and BCWS and the increasing public attention to Indigenous fire expertise, there is a critical need to capture these lessons and address these persistent barriers before the next wildfire season. As Kukpi7 Darrel Draney (Skeetchestn Indian Band) emphasized:

> *"When we all work [together], local, traditional and western ways of fighting fire, it's a model that cannot be forgotten and cannot be dropped."*

The following Sections reiterate many of the issues and recommendations already raised in the *Flood and Fire Review* and highlight the ongoing need to improve and formalize approaches to community-level engagement and preparedness before another wildfire season is upon us. As Jenny Allen (Bonaparte First Nation) said:

> *"[We need] to come up with some kind of a letter of commitment from BC Wildfire Service for this fire season which we're in right now, for engagement and response for our communities. Because we can have all these meetings and we can plan plan plan, but what's really happening right now is the amount of rain that we're getting and the amount of dry hot spell that is coming, we are at risk for another mega-fire. And we're not going to have a plan in place."*

BOX 1

2021 wildfires in Secwepemcúl̓ecw

In late June 2021, an extreme heatwave shattered temperature records across much of western North America. During the last week of June, temperatures in Cache Creek broke the previous record high by almost 12°C and temperatures in the Village of Lytton soared to 49.5°C, breaking Canadian-wide temperature records for the third day in a row. This heatwave resulted in numerous wildfire starts: the start of what would become the third-worst wildfire season on record in BC by area burned. At the time of writing, in early September 2021, over 1,500 wildfires have burned over 850,000 ha in BC, forcing the evacuation of thousands of people and burning through towns such as Lytton and Monte Creek.

As in 2017, these wildfires significantly impacted First Nations communities and territories. Some of the largest wildfires – including the McKay Creek fire (~45,000 ha); the Tremont Creek fire (~62,500 ha); the Flat Lake fire (~74,000 ha); the White Rock Lake fire (~83,000 ha) and the Sparks Lake fire (~89,500 ha) – burned through Secwépemc territory, directly affecting many of the same Secwépemc communities who were still recovering from Elephant Hill. The largest of these, the Sparks Lake fire, burned right to the boundary of Skeetchestn's reserve (prompting a five-week evacuation) and the eastern boundary of the Elephant Hill wildfire, with significant impacts to the Deadman River watershed.

Secwépemc communities again played a leadership role in responding to these fires and protecting their communities. Bonaparte First Nation responded quickly to action the 'McLeans Lake fire' in their territory, deploying crews and a newly purchased fire truck to bring this fire under control within days, in the absence of BCWS response.

Simpcw First Nation's 'initial attack' crew was dispatched by the BCWS Kamloops Fire Centre to respond to multiple fires throughout Secwepemcúl̓ecw, including Sparks Lake, and was referred to by one BCWS staff as a great resource and model that should be expanded in other First Nations. And from the moment the Sparks Lake fire was recorded to the north-east of Skeetchestn's reserve, Skeetchestn drew on their experiences from 2017 to lead a coordinated emergency response. Over the following months, with the majority of the community evacuated under the direction of Chief and Council, Skeetchestn's fire watchers and fire crews once again played a critical role in protecting their community: eventually working hand in hand with BCWS in a process of 'walking on two legs'.

McLeans Lake wildfire. Photo credit: Sarah Dickson-Hoyle

Darrell Peters and Skeetchestn's response to the Sparks Lake wildfire. Photo credit: Sam Draney

We heard of a number of key improvements in terms of how BCWS and the provincial government engaged with communities during 2021. One example was the daily 'partnership table' calls for the Sparks Lake and McKay Creek fires, involving detailed technical briefings and including representatives from EMBC, FLNRORD, Regional Districts, First Nations and stakeholders such as BC Cattlemen's and infrastructure providers.

Skeetchestn also developed a strong working relationship with BCWS throughout the Sparks Lake wildfire response. Within approximately 24 hours, BCWS had set up contracts with Skeetchestn personnel (including Mike Anderson and Darrell Peters) to act as liaisons with the community. In addition, a (non-Skeetchestn member) stakeholder Liaison Officer was appointed and tasked with representing multiple community and interest groups.

The BCWS Division Supervisor on Sparks Lake highlighted the critical importance of this collaboration and of Darrell Peters' knowledge of fire:

> *"Darrell knows more about fire than I will ever learn. He's probably forgotten more about fire than I will ever learn…So Darrell is with me many days in the sky, helping me, guiding me, showing me how the landscape is going to react and transform under this energy of the fire…he's developed a traditional knowledge to help us lay down fire, good fire, so we can control the fire coming into our guards and help protect the Skeetchestn Nation."*

This BCWS staff went on to describe how his crews worked with Skeetchestn fire crews and knowledge keepers, and the important role of Darrell Peters and other Skeetchestn members in guiding prescribed burning, constructing fireguards and informing suppression tactics.

However, there was an ongoing sense of frustration amongst communities that they still had to fight for this level of involvement. Kukpi7 Darrel Draney (Skeetchestn) described the *"one-way conversation"* with FLNRORD when Sparks Lake first hit:

> *"We'd give them information about the fire, [they] never returned our calls. This went on for a couple of days… we see imminent danger right in our face with huge plumes of smoke and we are the only ones looking at it."*

Wildfire road closure sign at the start of Deadman-Vidette Road. Photo credit: Sarah Dickson-Hoyle

The Sparks Lake Incident Commander was briefly introduced to Don Ignace at Skeetchestn early on. While we heard concerns from some Skeetchestn staff and community members that this did not immediately translate into the level of engagement communities are seeking – of having a First Nation community representative embedded in the IMT from day one – Don Ignace acknowledged the challenges during the first few days of a fire of this size and overall was supportive of the communication and collaboration with BCWS.

Other Secwépemc communities also appointed a liaison officer to work closely with BCWS IMTs. Kukpi7 Justin Kane (Ts'kw'aylaxw First Nation) described how the Emergency Management Coordinator for the Lillooet Tribal Council acted as a liaison for St'at'imc communities on the McKay Creek fire, working closely with the Incident Commander and other BCWS staff 'in the fire office throughout the summer'. St'at'imc community staff also worked with BCWS planners to assist with locating fireguards and avoiding high value cultural or archaeological sites (in contrast, Skeetchestn staff told us how they experienced pushback from certain BCWS staff when attempting to provide similar input). While Kukpi7 Kane highlighted the success of this collaboration, he also emphasized how *"the Incident Commander makes all the difference"*; that is, while some showed an openness and willingness to work together, they would often leave to another placement and the relationship building would have to start again.

We heard similar frustrations from Skeetchestn staff: of the "hit and miss" nature of working with Incident Commanders, some of whom were overtly dismissive of First Nations' knowledge or expertise, and of how the successes and relationships from one fire or IMT rotation often did not transfer to the next.

Throughout the Secwépemc Nation and BC more broadly, these concerns echoed those from 2017: the changeover BCWS staff posing a barrier to relationship building and trust; inconsistent approaches or willingness of different IMT or Fire Zone staff to seek local input; poor communication between provincial and First Nations governments regarding evacuations; and concerns regarding the extensive use of prescribed fire. Once again, this highlights the need for greater relationship building and planning prior to the fire season, and the critical role of First Nations emergency management staff in coordinating community response and agency collaboration.

As the last fires were brought under control, governments and communities once again began looking to the daunting task of extensive wildfire recovery and are seeking to apply 'lessons learned' from Elephant Hill. In sharing findings from this report, we hope to inform this ongoing recovery: not only through compiling resources and operational recommendations, but also to highlight the importance of First Nations-led collaboration and leadership and of the *process* of collectively defining shared goals and approaches to wildfire recovery.

PERSISTENT BARRIERS TO ENGAGEMENT AND ACHIEVING 'EQUAL PARTNERSHIPS'

Legacies of mistrust and responsibilities to engage

The majority of BCWS staff we spoke to, from Zone officers to provincial Directors, expressed an openness to collaborating with First Nations and other communities across diverse aspects of (wild)fire management. Others described their attempts to reach out to communities in advance of fire seasons (and, at times, their frustrations at being unable to get through).

However, peoples' experiences from 2017 – the traumatic impacts of the fire itself compounded by experiences of not being listened to or communicated with, and a lack of confidence in BCWS to protect important values and assets – continue to dominate their overall view of BCWS. As a result, the majority of both Indigenous and non-Indigenous community members and representatives we spoke to still hold a strong sense of mistrust in BCWS and are skeptical of any reported 'changes' made since 2017.

In interviews, BCWS staff spoke of the importance of working with First Nations and other local communities on everything from fire response and emergency management planning to fuel management or ecosystem restoration burns. One Wildfire Officer highlighted their willingness to 'help', saying *"we would love to be there at the table and providing advice when asked"*. Looking to the future and the diverse opportunities for BCWS to support communities, Rob Schweitzer (BCWS) emphasized the need to:

> *"Go for it! Don't think like the past, think forward… And we have a luxury in [BC] Wildfire, and I keep telling this to all the staff, where we're not going into a First Nation community and trying to extract resources from their community. That is a way more difficult a position to be coming in to…We have the luxury of coming in and saying 'hey, employment opportunities! Collaborating on the land base. Preparing for emergencies. Funding rehab.' That's a pretty good place to be coming in from. So what's holding you back, from a wildfire perspective?"*

However, these views sharply contrast with the dominant perception within communities of BCWS as an organization that has still not fully learned from 2017 and still closely guards their mandate as the lead agency for wildfire management, to the detriment of meaningful collaborations at a community level.

Again, this perception is strongly shaped by experiences from 2017 and a lack of first-hand experience or witnessing of substantial changes since then. Angie Kane (Secwepemcúl̓ecw Restoration and Stewardship Society) described what she saw as *"a level of arrogance within the BC Wildfire [Service]"* in 2017, saying:

> *"They think they are the only ones that have the knowledge and experience to fight fires. I heard again and again from the locals [in Clinton], that because locals and First Nations aren't professional firefighters we don't know what we're doing, because we're not fire experts. This level of arrogance has to change. There has to be some open communication and a level of listening to the local people."*

This perception of 'arrogance' was echoed by many Secwépemc staff around the SRSS First Nations Technical Table. For some, this view was reinforced by direct experiences working with BCWS, both in 2017 and since:

> *"It's not meant to be sexist but it's a gentlemen's club. They know the best. They know everything. No one else knows as much as they do. That's not the case and they've tried to bring in First Nations knowledge on some projects and some research things over the years. Communities have fire keepers. I don't know if they've reached out to any of ours… to use the knowledge that's in our community, it doesn't happen. So more collaboration is what my answer would be to that question [as to what needs to change], more involvement and co-management would be huge. Sure, they know a lot, that's their trade, but they don't get the opinions of as many people as I'd like to see."*
>
> – TANNER LEBOURDAIS, SECOND PASS FORESTRY & WHISPERING PINES/CLINTON INDIAN BAND

> *"I bought into the 'oh, we'll look after you'. Which I will never ever, ever, ever believe again in my life*

Beyond this mistrust in any stated changes since 2017, particularly in terms of engaging with communities, we repeatedly heard how peoples' negative experiences during 2017 have destroyed any trust in government agencies to protect them or their properties from wildfire. Every local rancher we spoke to was adamant that, if threatened by another wildfire, they would not evacuate. As one rancher said:

> *"[In 2017] I bought into the 'oh, we'll look after you'. Which I will never ever, ever, ever believe again in my life, from our experience…This place, I wouldn't leave again, there is no way…I told [BCWS] in 2017, that what they have done and how they did it was going to change how people felt about leaving…ranchers won't leave now. Because they can't get back in after the front has gone over, you won't let them in…and equally as bad is, when you're not there, they do whatever they damn well feel like…there's no way I actually trust what BC Wildfire Service says now."*

As briefly described in Chapter 2, these experiences from 2017 include having personal structural protection equipment damaged and the protracted and complex processes to be compensated for property damages from agency prescribed burns.

This mistrust in BCWS, and the mismatch between community and BCWS perceptions and expectations of engagement, has appeared to result in a standstill. On the one hand, multiple BCWS staff state their willingness to collaborate with communities, and there is evidence of proactive change and engagement (particularly, but not only, at a regional or 'strategic' level). On the other, communities are still reeling from their experiences in 2017 and feel that it's upon BCWS to demonstrate their commitment to and progress in making change, and to take the initiative and be proactive in reaching out.

In particular, we heard how this needs to be *in* communities: not just a phone call or invitation to a community wildfire table. This is of course challenged by the Covid-19 pandemic disrupting in-person meetings, and with many staff working from home. Similarly, a number of ranchers emphasized that stakeholder organizations such as the BC Cattlemen's does not represent all ranchers, and that outreach pre – and during fire seasons should be at the community level.

This need for in community engagement was also highlighted in the *Flood and Fire Review*, however BCWS's emphasis thus far has appeared to be concentrated on 'strategic partnerships'. While these high-level partnerships and agreements are important, for Secwépemc communities we spoke to these do not seem to be resulting in any meaningful or visible change in how BCWS staff engage with their communities, nor a greater understanding of communities' needs and desires for achieving 'equal partnerships' in (wild)fire management.

Devaluing Indigenous and local knowledge, and conflicting notions of 'shared responsibility'

This report documents the many ways in which Indigenous and local knowledge were disregarded during the 2017 wildfire response, as well as the value of drawing on these diverse knowledge forms across all phases of fire management. The *Flood and Fire Review* echoes these findings, and included recommendations to better 'integrate' Indigenous knowledge across all phases of emergency management. In addition, the recommendation to promote true and equal partnerships across *all* phases of emergency management is reflected in the increasing public and policy discourse, in BC and numerous countries worldwide, around promoting a 'shared responsibility' between governments and communities for disaster management.

The notion of 'shared responsibility' or 'equal partnerships' appears confined to the planning/preparedness and mitigation phases of wildfire management. During wildfire events, in contrast, BCWS effectively retains or reassumes control and responsibility.

Associated with this is the assumption that communities will conform to 'expert' advice and directives, and a lack of formal expectations or policies around Indigenous and local knowledge informing decision-making.

As John Liscomb (Stswecem'c Xget'tem Development Corporation) said, *"shared responsibility is right from communication to actually fighting the fire, and rehab, and the activities that happen on that fire. The only part I can see that's been met is the communication."*

In its October 2019 *Action Plan Update* (a response to the *Flood and Fire Review*), the Province of BC stated that *"The inclusion of Indigenous knowledge into emergency management, leading to a more holistic understanding of disaster risk throughout British Columbia, is also being promoted"*, for example through a FNESS-coordinated 'Indigenous Knowledge Gathering' project (however, these events were subsequently put on hold due to Covid-19). Similarly, Cliff Chapman (BCWS) acknowledged the need to give operational decision-makers within BCWS *"the assurance that they can, and should, and need to have that more collaborative open approach to understanding the local knowledge, the traditional knowledge, and to really bring First Nation leadership and decision-makers to the table"*. However, major barriers persist to recognizing First Nation experience in fire, and to Indigenous knowledge and expertise informing wildfire response.

The first of these barriers relates to recognizing experience and expertise in prescribed or cultural burning. Currently, the provincial government retains control over fire practitioner accreditations, limiting the ability of Indigenous peoples to lead or participate in burning and risking extractive approaches to 'integrating' Indigenous knowledge *into* agency-led operations. As one former staff from FNESS said:

> *"To me it's just a thought around jurisdiction and legislation and ownership. That is a major problem. How do you expect a local government or a community to participate in prescribed burning if you don't recognize their certification and knowledge? That's a major obstacle…if you don't have an equal playing field how are you going to gain that capacity and accreditation provincially?"*

Secwépemc community members also expressed frustration that their communities' experience and expertise working with fire and across their territories is not recognized by government agencies, which prevents them from participating in and 'sharing responsibility' for wildfire response:

> *"I think that the professionals and the scouts need to also be acknowledged, [for example] there's a lot of horseback riding going from Skeetchestn. I think that [BCWS] need to allow for the wildland firefighters that are present on our reserves to action the fire and to not try to hold them off because they're not BC Wildfire team members. They are trained, they are actual wildland firefighters. They might not have all the current tickets, but it doesn't change the fact that they have done that their whole lives. Like I said, our people have been using fire and around fire for so long that I just don't see that that should be a barrier. I think that they should allow for [that involvement], even providing equipment to First Nations who don't have that kind of stuff to get more boots on the ground."*
>
> – JENNY ALLEN, BONAPARTE FIRST NATION

The second barrier relates to a persistent hesitancy amongst some BCWS staff to involve other people – whether First Nations or local community members, or external agencies – in BCWS' operations and decision-making processes, and a lack of acknowledgement of the diverse capacities that exist in First Nations communities. For example, one BCWS staff expressed opposition to involving First Nations representatives in line locating for fireguards, and a skepticism of their skills or expertise:

> *"Based on what training and what experience? Getting out with line locators, it would be a very very dangerous move. There's equipment operators that, well they would have some questions. It'd be like asking somebody to do work on your transmission when they've been driving for years but they've never worked as a mechanic."*
>
> – BCWS STAFF

Elaborating on this comment, this BCWS staff spoke about the difference between having past, or even recent, experience working on fires, and working full-time for a fire agency. However, Mike Anderson (Skeetchestn Natural Resources) put it simply in saying *"there's two things you need to know to fight fire. One is fire, and the other is the land"*. While Secwépemc people may not necessarily have professional experience in supervising crews or directing heavy equipment across fuel types and terrains, there are few (if any) who know Secwepemcúl̓ecw better than Secwépemc hunters, range riders and territorial patrol.

However, this opposition to involvement in activities such as line locating not only contradicts the views and experiences of other BCWS staff, who told us they support this sort of First Nations involvement and don't see the need for this level of certification (see Chapter 12 below), but also discounts the fact that many First Nations have capacity and expertise in working with heavy equipment (often as full-time jobs as equipment contractors or forest industry staff).

The lack of understanding of Indigenous fire knowledge extends to a poor understanding of the different forms of 'knowledge' existing in Indigenous communities: from knowledge of cultural heritage, fire and the land, to contractor (e.g., heavy equipment operator) capacity and forest industry expertise.

And, while there are diverse levels of support within BCWS for working with First Nations – and diverse understandings of what this means, in practice – Joanne Hammond (Skeetchestn Natural Resources) described what she saw as a fairly widespread resistance to external influence or involvement:

> *"We worked with [BCWS] pretty closely [on a First Nations values project]. There was a very clear resistance to change. It is a really hierarchical structure, and it's carefully guarded. And by that I mean within the hierarchy, the hierarchy is preserved, but also I got the impression that within government the autonomy that Wildfire Service has enjoyed, they wanted to protect that. So they weren't terribly interested in having bureaucrats from other areas interfere and tell them what to do… And then some more subtle {pauses} how do I say it? Sexism and racism that you have to read between the lines but when you see it, you see it, you know? Just a career of working with First Nations and trying to kind of be the intermediary between First Nations and government, First Nations and proponents, it's pretty clear, it's tangible, I recognize it. And it was definitely a factor in my telling [BCWS] what to do, but also being asked to listen to what First Nations have to say and being asked to consider that Indigenous communities are the experts on their territories. And that that expertise could be used to make Wildfire a better responder."*

Training and capacity

Despite increased funding and support, largely through FNESS, for building First Nation capacity in wildfire response and suppression, many communities continue to face barriers in accessing training or accreditation in wildfire response and fire management.

For some communities such as Stswecem'c Xget'tem First Nation, who have been successful in establishing fully trained contract firefighter crews with BCWS, a priority is training local members in structural protection. However, John Liscomb (Stswecem'c Xget'tem Development Corporation) described the long-standing challenges he has faced in accessing this training for his crews:

> *"Part of being self-sustainable for fires was also to look after your own community. So if you ever notice on any really big fires how they have the interface fire crews from around the province? Well, why can't I get training for my guys to become interface firefighters? And I am not trying to put them out to work anywhere else, but when we have a fire close to our community why can't I get them trained to be able to do the exact same things for their own houses? It's frustrating because I get turned back by the government all the time because it's almost like it's dedicated to volunteer fire departments, and we don't have a volunteer fire department and we are three hours away from the nearest fire department."*

Other communities also faced barriers in accessing training or resources due to not having a formal volunteer fire department. For example, Jenny Allen (Bonaparte First Nation) told us that she had struggled to access funding to purchase firefighting equipment due to not having fully trained and certified fire crews. For example, the First Nations Emergency Services Society manages a funding program with Indigenous Services Canada to provide up to $25,000 to First Nations for purchase of wildland firefighting equipment, however applicants must demonstrate completion of 12 courses ranging from basic first aid to crew supervision and the Incident Command System.

In the context of emergency response, we also heard from EMBC representatives of the capacity challenges faced by many communities (both First Nations and small local municipalities) in adequately resourcing an emergency management program. As one EMBC manager said *"if we look at Bonaparte as an example, I think if you took every single individual who works for Bonaparte Indian Band you might populate an Incident Command System org chart. Well you've left no one to run the government! So, it's a huge capacity challenge."* One approach to address this challenge is the development of regional partnerships and a regional support model, whereby trained and credentialled staff from one First Nation (e.g., Bonaparte) can support emergency response, or fit into an EOC, in another community (e.g., Skeetchestn) within the same (i.e., Secwépemc) Nation. This requires adapting existing EMBC policies, such as those around financial reimbursement; an issue that is *"on everybody's radar that needs to be addressed."* This regional model is also the basis of the pilot FNESS Temporary Emergency Assignment Management System (TEAMS) project, in partnership with EMBC and BCWS.

However, the most commonly cited barrier was in the context of prescribed burning. Specifically, people across communities, government and FNESS all highlighted the fact that the suite of training and certification process required to become a prescribed fire 'burn boss' – the official able to sign off on a burn plan – is only currently open to BC government staff. This means that any First Nations who wish to burn off their reserve (but still within their territories) must work with and under BCWS and their permitting systems.

John Liscomb again expressed his frustration at this limitation and how it poses a barrier to getting fire back on the land:

> *"Currently right now other than a government employee you cannot become a burn boss. I cannot prescribe a fire in our territory without involving fire centre and them having to control all aspects of it. I can understand the liability part of it but, my god I can't even hire a retired guy from the Fire Centre that has the certificates as a consultant to teach us that kind of stuff! It has to be a government employee. So there is a lot of power control there… We have a number of [prescribed burns] planned and a number of them under prescriptions, but we can't do it because of Fire Centre's availability or unwillingness to take on any liability. I'll sign the waiver sheet. So it's just frustrating that it ends with that policy."*

One manager from FNESS, the agency coordinating much of the First Nations wildfire training and funding in partnership with BCWS, also argued that BCWS needs to 'open up the doors' to this training or risk BC losing its expertise and capacity in prescribed burning:

> *"[BCWS are] losing that knowledge and certification internally. So how do they bring that back up internally themselves, but also to bring others into their level playing field right? To me, it's all around ownership and access, like you need to open those doors up provincially. Otherwise we're going to be in a serious problem in five or ten years, where internally BC Wildfire they're going to lose that knowledge and if they're not regaining it that's going to create some big problems. Because who can light the match?"*
>
> – FORMER FNESS STAFF

This need has been recognized by BCWS. Jamie Jeffreys (BCWS) spoke of the provincial prescribed fire program as a major focus of BCWS since 2017. In 2019, BCWS began working with the University of British Columbia-Okanagan and the Association of BC Forest Processionals to develop wildfire training (as part of a continuing education certificate) and professional standards for registered forest industry professionals, as well as online training courses. Rob Schweitzer (BCWS) put forward the simple rationale for these changes, saying:

> *"We can't be the only people that are putting torches on the ground, it's too complex, there's too much work to do, and it won't really achieve the intended outcome. Especially when it comes to Indigenous communities where they want to be part of this. And that means side by side, not watching us do it."*

However, these certification pathways were still not available at the time of writing in 2021. It is also unlikely that these would adequately address the barriers faced by Indigenous communities in conducting prescribed burns – or, more importantly, in leading cultural burns that don't conform to provincial permitting programs. Instead, the expertise of fire knowledge keepers in Indigenous communities needs to be recognized in its own right, rather than knowledge or expertise only being deemed valid when obtained through provincial or 'professional' certifications.

Legislation and (perceived) liability

A fourth key barrier to achieving equal partnerships in wildfire management is concerns around both real and perceived liability. This was raised both in the context of prescribed fire (along with challenging legislative barriers relating to smoke), and of using local knowledge to make operational decisions in wildfire response.

> *"Nobody wants to light the match, because they're afraid of the liability and risk*

Addressing legal liability for prescribed burns – both for escaped burns, and potential impacts – is often cited as a key barrier for increasing the use of fire as a management tool. Concerns over liability was a key factor in the decline of the forest industry practice of broadcast burning of logging debris from the 1990s. Staff from FNESS described how 'liability issues' and the 'onerous process' of planning and permitting that is required to conduct a prescribed burn mean that communities often miss the 'window of opportunity' for burning and there is limited capacity to 'light the match':

> *"It all comes up to a big risk and liability issue now too. Because of those issues, nobody wants to light the match, because they're afraid of the liability and risk to do that. But sooner or later, it's gotta be really addressed. Everybody's saying the right things like we need more fire on the landscape, but the process and implementation [for prescribed burning] is the biggest hurdle right now… the timelines and the process… they say anywhere from six months to two years' timelines, it's just not workable! You've gotta take into considerations timelines on the ground, if there's a short window of opportunity [it] could be two weeks, then you've gotta wait for another year or so…And I've said it a few times to some of our program partners, you know it's all said and good but I don't want to be sitting here six months or two years and talking about it. Let's try to work something out so we can get to that stage where we have a proactive program and people are actually lighting the match. And it's kind of concerning – when will we get to that stage?"*
>
> – FORMER FNESS STAFF

Other jurisdictions have sought to address this liability issue through legislation. For example, bill SB-332 (Civic liability: prescribed burning operations: gross negligence) was recently passed by the California Legislature. This Senate Bill adds a section to the Civil Code stating that *"…no person shall be liable for any fire suppression or other costs…resulting from a prescribed burn"* if that burn is conducted for wildland hazard reduction, ecological maintenance and restoration, cultural burning, silviculture or agriculture purposes, and is either conducted in compliance with a written prescription (signed off by a certified 'burn boss') *or* is a cultural burn conducted

by a cultural fire practitioner. This legislation places cultural fire practitioners on the same level as state certified 'burn bosses' and removes a significant barrier to conducting both prescribed and cultural burning throughout California.

Another limitation on burning windows relates to smoke management. A revised *Open Burning Smoke Control Regulation* came into effect in September 2019, with the aim of maintaining air protection measures while including new provisions and flexibility to facilitate burning for community wildfire risk reduction (e.g., for relaxing required setbacks and ventilation index, and authorizing a statutory decision-maker to issue approvals for burning under a community wildfire plan). However, these improvements have yet to be fully realized given temporary moratoriums to reduce the impacts of smoke interacting with COVID-19, a respiratory illness.

Another concern within BCWS about liability relates to a perceived liability associated with drawing on local or Indigenous knowledge in operational decision-making. While some BCWS staff emphasized the value of drawing on multiple sources of knowledge or information to make the best decision, others were more explicit in stating their concerns about opening up operational and tactical decision-making to First Nation input:

> *"Well, I don't think [First Nations] should be making a lot of operational decisions unless they've got skills, experiences, and insurance backing them up… if we support their decision-making, their decision-making is based on what experience? What training? Who's their fire expert? What makes them an expert? Those are my concerns…Because if they make a bad decision, who owns it? Are they going to own their decisions?"*
>
> – BCWS STAFF

When we raised this issue with one BCWS staff, they made the distinction between being open to local knowledge and necessarily acting on or being directed by it:

> *"From a liability perspective, you know frankly I think that's hogwash, like that's just people being really scared to do the right thing. I mean again, seeking input doesn't mean that you actually use it directly."*

However, these two quotes simply illustrate the diverse views within BCWS and the persistent challenges faced by local and First Nations communities in having their knowledge and capacities recognized outside of formal certification systems.

Skeetchestn firefighters responding to Sparks Lake wildfire. Photo credit: Darvey Hewitt

11 KEY FINDINGS

11.1 While the Province of BC, and BCWS specifically, highlight substantial progress and changes since 2017 in response to the Provincial Flood and Fire Review, Secwépemc community representatives experience persistent barriers to active involvement in wildfire management and remain frustrated at a lack of meaningful engagement.

11.2 Key changes since 2017 include improved public communication and information sharing, funding for mitigation (e.g., fuels treatments) and regional/provincial agreements.

11.3 Persistent barriers to achieving true and equal partnerships in wildfire management include legacies of mistrust resulting from past experiences; different understandings of when and how engagement should take place, and of the extent of 'shared responsibility'; devaluing Indigenous knowledge and fire expertise; barriers to accessing training (e.g., prescribed fire); and concerns about liability.

11.4 There is a persistent gap between high level strategic developments and discourse (e.g., development of MoUs between BCWS and Indigenous Services Canada) and on-ground/local level engagement with communities prior to or during wildfire seasons.

11.5 On ground engagement during fire season is still dependent on the particular Incident Commander/BCWS staff, posing a barrier to widespread change.

11.6 During the 2021 wildfires, Secwépemc communities faced persistent challenges in accessing information, having their expertise recognized, and ensuring consistent collaboration with BCWS staff.

11.7 Community expectations for 'engagement' require agency presence in communities; involvement from day one of a wildfire event or project affecting them or their territories; and the need for resourcing and professional capacity building rather than one-off honoraria.

11.8 In the context of cultural heritage management, a lack of BCWS engagement with local First Nations from project initiation and duplication of previous work further erodes trust and speaks to vastly different expectations of 'engagement' between BCWS and communities.

11.9 The notion of 'shared responsibility' or equal partnerships appears confined to the planning/preparedness and mitigation phases of wildfire management. During wildfire events BCWS effectively retains or reassumes control and responsibility.

Sparks Lake wildfire. Photo credit: Sam Draney

CHAPTER 12

‘It’s our home, it’s our life’: Priorities for First Nations leadership in (wild)fire management

FIRST NATIONS EMERGENCY MANAGEMENT

Establishing “Indigenous Peoples as true partners and leaders in emergency management” requires recognizing and strengthening the diverse capacities that exist within First Nation communities and supporting First Nations’ involvement in emergency management and response processes “from the beginning” (Abbott and Chapman, 2018).

While this report focusses on wildfire, Mike Anderson (Skeetchestn Natural Resources) spoke to the need to broaden this discussion to emergency management more broadly, and the critical need to support First Nations in leading this response:

> *“In my mind the most simple place to get your initial response to either floods, fires any kind of natural disaster on the land, is to have that at the First Nation whose territory that is… Because we’re bought into the whole economy, the local community and the lands. And these outside agencies aren’t. And that’s what’s missing in fire suppression or in flood mitigation, you have outside agencies outside contractors coming in dictating what’s to be done and doing it, and there’s no buy in there really. It’s a job. To us it’s more than a job, to us it’s our home, it’s our life.”*

For remote and semi-remote communities, including many Secwépemc and other First Nations, territorial patrol and other community members provide the eyes and ears on the ground and are often the first to respond to or call-in natural hazards or other emergencies.

A long-standing priority for Secwépemc communities is establishing community-based territorial stewardship offices. In the wake of the 2017 and 2021 wildfire seasons, it is more critical than ever to invest in and building the capacity of Secwépemc territorial patrol and territorial stewardship offices that can simultaneously support Indigenous emergency management. Building on existing proposals for Secwépemc guardians/territorial patrol and stewardship offices, Secwépemc emergency management offices would establish (and provide associated resources and training for) a community-based emergency management coordinator role and an initial attack crew, who would work closely with a community fire keeper/s.

This form of community-based emergency management would also address the current disconnect between provincial or regional-scale agreements and communities, as well as the increasing resource and capacity challenges being experienced by government agencies such as BCWS.

SUPPORTING PARTICIPATION IN WILDFIRE RESPONSE

A first step in building equal partnerships for wildfire response is establishing strong relationships between agency staff and individual First Nations, well before the fire season. Multiple BCWS staff spoke about the need for local Fire Zone Wildfire Officers to *“know who the locals are that they’re dealing with, building those relationships”*, as well as the importance of having these connections at the Fire Centre level. Other BCWS Fire Centre and Zone staff said they would appreciate First Nations sending them updated contact lists, as well as lists of equipment or infrastructure, such as water trucks or a facility in which an IMT could set up, at the beginning of every season.

Sparks Lake wildfire. Photo credit: Sam Draney

Jamie Jeffreys (BCWS) told us that BCWS has recently received approval to establish an online, user-driven contact database that will allow communities and other stakeholders to update key contact information prior to the fire season. This has the potential to substantially improve the current opaque/internal and out of date contact system of BCWS, however a key recommendation would be for this system to either be developed with input from key First Nation, municipal and stakeholder groups, or be designed as a flexible system to allow communities to provide information relevant to their community and their desired involvement in (wild)fire management. Regular updates to this contact database must continue to be paired with *in community* visits and engagement from the Zone level.

Engagement goes beyond having up to date contact and equipment lists; it is about understanding communities' capacities and needs and respecting First Nations' autonomy and jurisdiction within their communities and territories.

> *"I do think it's important for there to be some level of understanding of the relationships in the community, for the people who are responding to the fire. And then top of that, some respective level of autonomy for the community to be able to respond. And be supported in developing their own response for the fire, for firefighting in that area…And some communities may say: 'we don't want to fight a fire we don't want to do it, please do it!' And other communities might be like 'no we got this, please stand back and don't tell us what to do!"*
>
> – FLNRORD STAFF

Another key message was the desire, from Secwépemc communities, to be involved in guiding wildfire response in their territories. Dave Horne, former rehabilitation supervisor with BCWS, agreed, stating that agencies need to "*involve First Nations early on, even the phone call which says: 'we've got a fire in your traditional territory, right now it's too aggressive to contemplate but as things settle down, we'd appreciate having a crew available to us to help…and bring your information on the area and things we can avoid'".*

However, Secwépemc staff emphasized the need to be involved right from the start, rather than *"expecting us to evacuate or just stand back and let our territories burn"*. Another former BCWS staff agreed, stating *"it means getting [First Nations] involved right up from the get-go on fires…integrating somebody from the community [who is] on the ground if you're looking for some information"*.

Chapter 3 outlined the many different ways in which Secwépemc First Nations can play an active role in wildfire response and emergency management, including supporting agency response. Moving forward, priorities include building firefighting capacity (training and resources); supporting First Nation involvement in activities such as 'line locating' (identifying where fireguards will be constructed), in order to protect archaeological, cultural heritage and other values on the land base; and promoting the role of First Nation liaison officers.

The First Nations Emergency Services Society is working to build wildland firefighter capacity within First Nations, with the aim to get First Nations crews at the 'standing offer' stage with BCWS to act as contract crews during wildfire seasons. The FNESS representative we spoke with outlined his goal for this program: that First Nations will gain the certifications needed to establish their own wildland firefighting crews, which could be called upon by BCWS to action a fire in their community or broader territory rather than waiting for a BCWS crew that may be half an hour or more away. To further support this community protection, Rob Schweitzer told us how, while BCWS previously was able to send contract crews anywhere in the province, they have shifted to a more flexible approach whereby if a First Nations crew wants to remain in their territory, that is permitted.

In addition to direct involvement in suppression activities both on and off-reserve, there is a desire to be involved in 'line locating' to minimize or mitigate impacts of fireguard construction on archaeological sites or other cultural heritage values. While both Travis Peters (former Natural Resource Manager at Ts'kw'aylaxw) and one BCWS staff recalled a common practice of First Nations representatives being out with line locators during earlier fires near Lillooet, and Ts'kw'aylaxw and neighbouring St'at'imc communities were involved in this for the 2021 McKay Creek fire, this does not seem to be a standard practice.

One Wildfire Officer was skeptical of how this would work, citing safety concerns and questioning how this would function if the First Nations representative was not experienced in operating heavy equipment of the kind used to construct fireguards. However, numerous other BCWS staff we spoke with – including one who worked as a heavy equipment supervisor – emphasized the value of having a First Nations representative involved in line locating, both in terms of planning and, when safe, on the ground during fireguard construction.

Brad Litke (Senior Operations Officer, Kamloops Fire Centre) cautioned against 'overcomplicating things' with specific training requirements:

> *"An ideal [situation] is a line locator that possesses all of it – somebody that works in the forest industry and has familiarity with heavy equipment and they do road layout, and [someone] from that First Nations community because they would have awareness on the cultural values. But I think we don't need to wait; we don't need to create that perfect position. We can simply just say if we know, from each of the First Nations, they have a certain handful of people that have awareness of the cultural values, that are reasonably physically fit and they've got the appropriate personal protective equipment, we can pick them up put them on the team and they can just be a part of the heavy equipment branch. So that they can go with the line locators to hang the ribbons, or they could watch the equipment when they're working at the time. I just don't think we need to over complicate it with trying to get that one ideal person… They don't necessarily need to be walking right beside the heavy equipment but if they are there with all the planning they'll have an idea if we're in a hot zone of arch values so that they can then get out onto sites and help guide and identify. And that also plays into the rehabilitation of when we create disturbances on the land base."*
>
> – BRAD LITKE, BCWS

However, each community has different capacities and different ways in which they may or may not wish to be actively involved during a wildfire or emergency response. As such, a key priority is to identify and formalize the role of First Nation liaison officers who can work closely with agency firefighters to inform them of community capacities and resources and ensure community needs are addressed.

First Nation liaison officers

A key recommendation emphasized again and again by Secwépemc staff and leadership – as well as select people from fire agencies – is to further formalize and strengthen the program for integrating First Nations liaison officers into Incident Management Teams for any major fire event in their territory. The role of this liaison would include:

- ensuring Secwépemc knowledge (e.g., of localized weather patterns, natural firebreaks or access/egress routes, and burning practices in their territory) is utilized in wildfire response and suppression tactics;
- identifying significant 'values', such as archaeological or cultural sites, to prioritize protection from both fire suppression activities (e.g., fireguard construction) and wildfire itself;
- connecting BCWS firefighters with local resources, such as heavy equipment operators; and
- accessing up-to-date information to share with local communities.

The concept of community liaison officers is not new to government agencies or corporations. For example, BC Hydro and Ministry of Transportation frequently bring out liaisons from local First Nations whenever they are conducting major works. Community liaisons have also long been used within BCWS, and as highlighted in the previous Chapter there has been progress in establishing a structure and process for First Nations liaisons.

One BCWS staff described how community liaisons have tended to operate within the Incident Command structure:

> *"Usually that liaison is kind of part of the command group. So the Incident Commander (IC) has the information officer and safety officer attached, right to the IC. And through the information officer, that's a lot of times where we plug in the liaison. So, they're part of that smaller group, right with the IC. That command group often has meetings during the day, but the liaison, the information office and safety officer report directly to the IC. So, that group is always working together and generally reside in the Incident Command post together. So, that information is kind of flowing almost on a continual basis."*
>
> – BCWS STAFF

Dave Horne recounted his experience working as a community liaison for Lillooet in 2004. Having lived in that community for over a decade, Dave was approached by a good friend, who happened to be the Incident Commander on that fire, to act as a liaison between the IMT and the community more broadly. In this role Dave was able to connect BCWS firefighters with the local First Nation to provide BCWS helicopter access to their reserve to improve access to water sources; diffuse tensions with locals who were concerned about potential impacts to local watercourses; and negotiate access to private land and associated resources.

One Wildfire Officer spoke to this value of having a community liaison, saying:

> *"That does a few things for us. Keeps us out of trouble by kind of following what that local community would like to happen on the ground. But it also makes sure that our messaging to that community group is a lot clearer, 'cos it's coming from one of their own. Those folks are on the team, they're at the meetings, and they can deliver nice clear messages to the community and the community knows that person and trusts that person. So it benefits us because we get better buy in. And we perform our operations on the ground better because of the information that we're getting through that person to us, and the communication back to the community."*
>
> – BCWS STAFF

In 2021, communities continued to experience substantial differences in the willingness or openness of Incident Commanders or other BCWS operational staff to working with and taking input from Indigenous and local communities.

As such, this 'encouragement' does not appear to be translating to widespread changes within BCWS. On multiple occasions, fire agency staff hinted at sensitivities within BCWS around managers explicitly directing operational staff: something that once again speaks to the culture and organizational rigidity of fire agencies.

In July 2020, Hugh Murdoch (Incident Commander and Wildfire Officer, Kamloops Fire Zone) attended a meeting of the First Nations Technical Committee at the invitation of Angie Kane, to discuss Secwépemc communities' interest in the liaison officer role. In this meeting Hugh said the role of community liaisons is *"critically valuable, particularly for someone coming in from a different part of the province"*. However, he described this role as someone who helps coordinate, and is a contact point for, multiple interest groups and organizations, rather than specific to the First Nation whose territory is affected.

The above quotes and anecdotes from 2018 and 2021 wildfire seasons, and what we have heard at the First Nations Technical Committee, speak to three ongoing points of tension:

- → the hesitance of BCWS management to explicitly direct Incident Commanders or other leads within IMTs to utilize community liaisons – let alone First Nations liaisons – or local/Indigenous knowledge in operational decision-making
- → the different levels of willingness of Incident Commanders or other BCWS staff to actively collaborate with local liaisons, and the different views on the role of a liaison officer – e.g., from being a more passive transmitter of information, to actively informing suppression tactics; or as a representative of one community versus multiple communities or stakeholder groups
- → different expectations from BCWS and local and Indigenous communities regarding responsibilities to initiate and sustain engagement pre, during and post-wildfire seasons (discussed in the previous Chapter)

These barriers pose particular challenges for widespread and consistent implementation of a First Nation liaison officer program.

Staff from both Secwépemc communities and BCWS emphasized the importance of pre-planning and establishing contacts for potential liaisons prior to the wildfire season. BCWS Fire Zones have 'pre-org' plans and contact lists for key contacts in municipalities, First Nations and other organizations (e.g., infrastructure providers). However, many BCWS staff acknowledged that these were often out of date. As such, they expressed a desire for First Nations to identify:

> *"Points of contact they need to have people that can rotate through a prolonged event… if a First Nation had a bit of a pre-plan where they have people that they trust, there's no super special training required it's just more of having a very good understanding of the values of the First Nation and that they know who to talk to."*
>
> – BRAD LITKE, BCWS

This person could potentially be someone already working in the natural resource department, who is called upon as needed. Another BCWS Wildfire Officer also said he wanted contact information both for someone to *"speak to about fire on the landscape, it could be for prevention, prescribed burns or the unwanted wildfire summer"* as well as for decision-makers to speak to about evacuations and wildfire updates.

However, as Joanne Hammond (Skeetchestn Natural Resources) noted:

> *"A fire liaison who would have knowledge of more than just archaeology and cultural heritage resources. Somebody like Don Ignace who knows the community, knows the people, knows the capacity and resources that are available, so can quickly connect Wildfire with resources that are locally available, and reduce the reliance on going outside and contracting people who don't really know the terrain, to increase the use of local knowledge."*

Since the July 2020 meeting described above, the SRSS has compiled up to date contact lists for all member communities (comprising contacts for the current Chief; band administrator; natural resource manager; cultural heritage manager; and emergency management coordinator, if present). Prior to the 2021 fire season, some of these key contacts were provided to the Kamloops Fire Zone.

As described earlier, the local Kamloops Fire Zone Wildfire Officer did briefly introduce Don Ignace to the Incident Commander for the Sparks Lake fire, and liaison contracts were quickly established between BCWS and key personnel from Skeetchestn such as Mike Anderson and Darrell Peters. However, the Incident Commander described this initial phone call with Don Ignace as more about *"trying to get to know who all the players were that I needed to be communicating with"* rather than immediately establishing Don as a liaison embedded within the IMT structure, and it took a number of days before they met face-to-face and the closer working relationship started.

> *"Those fire agency staff are there primarily to protect life and structures. They have no idea whatsoever of the importance of other aspects of the countryside*

In contrast, Neville Anderson – the NSW Rural Fire Service firefighter deployed as Branch Manager on Elephant Hill – emphasized the need for liaisons to be appointed on day one, as soon as the IMT is formed:

> *"What needs to happen is when an Incident Management Team is put together, there needs to be a liaison officer appointed into that Incident Management Team. At the point of the formation of that Incident Management Team. Not brought in days or week or months later. But at the formation of an Incident Management Team."*

Neville felt that having an established First Nations liaison program and formalizing this position as a core component of IMTs would highlight the importance of this role and overcome the hesitance that some firefighters may feel about openly collaborating with and taking input from First Nations. He went on to describe how this role might be structured and function:

> *"Their role should be direct liaison with the operations officer…It's pretty easy for the big organizations to say right, we need an operations officer, we need an incident commander, we need a couple of deputy incident controllers, we need operations, logistics, mapping, fire behaviour experts, you know aviation personnel and all that. Send them in from a different province, a different state, a different country. Different nation. And [those fire agency staff] are there primarily to protect life and structures. They have no idea whatsoever of the importance of other aspects of the countryside…If someone like Mike [Anderson] could be appointed to an Incident Management Team, he needn't be there 24 hours a day. [He could come] in for a couple of hours in the morning to get a handle on what had taken place over night, and then a couple of hours in the evening after the witching hour, and the big fire runs during the day to see what other damage had occurred. And keep ahead of the fire, with feeding information back through the operations officer to the crews on the ground of the importance of strategic areas…that would be the role of a liaison officer."*

Strengthening such a program within BCWS, including establishing clear expectations of this role, are key recommendations from the First Nations Technical Committee, and of this report (see final recommendations).

Ron Ignace burning a hillside on Skeetchestn's reserve. Photo credit: Marianne Ignace

PRESCRIBED AND CULTURAL BURNING

The 2018 *Flood and Fire Review* recommended that "BC increase the use of traditional and prescribed burning as a tool to reduce the risk associated with landscape and local-level hazards, and to regenerate ecosystems". This comes amidst increasing calls from forest scientists and managers throughout western North America to restore historical fire regimes that have been disrupted by fire suppression and exclusion of Indigenous burning, and to use prescribed and managed wildfire to restore vegetation patterns and ecosystem processes that confer both climate and wildfire resilience. Yet despite additional funding provided for prescribed burning since 2018 and other changes summarized above, multiple barriers remain.

Many government and agency staff echoed this desire to 'get fire back on the land' and to manage for multiple objectives such as wildlife habitat or fuels mitigation:

> *"With wildfire recovery, it would be great if we can – now that we have this blank canvas, quote unquote – start over, if we can put our mind to some of those things and recover the landscape to a more natural state. But to me natural means having fire part of that landscape. And not uncontrolled, catastrophic fire, but well managed, well thought out fires on a periodic basis so you don't get to that same state."*
>
> – MAHRUSA SHERSTOBITOFF, FLNRORD – DTR

> *"Our hazard reductions are getting far, far too long apart. And we're changing our vegetation here [in Australia] because of lack of burning. And I suspect the same is happening over there. And that's where, outside of fire season, the First Nation people should be managing BC wildfires, to a greater benefit of hazard reduction burning to protect their assets. And when I say assets I mean as I said before, all of their assets."*
>
> – NEVILLE ANDERSON, NSW RURAL FIRE SERVICE

Indigenous fire stewardship (also referred to as traditional burning or cultural burning) historically shaped many of BC's ecosystems that are now the focus of wildfire recovery or restoration and remains an important practice for many First Nations.

Cultural burning is distinct from agency-led prescribed fire, in particular in terms of the diverse burn objectives of cultural burning; techniques used to burn; who participates; and the connection to culture and stewardship roles.

"Historically our ancestors used fire. Long ago. They had different people to take care of that, whose roles and responsibility was to use burns to reduce fuel on the ground. So, we never had to face devastating fires, forest fires like that… that [burn] because of the amount of fuel that's on the ground. That was taken away from us, the right to burn and traditionally use fire to reduce the threat of forest fires in our Nation. So we had people that go around every spring or every fall and every winter to do burns of different areas and every other year was a different mountain. Different areas for these burnings and looking after the forest and that helped the wildlife also, bring some new and fresh grass or whatever they're eating. Bringing back some new growth, willows and stuff like that."

– COUNCILOR MARSHALL GONZALEZ,
SKEETCHESTN INDIAN BAND

Former Kukpi7 Ron Ignace describes fire as a 'healer'; in the first leadership meeting in October 2017, he stressed the need for legislative change to facilitate Indigenous-led burning as a management tool. He often recounts stories of riding the mountains as a child with his great-grandfather Edward Eneas, who was tasked with burning in mountain meadows and at forest edges to renew grassland habitat for ungulate forage, enhance berry patches and keep meadows open.

Ron continues to burn the meadows at his ranch at Skeetchestn, in early spring just after the snow has melted. He described travelling up in the mountains one day and seeing the snow line, and thinking *"'wow this would be, if I had a match right now I'd drop it because it would burn up the hill and hit the snow line and it would go out' And that would create a big nice firebreak down the road"*.

Numerous other Secwépemc community members have expertise in prescribed and cultural burning and continue to burn in and around their communities:

> *"A lot of the Elders talk about how they used to get rid of the grassland interface areas. We still burn in the spring under the control of the community, in our grass and everything."*
>
> – JOHN LISCOMB, STSWECEM'C XGET'TEM DEVELOPMENT CORPORATION

> *"A lot of community members, we still do controlled burns in the community, in our yards. A lot of people burn all their weeds around the houses and some people have properties they own, land that they burn, to reduce the fuel on their property to help protect their house when it gets to the drought time of the year and high risk of forest fires."*
>
> – COUNCILOR MARSHALL GONZALEZ, SKEETCHESTN INDIAN BAND

Yet despite renewed interest from fire management agencies in Canada in prescribed burning, increasing media attention to 'Indigenous fire', and the completion of small-scale or pilot cultural burn projects, First Nations continue to face major barriers to implementing cultural fire outside of reserve lands (i.e., on 'Crown' land in their territories). One key barrier is the continued lack of understanding within fire agencies of the relationships between Indigenous peoples and fire, and the distinctions between prescribed and cultural burning. As Brad Litke (BCWS) acknowledged, *"we're (BCWS and First Nations' fire keepers) both using fire, but we have slightly different objectives"*.

Wildfire professionals' focus on accreditation and training on how to fight a fire, specific to control measures, is distinct from the more holistic community and culturally-embedded practice of cultural burning.

One recommendation to build this mutual understanding and promote shared learning is to expand a program of collaborative burning, jointly led by interested First Nations and BCWS:

> *"We need to develop a program in BC whereby the Ministry of Forests firefighters work very closely with First Nations on controlled burning programs in the spring, so that they start working with each other and start knowing each other…so that they guys work together, prior to the fire season, and start building those levels of trust, those levels of understanding. And it starts sharing information back and forth because First Nations got an awful lot of information and knowledge they could share with the Fire Centre, as the fire centre has a fair bit of knowledge and information they could share with First Nations. But we need to see that kind of a program happening."*
>
> – MIKE ANDERSON, SKEETCHESTN NATURAL RESOURCES

Rob Schweitzer (BCWS) further highlighted ongoing issues with smoke regulations and safety concerns operating in wildland-urban interface areas, or heavy fuel loads. However, he went on to admit that:

> *"The will's there. There's all these other things that make it difficult to pull off the right venting, the right weather conditions and so on. But I tend to find there's a lot of arbitrary hurdles that we use as excuses from time to time that we're trying to eliminate. And I just say we gotta get out and do it."*

PROTECTING CULTURAL HERITAGE

Fire management activities, in particular those associated with wildfire suppression such as construction of fireguards, have the potential to disturb or damage archaeological and other cultural heritage values on the land base. A number of findings and recommendations included in this report seek to address this, for example the establishment of First Nations liaisons and the use of First Nations members and staff to assist with line locating during a wildfire.

Detailed recommendations and supporting resources were provided to BCWS in 2017 to address this very challenge. The *First Nations Data Assembly Project* mentioned earlier – a collaborative project between FNESS and BCWS, with input from EMBC, GeoBC and other government representatives – submitted its final report (co-authored by Joanne Hammond) in April 2017 to identify the range of areas in which First Nations "values and interests may be affected in the course of planning for and managing wildland fires in BC".

This project identified relevant datasets (e.g., archaeological sites, heritage trails, First Nations areas of interest) to support fire and emergency management response; describes specific measures and actionable recommendations for BCWS to better manage for Indigenous cultural heritage; and created BCWS training modules and other tools (e.g., chance find protocols) to mitigate impacts.

Yet Joanne Hammond described how this report was never formally acknowledged by BCWS, and that the recommendations and resources developed were never implemented. Then, in 2020, the SRSS became aware of a new BCWS-led project 'Culturally Sensitive Sites Protection: Development of Training Program and Standard Operating Guidelines'. This project aims to "develop training and operating procedures for crews to be able to identify and protect culturally sensitive sites" and is described as a "firm action towards reconciliation and building trust with First Nations".

Photo credit: Joanne Hammond/Skeetchestn Natural Resources

While an internal BCWS project document notes that there was "guidance developed in 2017", there was a strong sense of frustration at the First Nations Technical Table that this new project was duplicating or ignoring previous work and, more significantly, was not engaging with First Nations from the outset. From the perspective of Secwépemc communities, this only serves to further *erode* trust and again speaks to vastly different expectations as to what respectful and adequate 'engagement' entails.

As one Secwépemc staff said, *"projects that don't involve First Nations from the get-go don't work"*.

Supporting First Nations-led stewardship of cultural heritage, including through taking ownership of cultural heritage monitoring; promoting training and a greater understanding of statutory obligations; and ensuring First Nation involvement and leadership in any initiatives relating to their cultural heritage, remain key priorities moving forward.

12 KEY FINDINGS

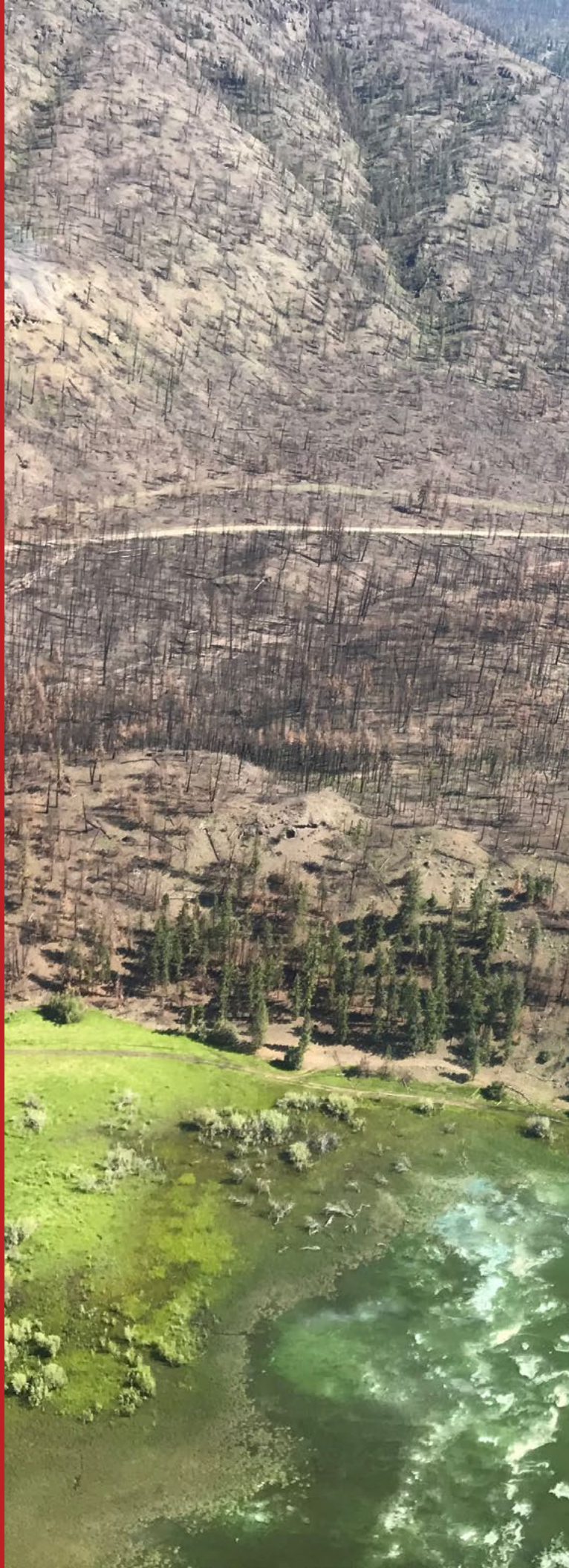
12.1 Establishing "Indigenous Peoples as true partners and leaders in emergency management" requires recognizing and strengthening the diverse capacities that exist within First Nation communities and supporting First Nations' leadership in emergency management and response processes.

12.2 There is a hesitance within BCWS executive to explicitly direct Incident Commanders or other operational staff to utilize community liaisons; different levels of willingness of Incident Commanders or other BCWS staff to actively collaborate with local liaisons; and different views on the role of a liaison officer (information sharing vs. informing decision-making).

12.3 Priorities for Secwépemc communities include:

- → building emergency management firefighting capacity (training and resources, including emergency management stewardship offices);
- → supporting First Nation involvement in activities such as 'line locating' (informing where fireguards will be constructed) in order to protect archaeological, cultural heritage and other values on the land base;
- → strengthening the role of First Nation liaison officers;
- → promoting collaboration in prescribed/ cultural burning; and
- → ensuring First Nation involvement and leadership in managing the protecting their cultural heritage.

Photo credit: Joanne Hammond/Skeetchestn Natural Resources



CHAPTER 13

‘Healing the land and bringing our people together’: Visions for restoration and stewardship in Secwepemcúl̓ecw

A ‘MODEL’ FOR COLLABORATION AND RECOVERY?

In the years since Elephant Hill, the joint process for wildfire recovery has been widely promoted as a ‘model’ for government-to-government collaboration (particularly in the context of disaster recovery): from media coverage and provincial government discourse to SRSS funding applications and project briefs that aim to demonstrate the strong relationships and value of Secwépemc led recovery and restoration.

At the time of writing this report, Secwépemc leadership and staff, and the provincial government, are turning back to Elephant Hill to inform recovery efforts from the 2021 wildfires.

However, throughout our interviews and through sitting in on meetings of the First Nations Technical Committee, it became clear that views on this ‘model’ – what it is, and how well it has been applied – were anything but consistent.

Unsurprisingly, multiple provincial staff spoke of the Elephant Hill joint recovery process as demonstration of government’s commitment to reconciliation and willingness to work collaboratively with First Nations:

> *“I think it’s been a true demonstration of our commitment to UNDRIP, and our ability to work collaboratively together on a project, in an emergent situation.”*
>
> – FLNRORD STAFF

> *“So government said that they wanted reconciliation. They committed to reconciliation. But a challenge for us in the provincial government is that they didn’t give us any specific direction for what reconciliation looks like. Well of course they didn’t, they don’t know! They just know that it’s critical for BC and have committed to making it happen. And so what we do, when that happens, is we float up ideas and examples. Like, is this what reconciliation looks like? Or maybe this is what reconciliation looks like? And so we float up Elephant Hill and say this is kind of what we did, is this what reconciliation looks like? And what I can tell you is that Kukpi7 Ron says yes. And Mike says yes. And I don’t know for sure what Ryan would say but I think he would say it was a good try! And I know that from senior government, what we heard was that yeah, there’s some things that we should have done better…but in terms of the reconciliation piece, it’s moving in the right direction.”*
>
> – RACHAEL POLLARD, FLNRORD – DTR

However, this quote should be seen in light of Ryan Day’s words in Chapter 8: that while this process may have been better than what First Nations experienced in the past, it’s not even close to what they want.

Rachael Pollard and Eric Valdal both spoke about how the Elephant Hill governance model – in particular, the leadership council and technical committee structure – was transferred, with great success, to the management of the Big Bar landslide that occurred in a narrow section of the Fraser River within the territories of Stswecem’c Xget’tem First Nation and High Bar First Nation (and was first reported to the B.C. government in June 2019). However, this view is strongly countered by a number of Secwépemc staff who have been directly involved in the Big Bar response.

Deadman Valley. Photo credit: Forest Foods Ltd/Lobby Studios

Specifically, we heard how Secwépemc communities had to actively push to be involved in this recovery process (rather than being the ones guiding collaboration). Further, while Secwépemc staff and community members acknowledged the significant impacts of this slide beyond their territories (e.g., to salmon populations and communities' rights and abilities to fish upstream), we heard concerns that the technical Joint Executive Steering Committee was making decisions that affected Secwépemc territories and cultural heritage (e.g., approving 'emergency measures' that involved impacting archaeological sites); decisions which directly speak to (and could be seen as overriding or bypassing) Secwépemc rights and title within their territories. These concerns speak to the challenge of ensuring appropriate representation at these government-to-government tables, and the need to ensure that First Nations whose territories are directly impacted are the ones guiding this process from the beginning.

> *"Eventually I'd really like for us to get our full rights, which would be full management*

Similarly, all Secwépemc staff and leadership we spoke with were more cautious in making any claims to have successfully developed a model for co-management. Many agreed that the Elephant Hill process was a first step in the right direction of upholding Indigenous rights and supporting First Nations in jointly stewarding the land, rather than a successful demonstration of reconciliation:

> *"I think it's the start of a model... But really you know if we're to co-manage, and we're to get serious about that, we have to have adequate representation, we have to have informed representation, it has to be on a regular basis. But we also need resources in order to do that... The Chiefs in 1910 agreed to share fifty-fifty with the settlers. And that's still our position. That's one of the background documents to the Qwelmínte Secwépemc agreement, the Sir Wilfred Laurier memorial. Well, if that's the case, it's co-management of the land is what that speaks to, it speaks to a fifty fifty ownership of the land. And fifty fifty division of the profits from the land."*
>
> – MIKE ANDERSON, SKEETCHESTN NATURAL RESOURCES

> *"It's a start, co-management, I think is one way. But you know eventually I'd really like for us to get our full rights, which would be full management of a lot of these things."*
>
> – STEWART FLETCHER, HIGH BAR FIRST NATION

Others raised the challenge of truly achieving 'co-management' while power imbalances persist, and the provincial and federal governments continue to hold statutory decision-making authority:

> *"I think we're kind of getting close to that [co-management]. But when the government has all the money and all the influence and all the laws, I don't think that would be co-management right? It's like when you're seven years old and your mum's saying: 'hey we're going to co-management your', insert a situation. Not the same, Sarah right? But when you're an adult with another adult and let's say you're going to co-manage your apartment and your little property, that's more co-managing because you have the same level of influence and you're going to get the same amount out as well. Where there's that power balance. So I'd like to say it's called co-management, but I don't think that's the proper term for it right? Again like I said when you're a little kid, you can give your influence but at the end of the day mom and dad are still going to do more or less whatever they want."*
>
> – GREG CROOKES, FORMERLY WITH BONAPARTE FIRST NATION

> *"It's a step in the right direction, but it only happened because the stars aligned where our land was destroyed*

Bert William similarly spoke to this power imbalance between First Nations and the provincial government, and the need to be 'diplomatic' and collaborate within this restrained context, on uneven terms:

> *"In the end, like I say the government runs everything. So they give you a little line to play with and they pull you back in. So you've got to learn how to work together."*

And for former Kukpi7 Ryan Day, whose letter to the Premier – calling for governments to action their commitments to UNDRIP and to support Secwépemc leadership in the restoration and stewardship of this landscape in the months, years and decades to come – catalyzed this process, his view on the extent to which Elephant Hill could or would serve as a model going forward was clear:

> *"It's a good process. But it's not a model for something. It's a step in the right direction, [but] it only happened because the stars aligned where our land was destroyed."*

Despite these limitations, and the cautious views of many in communities, one thing is clear: the Elephant Hill joint recovery demonstrated a *process* of how to build relationships and trust on a government-to-government level.

In this context, many cautioned against directly applying aspects of Elephant Hill, from the leadership or technical tables to the collaborative principles for salvage and silviculture, as a 'template' or standard 'model' to fast-track future recovery activities. While these will likely be useful starting points to guide future recovery efforts, the 'model' is more than a specific governance structure, or the tools and resources developed; more than First Nations and the provincial government working together to recover fire-affected landscapes.

Building on the 'model' of Elephant Hill means First Nations determining the approach to wildfire recovery (and associated government-to-government collaboration) in their territories; spending time developing shared understandings, principles and goals; investing in long-term capacity building; addressing legacies and ongoing processes of resource extraction and forest (mis)management; and supporting First Nations decision-making and 'doing the work' of recovering their territories in months, years and decades to come.

THE ROLE OF THE SECWEPEMCÚL̓ECW RESTORATION AND STEWARDSHIP SOCIETY

As the governance model of and active participation in the JLC and JTC has slowly been brought to a close, the legacy of Elephant Hill is now being carried forward through the work of the SRSS: a platform for collaborative stewardship that emerged from the fire. Since 2019 the SRSS has continued to grow and evolve from its initial emphasis on managing wildfire recovery funding and coordinating land-based recovery activities, to develop partnerships and access funding to support First Nations-led initiatives across Elephant Hill.

Guided largely by the First Nations Technical Table, the SRSS has continued to strengthen collaborations with the Provincial Government while seeking to advance the mandate of the JLC to pursue collaborative, long-term and landscape-level approaches to post-wildfire recovery and restoration.

Through monthly meetings of the First Nations Technical Table the SRSS continues to facilitate collaboration and dialogue between Secwépemc communities to address common challenges and advance shared visions for restoration and stewardship. Numerous Secwépemc staff emphasized the ongoing value of the SRSS and this Technical Table in bringing communities together, financially supporting participation, and maintaining a 'united voice':

> *"It brings the voice together and I think if this (a major wildfire) were to happen again, the SRSS group is going to be super beneficial…hopefully it sticks around for the long term…we want to be involved because we care about our community."*
>
> – TANNER LEBOURDAIS, SECOND PASS FORESTRY & WHISPERING PINES/CLINTON INDIAN BAND

> *"We want to be able to voice our concerns…[and] I understand this kind of process enough to know that if there's anywhere that I can speak openly, it's with the NStQ it's with the SRSS, it's with groups that are actually focussed on the First Nations perspective, leading these types of efforts to improve our response to emergencies on the land."*
>
> – JUDAH MELTON, RIGHTS AND TITLE MANAGER, STSWECEM'C XGET'TEM FIRST NATION

Through the SRSS, participating Secwépemc communities have been able to collectively advocate for issues with the provincial government and forest licensees, such as protecting water resources from industrial extraction; developing principles or standards for information to be provided in development referrals; and asserting sovereignty over cultural heritage monitoring and management. Given the successes in bringing together diverse Secwépemc communities who are affiliated with different governance or government-to-government tables (e.g., NStQ, SNTC, QS), the SRSS is seeking to expand membership to all 17 Secwépemc communities and establish a 'non-political' (i.e., operational focussed) Secwépemc Natural Resource Board.

The SRSS also continues to partner with FLNRORD as well as not-for-profit organizations including the World Wildlife Fund Canada to access funding and opportunities for monitoring (e.g., within the FREP program, wildlife monitoring) and to promote First Nation involvement in land-based research projects within their territories. Current and proposed projects include:

- Elephant Hill wildfire riparian restoration project: $2.6 million over 5 years, funded by the BC Salmon Restoration and Innovation Program, to restore riparian vegetation and monitor water quality throughout the Elephant Hill wildfire with the aim of protecting salmon habitats and populations
- in-stream restoration of key areas of the Bonaparte River to protect salmon habitats and mitigate impacts of erosion and flooding

- developing and implementing a Nation-wide Secwépemc cultural heritage monitoring protocol
- developing a Secwépemc Nation water declaration to assert Secwépemc rights and sovereignty over the waters of Secwepemcúlecw

However, the SRSS has faced similar challenges to the Elephant Hill process, in particular relating to establishing trust; developing clear governance structures and processes; capacity and funding constraints; and lack of clear mandate or vision.

Despite being proposed and endorsed by the JLC, and discussed at the JTC, there was initially a sense of distrust and a hesitancy from Secwépemc staff in the SRSS playing a coordinating role in wildfire recovery or, in particular, seeking further funding and project opportunities on behalf of the member communities. This was in part driven by a lack of clarity regarding SRSS's governance structure (or more accurately, a lack of clear governance structure or decision-making processes) and a perception that decisions were being influenced by external (e.g., government or private sector) actors.

As the JLC met less and less frequently but the First Nations Technical Table continued its monthly meetings (facilitated by Angie Kane of the SRSS), there was also a growing disconnect between the leadership and technical levels that reinforced these concerns relating to SRSS's decision authority or mandate. As with Elephant Hill, there has also been an ongoing challenge of understanding how the SRSS, as a 'technical' or 'operational' organization, can support and work with higher level government-to-government tables such as the Qwelmínte Secwépemc or Secwépemc tribal councils.

Finally, the issues of capacity and sustainable funding underpin many of these concerns. While the SRSS has been successful in accessing funding for Secwépemc communities and projects, there is often limited capacity within communities to manage these projects or sustain participation in the Technical Table.

Capacity issues are unlikely to be resolved without sustainable and long-term funding and investment in capacity building and professional development, in place of project-based funding, ad hoc training, and project participation largely confined to field work.

Recognizing these internal challenges and the pressing challenges of climate change and ongoing ecological degradation, the SRSS is now seeking to build on its strengths – its strong working relationships between communities and the provincial government, focus on community-community knowledge sharing and capacity building, technical expertise and support, and foundation in land-based, 'boots on the ground' restoration and recovery – to clarify its governance and vision. At a strategic planning and visioning day in early 2021, leadership and staff from member communities came together to define a vision, mandate and direction for the organization moving forward. Then, only a few months later, BC suffered another significant wildfire season.

The SRSS is supporting a number of its member communities as they once again start to navigate the process of collaborative wildfire recovery. As an organization that emerged from a wildfire recovery process, and that is grounded in supporting collaboration between First Nations and the provincial government on the many aspects of recovery, the SRSS is well placed to support recovery efforts.

This is particularly the case in 2021, when the majority of large wildfires again occurred within the territories of SRSS member communities. This support may come in the form of coordinating government-to-government engagement (either as a central platform or supporting existing governance or G2G tables), sharing resources developed during Elephant Hill recovery, providing guidance to Secwépemc communities (e.g., highlighting opportunities and challenges for participation) or facilitating collaborative monitoring and on-ground restoration.

Given the extensive impacts of the 2021 wildfire season on an already highly impacted landscape, it is more important than ever to ensure a coordinated and landscape-level approach to recovery that extends beyond short-term goals of rehabilitation to longer-term goals of Secwépemc-led stewardship and restoration in their fire-adapted and fire-affected territories.

Indigenous-led rehabilitation, recovery and restoration are all steps along this pathway of recovering Secwepemcúl'ecw; of recovering from more than just these fires.

Walking on two legs: Secwépemc-led restoration and stewardship in fire-adapted territories

At a recent strategic planning and visioning day, SRSS leadership (elected Kukukpi7) reaffirmed the SRSS's mandate of continuing to advance restoration within Secwepemcúl̓ecw, both within and beyond the Elephant Hill wildfire area. This mandate is underpinned by key principles of unity and collaboration (including promoting collaboration within the Secwépemc Nation); resilience, restoration and revitalization; advocacy and stewardship; trust; and 'walking on two legs': the one leg of Indigenous knowledge and science, the other of western science, guided by a Secwépemc worldview and stewardship ethic.

These principles build on those developed by the SRSS First Nations Technical Table for advancing collaborative stewardship and restoration, which similarly included 'walking on two legs'; a community-driven and Nation-based approach; promoting full involvement of First Nations in across all areas of land and resource management; strengthening and sharing capacities; interconnections between cultural heritage and all aspects of land stewardship; and fostering landscape resilience.

In expanding this mandate and achieving the overarching goals of promoting nationhood and the sustainable management and revitalization of Secwepemcúl̓ecw, the SRSS is seeking to expand its membership through the creation of a 'Secwépemc Natural Resource Board'. This board would bring together Secwépemc natural resource and cultural heritage staff to share knowledge and best practices and strengthen the united voice to advocate for Secwépemc leadership in land and fire stewardship.

These goals and guiding principles for the SRSS could be seen as an expansion of the original mandate of supporting the recovery of Elephant Hill. Similarly, recent SRSS projects and proposals have encompassed a diversity of goals ranging from building the capacity of Secwépemc territorial patrol to promoting resource road deactivation to fish and wildlife habitat restoration. However, as Secwépemc Kukukpi7 outlined in their letter to Premier Horgan, wildfire recovery was *always* about supporting Secwépemc leadership in the restoration of their territory: not just involvement in short term rehabilitation, but leadership in the long-term management and regeneration of this land in the decades to come.

Elephant Hill was just the first step; from devastation came an opportunity to promote a new way of working together to advance the greater changes that need to be made.

Coming back to the words of Kukpi7 Ryan Day: *"We want control and resources to do it right, and not just the outcome based, but the identity that comes with doing that work, the skills, the way that it helps people to live, and rebuild who we are and our relationship to the land."*

Looking forward to the enormity and significance of the challenges we face – of recovering the land and communities after another wildfire season, of mitigating and adapting to climate change, of meaningfully implementing UNDRIP – it is our hope that this report offers some insights into a way forward.

Amidst the lessons described here – the successes, strengths and persistent challenges – one thing is clear: First Nations need to be at the forefront of (wild)fire management from day one.

In highlighting the incredible strengths and capacities within Indigenous communities; the persistent challenges faced by Indigenous communities in ensuring equal partnerships and leadership in (wild)fire management, and upholding their roles and rights as decision-makers within their territories; as well as key findings, principles and recommendations, this report shows the critical role that Indigenous peoples can and should play in leading the work of recovering and restoring their territories.

Elephant Hill was just the beginning.

Loon Lake from Bonaparte First Nation's reserve. Photo credit: Sarah Dickson-Hoyle

Summary of findings and recommendations

Summary of findings

This report presents 70 key findings relating to Secwépemc and provincial government experiences and perspectives on the Elephant Hill wildfire response and subsequent joint recovery.

These findings highlight:

- challenges faced by both Secwépemc communities and federal and provincial government agencies during the 2017 Elephant Hill wildfire;
- drivers and processes of establishing a joint approach to wildfire recovery;
- diverse perspectives and definitions of 'success' in relation to wildfire recovery;
- strengths and lessons for future collaborations;
- key challenges faced throughout the recovery process;
- persistent barriers that First Nations face in achieving 'equal partnerships' in (wild)fire management; and,
- priorities for First Nations leadership in fire and emergency management.

Below, we summarize the 70 key findings across the four Parts of this report. Detailed findings can be found at the end of each Chapter (see page references below).

PART 1: THE ELEPHANT HILL WILDFIRE

→ Chapter 1: The 2017 wildfire season in British Columbia (key findings 1.1 – 1.2, p.13)

→ Chapter 2: The experiences of Secwépemc communities (key findings 2.1 – 2.5, p.21)

→ Chapter 3: Wildfire response and the leadership of Secwépemc communities (key findings 3.1 – 3.7, p.39)

→ Chapter 4: Priorities for land-based recovery (key findings 4.1 – 4.4, p.46)

There was widespread acknowledgement amongst both Secwépemc and provincial government representatives that the 2017 'mega-fires' – and the ongoing wildfire risk and loss of ecological resilience throughout Secwepemcúl'ecw – were the direct result of timber-focussed forest (mis)management practices combined with the history of fire suppression and impacts of climate change. The resulting Elephant Hill wildfire caused deep and lasting impacts to Secwépemc territories and communities that have not been adequately recognized, addressed or compensated by provincial or federal governments.

In 2017 Secwépemc communities experienced poor communication and a lack of guidance from provincial and federal authorities regarding immediate wildfire threats or evacuations. Negative experiences of evacuation by Secwépemc and neighbouring ranching communities created widespread opposition to evacuating in future.

BC Wildfire Service staff admit that engagement with First Nations occurred too late, if at all, and that there was no explicit expectation on Incident Management Teams to collaborate with Indigenous and local communities. While Secwépemc communities played a leadership role through on-ground fire response and fuels mitigation, emergency coordination and supporting agency response, there was widespread frustration that Secwépemc knowledge and capacities were ignored and disrespected. As such, a deep mistrust of fire agencies and a strong feeling of 'being on your own' remain.

PART 2: THE JOINT PROCESS OF WILDFIRE RECOVERY

- → Chapter 5: Catalyzing a new approach (key findings 5.1 – 5.4, p.58)
- → Chapter 6: Negotiating the scope and process for joint wildfire recovery (key findings 6.1 – 6.9, p.77)
- → Chapter 7: Wildfire recovery activities on Elephant Hill (key findings 7.1 – 7.6, p.94)

The scale and significance of impacts of the Elephant Hill wildfire, along with a newly elected provincial government with stated commitments to implementing the United Nations Declaration on the Rights of Indigenous Peoples, created a 'window of opportunity' for change. However, it was the strong leadership and advocacy from Secwépemc communities that catalyzed the collaborative approach to wildfire recovery.

Commitments to joint leadership were enacted through a Joint Leadership Council, Joint Technical Committee and sub-committees that emerged following the fire. Nevertheless, the limited mandates or decision-making authority of provincial government representatives at these tables, and challenges in accessing higher-level decision-makers, posed a barrier to advancing Secwépemc recovery priorities and interconnected stewardship goals.

In their letter to Premier Horgan, and over the months and years following the Elephant Hill wildfire, Kukukpi7 (Chiefs) emphasized that 'healing the land' and actioning commitments to reconciliation requires addressing the cumulative impacts and pressures that form the broader context for land-based recovery, and supporting Secwépemc leadership "in the months, years and decades to come". This vision conflicted with a narrower focus on 'recovery' that was defined by short-term funding, a lack of strategic or landscape-level planning, and the 'three great goals' of fireguard rehabilitation, range recovery and salvage harvesting.

PART 3: REFLECTIONS ON 'SUCCESS' AND LESSONS LEARNED

- → Chapter 8: Reflections on recovery, success and the value of joint leadership (key findings 8.1 – 8.9, p.117)
- → Chapter 9: Strengths and lessons for future collaborations (key findings 9.1 – 9.8, p.133)
- → Chapter 10: Barriers and persistent challenges to collaborative recovery (key findings 10.1 – 10.11, p.159)

Overall, the majority of Secwépemc and provincial government representatives we spoke to felt that the joint process of wildfire recovery was a success. While the lack of clearly defined recovery goals posed a challenge to evaluating the success of land-based recovery, 'success' was largely defined in terms of less tangible outcomes such as confidence in the ability to work together. The value of this process was seen in terms of new relationships and trust; promoting collaboration and a united voice amongst Secwépemc communities; economic and training opportunities; and supporting First Nations-led archaeology.

These successes were made possible by the strong leadership and coordination from both Secwépemc communities and FLNRORD Natural Resource Regions and Districts; flexibility and willingness to work outside of usual policies and processes; a strong governance structure, co-designed by communities and the provincial government; spending time to develop shared understandings and identify shared values; and open, honest communication in communities to build trust. Jointly making decisions about land-based recovery requires getting together on the land and bringing together – rather than siloing – multiple communities and jurisdictions.

Key challenges related to capacity; a lack of strategic or landscape-level planning; conflicting perspectives as to the scope of 'wildfire recovery'; ensuring adequate and appropriate participation; and jurisdictional silos and conflicts within government. Many of these challenges have not been overcome and pose potential barriers to future collaboration. There remains a disconnect between high-level government (stated) commitments to reconciliation, and (inadequate) provision of funding, resourcing and access to decision-authorities to advance First Nation priorities or cede management authority to Indigenous peoples.

The Elephant Hill 'model' has created new expectations for joint leadership and government-to-government technical collaboration. However, for Secwépemc communities, it was just the first step along a pathway to true co-management. An over-emphasis on distilling Elephant Hill into a generalized process risks prioritizing 'operational' outcomes and 'efficiency' over meaningful collaboration and joint decision-making.

PART 4: BEYOND ELEPHANT HILL

- → Chapter 11: Barriers to achieving equal partnerships in (wild)fire management (key findings 11.1 – 11.9, p.180)
- → Chapter 12: Priorities for First Nations leadership in (wild)fire management (key findings 12.1 – 12.3, p.192)
- → Chapter 13: Visions for restoration and stewardship in Secwepemcúlecw

The provincial government, and BC Wildfire Service specifically, highlight substantial progress and changes since 2017, in particular improved public communication, funding for mitigation, and strategic agreements. However, Secwépemc community representatives experience persistent barriers to active involvement in wildfire management and remain frustrated at a lack of consistent and meaningful engagement.

Conflicting understandings of when and how 'engagement' should take place, combined with an unwillingness within BC Wildfire Service to explicitly direct operational staff or address views that devalue Indigenous knowledge and fire expertise, mean that on-ground engagement during fire season still depends on the particular Incident Commander/operational staff, posing a barrier to widespread change. As such, 'shared responsibility' and 'equal partnerships' remain largely confined to the mitigation, preparation and recovery phases of wildfire management. During wildfire events, BC Wildfire Service effectively retains or assumes control and responsibility for response.

Priorities for advancing Secwépemc leadership in (wild)fire management include establishing community-based emergency management offices and territorial patrols; strengthening the role of First Nation liaison officers; promoting collaboration in prescribed and cultural burning; and asserting sovereignty and leadership in managing and protecting cultural heritage.

Building on the 'model' of Elephant Hill means First Nations determine the approach to wildfire recovery and associated government-to-government collaboration in their territories. Simultaneously, the provincial government must spend time developing shared understandings, principles and goals with local First Nations; invest in long-term capacity building; address legacies and ongoing processes of resource extraction and forest (mis)management; and support First Nations decision-making and 'doing the work' of recovering their territories in months, years and decades to come.

Elephant Hill was just the beginning.

Recommendations

The following recommendations – framed as 'calls to action' – address critical needs and priorities for advancing First Nation engagement and leadership across all stages of wildfire management and upholding commitments to reconciliation.

These recommendations are categorized across the four pillars of emergency management: mitigation and preparation (grouped together), response and recovery.

Meaningfully implementing these recommendations will require going beyond the common approach of attempting to 'integrate' Indigenous knowledge or practices into existing state-run institutions and programs: it means supporting, and ceding power and decision-authorities to, the true caretakers of Secwepemcúl̓ecw.

MITIGATION AND PREPARATION

Emergency management coordination and wildfire response planning

1. We call on the Government of Canada to provide long-term funding to establish First Nations Emergency Management Offices, including resources and training for Emergency Management Coordinator roles and Initial Attack crews and funding for First Nations firekeepers.
2. We call on BC Wildfire Service to strengthen and further formalize the First Nation liaison officer role within the BC Wildfire Service Incident Command structure, including through establishing a formal role description and developing and implementing training modules for Incident Commanders, crew supervisors and other Operational/Planning staff. These should be developed in collaboration with the First Nations Emergency Services Society and with input from individual First Nations, including those directly impacted by the 2017-2021 wildfire seasons.
3. We call on BC Wildfire Service Fire Zones, in partnership with local First Nations, to identify points of contact to serve as First Nation liaison/s and to meet with these contacts to confirm priorities and processes for engagement prior to each fire season.
4. We call on the Government of British Columbia to establish a First Nations Emergency Management Secretariat, comprising Emergency Management BC, Indigenous Services Canada, the First Nations Emergency Services Society, the Union of BC Municipalities and BC Wildfire Service, to provide a coordinated approach to emergency management funding, emergency services support and capacity building with First Nations.

Pre-fire season engagement

5. We call on BC Wildfire Service to establish and maintain a user-driven database of First Nation contacts and resources relevant to fire management and response. And, BCWS Fire Zone officers to share this database with First Nations and facilitate updates during the winter and spring prior to each fire season.

   This online database would be managed at the Fire Zone level. Relevant information would include key contact information (names, position, role/ responsibility pre – and during wildfire event, phone and email for Chief and Council, Band Administrator, Natural Resource/Stewardship staff, Emergency Management staff, Archaeology/ Cultural Heritage staff, and identified First Nation liaison/s); band owned/operated contractors (e.g., heavy equipment) and associated resources; training register (e.g., S100/S185) and other resources (e.g., fire truck).

6. We call on BC Wildfire Service Fire Zone and Emergency Management BC Regional staff, in consultation with First Nation staff, to coordinate pre-season planning and engagement meetings in First Nations communities (in

person, Covid-protocols allowing) to identify key contacts, responsibilities and needs for emergency management and wildfire response.

Equipment sign up and resource sharing

7. We call on BC Wildfire Service to create online sign-up form for 'as and when required' equipment.

   Equipment sign-up currently requires reaching out to BCWS Zone Officers. No templates or forms are publicly available.

Archaeology

8. We call on BC Wildfire Service to respond to and action the key recommendations provided in the First Nations Emergency Services Society's *First Nations Data Assembly Project* (Price and Hammond, 2017), including but not limited to:

   8.1 BC Wildfire Service or individual Fire Centres to contract an archaeologist to obtain a blanket permit in advance (as early as six months) of each fire season, to be on-call to respond to wildland fires as they occur. Blanket permits may also be structured to allow for pre-work assessment of planned fire activities and post-impact assessment following unplanned fires.

   8.2 BC Wildfire Service managers and planners to work with local First Nations and archaeologists to identify which community-specific protocols and processes should be followed when working with Indigenous cultural heritage resources.

   8.3 Contracted archaeologists to collaborate with First Nations fire liaisons to identify and assess potential risks to archaeological and other cultural heritage sites and to provide management recommendations to BC Wildfire Service field staff. Incident Command/Planners may accept and apply management direction as appropriate and safe, given their expertise and knowledge of each individual situation.

   8.4 BC Wildfire Service to revisit and implement the crew training module, chance find procedure and field cards developed and provided to BC Wildfire Service through the *First Nations Data Assembly Project*.

   8.5 BC Wildfire Service to collaborate with local First Nations and a qualified archaeologist in advance of any planned work (e.g., prescribed burning) to discuss any community specific heritage policies or goals, preferred site management strategies, and preferred consulting archaeologist.

   The First Nations Data Assembly Project also developed training modules, field cards and Chance Find Management Procedures to accompany the report. These provide specific guidance for BC Wildfire Service staff to ensure the protection of archaeological sites.

   Where unplanned impacts to sites are likely, as in the case of wildland fires, archaeologists will be available to BC Wildfire Service or individual Fire Centres and can offer real-time management advice to the Incident Commander that takes into account the practical constraints of the situation.

   Note: recommendations regarding obtaining blanket permit may be addressed by Archaeology Branch approach of taking out a province-wide wildfire blanket permit. Current permit to expire 2023. Additional or complementary recommendations may arise from the BC Wildfire Service initiated 'Culturally Sensitive Sites Protection: Development of Training Program and Standard Operating Guidelines'

Recovery planning

9. We call on the Thompson Rivers Natural Resource District, with support from the 100 Mile House Natural Resource District, Thompson Okanagan Natural Resource Region and BC Wildfire Service to compile documentation (principles, guidance documents, best practices) from the 2017 and subsequent wildfires and create public-facing website providing these resources and guidance for wildfire recovery and rehabilitation.

10. We call on the Ministry of Forests, Lands, Natural Resource Operations and Rural Development to develop and publish a high-level land-based recovery framework. This would identify: roles and mandates for land-based recovery activities within the Ministry (decision authorities, technical expertise); commitments to joint wildfire recovery with First Nations; land-based wildfire recovery and rehabilitation activities within the jurisdiction of FLNRORD and other Ministries; critical post-wildfire decision/activity timelines and other time-sensitive planning considerations; and framework for collaboration across FLNRORD Regions and Districts.

    This could be initially be developed for the Regional Operations – South area under the direction of the Director for Wildfire Recovery.

Prescribed and cultural burning

11. We call on BC Wildfire Service to establish partnerships with local First Nations to facilitate active involvement in prescribed burns within their respective traditional territories as and when desired.

    The form and extent of First Nation involvement in prescribed fire activities is to be determined through consultation between BC Wildfire Service and First Nation representatives, and may include (but is by no means limited to): conducting pre-burn cultural heritage assessments; informing burn objectives and burn plan development; and participating in burns.

12. We call on the First Nations Emergency Services Society to establish regional Indigenous fire stewardship networks.

    These networks would bring together community-based Indigenous fire practitioners and resource/stewardship managers to support knowledge sharing and connections within and between Indigenous Nations. In partnership with BC Wildfire Service Fire Centres and local First Nations, these networks could also facilitate cultural burning workshops and provide support and training opportunities for Indigenous community staff and representatives.

13. We call on BC Wildfire Service to enable a First Nations led cultural burning permit system that empowers First Nations communities and fire knowledge keepers to determine cultural burn objectives; allows for the incorporation of community knowledge and language, and community participation; and would be flexible to allow wider burn periods and reduced oversight.

    Note: many of these recommendations will be presented in a forthcoming paper[1] on barriers and opportunities for advancing Indigenous fire stewardship, informed by multiple Nations (and this report) Canada wide.

RESPONSE

14. We call on BC Wildfire Service to establish regular (e.g., daily) partnership table conference calls for all large/project fires, to provide updates and briefings and seek local input. These partnership tables will bring together representatives from BC Wildfire Service (Incident Command/Information Officer), First Nations/First Nations liaison(s), Regional Districts, Natural Resource Districts, and other key stakeholders (e.g., infrastructure providers, industry).

15. We call on BC Wildfire Service to address persistent issues resulting from changeover of Incident Management Teams/Incident Commanders and prioritize previous recommendations to ensure consistent and respectful engagement with First Nations/First Nations liaison(s) during all large/project fires.

1 Hoffman, K., Christianson, A., Dickson-Hoyle, S., Copes-Gerbitz, K., Nikolakis, W., Diabo, D., McLeod, R., Michel, H., Al Mamun, A., Zahara, A., Mauro, N., Gilchrist, J., Myers Ross, R. and Daniels, L.D. 'The right to burn: barriers and opportunities for Indigenous-led fire stewardship in Canada'. Under review.

16. We call on the Thompson Nicola Regional District and its member municipalities, in consultation with the Royal Canadian Mounted Police and local First Nations, to establish protocols for 1) contracting local First Nation/s representatives to assist at traffic control/evacuation checkpoints in proximity to reserve lands and 2) providing adequate and consistent briefing information on local First Nations (reserve locations, contact information) and access permits issued to authorities enforcing evacuations and road closures.

First Nations liaison officers

17. We call on BC Wildfire Service to provide direction to Incident Commanders to make contact with local First Nations representatives immediately upon appointment and, where desired by the First Nation, to establish and fill a First Nation liaison position within the Incident Command Structure upon establishment.

    As and when desired by individual First Nations communities, First Nations liaison officer(s) will be appointed upon establishment of an Incident Management Team. The liaison(s) will be the point of communication for the Incident Commander as well as other BC Wildfire Service staff and contractors. The liaison(s) responsibilities will include facilitating information exchange with the community (e.g., regarding evacuations/wildfire threat); connecting BC Wildfire Service with community resources; advising on cultural heritage concerns (including identifying potential impacts and mitigation measures); facilitating collaboration between community fire knowledge keepers/fire experts and agency operational staff; and providing input to guide suppression strategies and the use of prescribed fire.

RECOVERY

18. We call on FLNRORD Regional Operations and/or BC Wildfire Service representative(s) coordinating and undertaking rehabilitation activities to establish partnerships with, and actively engage, local First Nations throughout the planning, decision-making and implementation processes.

Governance and planning

19. We call on FLNRORD Natural Resource Districts, in partnership with local and affected First Nations, to collectively define the desired approach to joint wildfire recovery. This includes jointly defining governance approach (e.g., leadership, technical or sub-committee structure); participation; relationship if any to existing governance bodies (e.g., Tribal Councils, government-to-government tables); and scope and scale (e.g., single or multiple fires; single Nation or Nation to Nation).

20. We call on joint wildfire recovery governance bodies (i.e., FLNRORD Natural Resource Districts in partnership with participating and affected First Nations) to define a mechanism for elevating higher-level decisions and issues to leadership (Ministerial or Regional Executive Director) level within the provincial government.

21. We call on joint wildfire recovery governance bodies (i.e., FLNRORD Natural Resource Districts in partnership with local and affected First Nations) to jointly develop a strategic and landscape-level wildfire recovery plan prior to commencing land-based recovery activities. This plan should: set short, medium and long-term priorities and objectives for recovery; articulate the roles and responsibilities of all involved; identify capacity and resourcing needs; identify capacity and desired involvement of First Nation communities in recovery activities; and establish a monitoring and evaluation plan that incorporates targets for rehabilitation/recovery activities, a plan for monitoring post-wildfire impacts, and mechanisms to promote compliance with principles.

22. We call on FLNRORD Natural Resource Districts, in partnership with local First Nations, to develop a strategic post-wildfire salvage and retention plan to proactively direct salvage operations across the affected land base.

Funding and resources

23. We call on the Ministry of Forests, Lands, Natural Resource Operations and Rural Development to provide funding to support wildfire coordinator positions at both the Resource District level and within First Nation/s or designated coordinating First Nation governance body.

24. We call on the Government of Canada and the Government of British Columbia to ensure that allocated wildfire recovery funding adequately supports First Nation involvement in joint decision-making and considers the inherent costs of recovery activities (e.g., archaeology, coordinator role/s).

Stakeholder engagement

25. We call on FLNRORD Natural Resource District range and stewardship staff to provide timely and regular briefings on the approach to and progress of joint wildfire recovery to tenure license holders (e.g., range, forestry).

26. We call on FLNRORD Natural Resource Districts and local First Nations engaged in joint wildfire recovery to collectively determine appropriate strategies and formats for inviting participation of or input from key stakeholders in the development and implementation of recovery plans and principles.

Archaeology

27. We call on the BC Archaeology Branch to appoint a dedicated archaeologist to coordinate wildfire-related archaeology (managing blanket permits, briefing BCWS and Districts on statutory obligation, and supporting First Nations, as needed, in post-fire archaeological assessments and reporting).

28. We call on Secwépemc First Nations, with the support of professional industry (archaeology) associations and the BC Archaeology Branch as required, to develop a guidance document outlining the process, rationale, best practices and budgetary considerations for wildfire-related archaeology.

29. We call on Secwépemc First Nations, with the support of the British Columbia Association of Professional Archaeologists and the BC Archaeology Branch if and when requested, to develop and implement a data collection template and online data management system to support post-wildfire archaeology.

30. We call on FLNRORD Natural Resource Districts, in consultation with local First Nations, to contract a qualified archaeologist to support a coordinated approach to First Nations-led post-wildfire archaeological assessment and reporting (including site registration). This contract would include stipulations for training and mentoring of First Nations staff and building capacity within First Nations who do not have a qualified archaeologist on-staff.

APPENDIX 1

List of interviewees

Table 1: Secwépemc leadership, staff and community members

(n=21; note: including participants who chose not to be identified below)

Community	Name	Role
SRSS	Angie Kane	CEO; former Band, Lands and Natural Resource Manager at High Bar First Nation
Bonaparte First Nation	Bert William	Senior Archaeological advisor, community member
Bonaparte First Nation	Jenny Allen	Former Forestry Team Lead, community member
Bonaparte First Nation	Ryan Day	Former Kukpi7, community member
Bonaparte First Nation	Fawn Pierro-Zabatel	Forestry Technician, community member
Bonaparte First Nation	Melanie Minnabarriet	Assistant Natural Resource Manager, community member
High Bar First Nation	Greg Crookes	Former Natural Resource Manager; previously Natural Resource Manager at Bonaparte First Nation
High Bar First Nation	Stewart Fletcher	Archaeology and Cultural Heritage lead, community member
Skeetchestn Indian Band	Joanne Hammond	Director of Heritage, Assistant CEO Skeetchestn Natural Resources
Skeetchestn Indian Band	Ron Ignace	Former Kukpi7, community member
Skeetchestn Indian Band	Don Ignace	Operations Manager, community member
Skeetchestn Indian Band	Mike Anderson	CEO, Skeetchestn Natural Resources
Skeetchestn Indian Band	Sam Draney	Cultural Heritage Team Lead and GIS Tech, community member
Skeetchestn Indian Band	Marshall Gonzalez	Councilor, community member
Stswecem'c Xget'tem First Nation	John Liscomb	Registered Professional Forester, Stswecem'c Xget'tem Development Corporation
Stswecem'c Xget'tem First Nation	Georgina Preston	Former Stewardship Coordinator
Stswecem'c Xget'tem First Nation	Judah Melton	Rights and Title Manager
Stswecem'c Xget'tem First Nation	Jimmy Rosette	Field Technician, community member
Whispering Pines/Clinton Indian Band	Darcy LeBourdais	Registered Professional Forester, Second Pass Forestry, community member
Whispering Pines/Clinton Indian Band	Tanner LeBourdais	Registered Professional Forester, Second Pass Forestry, community member

Table 2: BC Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNRORD) – Region and District staff and Ministry of Environment and Climate Change (MECC)

(n = 14; note: including participants who chose not to be identified below)

Agency	Name	Role
FLNRORD – Thompson Rivers District	Marina Irwin	Resource Manager
FLNRORD – Thompson Rivers District	Rachael Pollard	Former District Manager (now Manager, Sustainable Resource Manager, Resource Practices Branch, Office of the Chief Forester)
FLNRORD – Thompson Rivers District	Mahrusa Sherstobitoff	Former First Nations Advisor (now Forest Values Coordinator, Resource Practices Branch, Office of the Chief Forester)
FLNRORD – Thompson Okanagan Region	Chelsea Enslow	Land and Resource Coordinator (formerly Natural Resource Manager at Bonaparte)
FLNRORD – Thompson Okanagan Region	Francis Iredale	Wildlife Biologist
FLNRORD – Thompson Okanagan Region	Nina Sigloch	Team Lead, Silviculture and Forest Stewardship
FLNRORD – Thompson Okanagan Region	Eric Valdal	Director Resource Management
FLNRORD – 100 Mile House District	Diane Brown	Range Officer
FLNRORD – 100 Mile House District	David Majcher	Stewardship Officer
FLNRORD – Range Branch	Danielle Cuthbertson	Deputy Director
FLNRORD – Research	Lorraine Maclauchlan	Entomologist
FLNRORD – Resource Planning and Assessment Branch	Doug Lewis	Stewardship Evaluation Forester
MECC – BC Parks and Conservation Officer Service	Andy Mackay	Sargeant, Thompson Fraser Division

Table 3: Fire and emergency management agency staff

(n = 13; note: including participants who chose not to be identified below)

Agency	Name	Role
BC Wildfire Service	Cliff Chapman	Director Provincial Operations, former Kamloops Fire Centre Manager
BC Wildfire Service	Ken Conway-Brown	Former Rehabilitation Supervisor and Heavy Equipment Coordinator
BC Wildfire Service	Dave Horne	Former Rehabilitation Coordinator
BC Wildfire Service	Brad Litke	Senior Wildfire Officer, Operations – Kamloops Fire Centre

Agency	Name	Role
BC Wildfire Service	Jamie Jeffreys	Director Strategic Engagement
BC Wildfire Service	Rob Schweitzer	Director Fire Centre Operations, former Kamloops Fire Centre Manager
BC Wildfire Service	Reg Trapp	Wildfire Officer – 100 Mile House Fire Zone
Emergency Management BC	Sylvia Chow	Regional Manager – EMBC Central Region
Emergency Management BC	Mike Knauff	Regional Manager – EMBC Central Region
Emergency Management BC	Andrew Morrison	Senior Regional Manager – EMBC Central Region
First Nations Emergency Services Society	Jeff Eustache	Former Forest Fuels Management Program Liaison (current at time of interview)
NSW Rural Fire Service (Australia)	Neville Anderson	Branch Director (Elephant Hill); Senior Field Officer and Training Officer NSW RFS

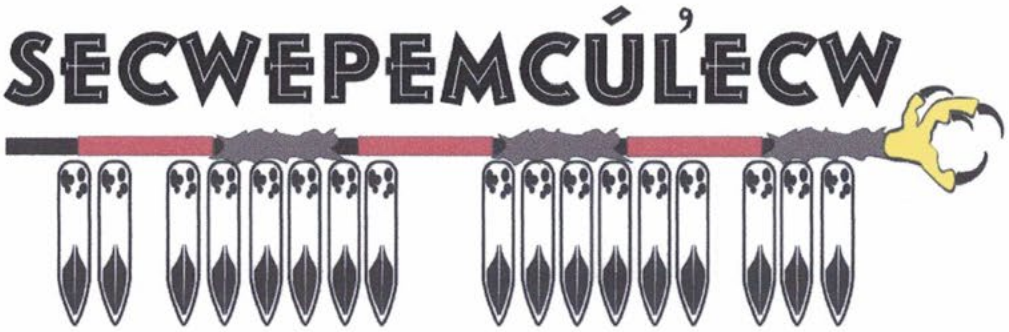
Table 4: Additional stakeholders

(n = 6)

Forest licensee staff x 2 (note: one contributed written additions to an interview)
Local rancher x 3
Consultant silviculture specialist x 1

APPENDIX 2

Secwépemc letter to Premier Horgan



September 5, 2017

Hon. John Horgan
Premier, Province of British Columbia

Hon. Doug Donaldson
Min. Forests, Lands and Natural Resource Operations and Rural Development

Hon. Scott Fraser
Min. Indigenous Relations and Reconciliation

Hon. George Heyman
Min. Environment and Climate Change Strategy

RE: Wildfire in Secwepemcul'ecw, Elephant Hill Fire

I am writing to on behalf of Bonaparte Indian Band in conjunction with Kukpi7 Ignace of Skeetchestn Indian Band and Kukpi7 Larry Fletcher of High Bar First Nation and the other bands whose lands were most affected by the Elephant Hill Wildfire including Whispering Pines/Clinton Indian Band with the support of the remaining communities of Ts'kw'aylaxw First Nation, Simpcw First Nation, Stswecem'c/Xgat'tem First Nation, Esketemc First Nation, Xats'ull First Nation, Williams Lake Indian Band, Tk'emlups te Secwepemc, Neskonlith Indian Band, Adams Lake Indian Band, Little Shuswap Lake Indian Band, Splatsin Indian Band and Shuswap Indian Band.

As you may or may not be aware, the Elephant Hill Fire burned around two of our three populated reserves as well as two of our seasonal camp reserves at Loon Lake and Hihium Lake, and has burned nearly entirely within the Bonaparte River Watershed, which our people have depended upon for thousands of years for its fish, game, plants, trees and water. At the time of writing the fire has burned upwards of 192, 725 hectares, more than half of our traditional territory and is slowly heading north towards Canim Lake Indian Band's back yard.

For the last 60 days our people have witnessed devastation to our lands that we have not seen in the memories of our oldest elders. We've witnessed and continue to witness devastation at a magnitude which should never have been reached, a fire intensity which would not have been possible with proper management of our forests. As was stated in the province of BC Wildfire Management Strategy paper in 2010: "When the natural fire cycle is interrupted, however, there is a reduction in the health and vigour of the forest and, as forests age, fuels build to unnatural levels increasing the risk of catastrophic wildfires that are difficult to control and that may seriously impact communities and resource values." Which is precisely the outcome we are experiencing now.

As the segment of the population which suffers the greatest levels of poverty and poorest levels of health we rely on the entire ecosystem to provide us with the quality foods more than any other population. Our economic marginalization is due to legislation and policies forced upon us by the crown and enforced by the RCMP; this makes the fish, plant and animal values in our watersheds and forests even more valuable to us to survive, despite the destruction of the stock of value by forest and range activity.

While we lament the fact that the intensity of the fire will greatly lengthen the time of recovery for the forest, we see the process of assessment, rehabilitation and regeneration as an immense opportunity to learn from the errors in management of the past; it is an opportunity to use Indigenous Traditional Ecological Knowledge (TEK) and the wealth of research in Forest Science to restore the forest not only for its timber value but as a source of wealth in its values of: cultural heritage, ecological diversity, hydrologic management, carbon capture, non-timber forest products, wildlife habitat, and education of young people of how to live as a member of an ecosystem. A strong, sustainable, innovative economy begins here; one that connects people to place, creates and flattens wealth, and provides a buffer to climate change.

Over the course of this fire, Bonaparte Indian Band and Skeetchestn Indian Band have worked hand in hand with the BC Wildfire Service as a recognized and respected wealth of invaluable knowledge about our lands. Our people are experts on knowing fuel types, winds, terrain, and back roads; they advised forest fire fighters physically in aerial and on the ground reconnaissance. We know our forests and their ecological value better than anyone. There is no one better to lead the way in recovery than the knowledge of the people of this land, the Secwepemc.

The time of marginalizing Indigenous peoples in forest management must come to an end. In your ministerial mandate letters you were tasked with implementing with First Nations: the United Nations Declaration on the Rights of Indigenous Peoples; the Truth and Reconciliation Commission's 94 Calls-to-Action; and the 2014 Supreme Court of Canada Tsilqhot'in Decision. It is time for the rubber to hit the road and there can be no greater opportunity to action this commitment than by supporting the Secwepemc People's leadership in the regeneration of the ecosystem affected by the Elephant Hill Fire over the months, years and decades to come.

We urge you not to make any decisions on this land; forest, range, water or wildlife; without first engaging with us; we no longer ask to be consulted, instead, we require to be engaged in the planning, management and rehabilitation of this land as we are the true caretakers of it-yucminmenkucw.

To be clear, we are fully committed to lead this work with: our Traditional Ecological Knowledge keepers of all bands affected by the Elephant Hill Fire; academic institutions specializing in Forest Science; and experienced provincial experts in forest management.

We ask of you, as government officials, to enable this new approach by standing down any legislative or policy impediments by way of your commitment to the documents cited above; creating new relationship with the Secwepemc, which respects our knowledge, experience, and rights to our lands and the management thereof, for the benefit of all those who depend upon it.

In the wake of devastation is always creation, our people know this better than anyone.

Kukstsetsemc,

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Kukpi7 Ron Ignace
Skeetchestn Indian Band

Kukpi7 Larry Fletcher
High Bar First Nation

Kukpi7 Steve Tresierra
Whispering Pines/Clinton Indian band

Kukpi7 Frances Alec
Ts'kw'aylaxw First Nation

Kukpi7 Charlene Belleau
Esketemc First Nation

Under Review

Kukpi7 Patrick Harry
Stswecem'c/Xgat'tem First Nation

Unavailable
Kukpi7 Donna Dixon
Xats'ull First Nation

Under Review
Kukpi7 Ann Louie
Williams Lake Indian Band

Kukpi7 Paul Michel
Adams Lake Indian Band

Kukpi7 Wayne Christian
Splatsin Indian Band

Kukpi7 Fred Seymour
Tk'emlups te Secwepemc

Kukpi7 Nathan Matthew
Simpcw First Nation

Kukpi7 Judy Wilson
Neskonlith Indian Band

Unavailable
Kukpi7 Oliver Arnouse
Little Shuswap Lake Indian Band

Kukpi7 Barb Cote
Shuswap Indian Band

Under Review
Kukpi7 Mike Archie
Canim Lake Indian Band

APPENDIX 3

Response letter from Minister Donaldson

Reference: 231261

October 27, 2017

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Dear Chiefs:

Thank you for your letters of September 5 and October 10, 2017, to Premier Horgan, Ministers Fraser and Heyman and me, regarding a strategic, landscape level approach to post-wildfire recovery on the Elephant Hill fire. I apologize for the delayed response.

Let me start by expressing my sincere condolences and acknowledgement for the profound impact that the 2017 wildfires have had on your community members. Our thoughts are with all those impacted by these devastating wildfires.

You asked about our government's commitment to true and lasting reconciliation with First Nations in British Columbia, and our commitment to adopting and implementing the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) and the Calls to Action of the Truth and Reconciliation Commission. We are fully committed to both and are pursuing ways to implement the UNDRIP and the Calls to Action. To begin with, I will be reviewing ministry policies and programs to ensure the UNDRIP principles are incorporated, including the policies and guidance related to wildfire recovery. This is a high priority for all agencies, including the Ministry of Forests, Lands, Natural Resource Operations and Rural Development given our responsibility for managing Crown land. I will also be looking for examples to demonstrate our new relationship and commitment to working together, and I believe post-wildfire recovery on Elephant Hill provides an opportunity to demonstrate the positive outcomes we can achieve by working together.

Ministry staff and I were pleased at the proposal for a collaborative approach to post-wildfire recovery on Elephant Hill outlined in your letter of September 5, 2017. I am also pleased to hear that progress has already been made and that your meetings with my staff have been productive. I understand you are working together to develop a shared approach where your communities have a role in the planning, management and rehabilitation of the Elephant Hill wildfire, and where your communities also share the economic benefit from post-wildfire activities. I also understand that this approach will be founded on the principle of "walking on the two legs of Traditional Ecological Knowledge" coupled with other sources of scientific research. My hope is that this joint table will include all First Nations communities impacted by the Elephant Hill fire, and I look forward to updates on how this work is progressing.

I hope to build a cooperative relationship with you in order to achieve more by working together, and I believe this approach will result in better outcomes for the land and people impacted by the Elephant Hill fire.

I expect my staff to continue working with you in an open, honest and transparent manner. I also recognize – as you have stated – that pressure will mount to make decisions regarding salvage and other actions required to protect environmental values and stabilize local economies. While I am not able to fetter their decision making, I do commit to staff engaging through the joint table on decisions that may need to be made in the short term in order to address the issues around the environment and economic stabilization. I am hopeful that the ability to make priority decisions can be part of the development of a shared path, and I am pleased to hear that you have already had some success working together on initial priority decisions.

In closing, I want to reiterate the province's commitment to the United Nations Declaration on the Rights of Indigenous Peoples and to collaborating with First Nations to seek resolutions in British Columbia. We appreciate that much work remains to be done; however, we remain committed to working with you on rehabilitation of the Elephant Hill fire and recovery of your communities.

Thank you again for your letters. I appreciate the opportunity to build on our relationships and encourage productive dialogue. Working together to keep communication open will provide a strong foundation as we move toward achieving reconciliation.

Sincerely,

Doug Donaldson
Minister

pc: Honourable John Horgan, Premier of British Columbia
Honourable Scott Fraser, Minister of Indigenous Relations and Reconciliation
Honourable George Heyman, Minister of Environment and Climate Change Strategy
Doug Caul, Deputy Minister of Indigenous Relations and Reconciliation
Bobbi Plecas, Deputy Minister of Climate Change, Ministry of Environment and Climate Change Strategy
Tim Sheldan, Deputy Minister of Forests, Lands, Natural Resource Operations and Rural Development
Mark Zacharias, Deputy Minister of Environment, Ministry of Environment and Climate Change Strategy
Pat Byrne, District Manager, 100 Mile House Natural Resource District
Rachael Pollard, District Manager, Thompson Rivers Natural Resource District
Rob Schweitzer, Fire Centre Manager, BC Wildfire Service – Kamloops

APPENDIX 4

Elephant Hill Joint Leadership Council and Joint Technical Committee Terms of Reference

Mandate

Our goal in working together is a long-term, strategic and landscape level approach to post-wildfire recovery, where Indigenous Communities are involved in recovery efforts and have a central role in determining what post-wildfire recovery looks like. As we work together, we are using the principle of "walking on two legs: western science and First Nations science together". This approach is an example of the B.C. Government's commitment to true and lasting reconciliation with Indigenous Communities.

Purpose

Joint Leadership Council

The Joint Leadership Council will guide the direction for Wildfire Recovery. The committee will act as a governing body over the Elephant Hill Wildfire Recovery process. The Joint Leadership Council will make decisions to be implemented by the Technical Committee.

- Promote landscape level planning
- Focus on Wildfire Recovery with a long term goal of land base Resiliency.

Elephant Hill Wildfire Technical Committee

EHWTC will make recommendations to inform implementation, monitoring and the development of operational plans to support wildfire recovery efforts as outlined by the Elephant Hill Wildfire Recovery Plan, a living document under development as the working groups and initiatives develop. The Recovery Plan document produced will form the foundation for a guide for future wildfire recovery in the Province. The specific purposes of the Committee may include the following responsibilities:

- Provide advice and recommendations to the JLC regarding wildfire recovery within the bounds of the Elephant Hill wildfire, in a timely manner to allow departmentally approved decisions and adjustments to proceed
- Provide operational and technical expertise to develop recommendations, guidance, principles and strategies for wildfire recovery on Elephant Hill using a lens of landscape level planning
- Including but not limited to: range, wildlife, fisheries, soil, water, fire, ecological and any other pertinent to land use
- Execute requests of the JLC
- Guide the production of deliverables that will be used as part of a framework for future fire events
- Endorse plans for Silviculture activities beyond 2020
- Provide a mechanism for stakeholders to contribute to the implementation of the Wildfire Recovery Plan
- Make recommendations regarding, and participating in, education and communication initiatives
- Assist in the further development and implementation of the monitoring process, including participation in data collection and interpretation
- Make recommendations for; use, seasonal use, permit conditions, and evaluation of baseline status and future desired status, as well as for reclamation and development standards

Relationship of EHWTC to Joint Leadership Council

The JLC collectively endorses decisions on a number of aspects of post-wildfire recovery, including development of a range recovery strategy, fireguard rehabilitation strategy, access management, silviculture principles and salvage retention principles. EHWTC is expected to offer recommendations for programs, pilots, monitoring, and methodology and to provide recommendations to the JLC for endorsement.

Membership

Joint Leadership Council

- Composition
    - Senior managers of FLNRORD.
    - Chiefs from the impacted First Nations; Bonaparte, Canim Lake, Canoe Creek/ Dog Creek, High Bar, Whispering Pines, Skeetchestn, Ts'kw'aylaxw, T'kemlups

Technical Committee

- Appointment
    - Technical committee members are appointed by their respective organizations. An alternate organizational representative will be assigned to attend committee meetings in their absence
- Composition (Committee List to be Appended)
    - Each organization, including First Nations communities, DTR, DMH, BCWS and RM Caribou must be represented by at least one individual

Best Practices

- Representatives do not represent individuals or organizations, but their community as a whole
- Opportunities will be provided for the addition of new members or alternates
- Members who feel they are no longer able to participate in good faith, on the basis of the Terms of Reference are expected to voluntarily withdraw from the membership
- Members are expected to show respect for each other's time and personal integrity. Respect means listening carefully with the intent of clearly understanding what the other is saying before responding. It means treating one another with professional cordiality and deference, even if there is a disagreement over stated positions on an issue. Members are expected to participate in good faith, in agreement with the intended purpose of the group. Members should be prepared and willing to work with others to achieve the committee's stated objectives of the Mandate and Scope of the committee
- Committee members through sub working groups or in the normal course of action will collaborate with technical team members outside of scheduled meetings.

Organizational Structure

Joint Leadership Council

- Committee Co-Chair: Kukpi7 Day
- Committee Co-Chair: Thompson Rivers District Manager, Rachael Pollard
- Secretariat: Thompson Rivers District Wildfire Recovery Manager

EHW Technical Committee

- Committee Co-Chair: Thompson Rivers District Wildfire Recovery Manager
- Committee Co-Chair: First Nations Resource Manager
- Secretariat: Thompson Rivers District
- Co-Chairs will alternate leading meetings.
- Meeting schedules will be clearly defined
- Meeting minutes will be taken at each meeting and will include action items
- Minutes from the previous meeting and agendas will be released the Friday prior to each meeting. Agendas will include key items for decision

- The location of meetings will be determined based on agreement by the committee
- Committee members agree to:
    - Make attendance a priority and read material provided in advance;
    - Appoint a colleague as a designated alternate empowered to make decisions and briefed on previous decisions and discussions
- All interests will be considered but decision-making/endorsement is by members/ their proxy who are in attendance

Procedural Provisions

- The committees will strive to operate by consensus to provide constructive recommendations to the JLC and/or provide decisions/direction to the technical committee. Consensus is defined as a decision-making process in which all parties that are involved agree to the final recommendation. Consensus does not mean that all parties are completely satisfied with the final outcome.
- If consensus cannot be reached after ample discussion, a vote may be taken with the results of that vote forwarded with the advice given to the JLC. The views of dissenting voters will be presented with the vote results.
- Committee members will not publicly represent any views of the committee other than the recommendations that have been clearly made and recorded through the committee process.
- It is the role of any alternate committee members to be well-informed of the business of the committee. They may not vote in discussions at the table while attending if the primary representative is present
- Subcommittees may be formed to address particular issues or to perform specific tasks. These subcommittees will be formed and the composition determined by consensus. The subcommittee will report to EHWTC.
- Applications to make a presentation to the committee will be made through the committee chairperson to have the item considered to be included on the meeting agenda.
- It is the chairperson's responsibility to manage the time of the committee effectively and afford equitable time for all representatives (but may limit the time of any representative so that all representatives can address issues).

Funding

- The District will fund approved meeting costs including such items as meeting room rental, refreshments, advertising, and/or mail-outs. There will be no honorariums or travel subsistence for members to attend meetings.
- Funding for implementing actions will be based upon the department's approved budgets, and upon any partnership agreements developed through or by the department.

Communications

- Internal, External, and data
- FTP Site-Enhance investigate SharePoint or other
- Any public facing (external) communications will be discussed by the Joint Leadership Council

Terms of Reference Review

- The Terms of Reference will be a living document and can be changed to reflect the changing needs and evolution of the committees.
- At a minimum the Terms of Reference will be reviewed on an annual basis.

APPENDIX 5

Elephant Hill Wildfire Recovery Joint Leadership Council Principles for Timber Salvage

The 2017 Wildfire season has been the most damaging and challenging wildfire season in the Province's history. The Elephant Hill wildfire complex has had severe impacts to the landscape. The Recovery of the land and its ecosystems will be guided by strategic and collaboratively developed recovery plans.

To support timber salvage with an ecosystem-based approach, the Joint Technical Working Group, under guidance from the Elephant Hill Wildfire Recovery Joint Leadership Council, has developed a first version of principles for timber salvage within the Elephant Hill wildfire complex perimeter.

1. No harvesting in OGMAs
2. No green trees harvested unless for safety[1]
3. No operating in known archaeological and/or cultural heritage sites. Buffer size to be determined by working with applicable communities and will be site specific
4. The Skeetchestn Cultural Resource Management Zones (CRMZ's) will be applied to streams, lakes, wetlands, and marshes. Since attenuation of water flow, sediment control and shading are priorities for management, as well as an expected rise in the water table post wildfire is likely, riparian wet areas have been analyzed and mapped. These areas exceed CRMZ's in some cases and retention of both live and dead trees in these areas is proposed. Mapping of these areas will be provided
5. No salvaging in Hydrologically Sensitive Zones (approximately the snow line at April 1); This will include the MS, ESSF, SBS and SBPS Bec zones in specific watersheds. Mapping will be provided
6. No harvesting in live stands (low burn severity areas) in legal and proposed ungulate winter range and consistent with the Cariboo Region signed variance for this objective
7. No salvage in VQO polygons of Retention or Preservation
8. No salvage on slopes >40% regardless of severity burn areas and no salvage on slopes >30% on high severity areas. Mapping will be provided[2]
9. No reforestation in areas identified as Grasslands Benchmark Areas
10. Harvest blocks that have already been assessed for Archeological/Cultural Heritage Sites first, if block boundary has not changed since assessments and other guidelines in this document are met
11. Retain trees > 65cm Diameter at Breast Height
12. Review Biodiversity Guidebook for potential guidance and possible implementation[3]

These principles are dynamic and may be improved upon as land based recovery activities progress. The Elephant Hill Wildfire Recovery Joint Leadership Council will work to reach consensus and may modify these principles as needed. Strategic retention proposed by the province may change. Legal objectives that result in retention of the land-base apply unless there is a signed variance.

These principles have been endorsed by the Elephant Hill Wildfire Recovery Joint Leadership Council members on February 5, 2018.

1 Definition of green trees and green stands will be outlined in a further document

2 Spatially defined Grassland Benchmark Areas are pending review

3 More detailed guidance relating to this recommendation is forthcoming

APPENDIX 6

Elephant Hill Wildfire Recovery Joint Leadership Council Principles for Silviculture and Reforestation in Elephant Hill

The 2017 Wildfire season has been the most damaging and challenging wildfire season in the Province's history. The Elephant Hill wildfire complex has had severe impacts to the landscape. The recovery of the land and its ecosystems will be guided by the strategic and collaboratively developed recovery plans.

To support silviculture and reforestation, the *Joint Technical Committee*, under the guidance of the *Elephant Hill Wildfire Recovery Joint Leadership Council*, has developed principles for silviculture and reforestation within the Elephant Hill wildfire:

1. Safety is an overarching principle that may influence treatment decisions
2. Reforestation strategies and standards shall consider facilitation of natural succession pathways in consideration of climate change: species, genetic diversity, densities and areas to not reforest (grasslands, natural reforestation)
3. Facilitate natural succession pathways with ecologically appropriate species
4. Deciduous will be maintained within Elephant Hill
   a) Consider deciduous as beneficial (non-deleterious) within Elephant Hill perimeter
5. Post fire salvage harvested stands have to be on the trajectory to pre salvage species composition
6. Reforestation in fire damaged plantations – riparian planting consists of riparian tree species
7. Reforestation strategies that consider variable densities and/or structures across the landscape
8. If trees harvested for safety reasons debris will be left on site and may be piled and stubbing should occur
9. Browse species and culturally important plants should be protected in silviculture activities
10. Stand tending activities will consider variable densities that create landscape diversity for multiple values
11. Wait until salvage complete before doing evaluation of areas of non-salvage forests for recovery except where it can be incorporated into existing work or research
12. Prevent ecological damage
    b) No unauthorized off road vehicle use (all vehicles restricted to the roads and fireguards)
13. These Silviculture principles apply to all reforestation including on rehabilitated roads. Principles and guidance for road/linear disturbance rehabilitation will be provided by the Elephant Hill Wildfire Joint Leadership Council in the near future.

These principles are dynamic and may be improved upon as land based recovery activities progress. The Elephant Hill Wildfire Recovery Joint Leadership Council will work to reach consensus and may modify these principles as needed.

These principles have been endorsed by the Elephant Hill Wildfire Recovery Joint Leadership Council members on July 13, 2018.

APPENDIX 7

Access management principles

The Joint Technical Working Group, under guidance from the Elephant Hill Wildfire Recovery Joint Leadership Council, has developed Access Management Principles for within the Elephant Hill Wildfire perimeter. The principles have been broken down into two categories. Access Principles for New Development which are intended to guide access development during timber salvage at the Cutting Permit level. The second category are Principles for Landscape Level Access Management Planning which are intended to guide access planning at the watershed scale after the majority of the timber salvage planning has been completed.

Access Principles for New Development

- Minimize new road development
  - Utilize existing roads
  - No loop roads
  - No new Connector Road
  - Construct roads to a minimum width and length
- Aim to achieve Net Zero New Roads
  - Create Rehabilitation Plan for each Cutting Permit
  - Plan for temporary roads[1],[2] rehabilitate[3] roads not needed for long term use
  - Where temporary road is required for silviculture access only, consider leaving a quad trail for crew access on rehabilitated roadway
  - Where appropriate, install access controls on new permanent roads
  - Consider roads outside of Cutting Permit for access management to mitigate cumulative effects of new roads
- Manage for invasive Species
  - Complete grass seeding within 1 year of disturbance
  - Manage hydrologic risk
  - Maintain natural drainage patterns
  - Manage for peak flows – increase drainage structure size
  - Enhanced water control, install more waterbars and cross ditches prior to spring freshet
  - Increased inspection frequency of roads and infrastructure
  - Identify issues with existing infrastructure, plan/appraise for upgrade or replacement if needed
- Minimize/avoid roads near sensitive habitats, Ungulate Winter Range, wetlands, fish streams, Wildlife Habitat Areas, or other areas designed to provide for habitat recovery such as Wildlife Tree Retention, and Riparian Reserves

Principles for landscape Level Access Management Planning

- First Nation involvement at all levels of access management including prioritization of watersheds, planning, implementation, and effectiveness monitoring.
- Prioritize watersheds for access management planning
  - Identify environmental risks, values to protect, and cultural significance
  - Complete inventory of roads and infrastructure – roads/km²
  - Use cumulative effects and/or modelling tools to help determine priority
- Collaboration with stakeholders and license holders at planning stage
  - Engage with stakeholders and licensees to determine road use needs

1 Temporary Roads are access structures in a cutblock that do not provide access for future timber harvesting or access to other activities that are outside of the cutblock.

2 Rehabilitate: de-compact soils, redistribute side cast material and coarse woody debris over disturbed area, revegetate exposed mineral soil, and reforest.

3 Permanent Roads are access structures in a cutblock that are needed to provide long term access to future timber harvesting or other activities that are not wholly contained within the cutblock.

- Strategic approach to what roads stay
    - Egress/safety
    - Infrastructure maintenance
    - Recreation
    - Access to resources and existing obligations
- Reduce loop and connector roads
    - Legacy connector and loop roads have high risks to wildlife and cultural values
- Identify other high risk roads and infrastructure
    - Barriers to fish
    - Terrain stability
    - Roads near critical habitat
- Increase Productive Landbase (THLB)
    - Rehabilitate and reforest. Consider alternate species for reforestation where ecologically appropriate (deciduous)
- Public/stakeholders education and outreach
    - Provide opportunity for public to provide input into plan
    - Advertisements and/or information bulletins
    - Signage for information and safety

APPENDIX 8

Additional wildfire recovery resources – links

Seeding of areas burned by wildfires. (July 2017, BC Range Branch)

This document provides an overview of the objectives for and approach to seeding of burnt areas, including potential seed mixes and application rates for different biogeoclimatic zones.

It is available online at: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/rangelands/postfire_wildfire_seeding_revised_2017.pdf

Post-wildfire natural hazards risk analysis: Elephant Hill wildfire (K20637, 2017). SNT Geotechnical, December 2017

This report was commissioned by the FLNRORD Thompson Okanagan Natural Resource District. The project involved desktop and field reconnaissance-based analysis to identify elements (e.g., houses, other assets) at risk and potential hazards such as debris flow channels. A detailed risk analysis was conducted, with recommendations for mitigation measures.

The full report and appendices, including Appendix D: Detailed risk analysis and summary tables, are available online at: https://tnrd.civicweb.net/filepro/documents/140623

Post-natural disturbance forest retention guidance. (January 2018, Office of the Chief Forester and Resource Stewardship Division, FLNRORD)

This document provides guidance for forest professionals to plan and implement retention strategies in areas that have experienced extensive natural disturbance such as wildfire. The report outlines the provincial government's expectation that licensees who will conduct salvage logging will undertake retention planning in full partnership with affected communities (including First Nations). It outlines six points of overarching guidance plus additional guidance for considering human safety, legally protected areas, timber supply, forest health, soil conservation and riparian management.

This guidance supported the salvage principles later developed and issued by the Elephant Hill JTC and JLC. The document is available online at: https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/2017_fire_report_revised.pdf

Douglas-fir beetle sub-group: guidance document and control beetle strategy. (September 2019, Lorraine Maclauchlan and David Majcher, FLNRORD)

The Elephant Hill Douglas-fir beetle sub-committee developed two key documents outlining strategies for the post-wildfire management of Douglas-fir beetle populations in areas within and adjacent to the Elephant Hill wildfire area. These documents identify key forest health objectives post-wildfire, and describe tools (e.g., mass trapping with funnel traps, trap trees and use of MCH pheromone) and control treatment strategies (including survey/monitoring methodologies) for containing and concentrating Douglas-fir beetle in pre-determined areas for salvage harvest, and to protect green tree reserves and other priority areas from Douglas-fir beetle attack.

One document (tools for management) available online at:

https://www.for.gov.bc.ca/ftp/DMH/external/!publish/Forest%20Health/Elephant%20Hill%20Douglas-fir%20Beetle%20Subcommittee/Guidance%20Documents/19-09-03%20DFB%20Subgroup-Tools%20%20LM.docx

Wildfire suppression activities with heavy equipment: construction and rehabilitation guidance. (April 2021, Ministry of Forests, Lands, Natural Resource Operations and Rural Development)

This booklet, developed by the 'Wildfire suppression rehabilitation community of practice', outlines legislative requirements, best practices and guidance for wildfire suppression and rehabilitation activities (e.g., constructing and rehabilitating control lines, managing impacts to sensitive areas and cultural heritage, erosion control) involving the use of heavy equipment.

Section 11: First Nations Collaboration & Critical Works emphasizes the critical importance of collaboration, communication and community engagement with affected First Nations and stakeholders. First Nations collaboration involves establishing partnerships with local First Nations throughout planning, implementation and decision-making processes and requires a close working relationship between the rehabilitation supervisor and local First Nations representatives.

Collaboration, communication and community engagement are integral to the success of conducting rehabilitation activities. Regular and early sharing of information is required. External communication and engagement with affected First Nations and community stakeholders is important during all phases of rehabilitation activities.

First Nations Collaboration

Regional Operations Representative(s) undertaking rehabilitation activities should establish partnerships with local First Nations throughout the planning, decision making and implementation processes. Collaboration should be initiated at the earliest possible opportunity. The Rehabilitation Specialist should determine if any strategic approaches with First Nations are already in place prior to developing a rehabilitation plan.

Archaeological Overview Assessments (AOA) and/or Archaeological Impact Assessments (AIA) may be required prior to initiating rehabilitation works and should be considered during the plan development.

Sharing of information at the earliest possible opportunity is critical to implementation success. This is especially important in situations where there is significant/imminent risk associated with delaying rehabilitation activities.

Critical Works

Critical rehabilitation work includes emergency treatments. This work is critical to:

- minimize identified risks to the public;
- mitigate significant detrimental environmental effects (e.g. sedimentation in fish streams); and,
- mitigate compounding stressors resulting from heavy equipment use (e.g. hunting pressures, new access to private property).

Post-Wildfire Natural Hazards Risk Analysis consists of analyzing potential increased risks to public safety, buildings, and infrastructure from natural hazard events following severe wildfires. This analysis is outside of the scope of wildfire suppression rehabiliation and follows seperate policy & procedures.

Critical Work Best Practice

Critical work addresses situations where significant rainfall events or spring freshet are expected to result in risks to public safety and/or the environment in relation to the constructed control line.

- Mitigation work should be completed as soon as possible and may occur prior to the completion of the rehabilitation plan.
- Communication with affected stakeholders should occur where significant critical work is required.

11 First Nation Collaboration & Critical Works

APPENDIX 9

Declaration on understory in the forests of Secwepemcúl̓ecw

Yeri7 re spellqwlút.s-kucw re syecwmins xwexwéytes k stemi te kwelkúltes ne t7íweltks re Secwepemcúlecw

Te m-sq7es re Secwépemc yecwmíns xwexwéyt re tsreprép ell xwexwéytes k stemi w7ec te kwelkúltes ne lluqwlecw, tri7 tsilem ell re syecwmins-kucw re séwllkwe ne Secwepemcúlecw.

WHEREAS: The people of the Secwepemc Nation have been managing and utilizing the forests including their understory within Secwepemcúlecw since time immemorial.

- Te m-sq7es re syecwmíns-kucw re tmicws-kucw ell re séwllkwe ne Secwepemcúlecw, ell wellnewi7s-kucw re syecwmíntem-kucw. Me7 re syecwmíntem-kucw me7 re syecwmíntels-kucw ell wel me7 yews.
- We have been managing and using the forests since time immemorial.

Tel ri7 wel re tsreprép ell xwexwéytes k stémi w7ec te kwelkúltes ne llúqwlecw m-kectéls-kucw te melámen, te stsíllen, te t7élksten ell te séwllkwes-kucw. Re tmicws-kucw m-kectéls te tmescécen, te swewll ell te spipyúy7e es le7es es wumécst.s-kucw ell es eykemintem-kucw wel me7 yews.

And WHEREAS the forests and waters of Secwepemculecw, including all forest understory plants and non-timber forest products, have provided the Secwepemc economy since time immemorial.

- Te m-sq7es re smetéls-kucw xwexwéyt re stem ne tmicws-kucw yúmell re séwllkwe. Well ye7éne tsilem yeri7 te swumécs-kucw.
- The forests and waters provide our economy (as if it were our life itself)

Pyin k stsilems-kucw ey te m-sq7es, tslexemstém-kucw ey es yecwmíntem xwexwéytes k stemi w7ec te kwelkúltes ne llúqwlecw, ell re tsreprép ell re séwllkwe, es le7es es wumécs re tmescécen, re spipyúy7e ell re swewll, tsílems-kucw wellenwí7s te kectmentsút.s-kucw.

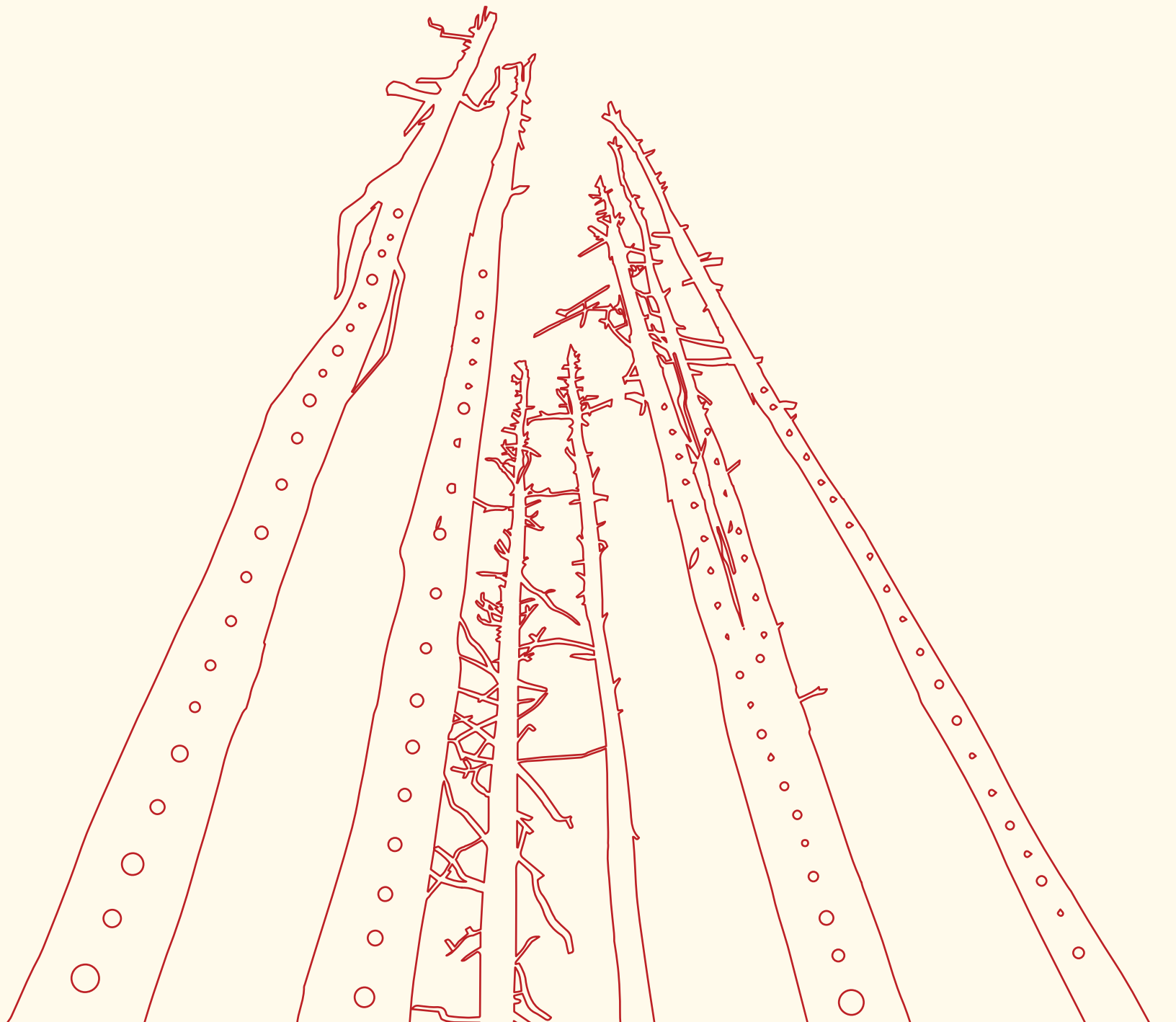
And WHEREAS Secwepemc people continue to manage and utilize all these understory related values including the plants, animals and various habitats within the understory.

- Pyin k stsílems-kucw re syecwmintem xwexwéyt re stem ne tmicws-kucw te metéls.
- We continue to use and manage all the forests, plants and medicines.

Telrí7 re kukúkwpi7s-kucw ell re tkwekwem7íplems-kucw ne Secwepemcúlecw te m-tselilcstem-kucw re spellqwlút.s ne xwexwéytes k stem w7ec te kwelkúltes ne tmicws-kucw. Tsúntem-kucw cú7tsem es yecwmíntem ell es pelqentém re tmicw te m-qwempúlecwmentem te tsertserpúlecw, es tsílems te m-sq7es re spelqúlecwmentem-kucw cu7tsem xwexwéyt re stem, es kúlentem ell es eykeminem-kucw cú7tsem tek melámen, tek stsíllen (speqpéq, s7e7llq, st7íqwelqw, smetqín), ell te t7élkstens-kucw, ell es knúcwentem es wumécs cu7tsem re tmescécen, re spipyuy7e ell re swewll, ell xwexwéyt re stem.

THEREFORE, the Secwepemc Nation as represented by the appropriate caretaker, statutory decision makers declare jurisdiction over the understory within the forests of Secwepemculew and the authority to license, manage and control such values for our use and benefit and for purposes of conservation and enhancement.

- Telri7 yem re stsqeyulecwtels re tqelt kukwpi7 te kectels-kucw re tmicws-kucw es yecwmenulecwmentem re tsreprep, xwexweyt k stemi ne tmicws-kucw ell re sewllkwe te metels-kucw es wumecst.s-kucw wel me7 yews.
- *THEREFORE, we declare the right to use, manage and control all these values.*



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Chapter 4: Understory plant community dynamics and the recovery of culturally significant plants following the Elephant Hill 'megafire'

4.1 Introduction

Fire is a key disturbance agent in many ecosystems worldwide, shaping the global distribution of vegetation and biodiversity, and ecosystem heterogeneity across a range of spatio-temporal scales (Bond, Woodward and Midgley, 2005; McLauchlan *et al.*, 2020; Hoffman *et al.*, 2021). In fire-prone ecosystems, such as the mixed conifer forests of western North America, including British Columbia (BC), Canada, vegetation structure, composition and diversity are strongly influenced by patterns of fire frequency, size, seasonality and severity, collectively referred to as the fire regime (Turner, 2010; Daniels *et al.*, 2017). While humans have long influenced fire regimes (Bowman *et al.*, 2011), recent and rapid anthropogenic impacts are altering fire regimes worldwide, resulting in an increase in size and severity of wildfires (Coops *et al.*, 2018; Hanes *et al.*, 2019; Bowman *et al.*, 2020); a trend that is only expected to increase (United Nations Environment Programme, 2022). Western North America is a global hotspot for these 'megafires', defined as spatially and temporally continuous fires exceeding 10,000 ha in area (Linley *et al.*, 2022), which pose increasing risks to people and ecosystems alike (UN, 2022). Conservation scientists and land managers now highlight concerns that the scale and severity of these megafires may lead to 'catastrophic' vegetation degradation or ecosystem conversion (Stephens *et al.*, 2014; Miller, Root and Safford, 2018; Coop *et al.*, 2020; Nimmo *et al.*, 2022). As such, there is a critical need to better understand how ecosystems are affected by and recover from megafires (Nimmo *et al.*, 2022), including fine-scale vegetation responses (Donovan *et al.*, 2020).

These challenges are particularly prevalent throughout western North America, where increasing evidence points to the role of over a century of fire suppression, exclusion of Indigenous peoples and their fire stewardship practices, and timber-oriented forest management in disrupting historical fire regimes (Hagmann, Franklin and Johnson, 2013; Hagmann *et al.*, 2021; Knight *et al.*, 2022; Levine *et al.*, 2022). In BC, these impacts - brought by European colonization from the mid-1800s - have resulted in widespread fire deficits across many forest ecosystems (Parisien *et al.*, 2020; Hagmann *et al.*, 2021; Baron *et al.*, 2022), with associated impacts of increasing fuels and forest densities (Marcoux *et al.*, 2015; Brookes *et al.*, 2021) and declines in biodiversity. Many fire scientists and land managers are now advocating the need to 'restore fire resilient landscapes' (Hessburg *et al.*, 2015), including through the restoration of historical fire regimes (Hagmann *et al.*, 2021). Simultaneously, western-trained scientists are increasingly recognizing the role of Indigenous cultural burning in shaping historical fire regimes (Copes-Gerbitz, 2021) and associated biodiversity and ecosystem structure (Fletcher, Hall and Alexandra, 2021; Hoffman *et al.*, 2021; Mariani *et al.*, 2022). However, most restoration treatments and fire studies in forest ecosystems have focussed on impacts to canopy structure or fuel densities, with relatively limited attention in the scientific literature to the impacts of fire, including megafires, on understory plant communities (Abella and Springer, 2015).

Better understanding of understory plant community responses to fire is particularly important given the critical contribution of understory plants to biodiversity and ecosystem functioning. In temperate and boreal forest ecosystems, understory plants contribute the majority of vascular plant diversity (Halpern and Spies, 1995; Hart and Chen, 2006; Kerns, Thies and Niwa, 2006), regulate a wide range of ecosystem processes such as nutrient cycling, soil fertility and retention, and energy flow (Gilliam, 2007), and provide habitat and food sources for both

wildlife (Vavra, Walburger and DelCurto, 2005) and human communities. Understory plants are also critical to many Indigenous cultures, as a source of food and medicines and supporting cultural practices and connections to the land (Kuhnlein and Turner, 1991; Deur and Turner, 2005; Turner, Lepofsky and Deur, 2013; Ignace and Ignace, 2017) and have long been managed by Indigenous peoples through frequent, low-severity burning (Gottersfeld, 1994; Turner, 1999; Anderson, 2005; Dickson-Hoyle *et al.*, 2022). Yet, there have been relatively few studies in western North America of understory plant community responses to wildfire, and, to our knowledge, none have examined the responses of culturally significant species (but see some notable examples examining single species' responses to prescribed fire and restoration treatments, e.g., Halpern, 2016; Marks-Block, Lake and Curran, 2019; Hart-Fredeluces, Ticktin and Lake, 2021). Further, most studies have occurred in either the south-western United States, the Californian Sierra Nevada, or, to a lesser extent, in Canadian boreal forests, and many have focussed on ecological responses following prescribed burning or a combination of prescribed fire and other forest management or restoration treatments (e.g., forest thinning), rather than wildfire.

Understory plants exhibit diverse responses to fire, with community-level responses shaped by both the characteristics of the fire, such as duration or severity, and the attributes of species growing in and near the burn area (Kerns, Thies and Niwa, 2006; Fornwalt and Kaufmann, 2014). Fire affects understory plants both directly and indirectly by causing damage to or mortality of pre-existing plants and propagules and increasing the availability of mineral soil substrates and soil nutrients, facilitating regeneration (reviewed by Roberts, 2004; Hart and Chen, 2008). Reduction in canopy cover following high-severity fire has also been shown to significantly drive post-fire understory species composition (Stevens-Rumann and Morgan,

2019; Wilkin *et al.*, 2021), with the loss of cover increasing light availability and intensity, near-surface temperatures, windspeed and transpirational demands, and changing ground microtopography.

Following a fire, recovery can follow three pathways. *In situ* recovery is driven by individuals that survive within the burned area; *ex situ* recovery is driven by off-site colonization from outside the fire footprint; and, nucleated recovery is driven by survivors in fire refugia that remained unburned or burned less severely (Downing *et al.*, 2020; Nimmo *et al.*, 2022). These three pathways are facilitated by a range of plant fire-adaptive traits, such as the capacity to resprout (e.g., from underground structures such as large taproots, corms or rhizomes), fire-cued seed germination or seed dispersal capacity, and availability of and distance to propagule source (Roberts, 2004; Stark, Arsenault and Bradfield, 2006; Clarke *et al.*, 2013; Morgan *et al.*, 2015; Nolan *et al.*, 2021). The immediate period post-fire is often dominated by seral opportunists that can colonize open, disturbed habitats (Halpern, 1989), including exotic species, with previous studies showing that both prescribed fire and high-severity wildfire can facilitate the establishment and spread of exotics (Crawford *et al.*, 2001; Freeman *et al.*, 2007; Dodson, Peterson and Harrod, 2008; Fornwalt, Kaufmann and Stohlgren, 2010). These regeneration traits and associated plant community responses are tightly linked to fire regime attributes. For example, fire-resistant traits such as thick bark may provide an advantage in a frequent, low-severity surface fire regime, but not protect against damage from high-severity crown fire (Midgley, Kruger and Skelton, 2011; Miller and Safford, 2020; Nolan *et al.*, 2021). Fire severity is, therefore, a key driver of understory plant community response and recovery following fire.

Fire severity, defined as the immediate and direct effect of fire on an ecosystem through loss or decomposition of organic matter (Keeley, 2009), is an important driver of understory

plant composition and structure (Huisinga *et al.*, 2005; Abella and Fornwalt, 2015; Burkle, Myers and Belote, 2015; Morgan *et al.*, 2015). However, the effects of fire severity on understory plant communities are not consistent across ecosystems and are relatively poorly understood (Abella and Springer, 2015). Studies across temperate and boreal mixed-conifer forests in western North America variably found that species diversity increased (Huisinga *et al.*, 2005; Abella and Fornwalt, 2015) or decreased (Halpern and Antos, 2022) with high-severity fire; that species richness peaked in low- to moderate-severity burns (Richter *et al.*, 2019); or, that communities in unburned areas either differed (Abella and Fornwalt, 2015; Burkle, Myers and Belote, 2015) or were not compositionally distinct (Day, Carrière and Baltzer, 2017) from burned areas. In their review of different understory community responses to wildfire across the western United States, Miller and Safford (2020) found evidence that understory recovery is contingent upon the historical fire regime. Specifically, they hypothesized that post-fire understory plant richness would be maximised under the disturbance severity associated, historically, with the given ecosystem. For example, in ecosystems historically characterized by a frequent, low-severity fire regime, such as low-elevation dry ponderosa pine forests, high-severity fire would have a negative effect relative to low- or moderate-severity fire (Miller and Safford, 2020). Brodie *et al.* (2020) further demonstrated that productivity mediates the effect of fire severity on understory plants. They found that higher productivity stands were associated with greater post-fire colonization by far-dispersing species due to greater competitive release, through greater changes in light and bare soil availability, in these high productivity areas. However, the lack of either experimental or observational studies examining a continuous fire severity gradient, the limited studies on the effects of wildfire on understory plants across ecosystem types, particularly in western Canada, and the variable findings described above mean

that no conclusive trends can be identified (Abella and Springer, 2015; Miller and Safford, 2020). Better understanding how the full spectrum of fire severity affects ecosystem responses is critical for post-fire ecosystem management (United Nations Environment Programme, 2022), biodiversity conservation and the restoration of fire-adapted and fire-prone forest ecosystems (Hart and Chen, 2008; Keeley, 2009).

In this study, we examined the effects of fire severity on understory plant community dynamics, with a focus on plants of high cultural significance to the Indigenous people of the Secwépemc Nation. The 2017 Elephant Hill wildfire was a mixed-severity megafire in the southern interior of BC, Canada that burned 192,000 hectares (ha) across an elevational gradient including ponderosa pine, interior Douglas-fir and higher-elevation mixed-conifer forests, each characterized by distinct historical fire regimes (Marcoux, Gergel and Daniels, 2013; Hagmann *et al.*, 2021). This fire impacted the traditional and unceded territory of the Secwépemc Nation, Secwepemcúl̓ecw, a vast, ecologically- and culturally-diverse territory that extends over 150,000 km^2 throughout the southern and central interior of so-called BC. The fire directly affected the land under the caretakership of eight Secwépemc communities (First Nations), centred on the territory of Sṯuxwtéws (Bonaparte First Nation). In response to these impacts and concerns over understory plant recovery, these Secwépemc communities issued a *Declaration on the Understory in the Forests of Secwepemcúl̓ecw*, asserting Secwépemc jurisdiction over the understory and the importance of understory plants to Secwépemc people, economies and culture (Dickson-Hoyle and John, 2021). Our opportunistic, observational and collaborative study with Sṯuxwtéws was initiated by former Kukpi7 (Chief) Ryan Day, who invited us to partner with them to help understand the impacts of this fire on these important eco-cultural values and trajectories of ecosystem recovery.

In 2018, we established permanent sampling plots throughout the wildfire and conducted ground assessments of fire severity, which we used to calculate metrics of understory and overstory fire severity along a continuous severity gradient. In 2021, four years post-fire, we returned to sample understory plant communities to determine how fire severity affected understory species richness, diversity, and composition, and whether effects varied across ecosystems with distinct historical fire regimes. We further examined whether understory and overstory fire severity had different effects on post-fire understory community dynamics. Specifically, we hypothesized that:

1. understory native plant species richness and diversity was greatest following low- to moderate-severity fire (relative to high-severity fire) in ecosystems historically characterized by low- to mixed-severity fire regimes, and greatest following high-severity fire (relative to low- to moderate-severity fire) in ecosystems historically characterized by high-severity fire regimes;
2. exotic species richness was greatest following high-severity fire (relative to unburned or low- to moderate-severity fire), and that this is more pronounced in closed-canopy forests with higher pre-fire resource limitations in subalpine ecosystems in our study area; and
3. across all ecosystems, richness of species of high cultural significance was greatest following low- to moderate-severity fire.

4.2 Methods

4.2.1 Study area and context

The study area is the 192,000 ha mixed-severity 'Elephant Hill' megafire, which burned north from the Village of Ashcroft in southern interior BC in 2017 (**Figure 4**). It was the third-

largest fire of the 2017 fire season in BC, which at the time was the largest in terms of area burned, totalling 1.2 million ha throughout the province. The Elephant Hill wildfire burned elevations from approximately 500 m to 1700 m above sea level (m asl), across six zones according to the biogeoclimatic ecosystem classification (BEC) system of BC (Meidinger and Pojar, 1991): Bunchgrass, Ponderosa Pine, Interior Douglas-fir, Montane Spruce, Sub-Boreal Pine Spruce, and Engelmann Spruce – Subalpine Fir. The study area experiences a temperate continental climate, strongly influenced by the rain shadow of the Coast Mountains. Annual average daily temperature ranges from 3.7°C to 4.3°C (14.3°C to 15.5°C in the warmest month of July) and annual precipitation averages 505 to 595 mm (303 to 380 mm rainfall) at Red Lake (50.94 N, -120.8 W, 1162 m asl, south-east of study area) and Bridge Lake (51.5 N, -120.79 W, 1155 m asl, north of study area), respectively (Canadian Climate Normals 1981 - 2010; Government of Canada, no date)

The study area has a long history of both human and natural disturbance. Secwépemc people have lived in and actively managed this landscape for over 10,000 years (Ignace and Ignace, 2017) including through regular, intentional burning to manage understory plant resources (Peacock, Ignace and Turner, 2016; Dickson-Hoyle *et al.*, 2022). Fire history studies conducted in Secwepemcúl̓ecw and in other areas of BC's southern and central interior indicate that, prior to colonial fire exclusion and fire suppression policies introduced in the late 1800s (Christianson, 2015; Copes-Gerbitz, Hagerman and Daniels, 2022) and the increased effectiveness of fire suppression from the early to mid-1900s (Copes-Gerbitz, Hagerman and Daniels, 2022), mean plot-level fire return intervals in forest ecosystems ranged from 10-20 years in low elevation dry forests (Heyerdahl, Lertzman and Karpuk, 2007; Harvey, Smith and Veblen, 2017) to 20-50 years in montane forests (Brookes *et al.*, 2021; Chavardès *et al.*, 2022;

Copes-Gerbitz, Daniels and Hagerman, 2022) with increasing fire return intervals in higher elevation forests, characterized by infrequent, high-severity fire regimes (Marcoux, Gergel and Daniels, 2013). Multiple studies highlight not only the influence of low- and mixed-severity fire regimes throughout many of interior BC's forest ecosystems, but also the importance of Indigenous cultural burning in shaping historical fire regimes. Since the early 20th century, a focus by the provincial government on fire suppression and managing forests for timber values has led to a disruption of these historical fire regimes (Copes-Gerbitz, Hagerman and Daniels, 2022). Extensive logging and cattle grazing have also impacted, and continue to impact, the study area.

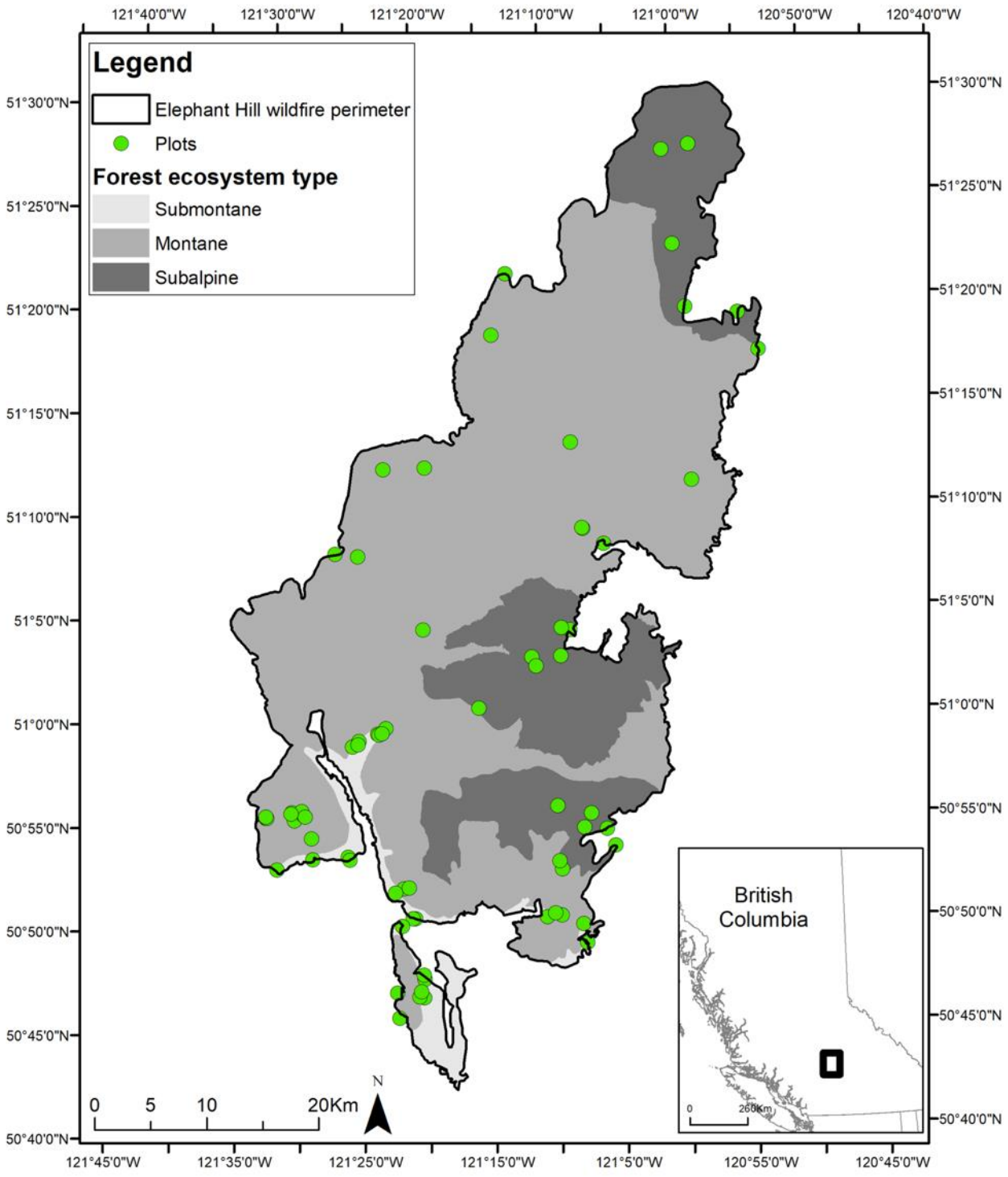

Figure 4: Study area map, showing the distribution of forest types within the Elephant Hill wildfire perimeter and the location of understory plant plots (n=66).

4.2.2 Field sampling

In 2018 we selected and established plots throughout the Elephant Hill wildfire boundary using a stratified-random sampling design (**Figure 4**). We stratified the study area based on forest type (submontane, montane, and subalpine, **Figure 5** and **Figure 6**) along elevation and corresponding temperature-moisture gradients, modified by aspect, and fire-severity class (unburned, low, moderate, high) based on differenced normalized burn ratio (dNBR) derived from remotely sensed images taken before and after the fire.

The three forest types were as follows: 1) The submontane forests included low-elevation (approximately 475 – 900 m asl) sites in hot-dry climates, with open-canopy forests dominated by *Pinus ponderosa* (ponderosa pine) or *Pseudotsuga menziesii* var. *glauca* (interior Douglas-fir) and corresponded to the Ponderosa Pine BEC zone; 2) The montane forests included mid-elevation (approximately 800 – 1200 m asl) sites in warm-dry to mesic climates, with closed-canopy forests dominated by interior Douglas-fir. Montane forests corresponded to the Interior Douglas-fir BEC zone and were the dominant ecosystem across the study area; and 3) The subalpine forests included high-elevation (approximately 1000 – 1700 m) plateaus with cool-mesic climates and closed-canopy forests dominated by *Pinus contorta* var. *latifolia* (lodgepole pine) or *Picea engelmannii x glauca* (hybrid white spruce), with *Abies lasiocarpa* (subalpine fir) co-dominant at the highest elevations. Subalpine forests corresponded to the Montane Spruce, Sub-Boreal Pine Spruce, and Engelmann Spruce – Subalpine Fir BEC zones. Due to extensive logging across the high-elevation plateaus, the subalpine forests included areas of planted lodgepole pine. At the northern extent of the study area, the montane and subalpine forest types included stands dominated by the deciduous species *Populus tremuloides* (trembling aspen). Across interior BC, these three forest types were historically characterized by frequent, low-

severity fire regimes; mixed-severity fire regimes; and infrequent, high-severity fire regimes, respectively (Marcoux, Gergel and Daniels, 2013; Marcoux *et al.*, 2015; Pogue, 2017; Copes-Gerbitz, 2021; Chavardès *et al.*, 2022).

Plot centres were randomly generated between 50 m and 500 m from roads to minimize road edge effects while optimizing accessibility. We aimed for a minimum of five plots per forest ecosystem x fire severity class (total of 60 plots). However, the dominance of the montane forests throughout the study area, the reclassification of fire severity class for multiple plots following field verification (see below), and the incorporation of nine additional plots from a related study, resulted in departure from a fully balanced design, and a total of 64 plots.

Figure 5: Unburned plots within the submontane (top), montane (middle) and subalpine (below) forest types. Photos taken in 2018, one-year post-fire.

Figure 6: Plots within the submontane (top), montane (middle) and subalpine (below) forest types that burned at high severity. Photos taken in 2018, one-year post-fire.

To verify fire severity, in 2018 (one-year post-fire) we sampled fire impacts on five strata, using nested circular plots sampled around plot centre. The five strata were 1) ground layer (substrates and woody debris); 2) herbs, ferns, mosses and bryophytes; 3) shrubs; 4) sub-canopy trees; and 5) canopy trees. Within a 5.64-m radius plot, we recorded the percent of ground that was scorched and exposed mineral soil, and the depth of burn class (Ryan, 1982). Woody debris, including stems and branches with diameter > 1cm, were sampled along two perpendicular 30 m transects crossing at plot centre. For each plot, we recorded the percent of wood pieces that were charred. We also assessed three understory plant strata (mosses and bryophytes; herbs and ferns; and shrubs) in the 5.64-m radius plot. For each plant stratum, we estimated the percent of plants that were discolored, damaged or killed by fire. An 11.28-m radius plot was used to assess large trees (diameter at breast height (DBH) >12.5 cm). To sample 15-20 small trees (5 cm < DBH ≤ 12.5 cm) we used a plot radius of either 5.64-m or 3.99-m, depending on tree density. For each live tree or snag with intact branches or bark (decay classes 3 or 4, (Thomas, 1979), which were assumed to have been killed by the fire, we recorded the following three attributes: bark char height (m); percent crown scorch (to nearest 10%, based on estimate of percentage space occupied by pre-fire crown); and crown scorch using a qualitative scale assessed in terms of crown discoloration as follows: 0: unaffected, green; 1: very light, green/yellow; 2: light, yellow; 3: medium, orange/red; 4: severe, brown/black; 5: no foliage, dead prior to fire.

Between June and August 2021 (four-years post-fire), we sampled understory plant composition and abundance in the 64 existing plots, plus in two additional unburned plots established in the montane forest type as this class was under-represented (n = 66 plots). At each plot, species and abundances were recorded in four 1.128-m radius subplots, each located at one

end of the two 30-m transects crossing at plot centre. We visually estimated percent canopy cover for each live vascular species, excluding tree species, rooted in the subplots. Species with less than 1% cover were recorded as 0.5% cover. If a plant could not be identified to species level in the field, a specimen of the same species was collected and later identified. All vascular plants were recorded to the species level except for a small number of species including *Salix* spp., five *Carex* spp., and a number of plants in the Poaceae family or *Hieracium* genus for which there was insufficient vegetative or reproductive material. Nomenclature follows, and nativity was determined using, E-Flora BC – electronic atlas of the flora of British Columbia (*E-Flora BC: Electronic Atlas of the Flora of British Columbia*, no date).

Each species was categorized into one of three functional groups (forbs, graminoids and woody plants) and as either native or exotic. I further categorized all plants according to their level of 'cultural significance' by cross-referencing our species list with a database of culturally significant plant species provided under a data sharing agreement by Skeetchestn Natural Resources, the natural resource corporation of Skeetchestn Indian Band, a Secwépemc community whose territory overlaps with the Elephant Hill wildfire. This database includes uses of plants (e.g., medicinal, food, technological) and levels of 'significance' (high, medium, or low) to Skeetchestn community members.

4.2.3 Composite burn index calculation and fire severity reclassification

Fire severity is often measured as the percentage of tree canopy mortality (Hagmann *et al.*, 2021). However, given the variable effects of fire on different structural layers, it is important to quantify severity at multiple levels, for example on the forest floor, understory vegetation and forest canopy (Roberts, 2004). We calculated a composite burn index (CBI) for each plot, by modifying the methods developed by Key and Benson (2006) to minimize

assumptions of pre-fire vegetation abundance and condition. Using field data, we calculated CBI scores (continuous scale of 0 to 3) for the five strata described above (referred to as A-E in **Table S1**) and averaged these scores to calculate an overall CBI value for each plot. This index encompasses multiple variables often assessed as drivers of understory plant community response, such as bare ground or reduction in canopy cover. For the purposes of this study, I also calculated 'understory CBI' as the average of CBI components A-C (fire impacts on the ground layer, herbs, ferns, mosses and bryophytes, and shrubs) and 'overstory CBI' as the average of components D-E (fire impacts on the sub-canopy and canopy).

The original plot-level fire-severity classes were reclassified based on CBI values as follows: unburned ≤ 0.50; low severity $0.50 < \text{CBI} \leq 1.50$; moderate severity $1.50 < \text{CBI} \leq 2.50$; high severity $2.50 <$. Based on this classification there were 17 unburned plots, five plots that burned at low-severity, 10 plots at moderate-severity, and 34 plots that burned at high-severity. Due to the low number of low-severity plots, for the purposes of linear regression modelling, a combined 'low-moderate' severity class was used (n=15); separate low- and moderate-severity classes were retained for indicator species analysis and ordination analysis.

4.2.4 Statistical analyses

Understory species total richness was calculated as the number of species recorded within the four 1.128-m radius subplots at each plot (combined total for each plot, 16 m^2 total area). For each plot, I also calculated the richness of the subsets of native, exotic, and high cultural significance species. Alpha diversity of all species was calculated for each plot using the Shannon-Weiner index:

$$H^I = - \sum (p_i)(\ln p_i)$$

where H^I is the Shannon-Weiner index number measuring uncertainty/unpredictability and p_i is the proportion of all individuals that belong to species *i*.

Understory species richness (total, native, exotic and high cultural significance) and diversity (total) were modelled as functions of understory CBI or overstory CBI, which were fit separately because they were significantly correlated ($p<0.001$), forest type, and their interactions. For total, native, exotic, and high cultural significance species richness, I fitted Poisson-distributed generalized linear models; I tested for overdispersion and used a quasi-Poisson distribution in the case of overdispersion. For species diversity, I fitted multiple linear regression models. All models were then refit with fire severity classes in place of understory or overstory CBI to explore any differential effects compared to the continuous CBI variables, and as severity classes are more commonly referred to in the literature and used to inform management. All data were tested for normality and heteroscedasticity of residuals.

I conducted significance tests using the anova function (Type I Sum of Squares) on all models to test for significant explanatory terms. If an interaction term was not significant, the respective model was re-fit without this interaction term and the significance test conducted again. I then conducted post-hoc Tukey's tests to determine differences in model-fitted means among forest ecosystem types and/or fire severity classes using emmeans::emmeans (Russell *et al.*, 2022), or among understory CBI or overstory CBI slope coefficients among forest ecosystem types (i.e., the interaction term) using emmeans::emtrends.

I conducted indicator species analysis using the 'indicspecies' package (De Cáceres, Jansen and Dell, 2022) to test the strength of correlations between the abundance of understory vascular plant species at the plot scale and fire severity classes. Indicator species for each fire severity class, defined as those that are found mostly within a defined severity class and present

in the majority of plots within that severity class (Dufrêne and Legendre, 1997), were identified by calculating an indicator value index.

I conducted non-metric multidimensional scaling (NMDS) to assess differences in community composition, using species abundance data for each plot, among fire severity classes. A three-dimensional solution was selected by plotting stress against the number of dimensions (vegan::dimcheckMDS) to optimize dimensionality and model fit (McCune, Grace and Urban, 2002); stress for the three-dimensional solution was 0.14. Data values were transformed using a Wisconsin double standardization and square root transformation. Distance was calculated using Bray-Curtis dissimilarity metric for species abundance (cover) data from 66 plots; rare species were not removed (Poos and Jackson, 2012). A single ordination, with a maximum of 100 iterations, was performed (vegan:: metaMDS) and converged after 20 iterations. Result scaling was standardized to facilitate interpretation by centring, applying principal components rotation, and half-change scaling. Species scores were added to the final solution as weighted averages.

Each point on the ordination plot represents a single plot in community composition space. Points closer to each other have more similar understory species composition than points farther apart. Species labels were added to the ordination; points closer to a species label have a relatively higher proportion of that species than points further away. I added covariance ellipses, using vegan::veganCovEllipse, to visualize plot groupings by fire-severity class. I compared community composition among fire-severity classes (unburned, low, moderate, high) using an analysis of similarities (ANOSIM) test with Bray-Curtis distance and 9999 permutations (vegan::anosim). Multivariate analyses were conducted using the vegan package (Oksanen *et al.*, 2022).

All analyses were conducted in R version 4.1.2 (R Core Team, 2022) with $\alpha = 0.05$.

4.3 Results

I recorded 195 understory plant species across the 66 plots, comprising 127 forb species, 39 graminoids and 28 woody species (shrubs and subshrubs). One hundred and fifty-four (79%) species are native, 33 (17%) are exotic, and eight species (4%) could only be identified to family or genus level and could not be confirmed as native or exotic. Three species – *Centaurea stoebe* subsp. *micranthos* (spotted knapweed), *Cirsium arvense* (Canada thistle) and *Sonchus arvensis* (perennial sowthistle) – are classified as noxious weeds in the Province of BC and an additional two species – *Cirsium vulgare* (bull thistle) and *Tracopogon dubius* (yellow salsify) – are identified as invasive plants of concern in BC (Invasive Species Council of BC, 2021). Ninety-eight (50%) of the species have a documented and ongoing traditional use by Secwépemc people, such as for food, medicinal or technological purposes, and 31 species (16%) are identified by Skeetchestn as being of *high* cultural significance. Of these 31 species, 13 (42%) are perennial forbs and 18 (58%) are shrubs; eight (26%) were recorded in only one plot.

Across all plots the most frequently recorded species were *Achillea millefolium* (yarrow, 75% of plots), *Epilobium angustifolium* (fireweed, 74%), *Taraxacum officinale* (common dandelion, 73%; an exotic species), *Calamagrostis rubescens* (pinegrass, 68%) and *Rosa acicularis* (prickly rose, 62%). The most frequent species of high cultural significance were prickly rose, *Fragaria virginiana* (wild strawberry, 48% of plots), *Eurybia conspicua* (showy aster, 41%), *Arctostaphylos uva-ursi* (kinnikinnick, 35%) and *Salix* spp. (willows, 29%). A large proportion of species (n = 112 or 57%) were rare, being recorded in three plots or fewer; 65 species (33%) were recorded in only one plot.

4.3.1 Local species richness and diversity

Native species richness averaged 15 species per plot (± 0.76 SE) compared to an average of 3 (±0.30) exotic species per plot (**Table 1**). The highest mean native species richness was recorded in unburned plots (18±1.85) and plots that burned at low-severity (18±1.80). In contrast, mean exotic species richness was greatest in plots that burned at low (4±1.03) or high-severity (4±0.38) and least across unburned plots (2±0.66). Richness of species of high cultural significance was greatest in low-severity plots and least in high-severity plots. Plots in the subalpine forest type had the highest mean richness values for native species (20±1.62) and species of high cultural significance (6±0.59), while mean richness of exotic species was greatest in the submontane forest type (5±0.52). Across all plots, exotic species averaged 17% (±1.58%) of total richness; one or more exotic species was recorded in 82% of submontane plots.

Table 1: Native, high cultural significance and exotic species richness (means and standard errors) for each fire severity class and forest type, based on raw data. Species richness values rounded to integers.

	Species richness (mean, SE)		
	Native species	**High cultural significance species**	**Exotic species**
Fire severity class			
Unburned (n = 17)	18 (1.85)	4 (0.54)	2 (0.66)
Low (n = 5)	18 (1.80)	6 (0.97)	4 (1.03)
Moderate (n = 14)	14 (1.66)	4 (0.63)	3 (0.68)
High (n = 30)	13 (0.89)	3 (0.58)	4 (0.38)
Forest type			
Submontane (n= 22)	12 (0.87)	3 (0.36)	5 (0.52)
Montane (n= 27)	14 (0.99)	4 (0.38)	3 (0.34)
Subalpine (n= 17)	20 (1.62)	6 (0.59)	2 (0.55)

Species richness was significantly related to understory CBI, overstory CBI, and varied among forest types, although the magnitude and direction of CBI effects varied among total, native, culturally significant, and exotic species (**Figure 7**). Overall, total species richness was negatively affected by understory CBI (p=0.023) but was not clearly affected by overstory CBI

(p=0.074). Among forest types, total species richness was higher in subalpine forests compared to submontane (p=0.051, p=0.036) or montane (p=0.032, p=0.030) forests, when modeled as a function of understory and overstory CBI, respectively. Richness of both native species (p<0.001, p=0.002) and those of high cultural significance (p=0.002, p=0.016) decreased with increasing understory and overstory CBI, respectively. For both native species and species of high cultural significance, the magnitude of the effects of understory and overstory CBI were similar. For every point increase in understory or overstory CBI, native species richness decreased by a factor of 0.92 (95% CI = 0.86, 0.98) and 0.93 (95% CI = 0.86, 0.99) respectively, and high cultural significance species richness decreased by a factor of 0.90 (95% CI = 0.82, 0.99) and 0.92 (95% CI = 0.83, 1.0) respectively. Native species richness was higher in subalpine forests compared to submontane (p<0.001) or montane forests (p=0.002) when modelled as a function of understory and overstory CBI. High cultural significance species richness was also higher in subalpine forests compared to submontane (p<0.001) or montane forests (p=0.020, p=0.016) when modelled as a function of understory and overstory CBI, respectively.

Both understory and overstory CBI significantly interacted with forest type (p=0.009, p=0.008) to affect exotic species richness. For each unit increase in understory CBI, exotic species richness increased by factors of 1.11 (95% CI = 0.92, 1.35) in submontane forests and 1.35 (95% CI = 1.08, 1.69) in montane forests, but decreased by a factor of 0.79 (95% CI = 0.59, 1.04) in subalpine forests. In comparison, for each unit increase in overstory CBI, exotic species richness increased by factors of 1.11 (95% CI = 0.91, 1.35) in submontane forests and 1.47 (95% CI = 1.14, 1.90) in montane forests, but decreased by a factor of 0.81 (95% CI = 0.61, 1.09) in subalpine forests. The magnitude of the effect of overstory CBI was approximately 10% greater than the effect of understory CBI in montane forests. The effect of understory CBI on exotic

species richness was significantly greater in montane than in subalpine forests (p=0.009). However, the 95% confidence intervals for the slope coefficients for understory and overstory CBI in submontane and subalpine forests indicated uncertainty as to the effect on exotic species richness. Exotic species richness in a plot with average understory or overstory CBI was predicted to be 4.35 (95% CI = 3.51, 5.40) or 4.41 (95% CI = 3.58, 5.43) in submontane forests, 2.53 (95% CI = 1.98, 3.24) or 2.46 (95% CI = 1.91, 3.17) in montane forests, and 1.46 (95% CI = 0.94, 2.26) or 1.52 (95% CI = 1.0, 2.32) in subalpine forests.

ANOVAs indicated that richness of native (p=0.008) and high cultural significance (p=0.018) species differed significantly among fire severity class (**Figure 8**), while total species richness (p=0.200) did not. Model-fitted mean richness of native and high cultural significance species were lowest for plots that burned at high-severity (14, 95% CI = 12.2, 15.6; 3, 95% CI = 2.68, 3.93, respectively, with means rounded to the nearest integer); however, no significant pairwise contrasts were detected among severity classes. Fire severity and forest type interacted such that mean exotic species richness was lower in unburned plots (<1, 95% CI = 0.16, 1.55) compared to plots that burned at low- to moderate-severity (4, 95% CI = 2.51, 5.22, p=0.003) or high-severity (3, 95% CI = 2.32, 4.28, p=0.006) in the montane forests (**Figure 9**).

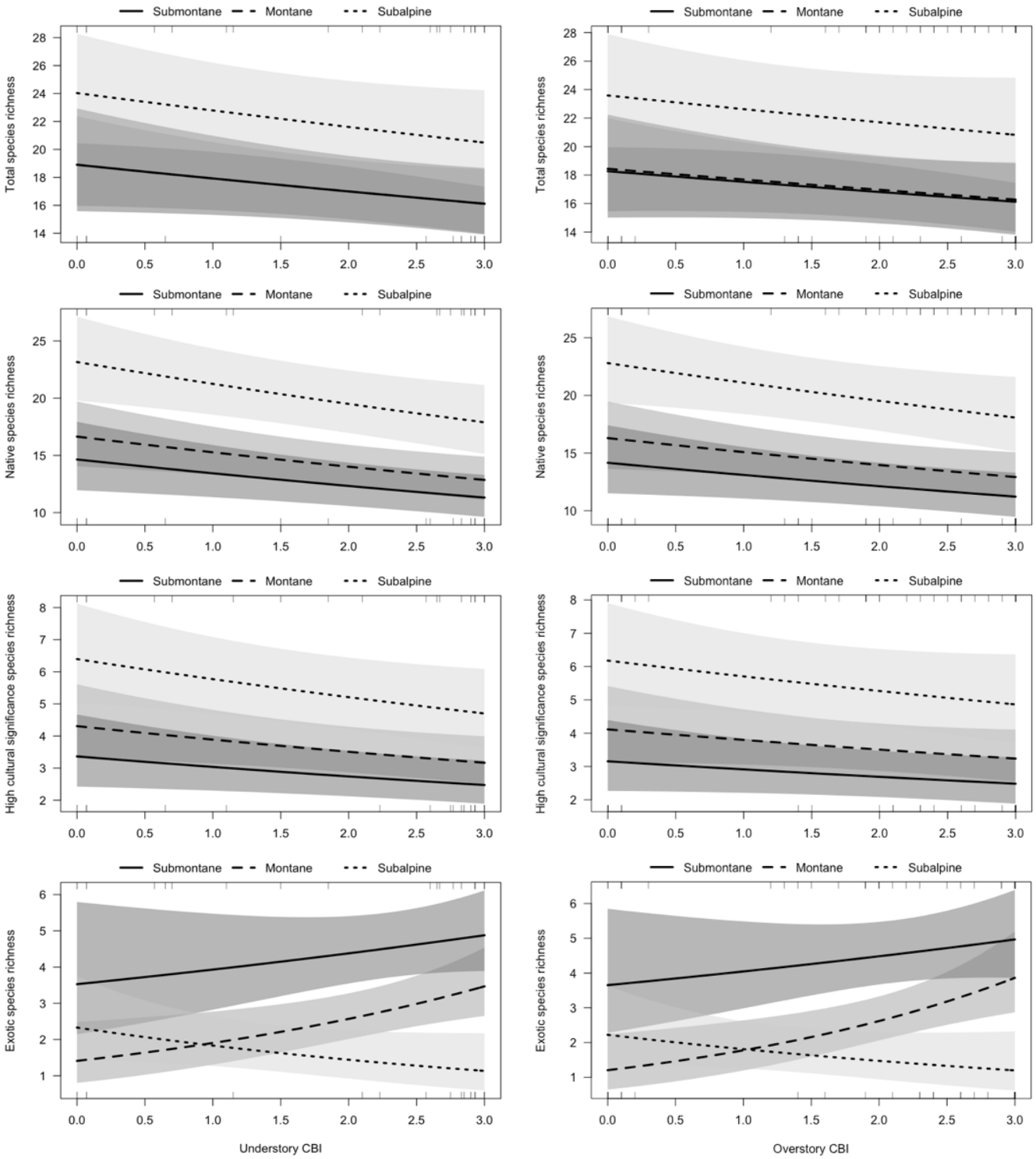

Figure 7 a-h: Modelled effects of composite burn index (CBI) and forest type on species richness. Left and right panels show effects of understory and overstory CBI, respectively, with varied effects on total (top row), native (second row), high cultural significance (third row) and exotic (bottom row) species richness. Submontane, n=22; montane, n=27; and subalpine, n=17. Note differences in y-axes scales for each figure.

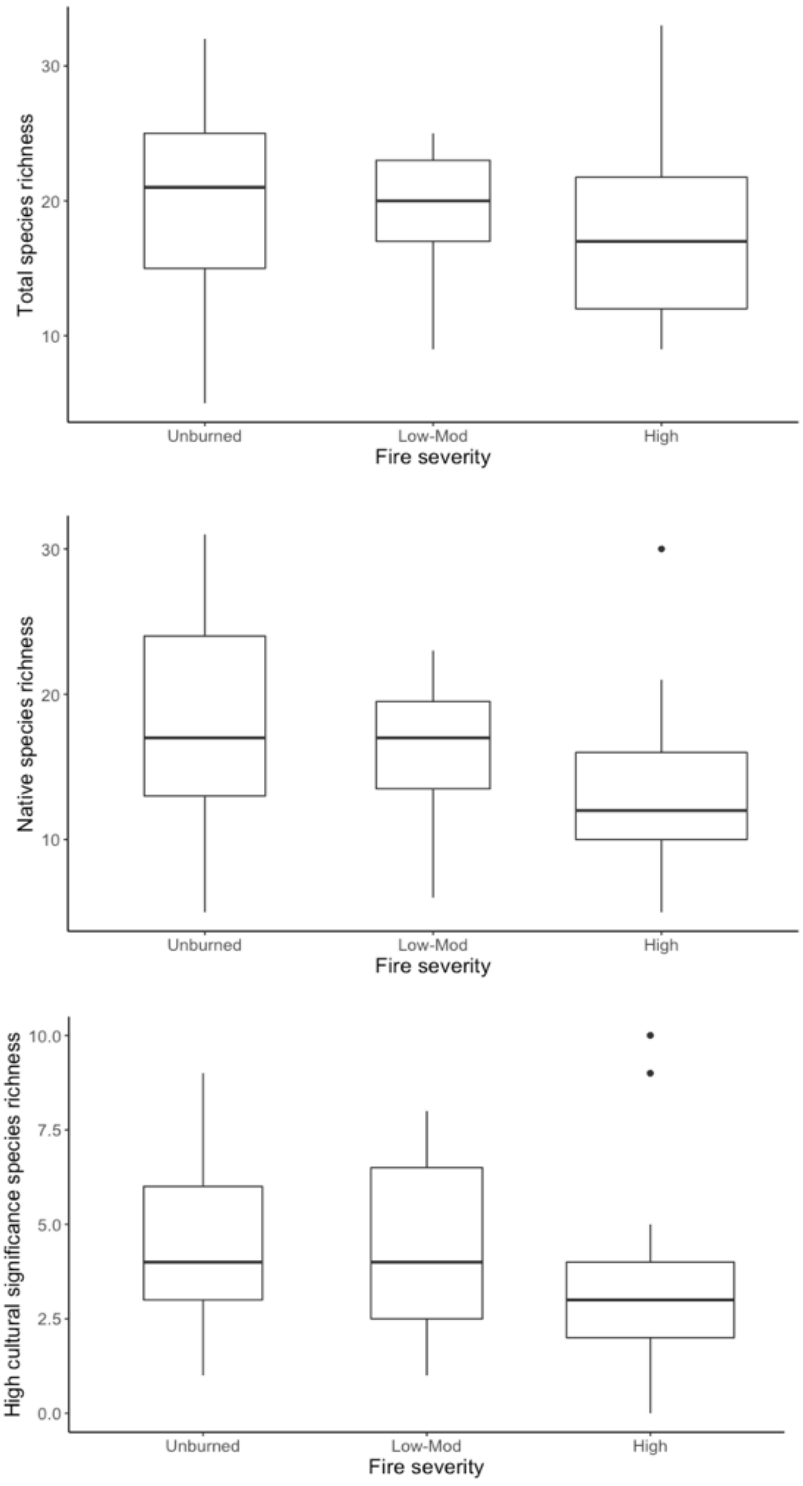

Figure 8 a-c: Species richness by fire severity class. Effects vary among total (top row), native (middle row), and high cultural significance (bottom row) species. Boxplots summarize data for 17 unburned, 15 low-moderate severity and 34 high severity plots. Boxplot midlines show median values; upper and lower limit of boxes correspond to 75th and 25th percentiles, respectively; whiskers extend from upper and lower limit of boxes no further than 1.5 inter-quartile ranges; data beyond the whiskers are outliers and plotted individually. Note differences in y-axis scale for 8c.

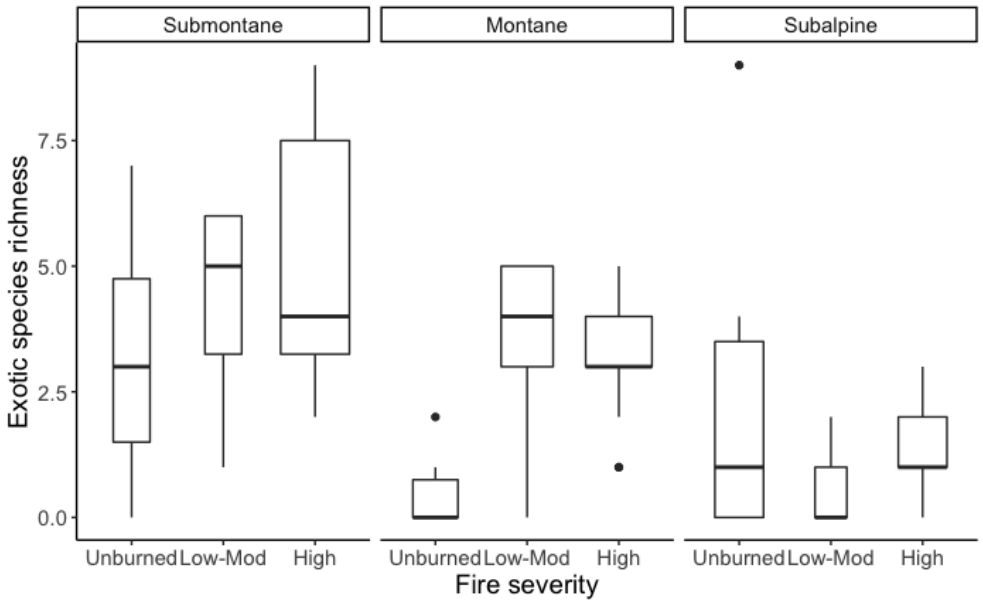

Figure 9: Variable effects of fire severity class on exotic species richness, across forest types. Boxplot midlines show median values; upper and lower limit of boxes correspond to 75th and 25th percentiles, respectively; whiskers extend from upper and lower limit of boxes no further than 1.5 inter-quartile ranges; data beyond the whiskers are outliers and plotted individually. For submontane: unburned n= 4, low-moderate severity n = 4, high severity n = 14; montane: unburned n= 6, low-moderate severity n = 8, high severity n = 13; subalpine: unburned n= 7, low-moderate severity n = 3, high severity n = 7.

Understory CBI interacted with forest type (p=0.041) to affect total species diversity (**Figure 10**). For each unit increase in understory CBI, diversity increased by a factor of 0.078 (95% CI = -0.099, 0.257) in submontane forests, but decreased by a factor of 0.179 (95% CI = -0.323, -0.034) in montane forests and by a factor of 0.210 (95% CI = -0.381, -0.039) in subalpine forests. However, the 95% confidence intervals for the slope coefficient for understory CBI in submontane forests indicate uncertainty as to the effect on total diversity. In contrast, total species diversity was not affected by overstory CBI (p=0.174) or fire severity class (p=0.189).

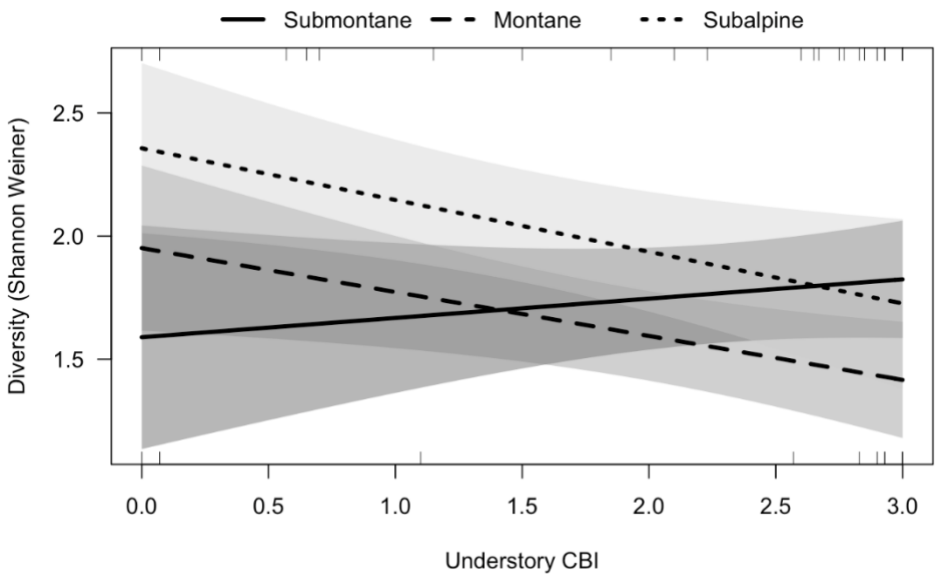

Figure 10: Modelled effects of understory composite burn index (CBI) and forest type on total species diversity (Shannon Weiner index). Submontane, n=22; montane, n=27; and subalpine, n=17.

4.3.2 Indicator species

Ten indicator species of fire severity were identified that distinguished fire absence from presence, or a combination of severity classes ranging from unburned to moderate-severity (**Table 2**). Nine of the fire severity indicator species are forbs and one is a woody species. Three of the indicator species are of high cultural significance, all of which indicated relatively low-severity fire (i.e., two indicated only low-severity and one indicated unburned to moderate-severity fire). In addition, *Epilobium angustifolium* (fireweed) was identified as an indicator of burned sites. While this species is listed as being of 'medium' cultural significance and was not included in our analyses of species of high cultural significance, some Secwépemc people consider it an important medicinal plant (M. Ignace, *pers. comm.* 2022). Two indicator species are exotic, one of which indicated high-severity fire.

Table 2: Indicator species of fire severity. Species of high cultural significance are indicated by one asterisk (*); exotic species are indicated by two asterisks (**). Specificity is the probability that the plot belongs to the fire severity class, given that the species has been found. Fidelity is the probability of finding the species in plots belonging to the particular fire severity class. Species with values of '1' are considered to have complete specificity or fidelity. The indicator value is the product of these two components.

Fire severity class **Species scientific name (common name)**	**Specificity**	**Fidelity**	**Indicator value**	***p*-value**
Unburned				
Lathyrus nevadensis (purple peavine)	1.0	0.24	0.24	0.039
Low-severity				
*Balsamorhiza sagittata** (arrow-leaved balsamroot)	0.84	0.60	0.50	0.002
*Penstemon fruticosus** (shrubby penstemon)	0.76	0.40	0.30	0.034
Sedum lanceolatum (lance-leaved stonecrop)	0.87	0.40	0.35	0.020
High-severity				
Crepis tectorum (annual hawksbeard)**	0.90	0.41	0.61	0.038
Unburned, low- and moderate-severity				
*Fragaria virginiana** (wild strawberry)	0.86	0.63	0.54	0.045
Symphyotrichum foliaceum (leafy aster)	0.94	0.47	0.44	0.021
Burned: Low-, moderate- and high-severity				
Epilobium angustifolium (fireweed)	0.98	0.86	0.84	0.002
Epilobium brachycarpum (tall annual willowherb)	1.0	0.43	0.43	0.035
*Taraxacum officinale*** (common dandelion)	0.91	0.84	0.76	0.013

4.3.3 Community composition

NMDS revealed distinct differences in understory plant community composition between unburned and high-severity classes (**Figure 11**). While low- and moderate-severity plots showed a high degree of similarity in community composition, there was a degree of separation from the unburned and high-severity classes. ANOSIM found a significant effect of fire severity class (R= 0.146, p=0.008) on understory plant community composition, corroborating the differences between unburned and high-severity classes. Further, across all fire severity classes, subalpine plots tended to cluster along axis 1 of the NMDS, separated from plots in submontane or montane ecosystems (**Figure 11**).

Of all species considered in the ordination, 54 contributed significantly to differences in community composition: 49 of these are native and five are exotic species. Thirteen species are of high cultural significance, nine (69%) of which are shrubs and the majority of which are closely associated with unburned plots or low-severity plots. All exotic species are associated with plots that burned at moderate- to high-severity; these include annual hawksbeard and common dandelion, identified above as indicators of high-severity fire and burned plots, respectively.

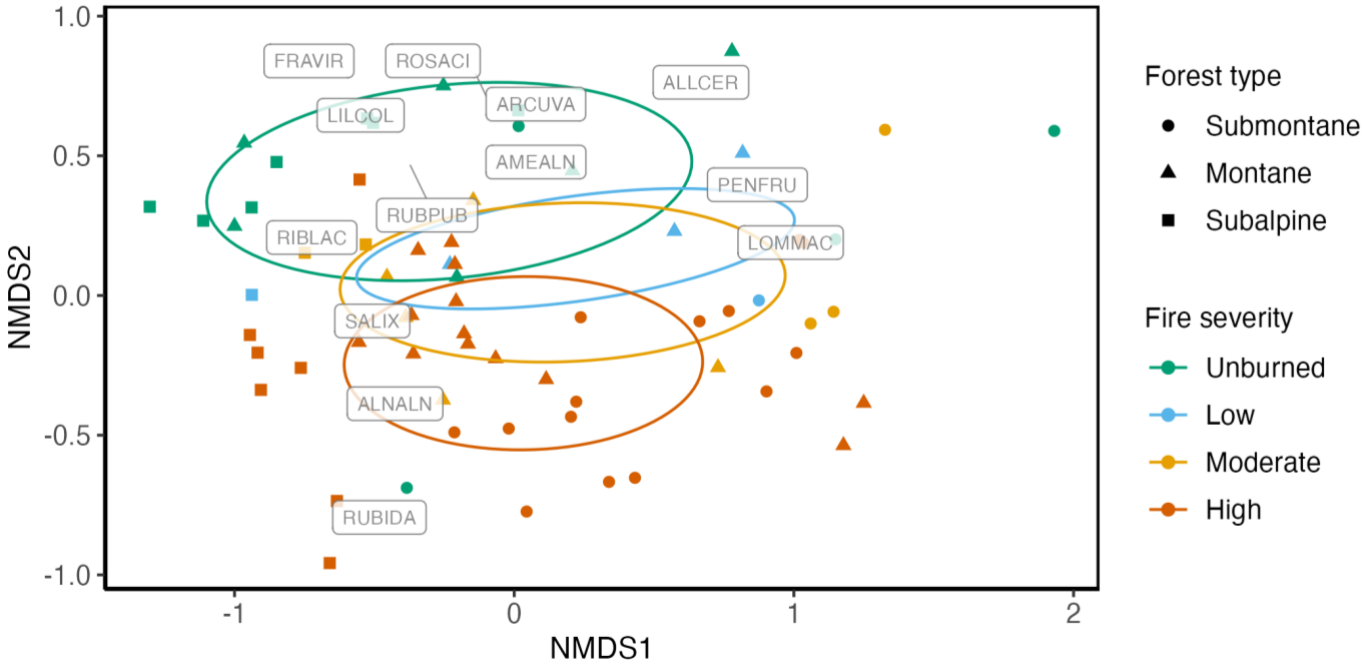

Figure 11: NMDS bi-plot of plant community composition data across all plots. Each point represents a single plot (n=66), with ellipses visualizing clustering of plots within each fire severity class; species labels for species of high cultural significance are overlaid. Species associated with abbreviated species codes can be found in Table S2.

4.4 Discussion

4.4.1 High-severity fire negatively impacts native species richness, diversity, and composition across forest types

Across all forest types in the study area – characterized by distinct low-, mixed- or high-severity fire regimes - native species richness declined with increasing fire severity, as measured by understory and overstory CBI. Further, total species diversity declined with increasing understory CBI in montane and subalpine forests. These consistent results across forest types, characterized by distinct historical fire regimes, contrasts with our hypothesis and a growing body of literature demonstrating that the effect of fire severity on understory plant diversity and composition is contingent upon the historical fire regime that shaped plant evolutionary processes (Richter *et al.*, 2019; Miller and Safford, 2020; Brodie, Miller and Safford, 2021). For example, Richter *et al.* (2019), in their study of understory plant community response following eight wildfires in ponderosa pine and mixed-conifer forests in California, found that local diversity exhibited a unimodal pattern along a fire severity gradient, peaking at moderate fire severity. In contrast, studies in forests historically characterized by infrequent, high-severity fire have shown a positive relationship between species richness and fire severity (Miller and Safford, 2020; Brodie, Miller and Safford, 2021).

Both understory and overstory CBI, indicators of surface and crown fire severity, respectively, had a negative effect on native species richness. Native species richness was lowest in plots that burned at high-severity compared to unburned or low-moderate fire severity plots. Contrary to our expectations, this was also the case in the subalpine forests that are characterized by an infrequent, high-severity fire regime. These effects were reflected in the NMDS analysis, which showed a lack of similarity in species composition between unburned and high-severity

plots, across all forest types, four years after fire. Multiple studies from similar ecosystems across western North America suggest that understory plant species richness tends to plateau within approximately three to five years after fire (Wang and Kemball, 2005; Day, Carrière and Baltzer, 2017). However, Abella and Fornwalt (2015) found minimal convergence to pre-fire composition following moderate to high severity fire over a ten-year period. In the context of our study, the lower diversity and native species richness associated with higher-severity fire, and the compositional dissimilarity between unburned plots and those that burned at high-severity, demonstrate low resilience to and limited short-term understory recovery following high-severity fire.

The hypothesis that historical fire regimes mediate the effect of fire on understory communities is contingent on contemporary disturbances being within the historical range of variability (Stephens *et al.*, 2014; Brodie, Miller and Safford, 2021). The negative effects of increasing fire severity on native plant richness and total diversity in subalpine forests in our study area may be due in part to the extensive, contiguous patches that burned at high-severity, which characterized this megafire. The extent of these patches has likely increased the distance to off-site seed source, potentially beyond the dispersal capacity of species that would otherwise drive off-site colonization in these forest types (Nolan *et al.*, 2021). The effects of fire in this landscape were also likely influenced by the presence of pre-existing disturbances, in particular clear-cut logging and insect outbreaks, potentially contributing to slower post-fire recovery.

4.4.2 Exotic species richness increases post-fire in montane forests

There was a strong positive relationship between exotic species richness and understory and overstory CBI in the montane forests, supporting our hypothesis that exotic richness would be greatest following high-severity fire. This finding is consistent with previous studies in dry

mixed-conifer forests in the western United States, which also reported an increase in exotic species following fire (Fornwalt, Kaufmann and Stohlgren, 2010; Abella and Fornwalt, 2015), or higher exotic species richness in areas that burned at high-severity compared to unburned areas (Crawford *et al.*, 2001; Freeman *et al.*, 2007). The increase in exotic species has been attributed to the post-fire increase in the availability of light and bare mineral soil, due to reduction in canopy cover and consumption of litter and duff on the forest floor. The stronger effect of overstory CBI relative to understory CBI on exotic species richness indicates that reduced canopy cover facilitated establishment of exotic species post-fire. Other effects of tree mortality, such as increased surface microtopography from tip-up mounds or increased coarse woody debris (Roberts, 2004), potentially enhanced these effects.

The finding of uncertain, but potentially negative, effect of fire severity on exotic species richness in subalpine forests is contrary to our hypothesis that the positive relationship between fire severity and exotic species would be greatest in closed-canopy and more light-limited subalpine forests in our study area. This hypothesis was supported by Brodie *et al.* (2021) in their study of post-fire understory plant community response in California's subalpine forests. They found that short-lived and far-dispersing colonizer species showed a greater increase with increasing fire severity than long-lived and near-dispersing species, and this pattern was more pronounced in higher productivity stands, where competitive exclusion may have reduced the pre-fire richness of colonizer species. In contrast, in the subalpine forests in our study area, exotic species richness was not affected by fire severity. This is potentially due to similar reasons as described above, namely the extensive, contiguous patches that burned at high-severity that likely pose a limitation to off-site seed dispersal.

The lack of a clear effect of fire severity on exotic species in the submontane forests in our study area also contrasts with previous findings. For example, Crawford *et al.* (2001), Dodson and Fiedler (2006) and Freeman *et al.* (2007) all demonstrated a significant increase in the richness or abundance of exotic species following either wildfire or prescribed burning in dry ponderosa pine forests. While this effect of fire severity was not apparent in our study, overall exotic species richness was higher throughout the submontane (ponderosa pine-dominated) forest type. Presence of exotic species may be the result of interacting disturbances across these lower elevations, such as cattle grazing, rangeland seeding with pasture grasses, and proximity to roads, all of which can facilitate spread of exotic species (Christen and Matlack, 2009; Peppin *et al.*, 2010; Meunier and Lavoie, 2012; Pyke, Wirth and Beyers, 2013)

Post-fire conditions favour colonizer species that rapidly establish following disturbance and take advantage of reduced competition (Freeman *et al.*, 2007; Morgan *et al.*, 2015; Brodie, Miller and Safford, 2021). While we did not explicitly test for the effect of fire severity on colonizer-type species - those with short lifespans and long-distance dispersal capabilities - approximately 50% of the 33 exotic species we recorded were short-lived (annual or biennial) forbs or graminoids. One such species was *Crepis tectorum* (annual hawksbeard), which was recorded in 16 plots, and was both indicative of high-severity fire (**Table 2**) and strongly associated with plots that burned at high-severity fire (**Figure 11**). The invasive annual graminoid *Bromus tectorum* (cheatgrass) was also recorded in 14 plots. While Strand *et al.* (2019) found that cheatgrass was more likely to occur in areas that burned at low- or moderate-severity, this species was predominantly recorded in my study area in plots that burned at high-severity (n = 7 or 50% of plots), with the remainder spread relatively evenly across unburned plots and plots that burned at low- or moderate-severity. Cheatgrass can also be introduced

through post-fire rehabilitation of fireguards and infrastructure reconstruction (Fornwalt, Kaufmann and Stohlgren, 2010), which were extensive across my study area. This invasive species rapidly establishes and spreads following fire and can create positive feedbacks, with even a low cover of cheatgrass increasing fire risk (Balch *et al.*, 2013; Bradley *et al.*, 2018; Peeler and Smithwick, 2018). This ability of non-native invasives to survive or colonize following high-severity fire, and to alter fire regimes, is significant given concerns about potential climate and disturbance-driven range expansions of exotic species throughout western North America.

While exotic species richness and cover in our study area were relatively low (average 17% and 4% of total richness and cover, respectively), previous studies have shown that exotics tend to increase in abundance over time following moderate- and high-severity fire (Dodson, Peterson and Harrod, 2008; Fornwalt, Kaufmann and Stohlgren, 2010; Abella and Fornwalt, 2015). The ability of exotic species to persist and potentially increase following fire, contributing to the seed bank and ultimately excluding native species, poses a challenge for future management or restoration. Invasive species such as *Cirsium vulgare* (bull thistle, n = 6 plots) and *Tracopogon dubius* (yellow salsify, n = 21 plots) can further impede ecosystem recovery by outcompeting and restricting growth of ponderosa pine seedlings (Randall and Rejmánek, 1993). This is of particular concern considering the abundance of exotic species following fire in the montane plots, and the dominance of this ecosystem type in our study area and in other parts of interior BC recently burned by similarly large, severe wildfires (BC Wildfire Service, 2021). Given the lack of long-term research on exotic plant species response following mixed-severity wildfire in either BC or the western United States, continued monitoring of exotics is needed to better understand long-term implications and patterns of invasion.

4.4.3 The ecological and cultural significance of low-severity fire and subalpine forests

Across all ecosystems, richness of species of high cultural significance was negatively affected by both understory and overstory CBI. Richness was also significantly affected by fire severity class: richness was greatest in areas that burned at low–moderate severity and lowest in areas that burned at high-severity, supporting our hypothesis that richness of high cultural significance species would be greatest following low- to moderate-severity fire. The absence of significant differences among severity classes may arise from merging low- and moderate-severity classes due to the limited low-severity fire within our study area. Further, the absence of meaningful contrasts may be the result of a persistent unbalanced sampling design arising from adjustments in severity class following field assessments.

Four high cultural significance indicator species were also associated with either low-severity fire or a combination of unburned, low- and moderate-severity fire. One of these species was *Balsamorhiza sagittata* (arrow-leaved balsamroot), which provided a significant food source for Secwépemc people (Peacock et al. 2016) (**Table 2**). The cultural keystone species *Lomatium macrocarpum* (large-fruited desert parsley) was also associated with plots that burned at low- and moderate-severity, based on compositional analysis. Both of these species have the capacity to resprout from large taproots and were historically managed through frequent burning at approximately 5-10 year intervals (Peacock, Ignace and Turner, 2016), and members of the Skeetchestn Secwépemc community continue to burn to promote *L. macrocarpum*, among other cultural keystone species (Dickson-Hoyle *et al.*, 2022).

This practice of frequent, low-severity burning was, and in many places continues to be, a common form of vegetation management by Secwépemc people and other Indigenous peoples throughout western North America, used to promote berry production (Turner, 1999; Lepofsky *et*

al., 2005), increase the quality of construction and basketry materials (Anderson, 2005; Marks-Block, Lake and Curran, 2019) and promote regeneration of herbaceous food and medicine plants (Stewart, 2009; Dickson-Hoyle *et al.*, 2022). Our results support the role of low- to moderate-severity fire in stimulating the regeneration of such species, and the need to support Indigenous peoples in revitalizing their traditional roles and practices of fire stewardship (Hoffman *et al.*, 2022b), including to restore traditional plant resources.

In contrast, richness of high cultural significance plants was lowest in areas that burned at high severity in our study area. This pattern is of concern given the large extent of high-severity effects within the fire perimeter, and subsequent high-severity megafires burning near our study area in 2018 and 2021 (BC Wildfire Service, 2021). In addition to the direct negative impacts of high-severity fire on cultural plant resources, representatives from Skeetchestn and other Secwépemc communities have expressed concern that the extensive reduction in unburned area in their territory is limiting the potential for reintroducing cultural or prescribed burning, and therefore restoration (S. Freeman, *pers. comm.* 2022).

It is noteworthy that overall richness of species of high cultural significance was greatest in the subalpine forests. This finding reinforces both the ecological and cultural importance of high elevation landscapes for the Secwépemc and other Indigenous peoples in interior BC (Tyhurst, 1992; Reimer, 2000; Lepofsky *et al.*, 2005; Turner, Deur and Mellott, 2011). Existing research on Indigenous stewardship of cultural plants in interior BC has often focussed on riverine valleys and low- to mid-elevation grasslands and dry forests, yielding rich archaeological and ethnobotanical records for these ecosystems. Our research complements these studies and provides new insights into the contemporary availability of culturally important plants in subalpine ecosystems.

The three plots with the highest richness of high cultural significance species were all in subalpine forests. Most high cultural significance species in these plots were woody species, including *Alnus alnobetula* subsp. *sinuata* (sitka alder) and berry-producing shrubs such as *Rubus idaeus* (red raspberry), *Rubus parviflorus* (thimbleberry) and *Ribes lacustre* (black gooseberry). These species are all relatively resistant to fire kill, able to resprout from surviving rhizomes and root crowns (Haeussler, Coates and Mather, 1990; US Forest Service, 2022). Studies have shown significant increases in the cover of these species following fire – even severe fire – and germination from both *in situ* seed beds and offsite colonization through avian-mediated seed dispersal (Haeussler, Coates and Mather, 1990). The resilience of these shrubs to high-severity fire is reflected in our results, that the two plots with highest richness of high cultural significance species burned at high-severity, although it should be noted that one of these plots was in a riparian area and therefore likely had higher pre-fire cultural species richness, and potentially faster recovery. However, while we observed vigorous resprouting of sitka alder and willows, observationally many of the culturally significant shrubs recorded in plots that burned at high-severity were seedlings, immature plants or plants that were resprouting but had relatively low vegetative cover. As such, at four years post-fire, high species richness does not necessarily correspond to high use value such as high berry production.

This diversity of plant resources in subalpine forests adds support, in the form of contemporary ecological evidence, to the importance and practice of a 'seasonal round', where Indigenous stewardship practices create "patches of resources distributed over both time and space" (Peacock, Ignace and Turner, 2016: 196). Turner, Ignace and Peacock (2016: 9) describe how, as part of this seasonal round in Secwepemcúl̓ecw, "families traveled around their territories in a patterned seasonal round, stopping and camping, sometimes for weeks at a

time…to harvest and preserve the meat, roots, berries, and other resources they needed for year 'round living". The Secwépemc seasonal round and calendar (Ignace, 2014) traces these plant resources throughout the year, from *Pesll7éwten*, the "melting month" (April), when the first plant shoots come out and early root plants are dug, through *Pelltqelqél'tkemc,* "getting ripe month" (July to early August), when numerous berries ripen and people harvest medicines in the high plateau, to *Pesqelqlélten*, the "many salmon month" (August to early September), when berries are harvested at higher elevations. However, as indicated above, the quantitative metrics of species richness, cover or diversity don't indicate quality or condition, as defined by resource users (e.g., medicinal properties, suitability as construction material, berry production and taste), of these plants following fire.

4.5 Conclusions and management implications

Our study offers novel and salient insights into the recovery of understory plant communities following a mixed-severity megafire in British Columbia, Canada, with a focus on plants of high cultural significance to local Indigenous people. In doing so, this study responds to recent calls for a new 'megafire ecology' that better understands the effects of exceptionally large fires on species, communities and ecosystems (Nimmo *et al.*, 2022).

Composite burn index, as a measure of fire severity, was a significant driver of species richness and diversity across all forest types, with native species richness negatively affected by increasing severity, and total diversity negatively affected by understory CBI in both montane and subalpine forests. Our results show that, four years post-fire, richness of native species and species of high cultural significance are significantly different among severity classes, and that there are also significant compositional differences based on fire severity class. These findings, consistent across submontane, montane and subalpine forests characterized by distinct historical

fire regimes, contrast with previous studies and ecological theory that predict that understory plant response to fire is contingent on the historical disturbance regime that shaped the respective ecosystem (Miller and Safford, 2020). The negative relationship between fire severity and species richness and diversity, even in the subalpine forests in our study area that were historically characterized by infrequent, high-severity fire, highlights how recent megafires may be pushing these ecosystems outside of the historical range of variability, with negative implications for ecosystem recovery. Ongoing monitoring, including of exotic species, is required to understand longer-term trends and assess ecosystem resilience to high-severity megafires.

These results also have implications for the management and restoration of fire-prone ecosystems throughout western North America, including the restoration of historical fire regimes and systems of Indigenous fire stewardship that shaped these landscapes. Due to the dominance of moderate- and high-severity fire across our study area, we were unable to quantify the effect of low-severity fire on species richness or diversity. However, given the important role of frequent, low-severity Indigenous burning in managing plant resources, there is a critical need for research examining plant responses to low-severity fire, including to cultural and prescribed burning. Further collaborative fire history studies in interior forest ecosystems typically thought of as being characterized by infrequent, high-severity fire regimes – the subalpine forests in our study area – are needed to better understand the role of cultural burning in these systems. Further, given the richness of culturally significant plants in the subalpine forests, which have been subject to compounding disturbances of high-severity wildfire, clearcut logging and insect outbreaks, there is a critical need to protect and restore these high elevation ecosystems and

acknowledge the longstanding Indigenous use across these landscapes. As stated in the Secwépemc *Declaration on Understory Within the Forests of Secwepemcúl̓ecw:*

Yeri7 re spellqwlút.s-kucw re syecwmins xwexwéytes k stemi te kwelk̓últes ne t7íweltks re Secwepemcúl̓ecw

Te m-sq̓7es re Secwépemc yecwmíns xwexwéyt re tsreprép ell xwexwéytes k stem̓i w7ec te kwelk̓últes ne lluqwlecw, t̓ri7 ts̓ilem ell re syecwmíns re séwllkwe ne Secwepemcúl̓ecw

(The people of the Secwépemc Nation have been managing and utilizing the forests including their understory, and have looked after the water within Secwepemcúl̓ecw since time immemorial)

Better understanding the response of culturally significant plants to fire also requires adapting monitoring approaches to better capture variables of interest to Indigenous community members and resource users. This study only examined the response of a subset of species with identified medicinal, food, technological or other uses by Secwépemc people; that is, plants identified by one Secwépemc community as being of 'high' cultural significance, that could be integrated into the existing study design. In contrast, our ongoing collaborative research with Secwépemc communities is prioritizing the development of culturally relevant monitoring protocols and deeper community engagement to better assess the impact of recent (2021) megafires on culturally significant plants and other eco-cultural values throughout Secwepemcúl̓ecw, acknowledging the limitations of dominant science approaches to answering these questions. As megafires continue to impact ecosystems and human communities alike, collaborative monitoring and research approaches like this, that deploy a new form of 'transdisciplinary fire ecology' (Coughlan and Petty, 2012) and ethically draw on both western

and Indigenous sciences, are needed to better understand human-fire-landscape interactions and supporting Indigenous-led revitalization of fire and plant stewardship.

Supplemental tables

Table S1: Thresholds for modified CBI calculations

	No effect	Low		Moderate		High	
	0	**0.5**	**1**	**1.5**	**2**	**2.5**	**3**
A. Substrates							
a1: Depth of burn class * percent scorch/100	0	0.1-0.5	0.6-1.0	1.1-1.5	1.6-2.0	2.1-2.5	2.6-3.0
a2: Percent exposed mineral soil	0%	1-10%	11-20%	21-40%	41-60%	61-80%	≥81%
a3: Percent scorched fuel pieces	0%	1-20%	21-40%	41-60%	61-80%	81-99%	100%
B. Herbs and Ferns/Moss bryophytes							
b1: Moss/bryophyte % altered	0%	1-20%	21-40%	41-70%	71-90%	91-99%	100%
b2: Herbs/ferns % altered	0%	1-20%	21-40%	41-70%	71-90%	91-99%	100%
C. Shrubs (1-2 m)							
Shrubs % altered	0%	1-10%	11-30%	31-60%	61-95%	96-99%	100%
D. Lower Canopy							
% foliage unaltered by fire	100%	86-99%	71-85%	51-70%	11-50%	1-10%	0%
% discolored by fire	0%	1-5%	6-20%	21-40%	41-80%	81-99%	100%
% foliage completely burned	0%	1-5%	6-20%	21-50%	51-85%	86-99%	100%
% tree mortality	0%	1-10%	11-30%	31-50%	51-70%	71-99%	100%
Char Height	0m	0.1-0.9m	1-1.9m	2-2.4m	2.5-3.5m	3.6-5m	>5m
E. Upper Canopy							
% green (Unaltered)	100%	96-99%	73-95%	51-72%	11-50%	1-10%	0%
% discolored by fire	0%	1-5%	6-10%	11-30%	31-70%	71-99%	100%
% foliage completely burned	0%	1-5%	6-10%	11-40%	41-80%	81-99%	100%
% tree mortality	0%	1-10%	11-30%	31-50%	51-70%	71-99%	100%
Char height	0m	0.1-1.2m	1.3-2.4m	2.5-3.8m	3.9-5m	5-7m	>7m

Table S2: Abbreviations for NMDS species, as labelled on Figure 11

Species code	Scientific name	Common name
ALLCER	*Allium cernuum*	Nodding onion
ALNALN	*Alnus alnobetula* subsp. *sinuata*	Sitka alder
AMEALN	*Amelanchier alnifolia*	Saskatoon
ARCUVA	*Arctostaphylos uva-ursi*	Kinnikinnick
FRAVIR	*Fragaria virginiana*	Wild strawberry
LILCOL	*Lilium columbianum*	Tiger lily
LOMMAC	*Lomatium macrocarpum*	Large-fruited desert parsley
PENFRU	*Penstemon fruticosus*	Shrubby penstemon
RIBLAC	*Ribes lacustre*	Black gooseberry
ROSACI	*Rosa acicularis*	Prickly rose
RUBIDA	*Rubus ideaus*	Red raspberry
RUBPUB	*Rubus pubescens*	Dwarf red raspberry
SALIX	*Salix* spp.	Willows

Chapter 5: 'Walking on two legs': a pathway of Indigenous restoration and reconciliation in fire landscapes

"We have an important word x7ensqt. *And that word means that if you don't respect the land, look after the land properly, the land will turn on you. And we see that today, that people are not honouring the land, and respecting the land. So we're seeing great fires burning…the land is turning on us."*

Kukwpi7 Stsmél'qen (Ronald E. Ignace)

In the summer of 2017, megafires burned a record-breaking 1.2 million hectares in British Columbia (BC), Canada, driven by climate change combined with the legacies of a century of fire suppression and forest management. The Elephant Hill megafire was among the largest, burning 192,000 hectares in the heartland of the Indigenous Secwépemc Nation. This fire caused widespread evacuations and ongoing impacts to ecosystems and human wellbeing. In 2021, Secwepemc communities and territories were once again devastated by widespread wildfires. While Secwépemc people witnessed the devastation to their/our territories, Indigenous communities worldwide were already starkly aware of how colonial forest management, informed by western state and scientific knowledge systems that are deeply connected to colonization of lands and minds, had failed. With accelerating impacts of climate change altering fire regimes and compounding the ongoing impacts of colonization on Indigenous communities, there is a critical need to restore relationships of respect and reciprocity with the land through the interconnected processes of Indigenous-led restoration and reconciliation.

5.1 Drivers of change in the UN Decade on Ecosystem Restoration

Worldwide, Indigenous peoples are leading the revitalization of their/our cultures through the restoration of ecosystems in which they are embedded, including in response to megafires like Elephant Hill. Simultaneously, international policy communities are increasingly promoting restoration alongside conservation to achieve multiple ecological and social objectives (Aronson and Alexander, 2013), reflected in the declaration of 2021-2030 as the United Nations Decade on Ecosystem Restoration ('UN Decade'). While there is growing recognition that just and effective conservation is only possible through partnerships with, or led by, Indigenous peoples (Artelle *et al.*, 2019), decolonizing approaches to restoration have received insufficient attention (Reyes-García *et al.*, 2020). The UN Decade presents a timely opportunity to strengthen the critical and active roles of Indigenous peoples in ecological restoration to advance the theory and practice of the field and restore biodiversity and human wellbeing throughout Indigenous territories.

The UN Decade also comes at a time when growing Indigenous-led movements are calling for governments to uphold Indigenous rights, titles and treaties (Wong *et al.*, 2020; United Nations Department of Economic and Social Affairs, 2021). Concurrently, many settler-colonial governments are committing to reconciliation with Indigenous peoples and to implementing the *United Nations Declaration on the Rights of Indigenous Peoples* (UNDRIP). UNDRIP recognizes the urgent need to respect and promote the rights of Indigenous peoples, including rights to self-determination (Article 3); maintain traditional knowledge and cultural expressions (31.1); and determine and develop priorities and strategies for the use of their lands or territories (32.1) including, we argue, restoration.

The Canadian Truth and Reconciliation Commission (TRC) identifies UNDRIP as the framework for reconciliation across all levels and sectors of Canadian society. The TRC outlines

key principles for reconciliation including respecting Indigenous rights, taking action to address ongoing legacies of colonialism, and supporting cultural revitalization (Truth and Reconciliation Commission of Canada, 2015). However, while reconciliation has been broadly described as an ongoing process of "restoring and rebuilding relationships" (Short, 2005: 268) through truth telling and restorative justice, Indigenous conceptualizations of reconciliation extend beyond relationships with humans to include "reconciliation with the natural world" (Elder Reg Crowshoe, Truth and Reconciliation Commission of Canada, 2015; Finegan, 2018; McGregor, 2018). Beyond reconciliation, decolonization "specifically requires the repatriation of Indigenous land and life" (Tuck and Yang, 2012: 21). Decolonizing restoration requires creating space within institutions and processes for Indigenous peoples, communities and governments to "do things their own way" (Fox *et al.*, 2017: 531), and explicitly addressing the continuation of governments and industries asserting control over Indigenous lands.

As one of myriad pathways of reconciliation, restoration carries the potential to address the impacts of colonial, state-driven conservation that frequently and often violently dispossessed Indigenous peoples from their/our traditional lands (Finegan, 2018; Artelle *et al.*, 2019). We build on the recent calls to action for natural scientists (Wong *et al.*, 2020) by advocating that restoration scientists and practitioners must better understand the socio-cultural and political contexts in which restoration occurs, and that restoration and reconciliation must be guided by the Indigenous peoples in whose territories these processes are taking place. However, as Indigenous and non-Indigenous scholars and practitioners, we acknowledge that many non-Indigenous, western-trained scientists are uncertain as to their individual and collective roles in advancing reconciliation, or how to respectfully engage with Indigenous communities. Here, we introduce the concept of "walking on two legs" to guide readers in upholding respectful

relationships with Indigenous peoples – relationships that "are contingent upon the cessation of colonial harms...[and] restoring Indigenous governance of our territories" (McCoy *et al.*, 2020) – and to support Indigenous-led restoration and reconciliation.

We ground this discussion in the fire-adapted ecosystems of western Canada and draw on our experiences working with and for Secwépemc communities in unceded and traditional Secwépemc territory (Secwepemcúl̓ecw). Ronald E. Ignace is an Elder from the Secwépemc Nation who has long advocated for empowerment of Indigenous peoples through education and training based on Indigenous knowledge and stewardship; Marianne Ignace is a resident of the Skeetchestn community in the Secwépemc Nation who for decades has conducted community-based research in language revitalization and ethnoecology, based at Simon Fraser University; I, and my colleague Kelsey Copes-Gerbitz, are early career settler scholars at the University of British Columbia working with and for Secwépemc communities on fire histories, wildfire recovery and restoration; and Lori Daniels and Shannon Hagerman are non-Indigenous faculty at UBC leading research in forest ecology and dendrochronology, and human dimensions of conservation, respectively.

After tracing the emergence of Indigenous-centered approaches to restoration and describing the concept of walking on two legs, we illustrate its potential for bringing together diverse ways of knowing and transforming approaches to restoration research and practice. Finally, we consider how commitments to reconciliation with Indigenous peoples, and increasing occurrences of megafires, offer an opportunity to advance Indigenous-led restoration in fire-adapted landscapes.

5.2 Evolving ideas in restoration ecology and the emergence of Indigenous-centred restoration

Restoration ecology has evolved from its earlier mechanistic approach focussed on returning ecosystems to a defined historical state that theoretically existed prior to human disturbance, to restoring ecological function and processes in dynamic systems (Higgs *et al.*, 2014; Krievins, Plummer and Baird, 2019). However, the persistent framing of restoration as recovery of an ecosystem to a self-sustaining state (SER, 2004), free from human disturbance or intervention, erases the historical and ongoing role of Indigenous stewardship practices and knowledge systems inherent to these ecosystems. This is particularly problematic in the context of restoring fire-adapted ecosystems throughout western North America, where fire scientists and land managers are advocating for restoration of fire-resilient landscapes, including restoring historical fire regimes and related ecological processes that confer ecosystem resilience (Hessburg *et al.*, 2015). It is also increasingly acknowledged that many of these landscapes were shaped by a long history of Indigenous fire stewardship (Lake and Christianson, 2019; Hoffman *et al.*, 2021). For example, burning was a common form of vegetation management by Indigenous peoples, including the Secwépemc, across the dry forests and grasslands of BC. Fire stimulated the growth of important food and medicine plants and ungulate forage and created the "well-kept park-like" appearance noted by 19th century surveyors (Turner, 1999; Lepofsky *et al.*, 2005; Peacock, Ignace and Turner, 2016). Indigenous burning was outlawed in BC in the late 19th century, followed by more than a century of colonial fire suppression that further disrupted historical fire regimes (Heyerdahl, Lertzman and Wong, 2012; Marcoux, Gergel and Daniels, 2013). Future restoration of such fire-adapted ecosystems must therefore support Indigenous

peoples in reclaiming fire and land stewardship practices and be informed by diverse knowledges of the ecological and cultural histories of place.

The growing attention in both research and policy on Indigenous fire stewardship follows decades of western scientists, policymakers and practitioners seeking to integrate Indigenous knowledges (including 'traditional ecological knowledge', TEK) into natural resource management. Recently, the *International Principles and Standards for the Practice of Ecological Restoration* (Gann *et al.*, 2019) recognized the need to draw on multiple types of knowledge, including TEK, to guide restoration. Indigenous Elders, activists and scholars emphasize that Indigenous knowledges are inseparably connected to and embedded within long-standing interrelationships between Indigenous peoples and ancestral landscapes and languages (Cajete, 2000; Turner, Ignace and Ignace, 2000; Whyte, Brewer and Johnson, 2016). However, land and natural resource management in settler-colonial countries is still largely framed in a western scientific worldview (Bohensky and Maru, 2011), with restoration projects organized around top-down, 'expert' driven processes (Fox and Cundill, 2018). Indigenous knowledges are often viewed as discrete information that can "fill gaps in scientific understanding" (Popp, Priadka and Kozmik, 2019: 163) and fit within existing management institutions without ceding power to Indigenous peoples (Spak, 2005). Within this power imbalance and simplified binary between 'Indigenous knowledge' and 'science', Indigenous knowledges are often only accepted when 'verified' or 'validated' by western science. These extractivist approaches maintain the (perceived) dominance of western science over Indigenous knowledges and perpetuate the linked processes of ecological and epistemological degradation (Lake *et al.*, 2018; Vásquez-Fernández and Ahenakew pii tai poo ta, 2020).

To mitigate these risks to Indigenous knowledges and counter the western worldview that places humans outside of nature, Indigenous-centered models of restoration instead highlight the interdependencies between ecological and cultural systems and the importance of land, biodiversity and ecosystem health for Indigenous wellbeing, identities and knowledge systems (Kimmerer, 2011; Martinez, 2018). Ecocultural restoration explicitly includes humans as active participants in restored landscapes through recovering "ecosystem structure, composition, processes, and function, along with traditional, time-tested, ecologically appropriate and sustainable Indigenous cultural practices that helped shape ecosystems…in a way that ensures the survival of both Indigenous ecosystems and culture" (Martinez, 2018: 170-171). Similarly, Kimmerer (2011) describes reciprocal restoration as an approach grounded in an Indigenous worldview and associated principles of reciprocity, kincentric relationships, respect and responsibility. Guided by the cultures and knowledges of Indigenous peoples, and led by Indigenous communities, these approaches often focus on revitalizing values such as cultural keystone species and places and traditional food systems, and encompass language and knowledge revitalization goals (Garibaldi and Turner, 2004; Pilgrim, Samson and Pretty, 2009; Tipa and Nelson, 2017).

Kimmerer highlights the potential of reciprocal restoration to support non-Indigenous societies in re-engaging with their responsibilities to, and participating in the wellbeing of, land. However, ensuring the ability of Indigenous peoples to exercise these stewardship roles and rights to land is critical. Just as Indigenous knowledges and stewardship systems must be reclaimed in and by Indigenous communities, Indigenous communities need to be physically, intellectually, spiritually and politically present throughout the restoration process, from project design through implementation (Fox *et al.*, 2017). Restoration, therefore, must move beyond a

technical or commodified practice to bridge science and culture (Higgs, 2005) and form part of broader political movements of reconciliation, decolonization and Indigenous self-determination.

5.3 Walking on two legs: an Indigenous framework to guide restoration and reconciliation

Advancing reconciliation and the field of restoration ecology requires (re)building relationships of reciprocity and respect between Indigenous and non-Indigenous peoples, knowledge systems and the land. Here, we offer an Indigenous-centered framework to guide readers in navigating this complex pathway in both research and practice, drawing on Indigenous knowledge and western science while guided by the worldview and wisdom of Indigenous peoples.

Similar models have arisen from diverse Indigenous cultures and territories, including two-eyed seeing, *Etuaptmumk* (Bartlett, Marshall and Marshall, 2012; Reid *et al.*, 2021), both-ways management (Hoffmann *et al.*, 2012) and right-way science (McKemey *et al.*, 2022). Through a Secwépemc practitioner's lens, kúkwpi7 (Chief) Ronald E. Ignace terms it "walking on two legs": one leg of Indigenous knowledge and Indigenous science and the other of western science. Like two-eyed seeing, walking on two legs is practice and action oriented, with the joint walking – guided by an Indigenous mind - compelling movement forward. This draws on Indigenous conceptualizations of Indigenous knowledges as not a "reified noun, but…action and the ability to act, based on relationships, on experience, living and doing on the land" (Ignace, Ignace and Turner, 2016: 408). The metaphor of walking implies balance between co-existing knowledges, addressing power relations that privilege western science.

While not limited to research, walking on two legs also builds on traditions of Indigenous research (Smith, 1999; Wilson, 2008) as well as other transformative or action-oriented paradigms that emphasize the agency of community members in driving change and often draw

on transdisciplinary or mixed-methods approaches to strengthen analysis and support culturally appropriate methods (Cram and Mertens, 2015). Like Indigenous research paradigms, walking on two legs is explicit in being guided by an Indigenous – in our case, a Secwépemc - worldview: a moral compass that ensures both knowledges work together in service of upholding an Indigenous land care ethic that is embedded in specific Indigenous territories, languages and ways of relating to land and embodies principles of respect, reciprocity and responsibility.

In describing walking on two legs below, the 'we' voice employed is that of Ron Ignace and Marianne Ignace. Addressing both Indigenous and non-Indigenous readers, this is done to center Secwépemc voices and an Indigenous perspective while outlining the principles that guide us moving forward.

> *As a strategy of reclaiming IK and stewardship practices, walking on two legs addresses how Indigenous practitioners and thinkers, connected to our specific ancestral territories, resume taking care of our homelands by reclaiming and reinvigorating our Indigenous knowledge as we engage with western scientific knowledges. As we do this, we must protect the moral and ethical integrity of our own Indigenous knowledge and be mindful that it never stands in the shadow of western knowledge(s), nor should we uncritically embrace and copy the knowledge and practices of non-Indigenous colonizers on our land. The Secwépemc stsptekwll (oral tradition) of Coyote and His Hosts reminds us to not copy the ways of others lest we lose our life, our health and identity: our trickster-transformer Coyote tried to copy the behaviour of other creatures as he sought to elevate his social standing, getting scorched, burnt and nearly drowning in the process. We are admonished to carefully and cautiously view other sources of knowledge through the lens of our own*

Indigenous knowledge, ensuring that they will not cause us harm. Our Elders also remind us that, after more than a century of colonial western science-based, capitalist profit-oriented exploitation of our Secwépemc homeland, it is in a state of q̓wempúl̓ecw: the land, in its holistic dimension of landscape, ecology and all its living beings, has become barren due to human activity, impoverishing our wellbeing and existence. As we walk on two legs, we face the dual task of reconstructing and practicing our IK, while undoing the harm done by ongoing colonial practice and exploitation. As we do this, ethical and reciprocal western science that advances Indigenous stewardship and restoration can be our ally.

Below, we share two stories: of Secwépemc-led restoration of cultural keystone species, and of centering Indigenous perspectives in collaborative research. The first story (*Bringing back back t̓sewéw̓ye and qweq̓wile*) highlights the importance of Indigenous peoples actively leading the restoration of their/our territories. Beyond restoring native plants, this place-based experiment shows how revitalization of stewardship practices is intimately connected to the revitalization of IK and language; revitalization that can only occur through Indigenous peoples reclaiming stewardship of the land. The second (*Two-legged fire histories*) illustrates the process of learning to walk on two legs from a western science perspective, and the potential for transforming approaches to both research and restoration to upscale Indigenous restoration throughout Indigenous territories.

5.3.1 Bringing back back t̓sewéw̓ye and qweq̓wile: restoring cultural keystone species at Skeetchestn

Like other cultural landscapes in western North America, Secwepemcúl̓ecw was shaped for generations by Indigenous fire stewardship to manage plant habitats by clearing dead plants,

enhancing soil nutrients and controlling invasive species (Peacock, Ignace and Turner, 2016). Ron remembers riding on the land with his great-grandfather Edward Eneas in the 1950s, when a western focus on timber value had led to criminalization of Indigenous burning. Defying these prohibitions, Edward Eneas stubbornly continued burning in mountain meadows and at forest edges to renew grassland habitat for ungulate forage, enhance berry patches and keep meadows open. Elders in our community of Skeetchestn, who were interviewed over the past ten years regarding their memories of burning and land stewardship practices, remembered that the optimal time for burning in the valley bottom is after the snow has melted, but while the soil is still moist, coinciding in time with the migration of sandhill cranes through the valley. This time is currently mid-March, however over time we have observed the snowpacks in the valley decreasing; it is likely that in the past this timing would have been early April. Another period is late September to early October. During these short two-to-three-week windows of time, we work with localized wind conditions in our valley: wind directions are usually from the south in the morning, but as temperatures rise during the day and provide up-drafts, the wind direction shifts to blowing north to south, thus providing a natural fire break. Fires set before noon will move north, to be driven back by the shifting northerly wind in the afternoon, eventually dying by dusk.

After fencing our ranch to keep cattle and horses out, in about 2005 we began an experiment of annually or biennially burning meadows and a hillside on our ranch at Skeetchestn Reserve (**Figure 12**). After a few seasons we noticed how burning controlled knapweed and other invasive species. Around 2010 we saw the return of *tsʔwéʔye*, *Fritillaria pudica* (yellowbells, **Figure 13**) and *qweqʔwile*, *Lomatium macrocarpum* (large-fruited desert parsley). Both had previously disappeared from the hillside for decades, due to years of cattle and horse

grazing and lack of burning. Both plants are cultural keystone species for the Secwépemc: yellowbells are harbingers of spring arriving, and their bulbs were valued by our ancestors as the first delicious fresh root plant to emerge after months of subsistence on stored provisions. The taproot of large-fruited desert parsley is known for its medicinal properties and was also a significant early season root plant. In his song, the meadowlark warned Coyote not to waste his large-fruited desert parsley, singing in 'meadowlarkese' but with Secwépemc words "*tucíctsemc ten qweq̓wíle*" ("you wasted my large-fruited desert parsley on me"). This reminds us to harvest it early in the season, since it turns bitter as the plant matures.

Figure 12: Ronald Ignace burning the hillside by their home at Skeetchestn Reserve**.**

Annual spring counts of yellowbells between 2011 and 2019 initially showed about 50 plants, steadily increasing to more than 200 and in the record year 2017 to more than 300. In

2018, following a season of not burning, yellowbells decreased to just over 200. The fragility of the plants was seen when cattle broke into the area in early spring 2019 and all but destroyed the crop, although by 2020 about 75 plants had returned.

Figure 13: Yellowbells (*Fritillaria pudica*) emerging as the snow melts in early spring at Skeetchestn.

Our community field lab demonstrates how over a 10+ year cycle, cultural keystone plant species can be successfully restored into local grasslands through the reintroduction of fire. More significantly, it shows how we continue to revitalize and adapt the knowledge and wisdom of our Elders and ancestors, and reclaim traditional stewardship roles as *yecwmín̓men*, through the

practice of restoration. Looking forward, this will form the foundation for further collaborative research in fire histories and ecologies to promote the revitalization of Secwépemc fire stewardship: the second leg of western science guided by our Secwépemc knowledge and visions for Secwépemc-led restoration.

5.3.2 Two-legged fire histories: where tree rings and Indigenous knowledge meet

Tree-ring fire history research (dendropyrochronology) is one of many western science approaches used to inform restoration by providing quantitative evidence of historical fire frequency, severity and seasonality. Dendropyrochronology also aims to understand the drivers of historical fire regimes, from climate and topography to fuels and ignition sources (Daniels *et al.*, 2017).

For almost two decades, the UBC Tree-ring Lab has been using dendropyrochronology to inform restoration and management of mixed-conifer forests adapted to frequent, low- to mixed-severity fire regimes in BC's valleys and mountains. At the Vaseux-Bighorn National Wildlife Area in southern BC, in the unceded territory of the syilx (Okanagan) peoples, the Canadian Wildlife Service aims to restore the native bunchgrass-ponderosa pine habitats for endangered species through prescribed burning. Our intensive reconstruction of fire history at 43 sites across 400 hectares revealed the historical fire regime was driven primarily by Indigenous ignitions, characterized by frequent small fires, often in spring (Pogue, 2017). These results aligned with syilx oral histories and stories of their modern firekeepers, with a frequent fire regime persisting under syilx stewardship until the 1860s when colonialism actively decimated and displaced the local Syilx people through the smallpox epidemic, pre-emption, reserve system and residential schools – colonial impacts that were pervasive across Canada. In the absence of syilx fire stewardship, the forest became denser and fires were more likely to occur under warmer and

drier climatic conditions, potentially shifting the fire regime toward a greater component of high-severity fire (Pogue 2017). This research - quantifying the size, seasonality, and shift in climatic influences on past fires in addition to frequency and situating this in the context of strongly documented Indigenous knowledges and histories of this area - signaled a turning point in our understanding of the key role of Indigenous peoples in BC's historical fire regimes and a shift in our approach to more meaningful collaboration with Indigenous communities.

A more recent collaborative fire history project has been ongoing since 2016 and is guided by the knowledge and needs of the T'exelc (Williams Lake First Nation, a Secwépemc community). This project is taking place at the Ne Sextsine (Flat Rock) block of the Williams Lake Community Forest, which is co-managed by the T'exelc and the City of Williams Lake. For T'exelc Elders, respectfully restoring ecocultural values is central to management of Ne Sextsine, as is protection from uncharacteristic high-severity fires, like those that burned surrounding forests in 2017 (Copes-Gerbitz, 2021; Copes-Gerbitz, Hagerman and Daniels, 2021). Together we are centering Indigenous knowledge systems by engaging in place-based learning while walking through the forest with T'exelc Elders, archaeologists, community forest managers, and researchers (**Figure 14**).

During these forest walks, we collectively learned that the diversity of ecocultural practices of camping, fishing, berry-picking and plant harvesting across Ne Sextsine mirrored the diversity of fire frequency and severity reconstructed from tree-rings (**Figure 15**). For example, the areas that were frequently occupied by T'exelc people, including summer fishing campsites and winter village sites and the travel corridors between them, were more likely to have tree-ring evidence of frequent, low-severity fires from that time. Colonial impacts in the 1860s and 1870s displaced the T'exelc from their traditional territory and the low-severity fires ceased.

Figure 14: T'exelc Elders on a forest walk with WLCF manager and Dr. Kelsey Copes-Gerbitz.

Figure 15: Cross-section of a lodgepole pine (*Pinus contorta* var. *latifolia*) from Ne Sextsine showing fire scars from fires in 1833, 1848, and 1863.

As non-Indigenous researchers, learning to walk on two legs is transforming our research approach in two key ways. First, we shifted our focus from comparing Indigenous oral histories to tree-ring fire histories at the Vaseux-Bighorn National Wildlife Area to collaborative research with the T'exelc that centers Indigenous ways of knowing from the outset and supports Indigenous peoples to (re)connect both physically and culturally with their territories and (hi)stories. Second, we moved away from solely analyzing quantitative metrics of fire frequency and severity (often presented as mean values such as mean fire return interval) and from filtering out potential signals of localized Indigenous burning (such as fires that only burned at a single site) that are often removed for fire-climate analyses (Roos, Williamson and Bowman, 2019). Instead, our collaborative research explicitly sought to identify these localized fires and situate these in the context of the ecocultural histories of these landscapes. These collaborative dendropyrochronology studies are continuing to reveal the nuanced interconnections between Indigenous stewardship and fire in dry forest ecosystems where the contribution of Indigenous fire use is underrepresented or discounted in modern management practices. By walking on two legs, T'exelc-led restoration at Ne Sextsine and Secwépemc-led restoration throughout Secwepemcu̓lecw can be guided by this more holistic focus on restoring the the appropriate kinds of fire associated with T'exelc stewardship practices and values that were disrupted by colonization and the dynamic relationships among people, fire and place.

5.4 Advancing restoration and reconciliation in the UN Decade

Restoring relationships between humans and non-human nature and upholding Indigenous rights are key to the vision and strategy for the UN Decade (FAO *et al.*, 2021). Revitalizing "relationships of mutual obligation between land and people" (Burow, Brock and Dove, 2018: 60) can also be part of Indigenous efforts to unsettle setter-colonial modes of

relating to land as property and resource for capitalist development. However, this needs to go beyond "integrating Indigenous knowledge and traditional practices into ecosystem restoration" (UN undated: 6) or including Indigenous communities as 'stakeholders'. We argue that advancing reconciliation and upholding Indigenous rights and sovereignty that they/we have held since time immemorial is central to the science and practice of restoration, particularly in landscapes shaped by long histories of Indigenous fire stewardship. This means acknowledging and addressing the harms done to Indigenous peoples and territories through colonial practices (including fire suppression and exclusion); supporting Indigenous determination of restoration goals and governance; and creating space for Indigenous peoples to reclaim traditional stewardship roles and practices within their/our territories.

Throughout Secwepemcúl̓ecw and many other landscapes worldwide, catastrophic wildfires are creating opportunities for Indigenous peoples to (re)assert their/our sovereignty through leading the restoration of their/our fire-affected and fire-adapted territories. As Ryan Day, then-Chief of the Secwépemc community Sṯuxwtéws, wrote in the immediate wake of the Elephant Hill fire:

> *"We see the process of rehabilitation and regeneration as an immense opportunity to learn from the errors of the past; it is an opportunity to use Indigenous TEK and the wealth of research in forest science to restore the forest…as a source of wealth in cultural heritage, ecological diversity, and the education of young people of how to live as a member of an ecosystem…there can be no greater opportunity to action this commitment [to reconciliation] than by supporting Secwépemc Peoples' leadership in the regeneration of the ecosystem affected by the Elephant Hill fire over the months, years and decades to come".*

Rather than perpetuating colonial approaches of seeking to integrate Indigenous knowledges and practices *into* ecological restoration, we challenge readers to take up the framework of walking on two legs and reimagine the role of western science: as a leg to balance and be guided by Indigenous knowledges and wisdom as articulated and enacted by Indigenous peoples, in service of elevating Indigenous stewardship systems through Indigenous-led restoration. Reconciliation offers guiding principles to advance Indigenous-led restoration in the UN Decade by re-envisioning the past, present and future roles of humans in restored ecosystems, revitalizing Indigenous cultures and interconnected biodiversity, and upholding Indigenous rights and self-determination in their/our homelands. At the same time, reconciliation will be incomplete without not only the restoration of land *to* Indigenous peoples, but also the restoration of land and Indigenous systems of land-based knowledges and stewardship *by* Indigenous peoples.

Chapter 6: Conversations, contributions, and conclusion

6.1 Restor(y)ing fire landscapes: reflections on community conversations and the role of research

In early February 2020, I drove the now-so-familiar four-hour trip, along snowy highways, from Vancouver to Skeetchestn to visit Ron and Marianne. In little over a month, the Covid-19 pandemic would turn the world upside down, and soon restrictions on travel and community lockdowns would mean it would be many, many months before I could visit again. Yet at that moment, neither I nor anyone else had any idea of what was to come. My memories and associations with that week are not of some imminent global shutdown, but of long days driving up Deadman Valley with Ron as he narrated stories of the landscape, borrowing Marianne's winter coat and hat to take their dog Chief for nighttime walks in the deep snow, and sitting around the kitchen table exploring Google Earth as they shared their work of documenting place names, breathing life back into their language on the land. And the first of many discussions about the importance of restor(y)ing and reimagining landscapes and landscape change, grounded in the voices and wisdom of Elders.

So, that is what we planned to do. Marianne and I developed a proposal to work with a group of Skeetchestn Elders, with whom Marianne has been collaborating on language revitalization and knowledge documentation for decades. Together, we planned to host discussion sessions that spring, paired with field visits up the valley - perhaps to *pellgeyú7* ("has carrots"), a place Elder Daniel Calhoun had described as an important root harvesting site, an open meadow possibly kept open by burning - to anchor memories and stories in specific places, to trace landscape change, and to identify priorities for restoration.

Then suddenly, we were in the midst of a global pandemic.

We put that work on hold, and I focussed on supporting the SRSS as they moved online, started interviews for Chapter 3 on Zoom, and accepted that my field work for Chapter 4 wouldn't happen that year. For a brief period that fall things seemed to be looking up, and I made a short visit back to Skeetchestn, camping in Ron and Marianne's backyard and eating dinner together on the back porch. By then, Marianne had her Elders group hooked up to Zoom, but our work waited until we could, hopefully, get together in person. By late spring 2021 I was back in the interior, this time for four months to do field work across Elephant Hill. In May, our UBC field crew drove up to Deadman Falls with Ron and Marianne (**Figure 16**), stopping at *pellgeyú7* to look for fire scars on the big old Douglas-fir trees and to chase cows out of the meadow (**Figure 17**). We started to talk again about bringing the Elders group on a field visit up the valley, and perhaps to sites in the fire, to see what was growing back.

Figure 16: Deadman Falls, May 2021.

Figure 17: *Pellgeyú7*, May 2021.

Then came the Sparks Lake fire, and, for the second time in four years, Skeetchestn evacuated.

The rest of 2021 feels like a blur: of wildfires, heat domes, then devastating floods, all set against the backdrop of Covid-19. By mid-November, Marianne and I were considering a weekend drive with some community members to see the damage caused by the Sparks Lake fire; on Friday November 12th, we took a literal rain check due to forecasts of 70% chance of rain. By Monday, an 'atmospheric river' had washed out highways throughout interior BC, taking homes and lives.

Yet despite these ongoing impacts – or perhaps because of these impacts, increasingly close to home – Ron and Marianne continued to emphasize the need to ensure that the voices of Elders and community members would guide any restoration, and to understand what restoration means and could look like from a Secwépemc perspective.

So this past summer, as they finally began to meet again in person, I sat in on a few sessions of the Elders language group in Skeetchestn. At Marianne's invitation, I shared some of our findings from Elephant Hill: what plants were coming back, and how the communities were involved in the recovery. We also shared photos from our recent drive up the Deadman Valley through the Sparks Lake fire: of Deadman Falls, almost unrecognizable (**Figure 18**), and *pellgeyú7,* a small patch of green amidst a blackened landscape as far as the eye could see, with only a faint trace of charcoal under the fresh grass and patches of nodding onion and numerous 'carrot' (*Lomatium*) species (**Figure 19**).

Figure 18: Deadman Falls, May 2022.

Figure 19: Left – looking up at *pellgeyú7* from Deadman-Vidette Road; Right – *Lomatium dissectum* (fern-leaved desert parsley), growing after a surface fire through at *pellgeyú7.* Photos from May 2022.

As we navigated throughout the territory on Google Earth, the full extent of the fires from 2017 and 2021 displayed on the projector, Ron guided us to *Sq'u7llqen*, a volcanic plug surrounded by lakes at the headwaters of the Deadman Creek:

> *"That's an important place there. And it's lucky it's a park, protected area, there's no logging in there. That's where the Deadman Creek starts from, the first drop of water…that's where all of the water down here comes from, this area. So we've got to protect that area, that's got to be guarded. That's our watershed, eh? You're asking about what needs to be protected, <u>that</u>, this whole area."*

As discussions turned to the impacts of forestry and mining throughout the territory – the loss of caribou populations, the blocked access to high mountain medicine harvesting areas –

Ron brought the conversation back to something he has been advocating for, ever since Elephant Hill:

> *"We need a cultural heritage study done of the mountains…it will tell you how to manage our forest. Without it, you're blind. 'Cause there's a story there."*

Later that day, sitting around the kitchen table, Ron picked up on this conversation again: the need for restoration to be informed by more than (western) science, and the knowledge and practices that come from an ongoing presence on and access to land:

> *"It's not just about understanding the science, but it's the stories, is what makes the land. And that's what's missing, you know? So it's really important… I mean the arrogance, systemic racist arrogance of people thinking that we have no wealth in the mountains. We've got to show how you manage it, how you manage the various game, the plants, the trees, the forest, all of that. That's what needs to be documented, and how can we find out [how to] regenerate a biodiverse forest? And how can we get back into utilizing that forest? That's the problem, that's the big issue…*
>
> *When our people go out into the mountains, they observe everything, you know? There are certain things that I remember, you know I remember oh, you know there's a tree up here, it's a dead tree, big old dead tree, it probably has a tonne of pitch inside of it, if we need pitch we can come back and knock that tree down. Or, there's a lot of game tracks in this area this time of the year, so maybe this could be the calving grounds of the deer or the moose. Or it could be a corridor. So you keep all that, tabulate all that and keep that knowledge so when you go hunting, you just don't go blindly into the*

forest and hope you run into something right? You know where the meadows are, where the salt licks are, where the springs are, and that's all gone now, with the clearcut logging they've destroyed all of those."

Faced with these impacts throughout Secwepemcúl̓ecw, Marianne has written of how "repair or restoration of land and caretakership must begin with Indigenous knowledges and languages" (Ignace, 2022) and of the need to revitalize languages *on the land.* As my conversation with Ron continued, he shared an example of why this is so important, of how impacts to the land are intimately connected to loss of the language and practices that are embedded in the land:

"We've lost the fishing here in the creek. Since mid 80s we've self-imposed closure on fishing in the creek, thinking that it would bring it back. And we worked our butts off, we did bank stabilizations and fish hatcheries and brood stocks. But nothing ever worked because the problem is not here, it's what's going on in the ocean. And all that was for naught. And because we didn't fish in the creek here for years, it's about three generations of our people have not learned the language of fishing in the creek. Even in English. Do not know how to make the technology to catch the fish in the creek. Or even how to go about catching the fish in the creek.

I would take about five, four or five of us, and we would go fishing in the creek. You'd have to make a spear, the wewtsk [three-pronged leister], it's called a wewtsk. And then you'd go to where the yens [driftwood pile] is, the yens is where the wood drifts down, and it piles up and piles up and piles up, a twisted mangle of logs. And so it creates deep pools. And so, when the fish come up, they love to go in there. You get

some leaves, you find a spot where there's all this, in these yens you find the spot where it's deep and you can look down. And you put leaves around you. And you sneak out there and you lay there with your spear, and then you signal to the guys, 'cause the fish, they go in and out of there, right? They'll go upstream a little ways or go downstream a little ways, swimming around. And then you have two guys at each end above and below, and they start down, they start throwing rocks in the water. Coming until they get close to where the yens is, right? So then the fish will run and hide, and you're waiting for them and BAM!

I bet you if you asked the kids today, how would you go fishing in the creek? What would you need? What would you do? How would you do it? They wouldn't have a clue. So it's like that with anything. If you lose a practice like that, you not only lose the practice itself but also the language and the knowledge of the practice."

So how do you bring that back? I asked.

We've got to bring back the salmon, he replied.

***

Over the past few years, I have had many moments like this. In conversations with Ron and Marianne or interviews with community members, in meetings with leadership or out on the land with community staff. Hearing people talk about the meaning and practice of cultural heritage, about connection to land, about why they speak or act or advocate and struggle the way they do. Moments that have stopped me dead in my tracks and made me realize not only the significance of the work being led and fought for by communities – of restoring lands and revitalizing languages, of bringing back salmon and protecting their watersheds, of bringing back practices of burning and being at the decision-making table

when a wildfire impacts their territory – but also, that there is just so much that I cannot understand, a depth of understanding and *knowing* that I will never have. And that is okay.

These moments have made me reflect on my place in these collaborations, and what I can bring to this work: a methodological toolbox, grounded in western natural and social sciences, that can support communities in documenting environmental impacts and change, or government-to-government processes. A network of collaborators in academia and beyond who I've been able to connect with communities and with Ron and Marianne, the 'leg' of western science to support Secwépemc stewardship goals. Relationships with communities and the SRSS that allow me to sit in on Secwépemc technical and leadership meetings and hear community members and staff express frustration at research that occurs in their territory without their consent, or research that never shares raw data, reports, resources, or capacity with communities; research that often has 'well-intentioned' objectives (to reintroduce prescribed fire and support cultural burning, to mitigate wildfire risk to communities, to better manage wildlife or restore forests and fire-adapted ecosystems), but that simultaneously prioritizes those (researcher-determined) objectives and "access to Indigenous Land for scientific research" (Liboiron, 2021: 10) over Indigenous-led decision-making. And a position, junior and temporary as it is, within the university that means I can advocate for doing research in a better way, direct funds to communities, and prompt discussions about what right we have, as researchers, to work in Indigenous territories, and the obligations that come with this.

The more I have listened to Secwépemc people speak of the importance of revitalizing Secwépemc knowledge and stewardship practices, including fire stewardship; of how the technical work of recovery and restoration is always tied to broader issues of title and rights; of how the 'voices of Elders' are embedded within Secwepemctsín, and

knowledge in language; the more I have realized, this is where I should be stepping back. It is not our place, as settler researchers, to be the ones determining community priorities for restoration. There are people in communities who are doing this work already: people working for their natural resource departments who are engaging with community members to understand concerns and priorities for monitoring or restoration, or to facilitate community decision-making processes.

That is not to say there isn't a place and role for research. This fall, I have been invited to join Skeetchestn Natural Resources Corporation staff in the field to discuss sampling designs and field protocols for monitoring vegetation recovery across the Sparks Lake fire, and I am continuing to work with the SRSS to support their documentation of community approaches to cultural heritage monitoring. But it is a reminder that "there are some forms of knowledge that the academy doesn't deserve" (Tuck and Yang, 2014a: 813); that research – particularly how it has been done before, and *particularly* if not led by communities – may not be the intervention that is needed.

6.2 Reflections on 'community' and collaboration

Throughout this dissertation, and whenever I speak or present on my work, I always highlight the collaborative nature of this research, and my partnership with the SRSS and Secwépemc communities. However, it's important to be clear about what this means, and who is meant by 'community'.

Over the past three and a half years, I have predominantly worked with community 'technical' staff: the natural resource and cultural heritage managers and field technicians working for communities. On occasion, and usually while supporting then-Kúkpi7 Ron Ignace, or Angie Kane in representing the SRSS, I have also engaged with elected leadership. In large

part, this is because this representation (technical and leadership) mirrors that within the Elephant Hill wildfire recovery process, through the Joint Leadership Council and Joint Technical Committee. However, from my (albeit limited) experience and observation, this is a common experience for researchers working in natural sciences or collaborative stewardship: for the 'collaboration' and 'community' aspects of the research to be mostly confined to technical staff, some of whom may not be from those communities or the Nation, and I acknowledge the limitations of this approach.

My connection to communities has also come through my relationships with Ron, Marianne, and Bert, and more recently, with Char: with their families, with the Skeetchestn Elders group, and with people I've met when tagging along or being thrown headfirst into community events. Within this network of relationships, some are, of course, stronger than others. Relationships and the responsibilities that come with these aren't uniform, but specific. To some people, I may just be that random but accepted Australian that joins the monthly meetings of the SRSS First Nations Technical Table or who wrote the Elephant Hill book; to others, perhaps a trusted collaborator who brings resources or networks; to others, I hope, a valued friend and colleague. Regardless, I am always mindful to not be seen as speaking *for* communities, the Secwépemc Nation, or the SRSS, and to highlight these specific relationships that brought me into this work.

This kind of work takes time and considerable investment of resources. The extent to which I have been able to work with communities and develop the deep relationships that I have is due in no small part to two factors: the support of my supervisors, who trusted me when I said I wanted to keep supporting the SRSS and dedicating my time to 'non-PhD' tasks before trying to kick-start 'research', and the financial freedom that came with my fellowship. The time I have

spent in and with communities and working with the SRSS – the regular (at times weekly) drives up the Fraser Canyon or Coquihalla for meetings or to stay in Skeetchestn, supporting the SRSS in their many projects, prioritizing research relationships over consulting contracts – was only possible because of my generous and untied funding that could be shared and allocated without endlessly (ever) having to justify items on an expense form. Castleden *et al.* (2012) similarly highlight time and funding constraints as key challenges to undertake ethical engagement and relationship building. I am seeing more funding available at UBC, including within the Faculty of Forestry, to support this form of early engagement – the work that falls outside of 'research', that must come *before* research – and am grateful for that, but it's not nearly enough. In addition, many students, particularly first-generation students, find it challenging to navigate funding arrangements and there is often a lack of transparency in how funding is allocated or, conversely, taken away. This, along with the pressures of completion timelines and research outputs, places additional burdens on students who wish to meaningfully engage with communities in their work.

As I've reflected on the strengths and limitations of this dissertation, I keep coming back to Chapter 4: our collaborative monitoring of understory plant community recovery. I hope this project has been of some value to Stʷuxwtéws, whether in terms of providing work and training opportunities for students and field technicians, or data that can help answer their initial question of how the forest is recovering. And yet, while this project was community initiated by then-Kúkpi7 Ryan Day, it has since been largely 'researcher-driven', with our partner's involvement predominantly through joint field work led by our UBC crews. While we shifted the focus to analyzing the recovery of culturally significant plants, I still felt like Secwépemc plant knowledge was being reduced to a dataset to be integrated into our existing project. Then, when

it came time for me to analyze these data, I felt locked into using a particular suite of analytical tools and asking a particular set of questions, that, in the end, don't necessarily provide the answers that community members are looking for: answers to questions about the condition of particular plants, how specific medicinal or berry patches are recovering, what the impacts have been to wildlife habitat, or how we can bring these back. It has taken multiple years of working together with Stʷuxwtéws, spending a summer in the field with Bert, and the relationships I have built with staff and community members from Skeetchestn to get to this point where, now, we are looking ahead and thinking how we can do things differently. I hope to stay on in a research role in BC, to continue to support the SRSS and its member communities such as Skeetchestn to document the impacts of the 2021 wildfires and how ecosystems are recovering. Together, we are talking about how to move beyond conventional sampling designs and metrics of 'richness' or 'diversity', and how community staff can lead the engagement with community members that needs to form a foundation for this work moving forward.

6.3 Key insights and findings

This dissertation documents how Secwépemc territories and communities have been recovering since the 2017 Elephant Hill wildfire: both in terms of community leadership and joint decision-making for wildfire recovery, and the recovery of culturally significant plants.

Chapter 3 documents the experiences of Secwépemc communities during the 2017 wildfire season, and the process of negotiating and navigating a new government-to-government approach to wildfire recovery. In doing so, I identify key factors that contributed to the success of this initiative, while highlighting numerous challenges that continue to pose a barrier to 'true partnerships' across all stages of wildfire management. Chapter 4 responds to recent calls for a new 'megafire ecology' by offering novel insights into the recovery of understory plant

communities following the Elephant Hill ‘megafire’, with a focus on plants of high cultural significance to Secwépemc people. Chapter 5 lays a conceptual foundation for re-imagining the role of western science in supporting Indigenous-led restoration throughout Indigenous territories.

Below, I summarize key insights and findings from each of Chapters 3, 4 and 5, then highlight broader contributions of this dissertation to the disciplines and theories of collaborative environmental governance, the politics and production of knowledge, and fire and restoration ecology.

6.3.1 Chapter 3: Elephant Hill ‘lessons learned’

Chapter 3 addressed Research Question 1: How are Secwépemc communities engaging in contemporary wildfire management, including the collaborative governance of wildfire recovery? Key findings are presented for each Part of this report, relating to the experiences of Secwépemc communities during the 2017 wildfire season, and the engagement (or lack thereof) by provincial agencies; the drivers of and processes for establishing a collaborative approach to wildfire recovery; identification of key challenges and enabling factors for success; and persistent barriers to and Secwépemc priorities for wildfire recovery and restoration throughout Secwepemcúl̓ecw. Based on these findings, we present – and are continuing to work on implementing – 30 recommendations or ‘calls to action’ for advancing First Nation leadership and ‘true partnerships’ in wildfire and emergency management. Below, I include the summary of findings as presented in the Executive Summary of this ‘Chapter’ (report).

Part 1: The Elephant Hill wildfire: There is widespread acknowledgement that the 2017 ‘megafires’ – and the ongoing wildfire risk and loss of ecological resilience throughout Secwepemcúl̓ecw – were the direct result of timber-focussed forest (mis)management practices

combined with the history of fire suppression and impacts of climate change. The Elephant Hill wildfire caused deep and lasting impacts to Secwépemc territories and to community health and wellbeing that have not been adequately recognized, addressed or compensated by provincial or federal governments.

Secwépemc communities experienced poor communication and a lack of guidance from provincial and federal authorities regarding immediate wildfire threats or evacuations. Negative experiences of evacuation by Secwépemc and neighbouring ranching communities created widespread opposition to evacuating in future.

BC Wildfire Service staff admit that engagement with First Nations occurred too late, if at all, and that there was no explicit expectation on Incident Management Teams to collaborate with Indigenous and local communities. While Secwépemc communities played a leadership role through on-ground fire response and fuels mitigation, emergency coordination and supporting agency response, there was widespread frustration that Secwépemc knowledge and capacities were ignored and disrespected. As such, a deep mistrust of fire agencies and a strong feeling of 'being on your own' remain.

Part 2: The joint process of wildfire recovery: The scale and significance of impacts of the Elephant Hill wildfire, along with a newly elected provincial government with stated commitments to implementing the United Nations Declaration on the Rights of Indigenous Peoples, created a 'window of opportunity' for change. However, it was the strong leadership and advocacy from Secwépemc communities that catalyzed the collaborative approach to wildfire recovery.

Commitments to joint leadership were enacted through a Joint Leadership Council, Joint Technical Committee and sub-committees that emerged following the fire. Nevertheless, the

limited mandates or decision-making authority of provincial government representatives at these tables, and challenges in accessing higher-level decision-makers, posed a barrier to advancing Secwépemc recovery priorities and interconnected stewardship goals.

In their letter to Premier Horgan, and over the months and years following the Elephant Hill wildfire, Kukúkpi7 (Chiefs) emphasized that 'healing the land' and actioning commitments to reconciliation requires addressing the cumulative impacts and pressures that form the broader context for land-based recovery, and supporting Secwépemc leadership "in the months, years and decades to come". This vision conflicted with a narrower focus on 'recovery' that was defined by short-term funding, a lack of strategic or landscape-level planning, and the 'three great goals' of fireguard rehabilitation, range recovery and salvage harvesting.

Part 3: Reflections on 'success' and lessons learned: Overall, the majority of Secwépemc and provincial government representatives we spoke to felt that the joint process of wildfire recovery was a success. While the lack of clearly defined recovery goals posed a challenge to evaluating the success of land-based recovery, 'success' was largely defined in terms of less tangible outcomes such as confidence in the ability to work together. The value of this process was seen in terms of new relationships and trust; promoting collaboration and a united voice amongst Secwépemc communities; economic and training opportunities; and supporting First Nations-led archaeology.

These successes were made possible by the strong leadership and coordination from both Secwépemc communities and FLNRORD Natural Resource Regions and Districts; flexibility and willingness to work outside of usual policies and processes; a strong governance structure, co-designed by communities and the provincial government; spending time to develop shared understandings and identify shared values; and open, honest communication in communities to

build trust. Jointly making decisions about land-based recovery requires getting together on the land and bringing together – rather than siloing – multiple communities and jurisdictions.

Key challenges related to capacity; a lack of strategic or landscape-level planning; conflicting perspectives as to the scope of 'wildfire recovery'; ensuring adequate and appropriate participation; and jurisdictional silos and conflicts within government. Many of these challenges have not been overcome and pose potential barriers to future collaboration.

There remains a disconnect between high-level government's stated commitments to reconciliation, and (inadequate) provision of funding, resourcing and access to decision-authorities to advance First Nation priorities or cede management authority to Indigenous peoples – particularly in the context of (wild)fire management and land-based recovery.

The Elephant Hill 'model' has created new expectations for joint leadership and government-to-government technical collaboration. However, for Secwépemc communities, it was just the first step along a pathway to true co-management.

Part 4: Beyond Elephant Hill: The provincial government, and BC Wildfire Service specifically, highlight substantial progress and changes since 2017, in particular improved public communication, funding for mitigation, and strategic agreements. However, Secwépemc community representatives experience persistent barriers to active involvement in wildfire management and remain frustrated at a lack of consistent and meaningful engagement.

Conflicting understandings of when and how 'engagement' should take place, combined with an unwillingness within BC Wildfire Service to explicitly direct operational staff or address views that devalue Indigenous knowledge and fire expertise, mean that on-ground engagement during fire seasons still depends on the particular Incident Commander/operational staff, posing a barrier to widespread change. As such, 'shared responsibility' and 'equal partnerships' remain

largely confined to the mitigation, preparation and recovery phases of wildfire management. During wildfire events, BC Wildfire Service effectively retains or assumes control and responsibility for response.

Priorities for advancing Secwépemc leadership in (wild)fire management include establishing community-based emergency management offices and territorial patrols; strengthening the role of First Nation liaison officers; promoting collaboration in prescribed and cultural burning; and asserting sovereignty and leadership in managing and protecting cultural heritage. Building on the 'model' of Elephant Hill means First Nations determine the approach to wildfire recovery and associated government- to-government collaboration in their territories. Simultaneously, the provincial government must spend time developing shared understandings, principles and goals with local First Nations; invest in long-term capacity building; address legacies and ongoing processes of resource extraction and forest (mis)management; and support First Nations decision-making and 'doing the work' of recovering their territories in months, years and decades to come.

6.3.2 Chapter 4: Collaborative monitoring of understory plant recovery

Chapter 4 addressed Research Question 2: What are the impacts of megafires on understory plant communities and culturally significant plants, and how is recovery affected by fire severity across ecosystem types? Our study of understory plant community responses to the Elephant Hill megafire, with a focus on plants of high cultural significance, demonstrates that richness of native species and species of high cultural significance were negatively affected by increasing fire severity. Four years post-fire, there are still significant compositional differences based on fire severity class, with a clear separation between unburned plots and plots that burned at high-severity. In contrast, exotic species richness increased with fire severity throughout the

montane forests that dominate our study area. Collectively, these results demonstrate low resilience to and limited understory recovery following high-severity fire. However, the high richness of culturally significant plants in areas that burned at low-moderate severity highlights the role of low- to moderate-severity fire in stimulating the regeneration of such species, and the need to support Indigenous peoples in revitalizing their traditional roles and practices of fire stewardship. The richness of cultural plant resources across the subalpine forests further reinforces the ecological and cultural importance of these high elevation landscapes for Secwépemc people. In responding to calls for a 'new megafire ecology', this chapter clearly demonstrates the ecological and cultural consequences of high-severity megafires in Secwepemcúl̓ecw, and the critical for ongoing collaborative research and restoration with Secwépemc people to revitalize Indigenous land and fire stewardship systems across these fire landscapes. Perhaps more importantly, this chapter identifies the limitations of working within a western-science dominated, researcher-driven framework, and points to opportunities to develop a new 'megafire ecology' in collaboration with Indigenous research partners.

6.3.3 Chapter 5: 'Walking on two legs'

Chapter 3 was guided by Research Question 3: What are Secwépemc priorities for restoration in their fire-adapted and fire-affected territories, and how can collaborative research support these? We present Secwépemc Elder Ron Ignace's concept and approach of 'walking on two legs' to guide restoration scientists and practitioners in supporting the interconnected processes of Indigenous-led restoration and reconciliation in Indigenous territories, and to bring Indigenous knowledges into balance with western scientific knowledge in service of upholding an Indigenous stewardship ethic that is embedded in Indigenous ways of relating to land. 'Walking on two legs' is inherently practice and action-oriented, with the joint walking—guided

by an Indigenous mind—compelling movement forward. Applying this concept to two case studies from Secwepemcúl̓ecw – of Secwépemc-led restoration of cultural burning and cultural keystone species, and of centering Secwépemc perspectives in collaborative fire history research – we highlight how Indigenous-led revitalization of fire stewardship is intimately connected to revitalization of knowledge, language, and presence on the land, as well as the potential for transforming collaborative approaches to both research and restoration.

6.4 Contributions

6.4.1 Empirical contributions

This dissertation contributes a rich and multi-method dataset describing processes of wildfire recovery in Secwepemcúl̓ecw, BC.

For Chapter 3, I conducted 48 interviews with 54 key participants in the Elephant Hill wildfire response and recovery processes, including Secwépemc elected leadership (Kukúkpi7 and Councillors), natural resource and cultural heritage staff working for Secwépemc communities and the provincial government, wildfire and emergency management agency staff, and a limited number of external stakeholders (forest and range licensees). Interview data were paired with close reading of minutes and other documentation from four years of joint recovery activities and meetings of the Elephant Hill Joint Leadership Council and Joint Technical Committee, including detailed field notes from my own participation in and observation of SRSS and Elephant Hill meetings, planning sessions and project activities between 2019 and 2021. Finally, this Chapter draws on five interviews conducted in July 2021 by former Kúkpi7 Ron Ignace with Skeetchestn leadership and staff, and BCWS staff, during another devastating wildfire season impacting Skeetchestn.

For Chapter 4, I, along with our UBC and Sṯuxwtéws field crew, collected and analyzed understory plant community data from 66 plots across the Elephant Hill fire area, stratified by fire severity class and ecosystem type. These data were paired with composite burn index calculations for each plot, based on field measurements taken in 2018, as well as a database of culturally significant species provided by Skeetchestn Natural Resources Corporation. Collectively, these data and analyses yield novel and salient insights into the recovery of understory plant communities following a mixed-severity megafire in British Columbia, Canada, with a focus on plants of high cultural significance to Secwépemc people.

6.4.2 Implications for policy, practice, and future research

Ultimately, this dissertation demonstrates that, despite provincial commitments to establishing Indigenous peoples as "true partners and leaders in emergency management" (Abbott and Chapman, 2018: 81), Secwépemc communities face persistent barriers to being meaningfully involved in all levels of wildfire planning, decision-making and implementation. To address these barriers, Chapter 3 presents 30 recommendations, framed as 'calls to action' spanning wildfire mitigation and preparedness, response, and recovery, to support Indigenous leadership in wildfire management. Meaningfully implementing these recommendations will require going beyond the common approach of attempting to 'integrate' Indigenous knowledge or practices into existing state-run institutions and programs: it means supporting, and ceding power and decision-authorities to, Secwépemc people. In response to the launch of this report, BCWS Directors mandated their Indigenous engagement staff to work with the SRSS on implementing these recommendations. Since early 2022, I have been supporting SRSS staff and Secwépemc leadership, including through funding accessed through the UBC Community-

University Engagement Support Fund, in meetings with BCWS staff to prioritize recommendations and discuss how to work together in moving forward. Priorities include:

- Providing long-term funding to establish community-based First Nations Emergency Management Offices, including resources and training for Emergency Management Coordinators, Initial Attack Crews, and First Nations firekeepers.
- Strengthening and further formalizing a First Nation liaison role within BCWS, including developing and implementing training modules for BCWS staff. This role would go beyond existing community liaison roles, focussed largely on information sharing and engagement, to promote shared operational decision-making, protect cultural heritage, and build mutual capacity for collaboration in wildfire response.
- Addressing outstanding recommendations to BCWS focussed on mitigating impacts to and protecting archaeology and cultural heritage values.
- Developing a provincial wildfire recovery framework, with commitments to joint wildfire recovery with First Nations and associated funding.
- Enabling a First Nation-led cultural burning permit system that empowers First Nation communities and fire knowledge keepers to lead and implement burning throughout their territories.

This research also has implications for restoring fire-adapted and fire-affected ecosystems and protecting significant eco-cultural values and landscapes such as culturally significant plants and high-elevation forests. The finding that richness of culturally significant plants was greatest in areas that burned at low to moderate severity highlight the potential for reintroducing prescribed and cultural burning to restore these plants and their associated ecosystems. Future research priorities include analyzing distinct impacts of low and moderate-severity fire on

understory plants and working in partnership with communities to develop culturally-relevant monitoring protocols and programs.

Finally, Chapter 5 and the concept and approach of WO2L – grounded in the specifics of Secwépemc knowledge and territory – has tangible implications for collaborative research in both natural and social sciences, and how western-trained scientists understand and enact our role and contributions to these.

6.4.3 Synthesis

Collectively, this interdisciplinary and mixed-methods dissertation offers theoretical and empirical contributions to the literature on collaborative environmental governance, the politics and production of knowledge, and fire and restoration ecology. Specifically, these chapters offer three key insights relevant to these fields.

First, in documenting the persistent barriers to Indigenous engagement in wildfire response and recovery, this dissertation identifies the limitations of current policy commitments to 'true partnerships' with Indigenous peoples across all stages of emergency management. As found in other jurisdictions (Lukasiewicz, Dovers and Eburn, 2017; Atkinson and Curnin, 2020), an emphasis on 'partnerships' and community resilience risks an over-emphasis on devolving responsibility for wildfire mitigation and preparedness – including planning and engagement – to communities, without adequate support from central government agencies. While highlighting the potential for a new partnership model of wildfire recovery, I build on existing critiques of 'shared responsibility' (McLennan and Handmer, 2012; Lukasiewicz, Dovers and Eburn, 2017; Reid, Beilin and McLennan, 2018; Beilin and Paschen, 2021) to identify how, during wildfire events, agencies continue to retain control and responsibility for response, with limited opportunities for partnerships or joint decision-making.

The barriers to Indigenous engagement and 'true partnerships' during wildfire response are closely linked to assumptions that expertise for wildfire management resides in specialized state agencies, rather than in local communities. In highlighting these barriers, this dissertation provides empirical evidence of and meaningful contributions to theories of the politics and (co-) production of knowledge and expertise (Jasanoff, 2003a, 2004; Turner, 2014; Carrozza, 2015; Paskalev, 2017). These unique contributions in the context of wildfire management – a context characterized by technocratic framings of risk and high uncertainty – highlight how authority and 'expertise' are co-produced and captured by centralized emergency management agencies, excluding other forms of knowledge and reinforcing barriers to engagement or joint decision-making.

Second, the extensive empirical contributions of Chapter 3 describe a case study of 'joint leadership' as a form of collaborative fire governance. This contributes to the extensive literature on collaborative environmental governance, including co-management (Ostrom, 1990; Nadasdy, 2005; Berkes, 2009; Dale and Armitage, 2011; Beilin and Reid, 2015), as well as the more recent body of literature documenting collaborations between Indigenous peoples and government fire agencies, particularly in the context of cultural burning (Neale *et al.*, 2019; Marks-Block and Tripp, 2021; Smith, Neale and Weir, 2021). My research supports previous findings that effective and equitable collaborations require taking time to build trust and relationships, strong leadership and commitment from both parties, identifying shared values, and co-designing a governance structure that balances clear agreements and decision-making protocols with flexibility and exploratory attitudes (Nadasdy, 2003; Hill *et al.*, 2012; Hoffmann *et al.*, 2012; Robinson and Wallington, 2012; Cruickshank *et al.*, 2019; Neale *et al.*, 2019). My findings that legacies of mistrust, human and financial capacity constraints, and poorly delineated or siloed

roles and responsibilities pose additional barriers to collaboration are not a novel observation, but instead highlight how pervasive and persistent these challenges are, while offering additional insights from a wildfire specific context to the broader collaborative governance literature.

While a key aim of Chapter 3 was to identify 'lessons' from the Elephant Hill joint recovery that could guide future collaborations, this work highlights how pervasive attempts to distil these complex processes into prescriptive frameworks risk prioritizing efficiency and pre-determined objectives over meaningful collaboration and joint decision-making. Rather than presenting a template or checklist for collaborative wildfire governance, my work instead reiterates that upholding Indigenous rights, prioritizing relationships, and ensuring equitable decision-making must be the foundation for any collaboration with Indigenous peoples (Hill, 2011).

Finally, this dissertation contributes to the growing literature on knowledge co-production through research, and models for ethically working with distinct knowledge systems. While grounded in the specifics of Secwépemc knowledge, language and territory, Kúkpi7 Ron Ignace's concept of walking on two legs can guide a re-imagining of the role of western or dominant science in collaborative research and practice, as a leg to balance but be guided by Indigenous knowledges and worldviews. Walking on two legs also offers principles to guide a new megafire ecology, to ensure that future research attends to the interconnections between ecological recovery and community health and wellbeing through co-developing monitoring protocols and research approaches in partnership with Indigenous communities. In aligning restoration with principles of reconciliation, ultimately, we argue that reconciliation is meaningless without the restoration of land by and *to* Indigenous peoples.

6.5 Final reflections

In his introduction to *Secwépemc People, Land and Laws* (Ignace and Ignace, 2017: 4), Ron tells the story of his great-great grandfather Chief Sisyésq̓t, who was the appointed hereditary chief at Skeetchestn throughout the latter half of the 19th century:

> *"As my uncle Leslie Jules remembered being told, Sisyésq̓t had been trained as a war chief, a leader of warfare expeditions, and was then appointed political chief of the community at a crucial time during the 1858 gold rush, when droves of gold seekers invaded our homeland. He was one of the Secwépemc chiefs who had fought in the Fraser Canyon war of 1858 alongside the Nlaka'pamux, Stétʼemc (St'at'imc, Fraser River Lillooet), and Ts'wénʼemc (Syilx, Okanagan) warriors against the miners, and he must have been present when the Nlaka'pamux and their Secwépemc, St'at'imc and Syilx allies made a peace treaty with the miners. Sisyésq̓t was my community's chief throughout the trying times when, on the heels of the 1858 gold seekers, settlers dispossessed us of the valuable lands in our valleys, enabled by the colonial and then provincial land ordinances of the 1860s and 1870s, which specifically prohibited our people from pre-empting, let alone buying, land but awarded up to 320 acres to settlers who staked out a claim and built a fence and a shack on such land. In the early 1860s, Sisyésq̓t opposed settlers taking our land by setting fire to the grasslands in the vicinity of the mouth of Deadman's Creek while the settlers tried to drive their cattle into the area. This earned him the name Sq̓wexúlecw ("smoke coming out of the ground") among our people."*

In Chapter 5 of this dissertation, Ron similarly describes how, in the 1950s, his great-grandfather Edward Eneas defied prohibitions on Indigenous burning and "stubbornly continued

burning in mountain meadows and at forest edges to renew grassland habitat for ungulate forage, enhance berry patches, and keep meadows open".

In a way, fire has long been intertwined with Secwépemc resistance: resistance against land dispossession, and later, resistance against provincial law that outlawed burning without permits, and the early BC Ministry of Forests that enforced these laws in ways that disproportionately targeted and affected First Nations (Copes-Gerbitz, Hagerman and Daniels, 2022).

Over the past three or more years, I have seen how fire has once again acted as a catalyst for Secwépemc resistance. I have heard stories of how, as their communities were evacuating and their territories burning, Secwépemc people resisted fire agency staff coming into their territories without engaging with them, and resisted orders or expectations to evacuate, instead staying to protect their land and communities. I have learned of how, in the wake of Elephant Hill, Secwépemc leadership resisted "BC forging ahead with the [forestry] companies" (Chapter 3) to make decisions about land-based recovery, instead successfully advocating for a joint leadership approach to healing the land. Resisting processes of 'recovery' that, rather than building back better, risked (and continue to risk) simply 'building back' the way things were, rehabilitating but not actively restoring landscapes already degraded by a long history of fire suppression and resource extraction.

The megafires throughout Secwepemcúl̓ecw have opened new spaces of resistance, and yet, despite all the work that has been done – through the Elephant Hill Joint Leadership Council and Technical Committee, by the SRSS, as part of this dissertation – many of the same challenges persist. Challenges of 'collaboration' within existing fire and land governance systems, and of persistent devaluing of Secwépemc knowledge or prioritization of 'technical

expertise' (defined by western or agency standards). Challenges of 'joint decision-making' still being constrained by provincial legislation, policies and the 'cultures' of different government jurisdictions, and of 'recovery' being limited to rehabilitation rather than long-term recovery and proactive restoration. Even as I reflect on the recommendations outlined in Chapter 3, I see how many of these – from First Nations liaisons to equipment sharing – are about establishing roles, resources and supporting systems for Indigenous peoples to work *within* existing emergency management structures.

I began the introduction to this dissertation with a series of news headlines, which highlight the value of Indigenous fire stewardship in terms of reducing wildfire risk. While it is encouraging to see these issues receiving public attention and support, there is a risk that, like 'traditional ecological knowledge', Indigenous fire stewardship and fire knowledges will simply be viewed by western-trained scientists and land managers as something to be extracted from communities to 'fill the gaps' in our existing understandings; something to be integrated into dominant approaches to wildfire management or ecosystem restoration; something of value because of the value it brings to *us* (settler governments and peoples). These extractive approaches are still prevalent in research and practice and pose a risk to any hope of true partnerships in wildfire management. Yet I look around at the work being led or fought for by communities, and this gives me hope.

Over the past year, in parallel to writing this thesis, I supported Marianne as she brought together Indigenous and non-Indigenous scholars and collaborators on a proposal to lead a new model of ecological restoration, grounded in Indigenous knowledges and languages. Highlighting the impacts of climate change and ecological degradation in Indigenous homelands,

we argued that "without ecological restoration of our territories, Indigenous cultural revitalization and sovereignty over food and health systems is impossible…[but] as Indigenous knowledge exists on the heels of 150 years of colonization, oppression and the near eradication of Indigenous languages that communicate these connections, Indigenous knowledge must first and foremost be restored and reclaimed in and by Indigenous communities" (Ignace, 2022). This latter part is, again, where I step back. Yet I hope that this dissertation can help move this work forward: not only through sharing Ron's concept and approach of WO2L, or by documenting Secwépemc leadership in and ongoing challenges for true partnerships in wildfire management – as Ron often says, we need to know where we've come from, in order to know where we're going – but also through the relationships that have come through my research. The new-found connections between researchers in my faculty and Ron and Marianne, the increasing focus on collaborative work with the Secwépemc Nation, and how this is prompting us to re-evaluate our roles and potential contributions as western-trained scientists and (action) scholars.

Elephant Hill was just the beginning.

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Appendices

Appendix A: Letter of support from Skeetchestn Chief and Council

SKEETCHESTN INDIAN BAND

330 Main Drive
Box 178, Savona,
B.C. V0K 2J0
Phone (250) 373 2493
Fax (250) 373 2494

March 25, 2020
Re: Remembering and Restoring Secwepemc Landscapes

Dear Sarah,

We are writing in regards to the letter of Support you submitted to Chief and Council for "Remembering and Restoring Secwepemc Landscapes."

Skeetchestn Indian Band Chief and Council hereby accept your research proposal: to attend and document group sessions with the Marianne Ignace and the Skeetchestn Elders, in regards to experiences in the territory and how the landscapes have changed over time. Participation in field visits of cultural importance within Skeetchestn Indian Band territory. Ensuring proper protocols are met while within the territory. We understand you will leave participation open to Skeetchestn Natural Resource staff, as well as any other interested community members. You will be sharing all data and information generated with not only Chief and Council, but presenting to Skeetchestn Natural Resources and interested community members as well, keeping all attained knowledge under the ownership and control of Skeetchestn Indian Band.

Should you have any questions please don't hesitate to reach out.

Vivian Simon, Director of Operations
250-373-2493
viv@skeetchestn.ca

Kukwstsétsemc,

Kukpi7 Ron Ignace
Councillor Darrel Draney
Councillor Marshall Gonzales
Councillor Tracy Hewitt
Councillor Terry Deneault

Appendix B: Letter of support from the SRSS

SECWEPEMCUL'ECW RESTORATION AND STEWARDSHIP SOCIETY

cell: 250-371-2165 email: CEO@srssociety.com

March 21, 2020

Letter of Support, SRSS research collaboration

This letter confirms the ongoing support of the Secwepemecul'ecw Restoration and Stewardship Society (SRSS) for Sarah Dickson-Hoyle (PhD student, University of British Columbia) to undertake collaborative research with the SRSS as part of her PhD research. The SRSS understands that Sarah's research is focused on exploring and supporting Indigenous-led approaches to restoration, monitoring and co-management of Secwepemcul'ecw, centered around the Elephant Hill wildfire area and associated SRSS projects.

I acknowledge that Sarah has already established research agreements and projects with two of the SRSS's member communities (Skeetchestn Indian Band, and Bonaparte Indian Band) to document Secwepemc Elders' memories and experiences of landscape change, and to monitor post-fire recovery on Elephant Hill, respectively. We also understand that some of our other member communities are interested in partnering with Sarah to conduct similar work. The SRSS will assist Sarah in liaising with these communities to further these opportunities.

I confirm that on March 11, 2020 I shared a document provided by Sarah (that summarized her existing research project components, and included a proposal for additional research to be undertaken in collaboration with the SRSS) with the leadership (Kukukpi7s/Chiefs) and natural resource staff of all of our eight member bands. Sarah then presented this proposal in further detail at a meeting of SRSS leadership and community representatives on March 20, 2020 to seek feedback and endorsement. I confirm that representatives from all communities present expressed their support for Sarah's research proposal, and the SRSS endorsed this proposal.

We mutually understand that this proposal specifically focusses on documenting the emergence of collaborative management and monitoring initiatives since the Elephant Hill wildfire. We understand that this will involve Sarah's ongoing participation in meetings and project activities (such as stakeholder engagement meetings, Secwepemc territorial patrol field-based activities) of the SRSS and Elephant Hill tables, and her observing and documenting these processes. As part of this, we acknowledge that Sarah will continue to assist the SRSS, for example in creating project presentations and briefings. We also understand that Sarah may wish to conduct interviews or facilitate discussions with participants (e.g. Secwepemc leadership and staff) in these meetings/projects.

Through a collaborative process, the SRSS member communities (in particular members of the Technical Table) will have input into the interpretation, presentation and dissemination of results, and that all community-generated data will remain under the ownership and control of the respective community/ies. At the same time, we recognize that portions of Sarah's work may be published both within and beyond the Secwepemc Nation (e.g. in conferences, research publications).

Once again, I confirm the SRSS's support for this ongoing research collaboration and the work being conducted.

Endorsed by

Angela Kane CEO
Secwepemcúl'ecw Restoration and Stewardship Society

Appendix C: Interview schedule, SRSS community staff

Introduction (researcher)

- Province of BC conducted internal discussions and high-level review to identify key lessons learned from collaboration on Elephant Hill wildfire recovery
- SRSS Technical Table emphasized need to document community-specific experiences, share community impacts, and identify recommendations for future collaboration across all stages of emergency management
    - Interested in understanding the context prior to the fire, what happened during the fire, collaboration for wildfire recovery, and what needs to happen to improve/prepare for future events
- Re-iterate – previously read through project summary
- Document verbal consent
- As agreed, session will be recorded via Zoom record feature/recorder, transcript will be sent to you and checked for accuracy. Can choose to delete or withhold any information

Introductions

1. Could you start by introducing yourself and telling me a bit about your background working with [insert SRSS community]? [modify if also community member]
    a. What was your role at the time of the Elephant Hill fire? (*prompt: what did this role involve (regular tasks/duties?)? Specific to fire/emergency management? How long had you been in this role?*)
    b. *Prompt: if different now, what is your current role?*
2. What was your previous experience working with FLNRORD or BC Wildfire Service staff? (*Prompt: existing relationships/collaboration? specifically in relation to fire and emergency management?)*
    a. How would you describe these relationships, prior to the fire? *(prompt: Who did you work with? For what purposes or activities? Describe nature/quality of working relationships?*

Community context pre-Elephant Hill fire

3. Prior to the Elephant Hill fire, had your community been impacted by wildfire or other natural hazards? (*prompt: which hazards e.g. fire, flooding?*)

a. What was your previous experience working in/coordinating emergency management and response? (*prompt: how had community responded to past hazard events? What was your involvement/role?)*

4. What was your community's approach to managing fire risk and hazards? (*prompt: What strategies/management actions e.g. planning, hazard reduction such as fuels treatments, training fire crews, building response capacity? Had these changed over your time with/in this community?*)

5. Was there anything your community had wanted to do in terms of wildfire risk reduction that you hadn't done yet (prior to the Elephant Hill fire)?

    a. Why? What had prevented your community from taking those actions?

Experiences during Elephant Hill fire (response)

6. Thinking back to summer 2017 –tell me about the moment you first became aware of the Elephant Hill fire?

    a. *Prompt: how did you find out about the fire; from whom? What was your initial understanding/perception of risk posed to your community?*

7. Talk me through the process of how your community responded? (*prompt: e.g. first day; week; ongoing? What actions were taken by your staff, leadership, community members to respond to fire? To reduce impacts?)*

    a. What was your role in coordinating/being involved in emergency response? Role of other community staff/leadership?

8. What was your first interaction with external agencies (e.g. BC Wildfire Service)? (*prompt: when did this occur? Did they approach you/your community members, leadership or staff?Who/for what purpose?)*

    a. What was your experience of working with external agencies throughout the duration of the fire? (*prompt: with whom? For what purpose?*)

    b. What is your perception of the level of community engagement from external agencies (e.g. BC Wildfire Service, FLNRORD)? *(prompt: were you engaged for or exluded from certain activities or processes? Impacts of this engagement or lack thereof? How could this have been done better/more effectively?)*

9. What knowedge and data informed decision-making around wildfire response? By external agencies versus within your community? (*prompt: How were local and [insert SRSS community name] knowledges and capacities considered by external agencies during wildfire response? What information did you draw on?)*

10. In your view, what are the most significant impacts the fire has had on your territory and community? (*prompt: specific areas impacted? Values? What does this mean for your community?)*

Experiences of post-fire collaboration (recovery)

11. What were your immediate priorities for recovery and restoration? (*prompt: Concerns? What values had been most impacted? What about community perceptions?)*

12. In the months after the Elephant Hill wildfire, Secwepemc communities came together with representatives from the Province (Thompson Rivers and 100 Mile House FLNRORD districts, BC Wildfire) to discuss collaborating on wildfire recovery. Can you tell me about when you first became involved in these collaborative tables?

    a. In your view, what drove the establishment of these tables?

    b. How were they established? (*prompt: who was leading the process? How did different people/communities/agencies become involved? What was the motivation from communities and the province?)*

13. Thinking through the different activities that these tables initially focused on - morel permit program; guidelines and principles for silviculture, salvage, access management; archaeology assessments for fireguards and fencelines; rehabilitating fireguards and fencelines (other?) – how/why were these activities selected as the focus for these tables/recovery?

    a. Are there other activities you would have wanted to collaborate on? Why do you think this did not occur? (*Prompt: what values or concerns were prioritized? Were these different across different participants? How were decisions made?)*

14. Can you talk about your experience working with the province and external agencies/stakeholders on these activities?

    a. What were the main challenges? What worked well? What would you do differently/need to improve future? (*Prompt: capacity/resourcing? Decision-making/governance? Power relations? Knowledge integration?*]

    b. Are there other activities you would have wanted to collaborate on? Why do you think this did not occur? (*Prompt: what values or concerns were prioritized? Were these different across different participants? How were decisions made?)*

15. What do you see as the impacts or outcomes for your community of participating in these tables? (*prompt: relationships? Shift in governance/institution building/power and decision-making?)*

16. (How) has the focus of these tables shifted over time? Since your initial involvement?

Beyond recovery

17. The first recommendation of the Abbot and Chapman report into the 2017 flood and fire season was to 'establish Indigenous peoples as true partners and leaders in emergency management'. What does this mean to you? What does this look like in practice?

    a. What progress has been made since 2017 towards achieving this and other recommendations? What still needs to change?

18. What would you like to see happen in the event of a future wildfire or other natural hazard/emergency?

    a. What should be the first step? By BC Wildfire Service? FLNRORD? Your community? Talk me through the process.

    b. Who should be involved in coordinating response and collaboration in your community?

    c. What would you like (your community) to be involved in? To lead?

    d. What needs to be done between now and the next event to enable this to happen?

        i. *Prompt: operational or communications protocols? Formal positions or agreements? Capacity building? Specifics*

19. Does your community face any ongoing challenges in managing fire and other natural hazards? (*prompt: what? Why are these a particular challenge? What community characteristics influence this?)*

20. Is there anything you would like to see done to manage wildfire risk, that you are not currently doing?

    c. What has prevented you from taking these actions?

    d. What would support you in doing these?

21. What do you see as the role of these tables now? Into the future? (*prompt: what should they focus on? What are your visions/goals for participating? Beyond wildfire/emergency management?)*

    e. Do you see any challenges for ongoing community involvement in these tables and activities?

    f. Does your community face any unique challenges?

    g. How could these challenges be overcome? *(prompt: capacities? Resources? Governance*

22. What would successful collaboration in emergency management look like to you?