THE ROLE OF AWARENESS AND ENGAGEMENT IN SAFEGUARDING THE MUSKWA-KECHIKA MANAGEMENT AREA

by

Rachelle Sydney Linde

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ABSTRACT

The Muskwa-Kechika Management Area (M-KMA) in northern British Columbia is globally significant for its size, special resource management, and cultural and ecological values. These characteristics were secured in perpetuity through the British Columbian Government's M-KMA Act in 1998. However, today low public awareness and engagement are seen as threats to the M-KMA's effectiveness and longevity. Using a mixed-methods approach, this research examined the role of awareness and engagement in safeguarding the M-KMA by conducting semi-structured interviews and a media analysis, both of which informed a public survey. Informing the research design were underlying theories in sense of place, place branding, and the relationship of planned behaviour to place-protective behaviour. Additionally, resource management practices like ecosystem-based management informed the research design and methods of public participation in policy formation.

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1 INTRODUCTION

Established in 1997 by Order-in-Council, the Muskwa-Kechika Management Area (M-KMA) is globally significant for its size, approach to integrated resource management, and cultural and ecological values (Weaver, 2019a). Situated in northern British Columbia, the M-KMA covers 63,845 km^2 of land, an area larger than the province of Nova Scotia, encompassing the traditional territories of the Kaska Dena, Carrier-Sekani, and a number of Treaty 8 First Nations. As one of the largest remaining intact landscapes globally, the M-KMA's sheer size contributes to the health of ecologically and culturally significant species like grizzly bear and caribou during a time of rapid change (Weaver, 2019a).

In the 1990s, resource management's status quo was characterized by siloed management and a focus on maximizing production. The designation of the M-KMA was a counterpoint to this system. It was designed to be a demonstration of innovative, ecosystem-based management (EBM) practices which would serve as an alternative to the status quo. The M-KMA legislation focused on maintaining wilderness and wildlife populations in perpetuity within a complex mix of protected areas and a working landscape. In the two decades since its creation, gaps in the initial planning and design of the M-KMA have become more apparent as pressures from climate change, lack of funding, differing priorities in management, and other concerns have become increasingly evident.

The decision to create a management area of this size and cultural and ecological significance resulted from the collaborative work of three Land and Resource Management Planning tables (LRMPs). These LRMPs were based in communities around the proposed M-KMA, and included members of local and provincial government, environmental non-government organizations (NGOs), First Nations, and self-selected members of the public

(Mitchell-Banks, 2007). Public involvement was critical as the M-KMA was to be created in the public's trust, with public lands and funds.

The inclusion of members of the public in the LRMPs was reflective of the principles of EBM and recognized the importance of involving the public in management decisions. The public needed to be involved because of the potential role they would play in challenging the status quo, helping to achieve tangible differences in management, and acknowledging the impacts that change, monitoring, and the lessons learned would have. These public roles are critical components of safeguarding the M-KMA against the various contemporary challenges it faces today.

These challenges will, and are already, a test to the M-KMA's ability to *"maintain in perpetuity the wilderness quality, and the diversity and abundance of wildlife and the ecosystems on which it depends"* (Government of British Columbia, 1998). These challenges include dated legislation and lagging governmental support and funding for the M-KMA Advisory Board and planning efforts (like park management plans, recreation plans, and pre-tenure development plans); the need for reassessment of conservation practices and land use in response to climate change; and the Kaska Dena First Nation's proposal for an Indigenous Protected and Conserved Area (IPCA) within the M-KMA (Cox, 2019)[1].

Furthermore, the remoteness of the M-KMA is a challenge; British Columbians living away from the borders of the M-KMA likely have little awareness of it (Ipsos Reid Public Affairs, 2006), and therefore have no impetus to engage meaningfully with decision-makers

[1] The BC Government is currently working towards an updated and amended Fort St. John LRMP in collaboration with Blueberry First Nation and other Treaty 8 First Nations. The results of this new LRMP will have implications for the management of the M-KMA but as it is still in progress (Government of British Columbia, 2019b) those implications remain unknown.

on conservation actions (Byg et al., 2017). The vagaries of the province's four-year election cycle are an additional challenge for the M-KMA because of the lack of flexibility in its ability to respond to new problems and act quickly on opportunities that present themselves.

All this would suggest the necessity of an aware and engaged public. The public's involvement has been a key to the success of safeguarding other protected areas and special management areas in British Columbia and elsewhere (Butt & McMillan, 2009; Green, 2007). Unfortunately, for remote management areas like the M-KMA where visitation and general awareness are low, the public's role in safeguarding measures is poorly understood.

My research explored the role of public awareness and engagement in safeguarding a public trust like the M-KMA. The use of 'safeguarding' in this context refers to measures taken by key actors (e.g., government employees or the M-KMA Advisory Board members), to help maintain or uphold the designation of the area as the M-KMA and all that its unique legislation entails. Furthermore, I examined how key actors think the public should be involved and what value their involvement has in areas like the M-KMA and how they think the public could be mobilized to safeguard such places' intent or ideals.

This study focused on an aspect that is often overlooked: the role of the broader public whose engagement, or lack thereof, may strengthen or weaken mechanisms in place to effectively manage areas like the M-KMA. My research asked the following qualitative questions: 1) *How has the M-KMA been framed in the media?* 2) *What do key actors want the public to know about the M-KMA? Why is that knowledge important?* In addition to the following quantitative questions*:* 3) *What is the publics' awareness and attitude towards the M-KMA?* 4) *How is sense of place and branding related to awareness and engagement?*

Informing my research design are theories of sense of place, place and cause branding, and the relationship of planned behaviour to place-protective action (Anton &

Lawrence, 2016; François Lecompte et al., 2017; Vela, 2013). Additionally, resource management practices like ecosystem-based management and integrated resource management contributed to the research design and methods of public participation in policy formation (Bourgeois, 2008; Owens, 2000; Walters et al., 2000).

I first present a review of the literature on the topics mentioned above and describe how they are interconnected and inform the conceptual model I developed to inform my research design. Next, I explain my research methodology and its three parts: a census media analysis, semi-structured interviews with key actors in the M-KMA, and a public survey in British Columbia. A case study of the M-KMA follows, which presents a comprehensive illustration of the management area's various components. Finally, I present my research results and a discussion of those results and posit answers to the research questions.

2 LITERATURE REVIEW

Public awareness of the M-KMA and the public's engagement with the area throughout the LRMP process was instrumental in the success of the M-KMA's establishment. The public's participation in that process was reflective of a central principle of ecosystem-based management (EBM). This innovative approach necessitated management not only of species and ecosystems but simultaneously of human behaviour (Takeda & Røpke, 2010). This literature review explores the origins and tenants of EBM as a foundation for continued public involvement and engagement in the M-KMA. Furthermore, it identifies the role that place attachment, identity, and branding have in forming an individual's beliefs and norms as they relate to the Theory of Planned Behaviour (TPB). These concepts have been used in research to predict an individual's place-protective action and other environmental behaviours (Anton & Lawrence, 2016; Devine-Wright, 2009; Stedman, 2002). Environmental policy formation in British Columbia and an examination of how the public can be involved in those processes are also addressed.

2.1 Management, Policy, and the Public

The M-KMA Advisory Board has identified continued public awareness and engagement with the M-KMA as essential to the area's prolonged effectiveness (Ipsos Reid Public Affairs, 2006; MKMA Advisory Board, 2015). EBM and public involvement in policy making are both concepts that are integral to further understanding the public's role in safeguarding places like the M-KMA. These subjects help conceptualize how to build further public engagement and interest in the long term but not necessarily increase visitation to a remote area where there is no immediate crisis.

2.1.1 The Origins of EBM

In the 1930s, the Ecological Society of America's Committee for the Study of Plant and Animal Communities (ESAC) identified a need to protect entire ecosystems, not just individual species of concern, to achieve effective conservation (Grumbine, 1994). The ESAC members were sure that by managing an area at the larger scale of whole ecosystems those ecosystems would be made more resilient to natural disturbance and therefore provide better protection against natural disturbance to all species within them (Grumbine, 1994). They stipulated though, that to be effective, there would need to be interagency cooperation, and that ecologists would need to *"use every means to educate the public as to the value of sanctuaries"* (Grumbine, 1994, p. 28). The ESAC's identification of a need for a new management style that would include the public's input and recognize humanity's intrinsic role in the environment was the germination of ecosystem-based management as we know it today.

The effort to shift to resource management that incorporates an ecosystem-based approach has not followed an easy path. For example, in 1935, national and state parks in the United States of America were not drawn to reflect full, functional ecosystems (Grumbine, 1994; J. P. Hansen, 2017), an issue that continues to this day. The ESAC and other conservation groups lobbied for those park boundaries to be made larger to reflect large animals' habitat requirements on the land (Grumbine, 1994). These efforts were largely unsuccessful. In the 1950s, the ESAC and other environmental groups' work to *"ground resource management better in ecology and landscape-level concerns"* (Grumbine, 1994, p. 28) were similarly dismissed by policymakers. The 1970s saw much the same opposition and resistance to change as the previous decades. Advocates for ecosystems as foundations in public land policy sought the support of a greater societal environmental movement

(Caldwell, 1970), but the existing movement was not strong enough to inspire a total overhaul of the *"conventional [political] matrix"* (Grumbine, 1994, p. 28) that would be required to do so effectively.

After decades of political and institutional resistance to the adoption of ecosystem management, brothers Frank and John Craighead published research on grizzly bears in Yellowstone National Park, which identified the species' need for large, complete and uninterrupted ecosystems to be successful (Craighead, 1979; Craighead & Craighead, 1972). The brothers' work is often given credit for popularizing what was then just referred to as ecosystem management (Grumbine, 1994). The Craigheads identified *"a fundamental criterion for defining greater ecosystems: the area must provide the primary habitat necessary to sustain the largest carnivore in the region"* (Grumbine, 1994, p. 28).

In 1992, the ESAC's 60-year-old goal of resource management based on ecosystem boundaries came to fruition when the United States (US) Forest Service applied its own *"vision of ecosystem management"* (Grumbine, 1994, p. 29). EBM has since been applied in a variety of forms to a wide range of ecosystem types (Link & Browman, 2017; Price et al., 2009; Schlaepfer et al., 2002). Evolving as it grows in applicability and range of use, ecosystem management has undergone changes that led researchers to refer to it as ecosystem-based management. The addition of "-based" to "ecosystem management" is rooted in the intent to manage human activity within ecosystems, not the reverse (Price et al., 2009). This change was also in response to a lack of recognition for human involvement and influence on ecosystems by other management practices (Price et al., 2009).

Ecosystem-based management is defined as: *"an integrated approach to management that aims to maintain an ecosystem in a healthy, productive and resilient condition while providing the services that humans want and need"* (Cormier et al., 2017, p. 406). Other

definitions include an emphasis on the cumulative impacts of human activities within an ecosystem (Link & Browman, 2017) and the acknowledgment of *"ecosystem features, functions, and components"* (Cormier et al., 2017, p. 411). Price et al., (2009, p. 496) further expand this definition of EBM to include the importance of *"spatial and temporal characteristics of ecosystems."*

2.1.2 Other Applications of Ecosystem-Based Management

Elsewhere in British Columbia (BC) throughout the 1980s and into the 1990s, protests were staged against forest management's status quo practiced by forest licensees and the provincial government (Green, 2007; Tiakiwai et al., 2017). First Nations, non-indigenous local communities, environmental groups, and other members of the public voiced their strong opposition to forest practices on Vancouver Island and along the north-central coast of BC. These practices were characterized by an industrial model of clear cuts, *"desultory recognition of reserve areas"* (Green, 2007, p. 14), and significant damage to watersheds and biodiversity (Tiakiwai et al., 2017).

Conflicts between the environmentalists, First Nations, a pro-conservation public, and forest harvest companies and the government in this era were deeply political and had widespread and lasting implications for forest policy in BC (Butt & McMillan, 2009; Green, 2007; Tiakiwai et al., 2017). Along the north-central coast, an area now called the Great Bear Rainforest, *"First Nations and environmentalists joined forces to protest logging practices and fight for greater recognition of constitutionally protected aboriginal rights and title"* (Tiakiwai et al., 2017, p. 70). In the early 1990s, the BC government initiated a *"multi-stakeholder planning approach"* (Tiakiwai et al., 2017, p. 71) to land-use plans across the province, but in 1996, environmentalist groups criticized these plans as tools to maintain the

status quo. These environmental groups successfully initiated an international boycott of forest products from BC's north-central coast (Tiakiwai et al., 2017). The boycott and the resulting economic and political fallout for the government and forest companies encouraged the adoption of ecosystem-based management in the Great Bear Rainforest as a new approach that addressed First Nations' rights and title and sustainable forest practices (Tiakiwai et al., 2017).

In Clayoquot Sound, on Vancouver Island, similar tensions arose between timber harvesting companies and the BC government, First Nations, environmental groups, and non-Indigenous public members in the 1990s (Butt & McMillan, 2009; Green, 2007). First Nations, namely the Nuu-chah-nulth Nation, were protesting unrestricted logging practices in old-growth forests because of the erasure of their community and subsistence values and cultural uses of the land (Green, 2007). The Nuu-chah-nulth sought a balance between *"a fair share of tenure, revenues, royalties, jobs, and other economic opportunities"* (Green, 2007, p. 247) through increased access to the logging industry, and better protection of their cultural and environmental values.

In 2001, an agreement was reached between *"environmental groups, logging companies, workers, communities, and Indigenous Nations"* (Green, 2007, p. 248) to build and apply an EBM approach in Clayoquot Sound, as well as for BC's north and central coastlines. Industry and government were *"shaken by the intensity of protests and by the publicity"* (Butt & McMillan, 2009, p. 16) of Clayoquot Sound. That publicity contributed to the three developments, which created the conditions for EBM to be agreed to by all parties. Those developments were: *"court decisions recognizing Aboriginal Title and Rights, escalating environmental protests, and growing international concern over the fate of BC's coastal temperate rainforest"* (Green, 2007, p. 248).

2.1.3 Considerations When Applying EBM

EBM asks decision-makers to recognize humanity's intrinsic role in the environments they inhabit (DeFries & Nagendra, 2017; Price et al., 2009). Connection to nature is a key element of EBM, and it is what differentiates it from other types of resource management (Link & Browman, 2017; Price et al., 2009). By recognizing humanity's role as a part of nature, not apart from it, decision-makers can more effectively account for cumulative impacts on an area that might be missed otherwise (Link & Browman, 2017). This shift in perspective has been described as moving from *"a view of humans dominating nature to an understanding of humans as stewards of nature"* (Takeda & Røpke, 2010, p. 181).

No one person is responsible for a decision within an EBM framework (Takeda & Røpke, 2010). Decision-makers working with EBM should ensure they are not working in a vacuum and must recognize the importance of communicating plans outward to the communities affected by them (Price et al., 2009; Takeda & Røpke, 2010). Managers must include diverse voices in the planning process to ensure adequate representation of both people and ecosystems (Bourgeois, 2008; Price et al., 2009; Takeda & Røpke, 2010). First Nations, non-scientists, community members, and local governments are all examples of the voices outside of the management decision-makers silo whom EBM identifies as important to include (Bourgeois, 2008; Price et al., 2009; Takeda & Røpke, 2010).

To apply EBM effectively, decision-makers must rely on established *"ecological thresholds and natural variability"* (Price et al., 2009, p. 495) to establish management targets. Respecting ecological thresholds in plans built using EBM can help identify *"regions where ecological risk increases rapidly"* (Price et al., 2009, p. 498). Regions at ecological risk can be those most susceptible to climate change impacts. For example, increased fire

intervals or decreased snowpack in winter, both of which are occurring within the M-KMA (Price et al., 2009; Weaver, 2019a).

Decision-makers typically function under a specific mission statement, vision, or set of goals, and EBM recognizes these as integral components of successfully implementing an EBM plan (Cormier et al., 2017; Takeda & Røpke, 2010). However, what solidifies these important components of EBM is decision-makers acting to achieve *"the implementation of policies, protocols, and practices"* which are *"made adaptable by monitoring and research to achieve explicit goals"* (Cormier et al., 2017, p. 406). Statements made by governing bodies or conservation initiatives of their goals and objectives are not sufficient to change industry or individuals' behavior, therefore necessitating the implementation of policy and government protocols (Cormier et al., 2017; Takeda & Røpke, 2010).

2.1.4 Policy Formation and Public Involvement

Policy, as defined by the Government of BC, is a *"definite course of action selected from among alternatives and in light of given conditions to guide and determine present and future decisions"* (Jobs, Trade and Technology, 2019, p. 2). In BC, a policy is the culmination of a series of decisions made by Political Policy-Makers (individuals democratically elected to represent the government's authority) and Administrative Policy-Makers (public servants bound by duty of loyalty to the elected government of the day) (Jobs, Trade and Technology, 2019). Together, these policymakers work within the bounds of the Canadian Constitution to achieve desired outcomes. These outcomes are achieved through the following processes: 1) Legislation, 2) Regulations and Orders, 3) Policy, Plans, and Procedures, and 4) Programs, Services, and Enforcement.

A defined hierarchy typically characterizes policy making in BC, where complex problems need complex solutions, which means involving diverse actors like the public, industry workers, or local government (Jobs, Trade and Technology, 2019). These key actors are brought into the usual policy-making process at different stages depending on the circumstances. The relationships between government policymakers and these actors are maintained through partnerships and collaborations on research, development, and review and analysis of the policies in progress; these relationships are also referred to as *"policy networks"* (Jobs, Trade and Technology, 2019, p. 5). In the case of the M-KMA, the actors who came together to work with the provincial government included First Nations, industry representatives from forestry, mining, oil and gas, local governments, environmental NGOs, and local community members.

Hessing and Summerville (2014, p. 108) identified a five-stage model that depicts which *"phases of applied problem solving"* occur during which *"stage in the policy cycle."* For example, recognition of a problem (phase one of problem solving) occurs during agenda setting (first stage of the policy cycle), and the choice of solution occurs during the making of policy and related decisions (Hessing & Summerville, 2014). These approaches are curated to *"require the least amount of regulation and government intervention [in the activity of individuals or groups], while achieving as much or all of government's objectives"* (Jobs, Trade and Technology, 2019, p. 12).

2.1.5 Public Participation in Policy Formation

Approaches to policy making like those listed above invite the public to participate at specific points in the process as a check on governmental activity (Chen, 2017; Walters et al., 2000). In a democratic society, elected policymakers are expected to make decisions

according to their constituents' values, which were expressed through their vote (Jobs, Trade and Technology, 2019).

The 'public' is defined as those individuals or communities who are separated *"from dominant political or knowledge regimes in a particular context"* (Owens, 2000, p. 1141). Contemporary policymakers in BC might invite the public to participate in community information sessions, online discussion forums, questionnaires, or surveys (Government of British Columbia, 2019c). To be effective, public participation in policy *"should ensure the ability of citizens to (a) access relevant information, (b) express their concerns, and (c) hold responsible government agencies and businesses accountable"* (Chen, 2017, p. 1).

Throughout the policy-making process, the value of including the public is that it widely legitimizes the process and can improve policy, especially when related to environmental issues (Chen, 2017). Policymakers most often rationalize involving the public from one of two perspectives: an 'information deficit' model based on a rationalist worldview (Owens, 2000), and a 'civic' model (Owens, 2000). Public engagement proposed via an information deficit model assumes that the public *"must be engaged in order to be better informed and converted to a 'more objective' view"* (Owens, 2000, p. 1141). An information deficit model of engagement assumes that if the public could come to know and understand how a behaviour is linked to environmental issues like climate change or habitat loss, they would decide to change that behaviour (Owens, 2000).

The civic model of public engagement differs in that it assumes that true constraints on an individual's time and available resources to take action are compounded by *"a feeling that individuals have neither the prime responsibility to take action nor the agency to have much effect"* (Owens, 2000, p. 1143). An individual subscribing to the civic model puts the

responsibility to create suitable policy on the government, but does not expect it to succeed (Owens, 2000).

Most often, policymakers subscribe to an information deficit model when engaging with the public (Owens, 2000); information campaigns, for example, are easier to produce than re-writing decades of the public's disenfranchisement with governmental processes (Chen, 2017; Walters et al., 2000). As addressed above, there are benefits to public participation in policy making, but policymakers have not widely accepted them: *"inputs from citizens rarely gain real weight in decision-making processes"* (Chen, 2017, p. 1). Analysts and policymakers have identified their resistance to incorporating public participation and engagement with policy making due, in part, to *"the cost, uncertainty, and delay often associated with public involvement"* (Walters et al., 2000, p. 350).

2.1.6 When the Public is Unheard

Political policymakers, those elected to represent their constituents' values in government, are dependent on their constituent's vote to remain in power. If a policy is particularly divisive, the public may seek ways to engage with the government away from the ballot box. In a perfect democracy, the public would engage with the policy process through information sessions and online mediums. The policy process could then be course-corrected. Unfortunately, there is no perfect democracy, and political and administrative policymakers may not represent the public interest. However, regardless of their duty of loyalty to the elected government of the day, research indicates that some administrators *"informally advocate [for] special interests within the framework of public tasks"* (Hubo & Krott, 2013, p. 65; Ludwig et al., 2001).

When a public does not have confidence that they are being heard through standard means, they will seek other opportunities to demonstrate their views. For example, when the War of the Woods was at its height in Clayoquot Sound, the public staged sit-ins on forestry equipment and demonstrations at government buildings (Butt & McMillan, 2009; Levine et al., 2017). Similarly, to publicize the rapid deforestation and the need for the conservation of the Great Bear Rainforest, the public, led by environmental groups and local First Nations, were successful in initiating an international boycott of forest products from the north-central coast of BC (Price et al., 2009; Tiakiwai et al., 2017).

In both the War of the Woods in Clayoquot Sound and in the Great Bear Rainforest, EBM and public awareness and engagement with policy formation were key factors to their creation. Both areas had a strong, pre-existing place identity among their local communities, but that was greatly expanded to the larger public as awareness and engagement with media coverage and other awareness-raising initiatives grew (Levine et al., 2017; Tiakiwai et al., 2017).

2.2 Promotion of Place

Awareness of a particular place can be based on traditional marketing, a focused place-branding effort, or a more organic development of a place's brand and identity by the public. The following section explores these concepts, how they are typically delivered to the public, and further demonstrates the need to do so with a de-colonizing approach.

2.2.1 Branding through Traditional Marketing

Marketing is the activity or set of institutions and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large. From the local to national level, tourism organizations use

marketing to promote destinations and the experiences available there and subsequently encourage more tourism dollars to enter their economies (Vellas, 2016). Their focus on creating revenue defines these kinds of marketing activities for destinations and experiences.

2.2.2 Place Branding, Identity of Place and Personal Identity

Place branding is a concept derived from the marketing literature and, while strongly related, has not traditionally been linked to the social-psychology literature and theories around sense of place. Place branding is the process through which a place, whether a park, a city, or a whole country, establishes a recognizable image or identity that individuals seek out to experience (Stedman, 2002; Vela, 2013). Place branding involves conceiving a strategic position for a place administered through various communication channels (Vela, 2013). Place brands can be intentionally built but are sometimes unconsciously created from shared visitor experiences in that place (Mayes, 2008). A place brand, intentionally made or not, reflects the place's essence, whether that be natural features or the local community, through *"a few simple, coherent and compelling truths"* (Mayes, 2008, p. 125).

A place brand can evolve into an 'identity' through many participants sharing similar human-environment relationships while in that place. The "unique identity of place" created by these relationships must not be confused with *"personal identity related to place"* (Vela, 2013, p. 257). Reiteration of experiences, images, and other messaging through word of mouth, marketing materials, and other media all contribute to forming a place's identity in society (Stedman, 2002; Vela, 2013). Place branding consists of three dimensions: 1) cognitive (belief and perception), 2) affective (emotions and feelings), and 3) conative (behavioural intention and commitment). Each dimension contributes to the formation of a place's identity through the actions of individuals who experience it and then share it with

others (Vela, 2013). For the individual, their experiences are processed through the three dimensions (cognitive, affective, and conative). They may come to incorporate those experiences into their sense of place and personal place identity (Brehm et al., 2013; Stedman, 2002; Vela, 2013).

Maintaining a clear separation between the identity of place and personal place identity is increasingly complex as some research reported there is a *"cognitive disjunct between a priori perception of a place and how the place is lived and experienced in situ*" (Vela, 2013, p. 260). Place branding represents an effort to align a sense of place and place identity with a specific and consistent experience (Vela, 2013, p. 260).

2.2.3 Delivering Place Brand

Place branding is the marketization and distribution of a place's essential characteristics and experiences on offer that have been identified as alluring to potential visitors (Brehm et al., 2013; Vela, 2013). The scale of place for which place branding is happening is highly variable; it can occur for small coastal communities as often as it does for entire biogeoclimatic zones. In the early 2000s a campaign was launched to promote awareness to establish a place brand for the Canadian boreal forest (Baldwin, 2010). The Boreal Rendezvous built a place brand for the Canadian boreal through multi-media campaigns, which included a made-for-TV documentary, news and radio coverage, in addition to a book, an online presence, community celebrations, and press releases (Baldwin, 2010). The Boreal Rendezvous, and a similar place-branding effort in Nahanni National Park and Reserve, used celebrities to help in promoting these two places; musicians, professional hockey players, politicians, and an Olympian were among the high-profile participants in the various promotional events (Baldwin, 2010).

The Great Bear Rainforest (GBR) was the outcome of a similar effort in place branding, led by the environmental group Greenpeace (Palmer, 2016). The name 'The Great Bear Rainforest' was carefully chosen: *"We needed a name that immediately defined the area. We wanted people to hear the name and be mad as hell that anybody could turn it into toilet paper"* (Palmer, 2016, p. 1). The name effectively branded the GBR as something that the public could embrace and understand as important, while also capitalizing on the charismatic species that lived there, namely grizzly bears and the *"emblematic spirit bear, the Kermode"* (Vela, 2013, p. 1).

2.2.4 De-Colonizing Place Branding

When building a place brand, special attention must be paid to whether or not that brand reinforces colonial ideation of pristine and untouched lands and the subsequent erasure of Indigenous peoples' culture, history, and contemporary identity and presence on the land. In Canada, there are many examples of 'wild' places, the GBR for example, or the wide expanse of the boreal forest, that can be described as being *"simultaneously the imagined colonial geographies of aboriginal and Métis dispossession, European nation building and territorial abstraction"* (Baldwin, 2010, p. 192). An example of this took place during Greenpeace's initial efforts to promote the preservation of the GBR. Greenpeace built an encampment on the central coast of BC without consultation with local First Nations, and was heavily criticized by those Nations for *"presuming to tell natives how to manage their traditional territories"* (Palmer, 2016, p. 1).

All presentations of wilderness and their management are inherently cultural (Baldwin, 2010), and any attempt to present them neutrally is an impossibility. The goal then,

should be to frame these places as *"unbounded space[s] of socio-ecological immanence, as opposed to bounded, ahistorical object[s]"* (Baldwin, 2010, p. 193).

2.3 Sense of Place and Planned Behaviour

A successful place brand is made up of cognitive, affective, and conative dimensions and can inform an individual's sense of place through their experiences with it (Brehm et al., 2013; Stedman, 2002; Vela, 2013). The beliefs and emotions involved in place branding contribute, ideally, to behavioural intention; a parallel seen in the relationships between sense of place and planned behaviour. The following section describes in finer detail the key components of sense of place (attachment, identity, and dependence), and explores their significance in the literature and relationship to planned behaviour.

2.3.1 Place Attachment, Identity, and Dependence

EBM asks that human activity be incorporated into land management plans and actions (Link & Browman, 2017). Sense of place, a concept that encapsulates the relationship between people and places, can be a critical concept to help understand how to engage people in EBM planning. Sense of place consists of multiple components, but two are particularly relevant: place meaning and place attachment. Place meanings are contrived by the individual or community, while place attachment, the bonds people have to these places, is built from those meanings (Brehm et al., 2013; Stedman, 2002). Individuals with a strong place attachment are more likely to take place-protective action in favour of stopping change of any kind in the areas they feel connected to (Anton & Lawrence, 2016; Devine-Wright, 2009). That connection can be as simple as a fond memory, or it can be a fundamental part of an individual's or entire community's identity (Anton & Lawrence, 2016; Stedman, 2002).

2.3.2 Sense of Place, Attitudes and Behaviours

Sense of place is the amalgamation of *"symbolic meanings, attachment, and satisfaction"* (Stedman, 2002, p. 563) with a place that is held by a whole community or just an individual. A singular place rarely has only a single meaning. Some groups may share broad symbolic meanings for the same place, but those meanings are often as variable as the people who visit (Brehm et al., 2013; Stedman, 2002). In the literature, sense of place is most often developed and incorporated into an individual's place attachment through direct experiences in that environment (Brehm et al., 2013; Stedman, 2002). This poses a unique challenge for locations that might need or want a wider public to feel place attachment for them without encouraging increased visitation.

Meanings, a key aspect of sense of place, are *"building blocks of attitude"* (Stedman, 2002, p. 565). In connection to a physical place, meanings will act as the locus for the formation of beliefs, attitudes, and aspects of one's identity. Research examining under what circumstances attitudes might predict behaviour determined that there is a positive relationship when *"attitudes are based on direct experiences with the attitude object, when multiple indicators of behaviour are used, when behaviours are volitional, and at a similar level of specificity"* (Stedman, 2002, p. 566).

2.3.3 Connections Between People and Place

Place attachment consists of the affective, cognitive, and conative bonds a person shares with their environment. The subject of place attachment can be either natural (like a local park or beach), or human-built (for example, a city's downtown core) (Anton & Lawrence, 2016; Manzo & Devine-Wright, 2013). In place attachment, the emotional and functional relationships between an individual and a place are often different. Place identity

is created through the application of symbolic meaning to a place. It can augment self-esteem and sense of belonging in a place or as part of a community group with shared place identity (Anton & Lawrence, 2016). Strong place identity often presents as individuals who struggle to define who they are without acknowledging the environment around them (Stedman, 2002). Place dependence develops as individuals have their needs (physiological and social) met by a place (Anton & Lawrence, 2016).

Strong place attachment can motivate individuals and whole communities to act in ways they believe will lessen the rate and extent to which a place will change (Anton & Lawrence, 2016; Lin & Lockwood, 2014). A strong sense of place attachment has also been connected to a positive relationship with pro-environmental intentions (Brehm et al., 2013). Intention may turn to action if an individual or community feels that the focus of their place attachment, and therefore a part of their personal identity, is under threat of change. Self-efficacy and stability are tied to place identity and can contribute to an individual's drive to limit change to the place they feel attached to (Anton & Lawrence, 2016; Lin & Lockwood, 2014; Stedman, 2002). When individuals and communities act to stop change to the place they identify with and depend on, they are making place-protective actions (Anton & Lawrence, 2016; Devine-Wright, 2009).

Place-protective actions, or safeguarding behaviours, either in support or opposition of change, include, but are not limited to, participating in protests, signing and distributing petitions, and letter writing to news outlets and government officials (Anton & Lawrence, 2016). Place-protective actions can be pro-environmental, supporting the installation of wind energy, for example (Devine-Wright, 2009), but they can also be dedicated to stopping change of any kind. Even in communities aware of the consequences of climate change and the necessity of reducing greenhouse gas emissions, place-protective actions can occur in

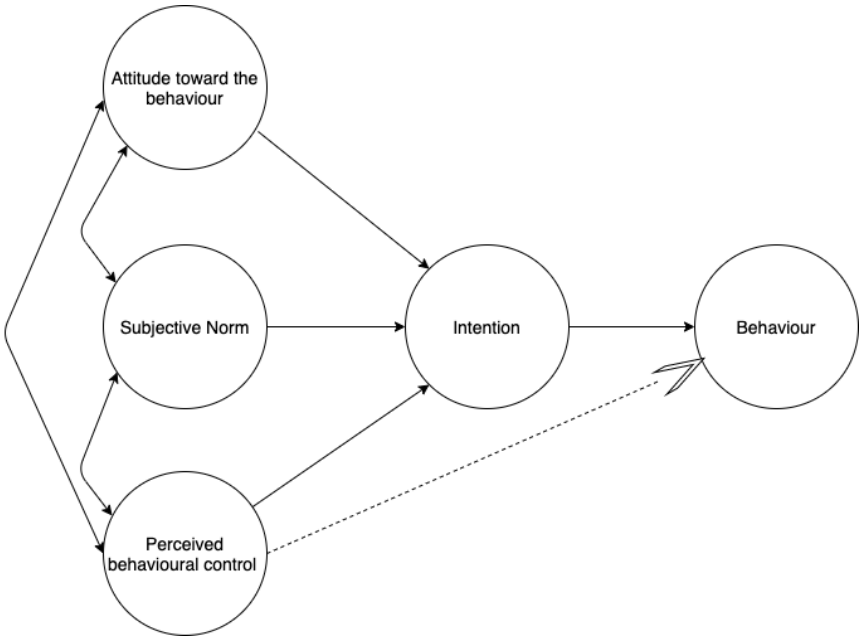
direct opposition to sustainable development (Anton & Lawrence, 2016; Devine-Wright, 2009). Regardless of its environmental impact, opposition to change is strongly correlated with an individual's perception of endangerment to their place attachment and the associated place dependence and identity (Anton & Lawrence, 2016; Devine-Wright, 2009).

Only recently has research begun to examine the influence of an individual or community's sense of place on their pro-environmental behaviour or place-protective action. Sense of place, place attachment and the Theory of Planned Behaviour merge to support analysis approaches that seek to predict intention to act and behaviour (Anton & Lawrence, 2016; Stedman, 2002).

2.4 Theory of Planned Behaviour

The Theory of Planning Behaviour (TPB) was first proposed by Ajzen (Ajzen, 1985, 2002, 2011) as a framework to understand human action. The central message of the theory is that human behaviour is predicated on an individual's intention to act. That intention is informed by the individual's attitude toward a behaviour, the subjective norms surrounding it, and their perceived behavioural control (Figure 1) (Ajzen, 1985, 1991).

Figure 1
Theory of Planned Behaviour (Ajzen, 1991)



TPB's predecessor, the Theory of Reasoned Action (TRA) was based on the notion that behavioural intention precedes the behaviour, and that *"salient information or beliefs about the likelihood of performing a particular behaviour will lead to a specific outcome"* Madden, Ellen, & Ajzen, 1992, p.3). TPB and TRA necessitate that their study subjects feel some level of perceived behavioural control, and that perceived control influences their intention to act (Ajzen, 1991; Madden et al., 1992). Both TRA and TPB are founded on the assumption that the individual's intention is the best predictor of a behaviour (Glanz et al., 2015; Madden et al., 1992). The two theories differ in that TPB includes an additional construct: perceived control of performance of a behaviour (Glanz et al., 2015).

According to TPB, to form an attitude towards a behaviour there are three types of beliefs involved: 1) behavioural beliefs, where consequences of a behaviour shape action, 2) normative beliefs, where normative expectations of others and their perceptions shape action,

and 3) control beliefs, where the presence of factors that influence the performance of the behaviour is what will shape that same behaviour (Ajzen, 2002). Subjective norms similarly inform one's behavioural intention, and consist of perceived social pressure to take action or not (Ajzen, 1991). An individual's perceived behavioural control in taking action is the third component in forming behavioural intention and it is formed by the perception of ease or challenge in performing a behaviour (Ajzen, 1991).

According to TPB, once an individual's intention to act is evident, the final step is for them to have a *"sufficient degree of [actual] control over the behaviour"* (Ajzen, 2002, p. 665). Once they have this sufficient degree of control, they are expected to act on their intention when presented with the opportunity to do so (Ajzen, 2002). Intention, ultimately, is the TPB's best predictor of an individual's action (Ajzen, 1985; Kaiser et al., 2005).

Certain assumptions are made when TPB is used to predict behaviours. For example, it is assumed that the individual in question *"perceives situational influences appropriately"* (Kaiser et al., 2005, p. 2151). Importantly, no assumptions are made that individuals vigilantly examine every piece of available information concerning an action they are considering making. TPB instead acknowledges that most people act without much focused effort (Ajzen, 1991, 2011; Kaiser, 2006). The effort individuals put in before taking action, pro-environmental or otherwise, varies from *"shallow to deep"* (Ajzen, 2011, p. 1122; Kaiser, 2006). An example of shallow effort might be choosing to use a reusable mug in a coffee shop if it is convenient, available, and explicitly offered, while an example of deep effort might be diligently packing one's own reusable mug, utensils, and to-go food container, and if those items are ever forgotten, abstaining from buying anything at all.

TPB has been widely used to understand how and why individuals and communities engage in pro-environmental behaviour and place-protective action (Anton & Lawrence,

2016; Steg & Vlek, 2009). TPB has also been a basis on which studies have built predictive models to determine whether an individual may engage in place-protective actions or other pro-environmental behaviours (Anton & Lawrence, 2016; Devine-Wright, 2009; Kaiser, 2006). These TPB applications and other supporting theories and models are essential to understanding what can encourage individuals to act pro-environmentally and what might dissuade them.

2.4.1 Theory of Planned Behaviour and Applications in Conservation

The long term success of conservation efforts, whether for large management areas like the M-KMA, or small specialized ecosystems with high conservation value, is contingent on managing and understanding the public's *"different and ambivalent views about, and attitudes towards, landscapes of a greater or lesser degree of wilderness"* (Byg et al., 2017, p.181). One strategy to manage and understand those *"different and ambivalent view*s" (Byg et al., 2017, p. 181) is to make predictions on how the public may react towards conservation decisions using TPB (Ajzen, 1991; Kaiser et al., 2005).

Certain conservation efforts can only succeed with the local public's support, both political and financial (Pagiola et al., 2005; Simpson & Sedjo, 1996). TPB has been used in a variety of conservation initiatives to predict which strategies will connect best with a public. In one case, efforts were made to determine how willing a public would be to pay an entrance fee to an urban park, where that fee was explicitly going to be used to protect and enhance the park and its biodiversity (Lopez & Willis, 2004; Simpson & Sedjo, 1996).

Pre-existing connectedness to nature, a pro-environmental identity, and a pro-ecological worldview have been identified as predictors of commitment to, and a willingness to make sacrifices for, the environment (Davis et al., 2011; Otto & Pensini, 2017).

Additionally, the inclusion of *"anticipated feelings of moral regret"* significantly contributed to the *"explanatory power of people's intention to act conservationally"* (Kaiser, 2006, p. 71) when TPB was applied. Essentially, if an individual expected to feel guilty because they did *not* act pro-environmentally, TPB would be better able to predict their future pro-environmental action when their guilt was accounted for (Kaiser, 2006).

Research into the applications of TPB to predict pro-environmental behaviours has also included works related to electricity conservation, recycling, and pollution reduction. A study of energy conservation behaviours in college students observed that perceived behavioural control was the strongest and most consistent indicator of energy conservation behaviours (Clement et al., 2014). Questions of water conservation have been integrated with TPB, and researchers conducted a study of technology adoption by Florida strawberry farmers with the goal to reduce water consumption. Their study and others reinforced the need to account for perceived and actual control when using TPB (Ajzen, 2002; Lynne et al., 1995).

Ajzen's TPB was also applied to environmental managers, in addition to members of the public. The behavioural preferences of these managers were analyzed using TPB, and it was determined that *"perceived behavioural control… was negatively rather than positively predictive of behavioural preferences for [pollution] source reduction activity"* (Cordano & Frieze, 2000). Thus, there is some variability in the predictive value of perceived behavioural control. For example, a study of consumer recycling behaviour and another on pro-environmental behaviours in office work environments reported that perceived behavioural control was a positive predictor of pro-environmental behaviours (Park & Ha, 2014; Ruepert et al., 2016). These studies and others support Ajzen's TPB and that perceived behavioural control generally is a positive predictor of behaviour (Ajzen, 1991).

2.4.2 Companion Theories and Models to the Theory of Planned Behaviour

TPB has been widely used since the 1980s and has faced criticism by other researchers for what the theory does and does not include (Ajzen, 2011). Some question the use of consciousness or moral norms in attempts made to predict pro-environmental behaviour, while others challenge it because they feel the theory limits certain considerations and assumptions that are important (Ajzen, 2011). In light of these critiques, Ajzen (2011b) and other researchers contrasted and combined TPB with other related theories and models as a way to strengthen them all. Examples of these theories and models are: The Value-Belief-Norm Model, the Norm-Activation Model, and the New Environmental Paradigm.

In 2005, the Value-Belief-Norm Model (VBN) and TPB were contrasted for their strengths and weaknesses in explaining and predicting conservation behaviour (Kaiser et al., 2005). VBN stipulates that *"moral and altruistic considerations"* (Kaiser, Hübner, & Bogner, 2005c, p. 2153) are most important to understanding conservation behaviour. It also explicitly links the individual's environmental worldview to norm-activation theory (described below) and identifies moral norms as the primary predictor of pro-environmental behaviour (Kaiser et al., 2005). Some researchers have combined TPB and VBN to gain more clear predictions of pro-environmental behaviour in their study subjects (Kaiser, 2006; Kaiser et al., 2005; Oreg & Katz-Gerro, 2006).

The Norm-Activation Model (NAM) has been combined with TPB as a way to bolster the predictive value of the latter (Park & Ha, 2014). One foundation of NAM is its roots in altruistic behaviour and the need to act in a self-sacrificing manner for the benefit of others (Park & Ha, 2014). NAM is activated by personal norms and taking on responsibility, and has been applied to efforts to increase participation in recycling programs and encouraging conservation behaviours (Park & Ha, 2014; Schultz et al., 2005). By integrating NAM with

TPB, researchers drew more sound conclusions than if either model or theory had been used individually (Park & Ha, 2014). Moral and personal norms interact and reinforce each other, while being informed by NAM's 'awareness of consequences' and 'ascription of responsibility.' These norms join TPB's three major components, 'attitude,' 'subjective norms,' and 'perceived behavioural control,' in creating 'behaviour intention' which, when bolstered by 'anticipated feelings of regret,' build a tool for predicting conservation behaviour (Ajzen, 1991; Kaiser et al., 2005; Park & Ha, 2014).

2.4.2.1 The New Ecological Paradigm.

An additional companion theory to TPB is the New Ecological Paradigm (NEP). Created in the 1970s, NEP has since become one of the most widely used measures of environmental concern (Dunlap, 2008; Dunlap & Van Liere, 1978). The NEP scale was created in response to the hypothesis that the dominant social paradigm (DSP) was shifting away from a paradigm which focused on:

> *"our belief in abundance and progress, our devotion to growth and prosperity, our faith in science and technology, and our commitment to a laissez-faire economy, limited governmental planning and private property rights, all contributed to environmental degradation and/or hinder efforts to improve the quality of the environment."* (Dunlap & Van Liere, 1978, p. 10)

Instead, the DSP was thought to be moving towards a paradigm of *"greater environmental concern"* and a *"pro-ecological worldview"* (Anderson, 2012, p. 260) for scale respondents. This new direction was dubbed the New Ecological Paradigm (Dunlap, 2008; Dunlap et al., 2000).

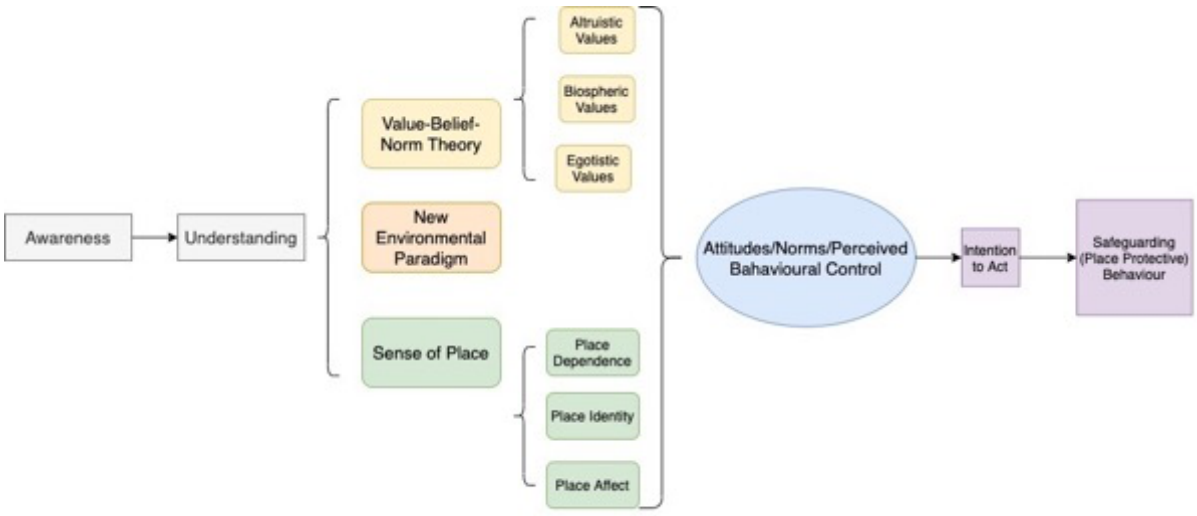
The NEP Scale has been refined and updated by its original authors to more accurately capture measurement of *"degrees of endorsement (from low to high) of an ecological worldview"* (Dunlap, 2008, p. 9). Well-used across various disciplines, including

public policy, recreation, and in studies on environmental behaviours (Anderson, 2012), the NEP scale has been incorporated into studies using scales of VBN, NAM, and TPB (Ajzen, 1989; Dunlap, 2008; Schwartz, 1992; Steg et al., 2005; Stern et al., 1995). Additionally, NEP has been employed in studies of sense of place, where a shortened version (10 question items instead of 15) was used as a survey instrument to establish the environmental attitudes of respondents (Halpenny, 2006).

2.5 Conceptual Model

Together, sense of place, Value-Belief-Norm Theory, the New Ecological Paradigm, and the Theory of Planned Behaviour have been connected across the literature in various disciplines as presented above. For the purposes of this research, these four core areas of literature have been assembled into a testable conceptual model (Figure 2), which serves as the foundation on which my research questions, specifically related to the public survey, are answered.

Figure 2
Conceptual basis for examination of the role of awareness and engagement in safeguarding the M-KMA



Notes: The blue oval and purple squares represent the Theory of Planned Behaviour

3 METHODS

The following section presents my methodology, including the theoretical approaches used in the research design, and details the specific methods of data collection and analysis. Each method is defined in terms of sample size, respondent and interviewee selection, and analytical approach. Trustworthiness, reliability, and validity of each method are addressed separately.

3.1 Theoretical Approach

This research was conducted within an exploratory, sequential mixed-methods research paradigm, characterized by a social constructivist worldview (Bryman, 2012; Creswell, 1994). Informing the research design were underlying theories of sense of place, place and cause branding, TPB, VBN, and NEP theories related to place-protective behaviours (Ajzen, 2002; Anton & Lawrence, 2016; François Lecompte et al., 2017). Resource management practices like EBM informed the research design and methods of public participation in policy formation (Bourgeois, 2008; Gordon et al., 2011). The research questions examined the connections and intersections between these subjects, and how they related to the role of awareness and engagement in safeguarding the Muskwa-Kechika Management Area.

3.2 Research Design

I integrated both qualitative and quantitative methods to answer my research questions (Creswell, 1994). I used a sequential study design that allowed for the methods to build on one another, thereby enhancing the value of each individual method (Fetters et al., 2013). I conducted 15 semi-structured interviews with key actors working in and around the M-KMA and simultaneously carried out a media content analysis that examined all publicly

available publications to do with the M-KMA. The results were analysed and used to inform the re-development of a public awareness survey (Creswell, 2014; IPSOS REID, 2006). Applying multiple methods to the same research questions allowed for a greater depth of inquiry. While each method had limitations, combining different approaches strengthened the results (Creswell, 2014; Salkind, 2010).

3.2.1 Exploratory Case Study

I employed an exploratory case study approach to examine the context of the M-KMA. By applying this approach, I present a more detailed understanding of the relationships between the related theories and management practices (Yin, 2012) as they apply to the case of the M-KMA. A case study is defined as *"a contemporary phenomenon within its real life context, especially when the boundaries between a phenomenon and context are not clear and the researcher has little control over the phenomenon and context"* (Yazan, 2015, p. 138). This is the situation with the M-KMA, where these concepts, like sense of place, NEP, and VBN have not previously been applied to the management area. Additionally, as the researcher I have no control over either the phenomenon or context. This type of case study research is particularly applicable to research that seeks to address "why" and "how" types of questions (Yazan, 2015; Yin, 2012).

3.3 Media Analysis

To answer the research question, *How has the M-KMA been framed over time?* I selected publications from across British Columbia and Canada for media analysis. M-KMA articles were collected from six sub-types of media including: news, arts and culture, tourism, educational material, government publications, and social media. The selection of media content was intended to capture all publications related to the M-KMA (Table 1). This

content was identified by using specific search terms: “Muskwa-Kechika,” “Muskwa-Kechika Management Area,” and “Serengeti of the North.” Acronyms like ‘M-KMA’ and ‘MK’ were considered but discarded due to the massive number of unrelated results they retrieved.

Table 1
Publications by outlet, place of publication, and number of M-KMA-related publications, used for the media analysis

Media Outlet	Place of Publication	Number of Publications
Alaska Highway News	Fort St John, BC	10
BC Magazine	BC and International	5
BC Parks	BC	1
Campbell River Mirror	Campbell River, BC	2
Canadian Broadcasting Company (CBC)	Canada	2
Canadian Geographic	Canada	1
Coquitlam Now	New Westminster, BC	1
Daily News Prince Rupert	Prince Rupert, BC	1
Dawson Creek Daily News	Dawson City, BC	3
Destination BC	BC and International	1
Journal of Mountain Hunting	North America (Online)	1
Kamloops Daily News	Kamloops, BC	1
Kaska Dena News	Kaska Dena Traditional Territory	2
NorthWord	Smithers, BC	3
Over the Edge Newspaper	Prince George, BC	2
Penticton Western News	Penticton, BC	1
Round River	International	1
The Chilliwack Progress	Chilliwack, BC	1
The Coast News	The Sunshine Coast, BC	1
The Free Press Prince George	Prince George, BC	4
The Globe and Mail	Canada	4
The Narwhal	Canada	6
The Ottawa Citizen	Ottawa, ON	1
The Prince George Citizen	Prince George, BC	11
The Tyee	Vancouver, BC	1
The Vancouver Sun	Vancouver, BC	12
Times Colonist Victoria	Victoria, BC	3
Toronto Star	Toronto, ON	1

Media Outlet	Place of Publication	Number of Publications
Tourism Northern Rockies	Fort Nelson, BC	1
Williams Lake Tribune	Williams Lake, BC	3
	Total Items	87

The social media platforms Twitter and Instagram were included in the media analysis, and the same list of terms was included in my searches using the hashtag format. Twitter and Instagram searches depend on users tagging their posts using hashtags and no punctuation, so a search for "Muskwa-Kechika" looked like '#muskwakechika' on the two platforms. Results from these social media sites were limited to publicly available posts (Table 2).

Table 2
Social media outlets and number of posts used for the media analysis

Social Media Outlet	Number of Posts Tagged with #muskwakechika (as of 16/04/2020)
Instagram (since 2010)	984
Twitter (since 2006)	50

3.3.1 Sample Design and Selection

Media outlets publishing content about the M-KMA were selected to represent diverse geographies like the north/south divide and the urban/rural divide in British Columbia. To parallel the lifetime of the M-KMA and accommodate the timing of this research, each search was constrained to be between January 1990 and May 2020. Accessing media (including letters to the editor and opinion pieces) over this time period provided insight into how the M-KMA was described, how different sectors characterized the process and their interests in it, and how priorities may have changed over time and place.

The inclusion of publicly available social media posts on Twitter and Instagram allowed for less formalized depictions of the M-KMA to be assessed and provided a diverse set of perspectives not otherwise represented in traditional news media (Muchnik et al., 2013;

Schober et al., 2016). Available posts on Twitter were few enough in number that I could collect and analyse all those referencing the M-KMA. Instagram posts were more numerous, and I sought a sample of approximately 10% of M-KMA-related posts. I collected a sample of n = 126 most recent posts (13% of total) related to the M-KMA. This sample was collected by taking screenshots of the search results (18 posts per screenshot and seven screenshots) and analysing them using a blend of emergent and expected codes.

Most publications and social media platforms have unique search tools and those were used to find articles and posts related to the M-KMA specific to that publication. Through the UNBC archives, I accessed the following list of e-resources to find news and other types of media addressing the M-KMA, which were otherwise unavailable: *Canadian News Stream, Globe and Mail: Canada's Heritage from 1844, Northern BC Digital Collection,* and *PG Newspapers, BC Historical Newspapers, and CPI.Q (Canadian Periodicals).* Searches conducted in each of these resources were constrained between 1990-2020, and the same search terms were used for the archive's e-resource subjects as were used for the publications listed in Table 1 ("Muskwa-Kechika," "Muskwa-Kechika Management Area," "Serengeti of the North"). Articles from these e-resources were saved using the citation management software Zotero (*Zotero*, 2021). Thematic and discourse coding and analysis were done using the coding software program NVivo (QSR International Pty Ltd., 2021).

An attempt was made to access the news archive of the Alaska Highway News, but the archive is only available on micro-film in the Fort St. John Museum. I could not access these materials in person due to the museum's closure and travel restrictions associated with the COVID-19 pandemic.

3.3.2 Analysis

Thematic analysis (TA) is a tool for identifying cohesive themes across different mediums while also identifying how they are constructed and what connects them (Guest et al., 2012). TA was used to analyse the media content collected. Using the qualitative analysis software NVivo, an iterative approach was taken to analysis. NVivo allowed for the organization of themes as individual nodes, which allowed for the refinement of expected and emergent themes. Expected themes were founded on a combination of relevant literature, conversations with key informants (individuals with experience working in and around the M-KMA, but not as part of a formal interview), and cursory observations made of the media content during its initial collection. For example, I began coding looking for themes in how the M-KMA was described and its characteristics that were given the most focus. The expected theme (hereafter referred to as a code) of 'M-KMA Description' was further developed by emergent sub-codes like "Size," "Wilderness," and "Mega-Fauna."

The initial stage of analysis was dependent on the identification of emergent codes. To illustrate, an emergent theme within the media content was that some authors wished for their audience to read their work and then take action based on what they had read. 'Take Action' became the emergent code's name, and the kind of actions desired by the content creators included 'visit the M-KMA,' 'learn more about the M-KMA,' and 'participate in support of the M-KMA.'

3.4 Interviews

I conducted semi-structured interviews with key actors representing groups and organizations working in and around the M-KMA to address the questions: 1) *What do different actors in the M-KMA want the public to know about the management area? What*

value do they see in the public's engagement? 2) *How is sense of place and branding related to awareness and engagement?*

The semi-structured interviews included interviewees who worked, volunteered, or otherwise participated in a decision-making or influential capacity within the M-KMA. The interviewees included members of the M-KMA Advisory Board, local and provincial government officials, resource development industry members, and other groups like environmental NGOs and destination marketing organizations. Interviewees were identified first using purposive sampling and subsequently, snowball sampling (Suri, 2011; Teddlie & Yu, 2007). Individuals in the initial purposive sample were asked to share the participant information letter and consent form with others they thought might be interested in participating. Those who received the participant information letter and consent form were instructed to contact me independently to ensure anonymity (Appendix A).

I did not predetermine the sample size. Instead, the sample size was decided by the quality and depth of interviews, rather than statistical considerations alone (Salkind, 2010). I also took into consideration the possibility of theoretical saturation (Bryman, 2012).

3.4.1 Semi-Structured Interviews

In light of the COVID-19 pandemic, interviews were conducted by phone call or video call using Zoom Video Communications (*Zoom*, 2021). Fifteen semi-structured interviews were conducted and included broad, open-ended questions and prompts (Appendix B) (Creswell, 2014; Fetters et al., 2013). The interviews were recorded with permission through Zoom and with a secondary external recording device. I took handwritten notes to capture any recurrent themes, connections, or other observations that occurred to me during the interview. These notes were used to supplement the coding and analysis process

(Bryman, 2012; Burck, 2005). Post-interview, I transcribed the audio files using the transcription software Otter AI (*Otter AI*, 2016), and member-checked the transcriptions. To member-check, I sent each interviewee a copy of their transcribed interview and they had the opportunity to elaborate, clarify, or remove sections as they saw fit. Upon reviewing their transcript, one interviewee chose to remove themself from the study. Once member-checking was complete, I uploaded the transcriptions to the coding software NVivo (QSR International Pty Ltd., 2021). During transcription, I noted any atmospheric details such as pauses or laughter to give further context to what was said.

Per UNBC's Research Ethics Board, interviewees gave their informed consent to participate and were provided with all appropriate materials to make an educated decision on their participation. These materials included an information letter with the research purpose, methods, dissemination of results, and approximate length of the interview described in detail (Appendix A). Additionally, they were asked to sign a consent and release form and were notified of confidentiality and anonymity measures. To ensure interviewee anonymity, each interviewee was assigned a random alpha-numeric code, and all contact information, audio recordings and transcripts were kept in locked UNBC offices on a password-protected computer and password-protected external hard drive. Any physical copies of notes or other materials with potentially identifiable information were stored in a locked cabinet that only myself and my supervisor had access to. All physical and electronic data will be destroyed after five years.

3.4.2 Interview Analysis

Applied thematic analysis was used to analyse the transcribed interviews. Applied thematic analysis (ATA) is an *"inductive analysis of qualitative data that can involve*

multiple analytic techniques" (Guest et al., 2012, p. 4). In this case, ATA was used to identify themes and generate codes demonstrating recurrent ideas posited by interviewees in direct response to interview questions or emergent ideas, language, imagery, or perceptions that arose independent of those questions (Guest et al., 2012).

I kept a reflection journal throughout the data collection process and used my field notes and journal entries as a place to develop initial ideas on themes or possible codes (Guest et al., 2012). Once the interviews were transcribed, the text was examined for initial broad themes and ideas shared between interviewees (Braun & Clarke, 2006) and then reviewed repeatedly to interpret nuance and meaning. Collating and reviewing themes and codes was an iterative process that coalesced into a set of refined codes (Braun & Clarke, 2006). Notes were made on code characteristics such as their frequency, relationships to other codes, and mutual exclusivity between them (Braun & Clarke, 2006; Guest et al., 2012).

A codebook was developed for the process of ATA and included a succinct, descriptive label, definition, and note on when or when not to use a particular code. Codes represented different kinds of themes, and themes were defined as: *"a unit of meaning that is observed (noticed) in the data by a reader of the text"* (Guest et al., 2012, p. 50).

3.5 Survey

To answer the research question, "*What is the public's awareness and attitude towards the M-KMA?",* an online public survey was conducted with a sample of 1110 British Columbians. This survey paralleled the public awareness survey conducted by the M-KMA Advisory Board in 2006, which served as the foundation on which this renewed version was built. The 2006 survey focused on public awareness and opinion of the M-KMA and its land

management practices (Ipsos Reid Public Affairs, 2006). These elements were retained but were supplemented with additional questions related to sense of place, respondents' environmental attitudes, and values (Dunlap, 2008; François Lecompte et al., 2017; Kaiser et al., 2005) (Appendix C).

3.5.1 Survey Sample

The survey was distributed by Ipsos, a market research company which hosts panels of thousands of members. A large number of members facilitates rapid access to large, diverse samples (McCune et al., 2017). The 1110 individuals who responded to the survey were spread out over four regions of BC: Metro Vancouver, Vancouver Island, Southern Interior (south of Prince George), and Northern (Prince George and north). As this research was focused on public awareness of the M-KMA, my questions appeared on a province-wide Omnibus survey with a sample boost of 187 northern residents in order to facilitate comparisons between regions. Pre-stratification quotas and weighting were employed to balance gender and age of the BC population and to ensure that the sample's composition approximated the adult population according to Census data (*British Columbia Census Profile 2016*, 2019) and to provide results to help approximate the sample universe.

The public survey design and content were developed in accordance with the Canadian Tri-Council Policy Statement: *Ethical Conduct for Research Involving Humans*, as well as the UNBC Research Ethics Board. Ipsos collects respondent consent to participate in omnibus surveys, but to ensure respondents consented to participate in my graduate research project specifically, they were presented with an Information Cover Letter before viewing the survey questions (Appendix D). Physical risks were assumed to be none to minimal during survey completion because it was delivered online and completed in the setting of the

respondent's choice. Social risks were similarly low due to the survey submission's confidentiality, which required no collection of identifiable information. Respondents were informed that they may opt out before or during the survey, but by completing the survey, they consented to participate in the research.

3.5.2 Survey Design

The survey began by asking respondents if they were aware of the Muskwa-Kechika Management Area without providing them any explanatory information to measure unaided awareness. If the respondent indicated that they were not aware or that they did not know, they were presented with a description of the M-KMA and asked the same question again to establish their aided awareness. Next, respondents were asked multiple choice and yes or no questions, which sought to establish their awareness and understanding of the M-KMA, echoing elements of the 2006 survey (Appendix E).

The second half of the survey asked respondents for their perspectives on the M-KMA's importance to various groups or causes and their concern about contemporary challenges facing the M-KMA. The question of the M-KMA's importance was made up of 16 question items, and that of concern was made up of eight question items. Finally, respondents were asked to identify their sense of place in regard to the M-KMA (Halpenny, 2006, 2010), their position within the shortened version of the NEP (Halpenny, 2006), and their environmental values and beliefs as described by the VBN (Steg et al., 2005). The question of sense of place was made up of 15 question items, that of NEP was made up of 10 items, and that of VBN was made up of 12. These questions were presented with either response options of "yes," "no," and "don't know" or a Likert scale of four response options (for example, 1 – not at all important, 4 – very important).

The individual items in the questions of concern, sense of place, and VBN were important on their own, but they also made up a series of sub-scales (Appendix J) used in my analysis. For example, the literature has established that the 12 question items within the VBN question make up three separate sub-scales of four items each: Biospheric Values, Egotistic Values, and Altruistic Values (Kaiser et al., 2005; Steg et al., 2005). While the literature similarly pre-determined the sense of place items, the items within the question of contemporary concerns were determined through my own analysis of the semi-structured interviews conducted for this research. Thematic analysis of the eight items of concern found that they each fell within two sub-categories of type of concern: concern for issues (Con. Issues) and concern for management processes (Con. Processes).

Ipsos collected the socio-demographic information of respondents including age, gender, education level, individual income range, marital and familial status and home region (Appendix F). Sociodemographic data provided an opportunity for richer analysis of responses.

3.5.3 Survey Analysis

Analysis of the survey results was conducted using SPSS Version 26 (*IBM SPSS Software*, 2020) assuming $p = 0.05$, and was designed around the themes of the survey to ultimately answer the stated research question: *What is the public's awareness and attitude towards the M-KMA?* Priorities for survey analysis were examined in the following order:

- Overall unaided and aided awareness of the M-KMA
- Differences in awareness based on region, gender, and education
- Differences in concerns, values, and environmental attitudes based on region, gender, and awareness
- Differences in, and correlations between, sense of place, NEP, and VBN sub-scales based on region, gender, and awareness

Statistical tests were conducted to test research questions including a primarily mix of independent samples t-tests and bi-variate correlations (Table 3). A reliability analysis was conducted for each set of question items and is presented as Cronbach's Alpha in the results chapter.

Table 3
Priorities and statistical tests used in the survey analysis

Survey Analysis Priority	Statistical Test
Overall unaided and aided awareness of the M-KMA	Descriptive Statistics
Differences in awareness based on region, gender, and education	Independent-Samples T-Tests (p = 0.05)
Differences in concerns, values, and environmental attitudes based on region, gender, and awareness	Independent-Samples T-Tests (p = 0.05)
Differences in sense of place, NEP*, VBN* sub-scales based on region, gender, and awareness	Independent-Samples T-Tests (p = 0.05)
Correlations between sense of place, NEP, and VBN sub-scales	Bivariate Correlation (Pearson's Correlation, r-value)

*NEP = New Environmental Paradigm; VBN = Value-Belief-Norm theory

Analysis was informed by my conceptual model which examined the relationships between awareness, understanding, sense of place, NEP, and VBN and provided the structure on which the public survey was based. The survey analysis tested these relationships to seek whether they were present within the context of public awareness and engagement with the M-KMA.

4 Case Study

The exploratory case study examines key aspects of the M-KMA including: Indigenous rights and title, geography, history, current management and governance, and contemporary public awareness and engagement.

4.1 What is the M-KMA?

Significant for it wilderness, ecological, and cultural values, the M-KMA encompasses 6.4 million hectares of northern BC. The M-KMA was created to establish *"a world standard for environmental sustainability and economic stability, serving as a model that balances human activities such as resource extraction and tourism with conserving its environmental values and wilderness state over time"* (MKMA Advisory Board, 2019a, p. 1).

4.2 Traditional Territories of the M-KMA

The M-KMA encompasses parts of the traditional territories of the Kaska Dena (Kwadacha, Daylu Dena Council, Dease River, Fireside, Muncho Lake), Carrier-Sekani (Tsay Keh Dene), and Treaty 8 First Nations (Halfway River, Prophet River, Fort Nelson) (MKMA Advisory Board, 2019a; Weaver, 2019a). The Kaska Dena and the Government of BC signed a Letter of Understanding (LOU) in 1997, for which the purpose was to *"set out the relationship between the parties with respect to the planning and management of lands and resources in the LOU Area from the date of signing"* (Kaska Dena Council and Government of British Columbia, 1997). This LOU formally recognized the rights and obligations of the Kaska Dena to the area, and their culture and heritage. The Carrier-Sekani and the three Treaty 8 First Nations do not currently have LOU's related to the M-KMA with the provincial government.

4.3 Geography of the M-KMA

Situated in northeastern BC, three major landforms compose the M-KMA, including the Northern Rocky Mountains and their foothills, the Rocky Mountain Trench, and the Cassiar Mountains (Lovegrove, 2013; Suzuki & Parker, 2016). Two major rivers flow through the M-KMA: the Muskwa River in the east and the northwest's Kechika River. These rivers inspired the name of the M-KMA. ‘Muskwa’ means bear and ‘Kechika’ means “long inclining river” in the Kaska language (Cox, 2019b; MKMA Advisory Board, 2019a). Permanent settlements can be found in the M-KMA, but mostly include small hamlets like Toad River, or a handful of private businesses and ranches. Larger communities exist on the periphery of the M-KMA, including Fort St. John, Fort Nelson, Dawson Creek, and Mackenzie (MKMA Advisory Board, 2019a). See Appendix G for a full map of the M-KMA.

4.3.1 Biogeoclimatic Zones of the M-KMA

The M-KMA includes five of BC’s fourteen Biogeoclimatic Zones (BEC Zones). These are: 1) Boreal Altai Fescue Alpine (BAFA), 2) Spruce-Willow-Birch (SWB), 3) Boreal White and Black Spruce (BWBS), 4) Engelmann Spruce-Subalpine Fir (ESSF), and 5) Sub-Boreal Spruce (SBS) (Weaver, 2019a). Arctic, low-temperature air descends onto the M-KMA during the winter months, depositing thick snow in most areas. Spring and summer seasons are short, with snow sometimes falling sporadically in summer months in the alpine and higher elevation valleys.

4.3.2 Natural Resource Values of the M-KMA

The M-KMA holds both renewable and non-renewable natural resources like recreation opportunities, hunting and fishing, wind power potential, oil, natural gas, and

minerals like gold and copper (MKMA Advisory Board, 2013a; Suzuki & Parker, 2016). Since the designation of the M-KMA there has been little to no resource extraction activity within the area, and little activity existed prior to the designation (Suzuki & Parker, 2016; Weaver, 2019a). The area sees low volumes of visitors, but typically users are hunters, fishers, and other recreationists on both guided and independent trips (MKMA Advisory Board, 2013a).

4.4 From Land and Resource Management Plans to the M-KMA Act

The Muskwa-Kechika Management Area is the final product of three Land and Resource Management Plans (LRMP), which were *"large regionally based planning processes"* (Mitchell-Banks, 2005) based out of three northern communities. Each LRMP was named for one of the three communities: Fort Nelson, Mackenzie, and Fort St. John (Mitchell-Banks, 2007).

The LRMP process was mandated by the provincial government (Mitchell-Banks, 2007) and supported by local communities, local government, First Nations, and stakeholders in the area (W. Sawchuk, personal communication, 8 November 2019). Those who sat on the LRMP tables were representatives of environmental organizations, industry, and other groups like hunting outfitters and tourism companies (Mitchell-Banks, 2007; MKMA Advisory Board, 2019a). These groups self-selected to participate in the LRMP process because they felt that they had something to contribute to the process and something to lose if they did not attend, namely their ability to champion their own interests (W. Sawchuk, personal communication, 8 November 2019).

The three finalized LRMPs joined to create the Muskwa-Kechika Management Area which was legislated in 1997 by Order-in-Council (a process where BC's cabinet ministers

approved the M-KMA without going through the legislature) (Mitchell-Banks, 2007). The following year, the M-KMA Act was passed by the government, and the need for management plans, an Advisory Board, and the Muskwa-Kechika Trust Fund was identified (Muskwa-Kechika Management Area Act, 1998). The M-KMA Act was *"unique within Canada and indeed the world"* (Mitchell-Banks, 2007, p. 16) and addressed the (as of 2020, still incomplete) five required management plans for the M-KMA: Recreation Management Plan, Wildlife Management Plan, Oil and Gas Pre-Tenure Plans, Parks Management Plans, and Landscape Unit Objectives (related to the forestry industry) (Muskwa-Kechika Management Area Act, 1998; Mitchell-Banks, 2007). These plans were intended to have multiple ministries involved in their creation and implementation, but a change in provincial government in 2003, and the subsequent ministry reorganization, caused the Act and the many necessary plans to be a single ministry's responsibility. That responsibility fell to the Ministry of Sustainable Resource Management, now the Ministry of Forests, Lands, Natural Resource Operations and Rural Development (FLNRORD) (Government of British Columbia, 2019a; Mitchell-Banks, 2005).

4.4.1 Success of the LRMPs

The LRMP process was designed as a multi-year and multi-stakeholder process, and those two characteristics are still widely considered critical to their success (W. Sawchuk, personal communication, 8 November 2019). Additionally, each of the three LRMPs functioned under a consensus process; the table had to be in full agreement before it could proceed (W. Sawchuk, personal communication, 8 November 2019). Each table was required to present a plan to the government for approval, and there was no fixed timeline (the LRMPs took three to seven years to complete (Mitchell-Banks, 2007)). When the final LRMPs were

presented to the government, only minor changes were imposed by the government. To those participating in the LRMPs, the government's open timeline and level of responsibility helped to demonstrate that their work was respected and trusted (W. Sawchuk, personal communication, 8 November 2019). The government's trust and respect in the multi-stakeholder process also led to the LRMPs credibility in their respective communities.

4.5 Resource Management Zones in the M-KMA

The M-KMA is intended to represent a balance between wilderness values and resource development (MKMA Advisory Board, 2013b). To accomplish this intent, the M-KMA is composed of four types of Resource Management Zones (RMZ). Approximately 25% of the M-KMA is designated as a provincial park or protected area, and the remaining 75% falls into one of three types of resource management zones:

- Protected Areas: Provincial Parks, Ecological Reserves and Provincial Protected Areas are areas where resource extraction activities like forestry, mining, and oil and gas development are prohibited. The natural, cultural, and/or recreational values of these areas are prioritized and protected (MKMA Advisory Board, 2013b).
- Special Wildland Zones: The next highest protection, a Special Wildland Zone is focused on conservation of ecological values, wilderness values, and recreation. Timber harvesting is not permitted, but some oil and gas and mining is permitted with stringent regulations on road access and assessments (MKMA Advisory Board, 2013b).
- Special Management Zones: Special Management Zones (SMZ) emphasize non-extractive values like recreation activity. Access roads and trails are permitted but are encouraged to be temporary. Industrial activity is permitted but is managed to maintain all special values and features. Some SMZs permit permanent roads and development (MKMA Advisory Board, 2013b).
- Enhanced Resource Management Zones: The M-KMA encompasses two Enhanced Resource Management Zones (ERMZ), the Khak'l Tse (Buffalohead) near Fort Ware, and the Alaska Highway Corridor. Restrictions in these zones are fewer compared to the other zone types in the MKMA due in

part to the heavier presence of pre-existing industrial development. The ERMZ at Khak'l Tse is designed for optimization of timber harvesting, whereas the Alaska Highway Corridor ERMZ emphasizes recreation and tourism values (MKMA Advisory Board, 2013b).

These latter three resource management zones permit some resource development, but stipulate that any activity must be conducted in such a way that it *"ensures the vision for the M-KMA is maintained in perpetuity"* (MKMA Advisory Board, 2015, p. 3).

4.6 Governance of the M-KMA

Ultimately, the Government of BC is responsible for final management decision-making in the M-KMA. However, the Muskwa-Kechika Advisory Board (M-KAB) is intended to provide informed advice and commentary on those decisions. The M-KAB is comprised of members with diverse experience and important knowledge including NGO representatives (e.g., environmental groups and recreationists), First Nations representatives, local stakeholders (e.g., guide outfitters) and industry stakeholders (e.g., oil and gas, forestry, mining, wind power) (MKMA Advisory Board, 2015; Roberson, 2000). Many respondents in the initial LRMP process in the early 1990s, who self-selected from the public for that process, were appointed to the Advisory Board after the M-KMA Act was passed and the M-KAB created (W. Sawchuk, personal communication, 8 November 2019). The M-KAB also has a wilderness working group (related to various resource activities on the land) and a research partnership with the University of Northern British Columbia (UNBC Northern Research Partnership, 1999).

4.7 Environmental Policy and the M-KMA

Worldwide, many ecosystems currently experiencing high risks of damage and decline are also places where large human populations reside (Alaniz et al., 2019). Human development is threatening already weakened ecosystems, and *"insufficiency, and*

inefficiency of public policies are important drivers of environmental decline" (Alaniz et al., 2019, p. 1). The public has an inherent stake in the policy decisions because there is a discrepancy between those who *"bear the costs of and those who benefit from conservation actions and provide environmental goods and services"* (Santos et al., 2015, p. 84).

In an effort to make environmental policy more equitable for those actors involved directly and indirectly, a growing trend shows local governments are being compensated for the costs of biodiversity conservation by financial means and innovative governance structures (Paloniemi & Vilja, 2009; Santos et al., 2015). Governments and policy making have seen a shift towards a *"multilateral participatory process, in which different stake-holders participate in governance together"* (Paloniemi & Vilja, 2009, p. 87). The M-KAB is an example of this type of organized governance, where it includes the involvement of a provincial government, local governments, environmental NGOs, members of the forest, oil and gas industries, and First Nations.

In the M-KMA, the inclusion of the different management actors was in part a recognition of a central tenant of ecosystem-based management. EBM assumes the inclusion and recognition of humans and sets the expectation that managers will account for and manage human activity in a given ecosystem as necessary. The recognition of the public's role in making environmental policy makes it possible to *"better understand how the process of participatory communication interacts with the larger socio-political context"* (Chen, 2017, p. 3).

4.7.1 Public Involvement with the M-KMA to Date

The public has been involved in the M-KMA since its inception and the formation of the LRMPs in Fort St. John, Fort Nelson, and Mackenzie. 'The public' is defined as those

individuals or groups who reside outside of a particular context (Owens, 2000). In this case, 'the public' refers not only to those working in resource management jobs connected to the M-KMA or directly linked to the area but also to the broader citizenry that Owens (2000) would refer to as 'outside' of the context. During the LRMP process, public involvement was vital because it helped validate the decisions being made (W. Sawchuk, personal communication, 8 November 2019). Inclusion of the public was also reflective of EBM and Integrated Resource Management (IRM) principles, both of which were being promoted for their innovative approaches and how they challenged the status quo of resource management.

What encouraged local communities to support the M-KMA was both the representation of local interests on the LRMP tables by members of the public and the novelty of something new, innovative, and balanced between industry and wilderness protection (Mitchell-Banks, 2007; MKMA Advisory Board, 2019a). Some hypothesize that public support for the M-KMA was related to how the M-KMA was viewed as an opportunity to make up for ecological and cultural damage done by resource development in the Peace Region (Anonymous, personal communication, 4 October 2019; W. Sawchuk, personal communication, 8 November 2019).

Prior to the LRMP process and the M-KMA, resource management in the area was deeply siloed (T. Burkhart, personal communication, 12 November 2019; W. Sawchuk, personal communication, 8 November 2019). Conflicts between conservation and resource development were difficult to resolve, and resolutions needed effective communication between all parties to be successful (Slocombe & Hanna, 2007). In the Greater Muskwa-Kechika, pre-M-KMA, the various ministries involved were often at odds with one another due to the government structure (T. Burkhart, personal communication, 12 November 2019). One common goal, present across industries in BC at the time, was to maximise production

across resource development types and management systems (Green, 2007; Slocombe & Hanna, 2007). This practice was eventually recognized as unsustainable and in areas of high ecological value was loudly denounced by the public and local First Nations (Green, 2007; Mitchell-Banks, 2007; Slocombe & Hanna, 2007; Tiakiwai et al., 2017).

The inclusion of the public in the LRMPs fit with key principles of EBM and IRM and suggested the importance of involving the public in resource management decisions in the M-KMA. The public had a role in normalizing management decisions during the LRMP process and continues to have a role in challenging the status quo, contributing tangible differences on the ground, and acknowledging how different kinds of change are having an impact (Byg et al., 2017). This would suggest the necessity of an aware and engaged public to effectively safeguard the M-KMA against contemporary challenges.

An alternative to resource management's status quo in BC was necessary, and ecosystem-based management was the chosen solution. As it is understood today, EBM was alluded to in how the LRMPs described their ideal management strategies but was not explicitly labeled EBM until much later (W. Sawchuk, personal communication, 8 November 2019). “Integrated management,” or simply a “higher standard” of resource management were the terms used during the LRMP process when referring to best practice (Mitchell-Banks, 2007). EBM was *“intended to manage for ecosystem integrity and community wellbeing”* (Price et al., 2009, p. 495), which matched how the LRMP tables intended to manage the M-KMA (Mitchell-Banks, 2005). Similarly, EBM is characterized by productive and resilient ecosystems, the provision of services that humans desire and need, and its inclusion of humans as an integral part of all ecosystems (Cormier et al., 2017; Link & Browman, 2017).

4.7.2 Public Awareness of the M-KMA

In 2006, the Muskwa-Kechika Advisory Board commissioned IPSOS Reid to carry out a survey of British Columbians regarding their *"awareness, knowledge, and perceptions of the M-KMA"* (Ipsos Reid Public Affairs, 2006, p. 2) (Appendix E). The M-KAB intended for the results of this survey to guide efforts made in *"increasing the public's awareness and knowledge of the area"* (Ipsos Reid Public Affairs, 2006, p. 2). One intention of the survey was to set a benchmark for future public awareness assessments to take place intermittently over the next 10-20 years.

The survey respondents were segmented into those living close to the M-KMA, and those living elsewhere in the province. Respondents were asked questions that would contribute to an assessment of their familiarity with the M-KMA. The survey included queries regarding what messaging they had been exposed to, what types of perceptions they held towards the M-KMA, and their preference concerning methods of communication about the M-KMA (Ipsos Reid Public Affairs, 2006).

Respondents living in and around the M-KMA had higher levels of overall awareness and familiarity with the management area and more positive impressions of the area when compared to respondents living elsewhere in BC (Ipsos Reid Public Affairs, 2006). For example, 68% of respondents living in and around the M-KMA had heard of the area and thought favourably about it, compared to the only 13% of British Columbians outside of the M-KMA region who said they had heard of the area previously and were in favour of it (Ipsos Reid Public Affairs, 2006).

4.8 Summary

The Muskwa-Kechika Management Area is multi-faceted, and this chapter described its key aspects, including Indigenous rights and title, its geography, history, management and government, and the contemporary roles of public awareness and engagement. Activity within the M-KMA, regardless of what resource management zone it might take place in, is meant to *"ensure the vision for the M-KMA is maintained in perpetuity"* (MKMA Advisory Board, 2015, p. 3). The public has always been involved in the M-KMA in some way, and this Case Study chapter suggests the necessity of an aware and engaged public in safeguarding it now and into the future. The following chapter presents the results of my media survey, semi-structured interviews, and public awareness survey; all three of which identify the role of awareness and engagement in safeguarding the M-KMA.

5 RESULTS

This chapter details the results of each of the three methods employed in this work to answer the research questions. First, I present the results of my media analysis, where nearly 300 individual items published about the M-KMA were examined. Secondly, I present the analysis of 14 interviews (I conducted 15 but one chose to remove themself from the study) with individuals involved in and around the M-KMA in a variety of roles. Third, I present the public survey results for 1110 British Columbians.

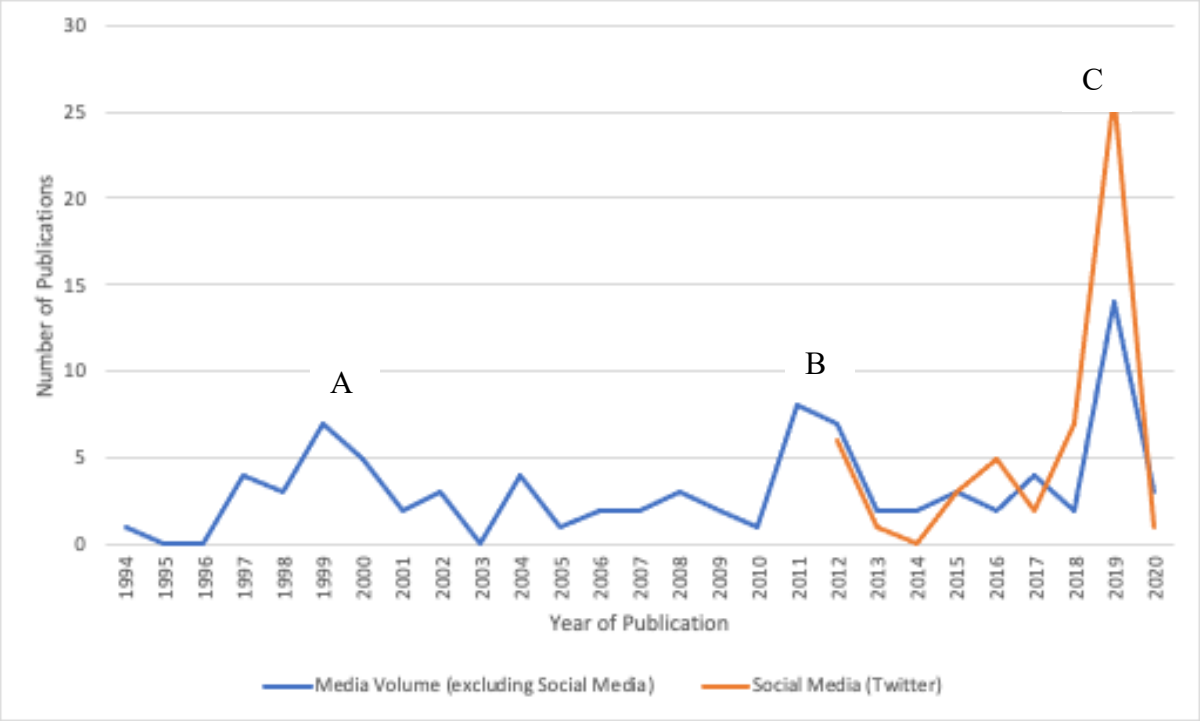
5.1 Media Analysis Results

To answer the research question '*How has the M-KMA been framed in media content?'* I conducted a census of all media content regarding the M-KMA that had been published prior to, during, and after its creation through Order in Council by the British Columbia Government. I refer to this broad sample as 'media content'. It includes news articles and televised news broadcasts and tourism publications, arts and culture publications (e.g., photo series or community presentations), education material (e.g., research reports, public notices) social media posts, and government communications to the public.

5.1.1 Volume and Topics of Publications

Figure 3 shows the volume of publications related to the M-KMA by year. Three peaks in publication volume occurred between 1998 and 1999 ([A]), 2010 and 2012 ([B]), and in 2019 ([C]). The frequency of social media posts paralleled the 2012 and 2019 peaks.

Figure 3
Volume of publications related to the M-KMA by year (1994 – 2020)



Notes: Instagram posts were excluded due to unavailability of publication date information.
[A]: M-KMA was created and the UNBC/ M-KMA research agreement and funding for projects began
[B]: Spike in tourism publications for the M-KMA occurred (e.g., Top 10 Places to Visit in BC)
[C]: Kaska Dena First Nation announced plans for an Indigenous Protected and Conserved area in Northern BC. Wildlife Conservation Society Canada published the report *The Greater Muskwa-Kechika: Building a Better Network for Wildlife and Wildlands*

The first peak in publications coincided with the creation of the M-KMA late in 1998 (A in Figure 3). Articles published at that time presented their readership with basic descriptive information on where the M-KMA was, and what it might signify for wildlife, industry, and the public (Hume, 1998). Publications involving the M-KMA in 1999 shifted in focus towards the research partnership between the M-KMA Advisory Board and the

University of Northern British Columbia (‘UNBC Northern Research Program Launched’, 1999).

Over the following decade, publications related to the M-KMA remained below five per year, but between 2010 and 2012 there was a spike in tourism-related publications (B in Figure 3) with titles like: “Get Outdoors and Explore BC” (‘Get Outdoors and Explore BC’, 2011) and “Afraid of horses? Fix that by travelling with one (or three)” (Kirkby, 2011). Travel and reflection pieces also became more common; their focus combined the human experience within the M-KMA with explicit pro-conservation messaging (Bartlett, 2012; Lux, 2011).

The third spike in publications occurred in 2019 (C in Figure 3), which addressed two core subjects. The first was the Kaska Dena Nation’s efforts to create an Indigenous Protected and Conserved Area that would cover much of the same lands as the M-KMA (Cox, 2019a, 2019b). The second was the publication of *The Greater Muskwa-Kechika: Building a better network for protecting wildlife and wildlands* (Weaver, 2019a). Media publications focused on sharing the findings of this report with a wide audience, and sought to engage an audience in the news as well as on social media (Cox, 2019a; Weaver, 2019b).

5.1.1.1 Media Content Sub-Types

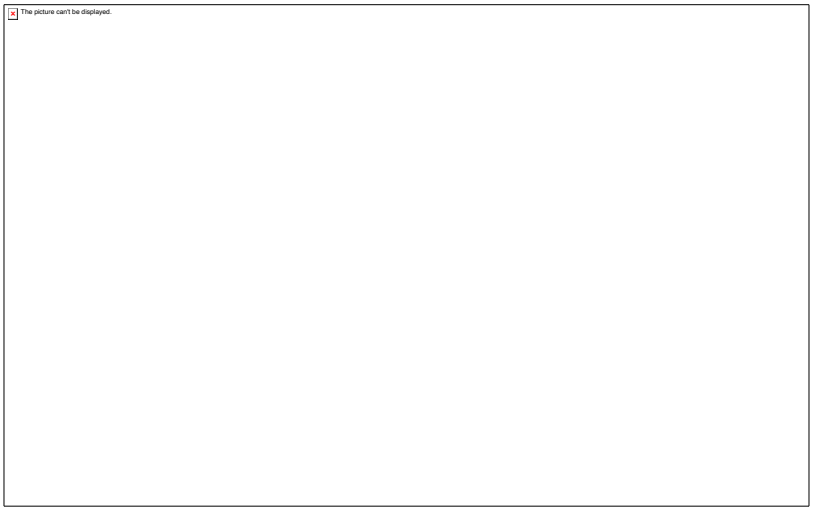
The media content collected in the census was made up of six sub-types (Figure 4):

- News articles published by community, provincial, and national newspapers in print and online, dominated the sample at 45%
- Arts and Culture pieces, which included notices of presentations about the M-KMA, editorials, and photo series: 24%
- Tourism publications: 19%.
- Educational materials: 7%

- Governmental publications made up the remaining 2%.
- Social Media

Although social media is considered a sub-type of the media content for my research, it was not included in the medium volume totals above because neither of the sampled platforms existed prior to 2006 (Twitter was founded in 2006 and Instagram in 2010), and publication dates were sometimes unavailable.

Figure 4
Distribution of publications related to the M-KMA by media sub-type, excluding social media (1994 – 2020)



Of the 30 different media outlets which published material on the M-KMA, the Vancouver Sun, the Prince George Citizen, Alaska Highway News, The Narwhal, and BC Magazine were the most prolific (Table 4). The Vancouver Sun, The Narwhal, and BC Magazine have a predominantly provincial readership, with some inter-provincial and national reach (BC Magazine, 2020; Gilchrist, 2018; *Postmedia Tops Canadian Newspaper Groups*, 2016). The Prince George Citizen and Alaska Highway News newspapers have a more regional audience, focusing on northern residents (*Alaska Highway News: About Us*, 2020; *The Prince George Citizen: About Us*, 2020).

Table 4

Top five most prolific publishers of media content related to the M-KMA by year and publication type

Publisher	Number of Articles	Year of Publication	Type of Publication
Vancouver Sun			
	12	1998	News
		2000 (x2)	News
		2002 (x2)	News
		2004	News
		2006	News
		2011	Tourism
		2012	Arts and Culture
		2014	Tourism
		2015	Arts and Culture
		2017	Tourism
Prince George Citizen			
	11	1997	News
		1998	News
		1999 (x3)	News
		1999	Government Pub.
		1999	Arts and Culture
		2000	Arts and Culture
		2001	News
		2010	News
		2012	News
Alaska Highway News			
	10	2004	Arts and Culture
		2011	Arts and Culture
		2011	News
		2012	News
		2015	Arts and Culture
		2016	News
		2017	Arts and Culture
		2019	News
The Narwhal			
	6	2016	News
		2019 (x4)	News
		2019	Arts and Culture

Table 4 (Continued)

Publisher	Number of Articles	Year of Publication	Type of Publication
BC Magazine			
	5	2001	News
		2011	Tourism
		2017	Tourism
		2017	Education
		2019	Tourism

Of the remaining 25 publishers, the Globe and Mail and Dawson Creek Daily News published three articles each about the M-KMA between August 1994 and April 2020. The Campbell River Mirror, the Canadian Broadcasting Company, Kaska Dena News, and Over the Edge Newspaper published two M-KMA-related pieces each. Each of the remaining publishers only published one M-KMA-related piece in the same time period (Appendix H).

5.1.1.2 Social Media

Social media, specifically the platforms Twitter and Instagram, were included as a sub-type of media content. The collected posts were all publicly available and tagged with #muskwakechika. From Twitter, 50 posts were made about the M-KMA by 14 accounts between 2006 and 2020 (Table 5). Three of those accounts (*@WCS_Canada*, *@Aerin_J* (Yellowstone to Yukon Conservation Initiative), and *@cpaws (*Canadian Parks and Wilderness Society*))* were conservation-focused NGOs.

Table 5
Share of M-KMA-related Tweets by user account

User	Percentage of Twitter Posts Related to the M-KMA %
WCS_Canada	44
Aerin_J	16
alaskahwy75	6
lpynn	6
travelsinbc	4
FNVIC	4
H2OCub	4
tarynhaggerston	4
cpaws	2
derykhouston	2
ewellburn	2
jakehdyson	2
metsawest	2
tonyfrattura	2
Total:	100

The Wildlife Conservation Society (WCS) of Canada (@WCS_Canada) accounted for 44% of Twitter posts, all in relation to the report: *The Greater Muskwa-Kechika: Building a Better Network for Wildlife and Wildlands* (Weaver, 2019a). For example: *"Our new scientific assessment of BC's #muskwakechika points to huge conservation opportunity in one of North America's wildest corners"* (@WCS_Canada, 2019). Dr. Aerin Jacob (@aerin_j), a conservation scientist with the Yellowstone to Yukon (Y2Y) Conservation Initiative (*Staff and Advisors*, 2021), wrote 16% of the M-KMA-related tweets. She wrote in connection to the WCS report: *"#MuskwaKechika ("MUSS-kwa ke-CHEE-kaw", aka the MK) is one of the wildest parts of the 3200 km-long Yellowstone to Yukon region (#Y2YRegion). It's a core refuge for grizzly bear, mountain caribou, moose, wolf, wolverine, native trout, & Stone's sheep"* (Jacob, 2019).

A mix of news reporters, travel and tourism organizations, and personal accounts made up the remaining 40% of M-KMA-related Tweets. These accounts made posts related to news stories, presentations and book publications, and personal experiences within the M-KMA. For example, in support of an upcoming community presentation Larry Pynn (2015), journalist, wrote: *"#waynesawchuk hosts lecture-slide show on #muskwakechika Fri. Apr. 11, 12, Pit Meadows."* User @tonyfraturra wrote of their experience in the M-KMA: *"returning from the woods looks like this #muskwakechika"* (2012) with a close-up image of themselves, looking disheveled, but happy.

Publicly available Instagram posts were also included as part of the social media sub-type. When the social media data collection occurred (April 2020), 984 posts were tagged with #muskwakechika on Instagram between 2010 and 2020 (Table 6).

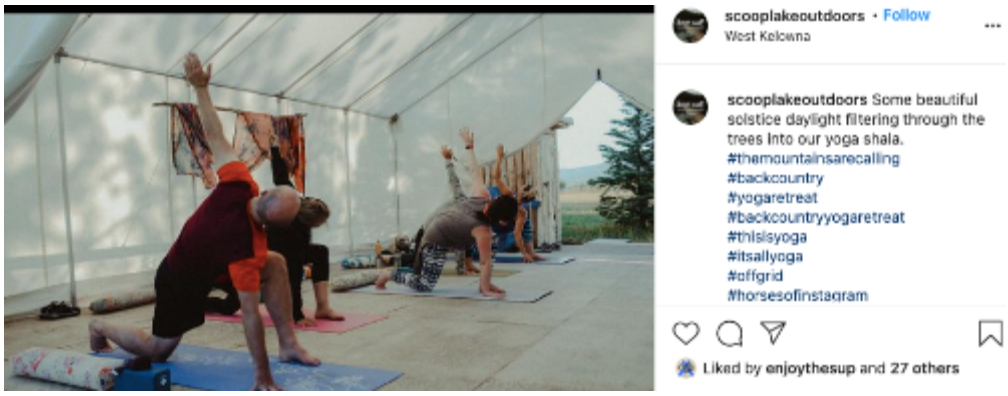
Table 6
Themes of imagery across Instagram posts tagged with #muskwakechika (2010 – 2020)

Image Theme	Theme in sample by %
Recreation activity with ≥ one person	24
Scenery	19
People and animals moving through a landscape	17
Animal close-ups (wild and domestic)	10
Human built infrastructure (roads, basecamps, etc.)	9
One person and scenery	5
Recreation activity (no people visible)	5
Group shot of people	4
Animal(s) and landscape	2
Animal and human together	2
Animal and infrastructure	1
Human close-ups	1
Conservation initiatives/activity (map, information)	1
Total	100

The theme of one or more people participating in a recreation activity like yoga, paddle boarding, snowshoeing, or hunting and fishing was most frequently represented in

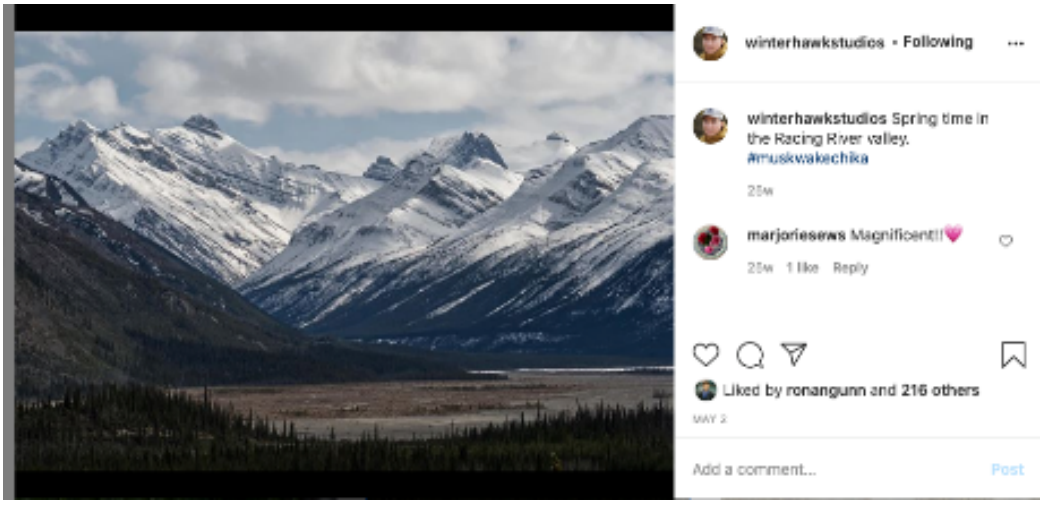
Instagram posts (24%). The focus of these images was on the activity itself, not on the person participating it, and this was demonstrated by a trend where the participants' faces were turned away or hidden by light or shadow (Figure 5).

Figure 5
Example of a recreation activity with one or more participants in the M-MKA (@scooplakeoutdoors, 2020)



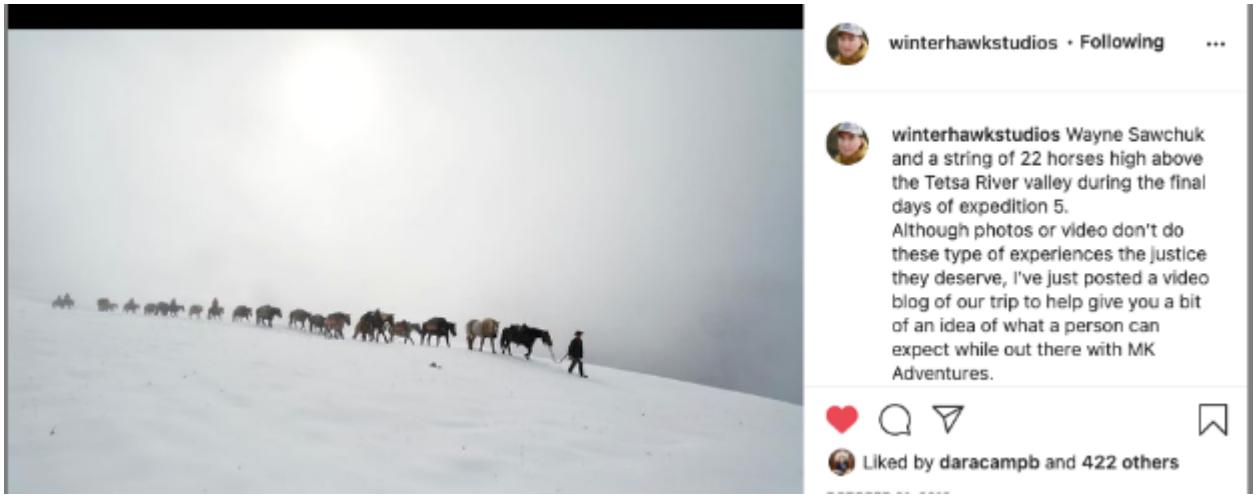
Images of scenery within the M-KMA were the second most common theme among M-KMA Instagram posts (19%). These images included sweeping landscapes with high mountains, wide rivers, and sprawling forests, illustrating just some of the scenic vistas within the M-KMA. These images never featured any evidence of human activity on the land, and if they included any wildlife, the animals were far away and not the focus of the image (Figure 6).

Figure 6
Example of a post featuring scenery in the M-KMA (@winterhawkstudios, 2020)



The third most common theme in the images posted to Instagram was people and animals, typically horses, moving through a landscape (17%). These images often featured long pack strings of horses and their cargo cresting mountain ridges in various weather conditions, accompanied by their human counterparts. These images evoke the transient, temporary nature of the human and domesticated animal's presence within the M-KMA (Figure 7).

Figure 7
Humans and horses moving through the M-KMA landscape (@winterhawkstudios, 2020)

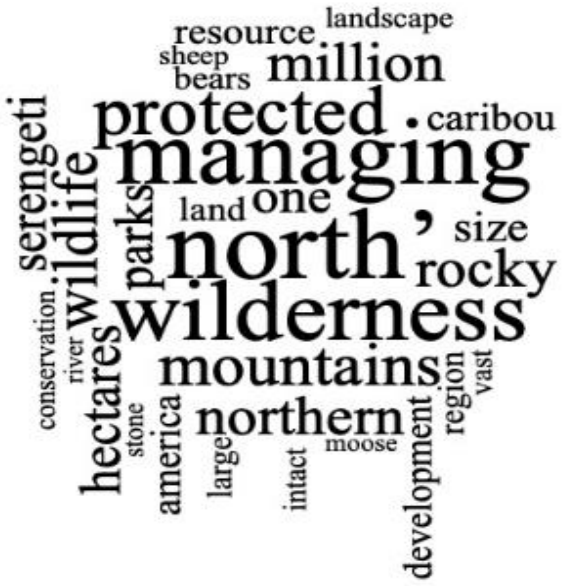


Close-up images of wild and domesticated animals were the fifth most common theme (10%). These images featured horses, moose, bears, caribou, lynx, and many other species, speaking to the abundant wildlife present within the M-KMA. Human infrastructure, such as roads, base camps, and other permanent features, was next most common (9%), followed by images of individuals in front of scenic backgrounds (5%), recreation activities without visible people (5%), and group shots (4%). The remaining themes (animals featured against the landscape; animals and humans together; animals interacting with infrastructure; close-ups of people; and conservation information and activities) represented two percent or less of the Instagram sample.

5.1.2 How Has the M-KMA Been Framed Across Media Sub-Types?

Nearly 300 individual media pieces from six media sub-types were collected and each publication was analysed using emergent thematic analysis. The following section first addresses the primary ways the M-KMA was described throughout the media, namely by its size, wildlife, and available wilderness (Figure 8). Secondly, this section addresses the contemporary issues discussed in the media, followed by what actions the audience was encouraged to take.

Figure 8
Word cloud of M-KMA descriptions in media content



5.1.3 Description of the M-KMA

Throughout the media content, the M-KMA was routinely described by a few core characteristics centered on its size, wildlife, and wilderness values. There was no evident difference in how the different media types did so. The M-KMA's size was a key focus, with words like "vast," "large," and "millions of hectares" appearing regularly. Resident wildlife like caribou, stone sheep, bears, and moose was frequently on the focus, and the term "wilderness" was often used. Descriptions of the M-KMA's unique management system and it's undisturbed and world-class ecological values were also recurrent, often connected to its similarities to the biodiverse African Serengeti ecosystem.

5.1.3.1 Millions of Hectares

> *"…a wilderness so large that Ireland could fit within its borders" (Kirkby, 2012, para. 3)*

The M-KMA's size, a total of 6,400,000 ha^2, was the characteristic most often used to describe it, often by way of comparisons to more recognizable places. For example, the M-

KMA's size was often likened to Ireland, or twice the size of Vancouver Island, or just larger than Nova Scotia or Switzerland (Burkhart, 2016; Cox, 2019a). A pattern of noting the M-KMA's size early in the media was established in the first mention of the M-KMA in a newspaper in 1994:

> *The second and newest of CPAWS' [*Canadian Parks and Wilderness Society*] and Smith's projects could eventually become the largest protected area in the continent. Located in the Northern Rockies, in the central north-eastern part of the province, the project spans from the Kechika River Valley in the south to the Liard River in the north and east and west from the Rockies to the Cassiar Range*. (Cobb, 1994, p. 2)

Stressing the size of the M-KMA was a way writers conveyed the significance and scale of the stories they were telling and pulled the reader in with vivid imagery of what all that space contained. For example, Burk (2018, para. 1) opens their article with:

> *Approximately the size of Ireland and deemed the "Serengeti of the North," the Muskwa-Kechika (MK) is one the largest and most biodiverse areas in the Rocky Mountain range, yet only a select few have heard of it. The reason for its elusiveness lies in the rugged landscapes, harsh climate, and a unique management system allowing humans to live harmoniously with the wilderness.*

The M-KMA's size appeared to subtly signal that the "*vast wilderness region*" (Butler, 2012, para. 1) could balance conservation and resource development to benefit the region's many interests. It was frequently reported as *"a plan that [had] widespread support among most of the communities of interest"* (Duguid, 2002, para. 7).

In addition to understanding the wealth of opportunities that the M-KMA represented to British Columbia, it was also something writers wanted their audience to be proud of: *"It [the M-KMA] serves as an inspiring example for land-use planners worldwide"* (Burk, 2018, para. 6). Members of the conservation community were also excited about the area:

> *'The protected areas are stupendous,' said George Smith of the Canadian Parks and Wilderness Society. "But the bigger picture is the special management zones. This is the conservation biology template of the future. It's the dream.'* (Hume, 1998, para. 8).

The near-total absence of roads or other development throughout the M-KMA was contrasted with the fragmented and heavily roaded southern British Columbia ecosystems (Cox, 2019a). For example:

> *[the M-KMA] is an area with few roads (98 percent roadless) and little resource development. The result is intact forests, clean waters and healthy wildlife populations. Caribou, for example, are thriving in the Muskwa-Kechika — unlike in southern B.C., where almost every caribou population is skidding toward extinction.* (Weaver, 2019b, para. 3)

This contrast with heavily disturbed ecosystems served further to highlight the significance of the M-KMA's size. The M-KMA's scale and undisturbed nature were identified as increasingly important because together, they acted as a counter-balance to ecological disturbance (Burkhart, 2017; Cox, 2019a; Weaver, 2019b). Positioning the M-KMA as a counter-balance to disturbance elsewhere (namely the Peace region of British Columbia (Burkhart, 2016; Cox, 2019a)) maintains that "*the Muskwa-Kechika Management Area was visionary for its time*" (Cox, 2019a, para. 83) while recognizing the opportunity to adapt and change:

> *'But that was before climate change became a global emergency and science showed that existing protected areas are not large enough or connected enough for wide-ranging species, like grizzly bears and caribou, or for the seasonal movements of species, either now or in response to what Weaver calls "climate heating.'* (Cox, 2019a, para. 83)

The Wildlife Conservation Society expressed this connection between the M-KMA's size and the size of the opportunity it represents by tweeting in support of their report on the Greater Muskwa-Kechika (Weaver, 2019a): *"This is our big chance. The #muskwakechika is a huge area of intact wild habitat and healthy wildlife. Let's keep it that way by taking bold steps to finish the job of protecting the wild heart of north-central BC"* (Wildlife Conservation Society Canada, 2019). Others, like Y2Y's Dr. Aerin Jacob, posted similar words of support: *"Bigger protected areas in northern BC's #MuskwaKechika is a huge*

*opportunity for wildlife conservation *and* climate adaptation. Op-ed by WCS's John Weaver"* (Jacob, 2019).

5.1.3.2 More Wildlife Than Anywhere Else

> *That rich assemblage includes some of B.C.'s healthiest caribou herds, genetically distinct clusters of Stone's sheep, mountain goats, moose, grizzly bears, orchestras of migratory songbirds, cranes, snowy owls and astonishingly large porcupines that frequent the banks of the Kechika River, known in Kaska as Tahdazeh', meaning 'long inclining river.' (Cox, 2019b, para. 19)*

Second only to the number of times the M-KMA's size was mentioned were mentions of the wildlife that inhabits the management area. The many species of animals present in the M-KMA were addressed in each of the six sub-types of media. However, the focus tended to centre on large mammals like ungulate species including caribou, Stone's sheep, and moose, as well as carnivores like bears and wolves (Gruenfeld, 2011; Lukovich, 2008; Pynn, 2000).

The M-KMA's wildlife was addressed similarly over time. For example, in 1997, the Toronto Star described the M-KMA as *"a rugged area of northeastern B.C. populated by caribou, moose, elk, bison, cougar, wolves, bears and eagles"* ('BC Creates Vast New Park', 1997, para. 3). Nearly 20 years later, Lovegrove (2013, para. 3) wrote:

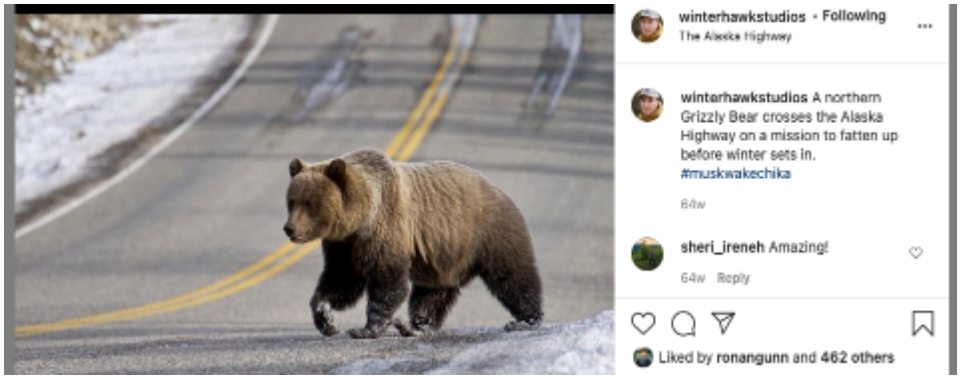
> *The area's spectacular wildlife fauna consists of eight species of wild ungulates, namely Stone sheep, mountain goats, bison, moose, elk, caribou, and white-tailed and mule deer; plus at least seven species of large and medium-size carnivores including wolves, coyotes, foxes, grizzly bears, black bears, lynx, and wolverines.*

The approach of listing the M-KMA's diversity in the media remained constant ('BC Creates Vast New Park', 1997; Lovegrove, 2013). However, each media sub-type used the notion of abundant wildlife to inform their audience differently. The media sub-types travel, and arts and culture showcased experiences where the wildlife was accessible, and sightings nearly guaranteed in a trip to the M-KMA. For example, these sub-types focused on *"wildlife galore"* ('Adventure's Not Far from Home', 2004, para. 5) in the M-KMA, and how *"moose,*

caribou, Stone sheep, and mule deer, as well as bear, both grizzly and black, roam in abundance here, and can often be spotted from the highway" ('A Northern Safari', 2007, para. 3).

The social media pattern was similar, listing the large mammals which live in the M-KMA and indicating their reliance on the management area for their continued success: *"It's a core refuge for grizzly bear, mountain caribou, moose, wolf, wolverine, native trout, & Stone's sheep"* (Jacob, 2019). Instagram posts featured close-ups of animals 10% of the time but did not draw explicit connections between the animals and the M-KMA. These images were most often of domesticated pack horses, but grizzly bears, lynx, caribou, as well as a mix of birds and fish, were present (Figure 9).

Figure 9
A grizzly bear crosses the Alaska Highway (@winterhawkstudios, 2020)



The remaining media sub-types (news, education, and government publications) presented lists of species as crucial part of the M-KMA's description. Like the social media content, these media sub-types drew connections between population success and the size and intactness of the M-KMA:

> *What British Columbians call the Muskwa-Kechika supports the richest population of large mammals on this continent. North America's top predators -- grizzly bears, black bears, timber wolves, lynx, bobcat, great horned owls, eagles and wolverines --*

> *all share this elaborate ecosystem with moose, elk, bighorn sheep, mountain goats, caribou, bison and deer.* (Hume, 2004, para. 1)

To convey the richness of the M-KMA's biodiversity, it is frequently compared to another recognizable place full of wildlife, the African Serengeti:

> *Named for its two main river systems, the Muskwa-Kechika is a roadless wilderness larger than Nova Scotia and known as the Serengeti of the North for containing the largest and most diverse big-game populations in North America.* (Pynn, 2002, para. 9)

The abundant diversity of the African Serengeti's giraffe, lions, hippopotami and elephants are widely recognized (Brundige, 2016; Gardner, 2016). The comparison to the African Serengeti was used consistently over time and media type to highlight the uniqueness of the M-KMA (Campbell, 2004; Pynn, 2002).

5.1.3.3 The Last True Wilderness

> *[T]the Muskwa-Kechika, a sprawling wilderness straddling the northern spine of British Columbia's Rocky Mountains. (Kirkby, 2012, para. 12)*

The M-KMA Act defines the critical components of wilderness as size, intactness, and absence of roads (Muskwa-Kechika Management Area Act, 1998). Globally, the attributes of remoteness, naturalness (e.g., native species, the opportunity for wildlife sightings), undeveloped, and solitude originating from the US Wilderness Act are identified as critical components of wilderness (Cole & Hall, 2009; Kliskey & Kearsley, 1993).

Media content surrounding the M-KMA did not explicitly define wilderness by definitions like those listed above. However, each of the six media sub-types noted some quality of wilderness from the M-KMA Act's definition, including how the M-KMA was vast, roadless, or far removed from the average British Columbian. For example:

> *You can't spell it. And you probably couldn't find it on a map. But the Muskwa-Kechika remains the most magnificent wilderness in the Rocky Mountains, home to a*

> *greater diversity of large mammals than anywhere in North America.* (Pynn, 2015, para. 1)

The term 'wilderness' was also used throughout the media content as a way to communicate the rarity of an area that is so large, remote, and diverse (Kirkby, 2012; Pynn, 2000; Taylor, 2012). Rarity and uniqueness, as *"[o]ne of the last tracts of true wilderness in North America"* ('A Northern Safari', 2007, para. 3), was a recurrent theme across media sub-types. Tourism-type publications used this aspect of the M-KMA to entice their audience to visit something they would find nowhere else ('A Northern Safari', 2007; Adams-Chute, 2017). Other media sub-types (news, education, arts and culture, government publications and social media) focused on the ecological and cultural importance of the M-KMA, for example:

> *In the very most northern Rocky Mountains, the Muskwa-Kechika Management Area (MKMA) encompasses boreal plains, muskeg, and alpine peaks, forming a wilderness ecosystem of incredible magnitude.* ('Muskwa-Kechika Conservation Design', 2009, para. 1)

5.1.3.4 Indigenous Voices and the M-KMA

> *Its plant and animal life are as diverse as its landscape of mountain peaks, valleys and boreal forests. Its forests clean the air we all breathe and nourish caribou herds, which are dying in other parts of the province. It's one of the last places in the world where you can walk ancient Indigenous trails for weeks and not meet another soul. (Manygreyhorses et al., 2019, para. 4)*

Each media sub-type noted Indigenous history, culture, and land use within the context of the M-KMA and featured Indigenous voices most often when compared to other groups. This included direct quotes by Indigenous people as individuals and as representatives of their Nation, mention of specific First Nations' activities, and their inclusion in lists of groups involved in some capacity with the M-KMA. The voices of conservationists were cited second most often, with the resource industry, the public, the

tourism industry, and provincial and federal governments following in descending order. The media content focused on three core themes related to Indigenous presence in the M-KMA: Indigenous traditional land use, traditional territories, and Indigenous languages.

Indigenous voices established the importance and relevance of their traditional land use and territory throughout the media content by highlighting the impacts the management area could have on their land claims and treaty rights. For example, in 1997 when the M-KMA was initially announced to the media, the Toronto Star reported the following:

> *Dave Porter noted the [Kaska] Dene are deeply involved in land claims talks with the governments of British Columbia and Canada. "We have been assured the decisions of today affecting our homeland will not prejudice our overriding treaty interest when the time comes to finalize the necessary agreements." Porter said. "I'm grateful to the government for those assurances.'* ('BC Creates Vast New Park', 1997, para. 17)

Traditional land-use practices such as prescribed fires and harvesting and hunting were also a key theme in what Indigenous voices were speaking to throughout the media content. One example includes an interview with a member of the Fort Nelson First Nation speaking to her family's history of prescribed burning and its relation to healthy lands:

> *He [her grandfather] used it [fire] every spring - as soon as he could he'd go out there and he'd start burning. He did it because the land needs to be taken care of and that's part of taking care of the land is making sure that all of this old scrub that you see behind us isn't there tripping up animals and choking out the medicine and the food plants that come up for us. There's this idea that our people, we follow the animals around and we're nomadic hunters and we haplessly follow them, oh, yeah, there's a moose, let's kill it. That's not the way it was. We created places that brought the animals to us.* (*Reviving the Aboriginal Practise of Controlled Fires Could Be Good for Land and Wildlife*, 2013, para. 33)

In 2019, there was a notable increase in publications addressing Indigenous land-use and traditional territory within the context of the M-KMA (only five publications in 2018 to 19 publications in 2019). Six articles in 2019 focused on the Kaska Dena Nation's proposed Indigenous Protected and Conserved Area (IPCA) (Case, 2019; Cox, 2019b, 2019d). Interviews and photos presented Indigenous perspectives in their own words:

> *The Kaska Dena say the plan is necessary to protect nature and preserve their way of life at a time when Indigenous cultures across the globe are threatened with extinction and when, every two weeks, somewhere on the planet, another language winks out.* (Cox, 2019b, para. 14)

Indigenous languages, both their cultural significance and active use, were noted in some media content. Most often, Indigenous language was mentioned as it relates to the name of the M-KMA: *"The names Muskwa and Kechika are of Dene First Nation origin and translate to Bear and Long Inclining River*" ('Muskwa-Kechika', 2020, para. 2). The language was also addressed relating to personal connections to the land and in sharing knowledge:

> *Now the guardians are incorporating Kaska into their land-use surveys, so they "will start using the Kaska language and hopefully pass on that knowledge to other people," Ball explains.* (Cox, 2019a, para. 38)

5.1.4 Contemporary Challenges Facing the M-KMA

Once the M-KMA had been described, the article or social media post's crux would typically position the M-KMA within the context of some challenge to its mission. Challenges fell within one of three themes: first, the conflict between conservation interests and resource development interests; second, climate change impacts; and third, the use and scarcity of funding for the M-KMA. Across media sub-types, M-KMA-related content covered these themes and appeared to frame the debate in the press.

5.1.4.1 Pressure to Develop

> *The Muskwa-Kechika was created by provincial legislation to ensure that industrial resource extraction -- logging, oil and gas, and mining -- does not negatively impact the Serengeti of the North, home to the largest and most diverse big-game populations in North America. (Pynn, 2002, para. 13)*

Industrial interests in resource development in the M-KMA characterized management tensions within the area and were often placed in opposition to conservation and

recreation interests. To illustrate opposing values on the land, coverage included multiple perspectives and their interests on the issue. For example, in 2000, the Yukon Chamber of Mines *"held public meetings and placed newspaper ads to generate opposition [to the M-KMA], hoping to salvage a region rich in known lead-zinc deposits"* (Pynn, 2000, para. 16). Hunting and recreation outfitters countered the Chamber's claims by expressing the importance and value (both ecological and social) of the M-KMA's wilderness attributes: *"wilderness is shrinking under the onslaught of population growth and resource development."* (Pynn, 2000, para. 42).

Media content (namely the news and arts and culture subtypes) reported how tension between the natural resource development industry and other interests like research initiatives was perpetuated by the British Columbian government's involvement. In 2002, the government allowed oil and gas exploration within the M-KMA, which threatened *"a major $500,000 wildlife study"* (Pynn, 2002, para. 1). The permission given to industry to conduct exploration activities in the area was used by critics as evidence that *"the province is committed to pushing ahead with industrial development in the absence of scientific research"* (Pynn, 2002, para. 9). Critics from the resource industry, environmental, and recreational interests found common ground in opposition to the government's actions:

> *Everybody should be clear that what's at risk here is not just the ecological integrity of the Muskwa-Kechika. It's also the economic stability of the entire region. Because if you think B.C. and its forest industry got a black eye when the world mustered behind the Clayoquot Sound protests, just wait until the petroleum industry discovers what comes down the pipe over this issue.* (Hume, 2004, para. 13)

Both those on the side of industry and those against it were vocal about how they were not being allowed just access to the M-KMA, and each was firm in their belief that it was the provincial government's fault. The groups were depicted in the media as the two ends of a non-negotiable dichotomy despite the M-KMA Act and management processes'

intention to balance all interested parties (Dean, 2012; Muskwa-Kechika Management Area Act, 1998; Kirkby, 2012). Affirmations that the M-KMA was being managed equitably are present throughout the media content, though more often as a side note next to a more extensive discussion of tensions between different interests (Duguid, 2002; Hume, 2004; Meissner, 1997).

Characterizations in the media content of the conflicts between the resource industry, conservationists, and the provincial government subsided after the early 2010s. Media content sub-types like tourism and arts and culture pieces became more prevalent and focused on wildlife and wilderness elements instead of management conflicts (Bartlett, 2012; Burk, 2018).

5.1.4.2 Conservation vs Sacrificial Areas

In the northeast of BC, particularly the Peace region, industrial development of oil and gas interests has been increasing in intensity for decades and further contributing to fossil fuel emissions and detrimental impacts on local ecology (Curtis, 2018; Nitschke, 2008; Williamson-Ehlers, 2012). Media content speaking to issues in connection with the M-KMA posits that the reason this has not been addressed or changed is that the government:

> *"feels as if it's done enough for the region following the creation of the Muskwa-Kechika Management Area. 'It's like they're thinking, okay, we have [the] Muskwa-Kechika over here, so we'll let the oil and gas industry run amok in the Northeast'"* (Lux, 2011, para. 12).

5.1.4.3 Climate Change Impacts in the M-KMA

> *As the Arctic warms at a rate far faster than the global average, Weaver says some of North America's most likely refugia for plant and animal species will be found in the B.C. and Yukon mountains. (Cox, 2019a, para. 81)*

Climate change impacts in the M-KMA were framed as a force of transformation: *"[c]limate change is going to shift things around in the landscape"* (Dean, 2012, para. 13).

In 2012, the threat of climate change was positioned by the Yellowstone to Yukon Conservation Initiative as the catalyst for why expansion and creation of other provincial parks within the M-KMA should be considered. Also, climate change was identified as the motivation for tighter restrictions on industrial development in and around sensitive areas (Dean, 2012). These considerations were based on climate projections, which illustrated projected shifting biogeoclimatic zones, thereby identifying where parks and protected areas should be adjusted to match (Dean, 2012).

In the fall of 2019, the WCS-Weaver report (Weaver, 2019a) put out a call to action for *"bold steps to protect the wild places - and wildlife - we love in the face of growing climate pressures"* (Weaver, 2019b, para. 2). The M-KMA was framed as a good start to protect against the worst of climate change impacts because the area *"provide[s] valuable options for plants and animals looking to shift as climate heating accelerates"* (Weaver, 2019b, para. 1). Media content that addressed the M-KMA and climate change together framed the issue as having room for improvement. However, highlighted voices, like Kaska Dena First Nation and the WCS, pushed for expansions and additions to the resource management zones and the parks and protected areas system within the M-KMA (Dean, 2012; Lux, 2011; Weaver, 2019b).

5.1.4.4 The Funding Challenge

The amount, source, and length of supply of funding for research projects, the M-KMA Advisory Board and BC Parks (specifically for parks within the M-KMA) were all addressed by the sampled media content. Initially, publications noted the amount of funding allotted to the M-KMA Advisory Board as a side note, not the crux of the article in question (Mahoney, 1998; 'Talks Focus on Rockies', 2000; 'UNBC Northern Research Program

Launched', 1999). In the late 2000s though, the topic of funding became a central part of the issue:

> *…the BC government has reduced the funding support available for the M-KMA and cut back severely on agency resources and commitments. Over several years, the provincial government has also struggled to define an appropriate role for the MK Advisory Board, which now has less than 10% of the funding that was originally available.* ('Muskwa-Kechika Conservation Design', 2009, para. 6)

The M-KMA Advisory Board and BC Parks' ability to effectively manage the area on such a reduced budget was questioned and framed as a key point of contention (Lux, 2011; 'Muskwa-Kechika Conservation Design', 2009; Weaver, 2019a). Industrial interests and government viewed the budget reductions as just and as more favourable to economic interests in the area (Lang, 1997; Lux, 2011). In contrast, those advocating research, conservation, and recreational interests saw it as a deliberate jeopardization of "commitments made to conservation in the long term" ('Muskwa-Kechika Conservation Design', 2009).

5.1.5 Audiences in Action

Place-protective behaviours include direct participation in public demonstrations and signing petitions or indirect actions like learning and sharing about an area under threat (Anton & Lawrence, 2016; Devine-Wright, 2009). Both the direct and indirect actions encouraged by the media content serve as ways in which to grow awareness and engagement with the M-KMA.

The media content encouraged audiences to take both direct and indirect actions regarding the M-KMA. The media content suggested that the audience take direct action to visit the M-KMA physically. The 'tourism' media sub-type focused on encouraging interest among their audiences to visit the M-KMA while some news and arts and culture articles presented community events like presentations or photo series on the M-KMA as

opportunities for their audiences to 'visit' the area via armchair tourism (where there is no physical travel, but rather viewing images and video).

Indirect actions encouraged by the tourism sub-type focused on getting the audience to learn more about the M-KMA and to share and advocate for the area they had learned about. These publications shared resources like websites and links to other related articles and resources, new book publications, and announcements of local slide shows and information presentations.

5.1.5.1 Visit the M-KMA

Tourism publications that featured the M-KMA did so to encourage their audience to make the trip and visit the management area. Evocative words and imagery were often used like: *"a world away from civilization, the spectacular backdrop includes glacier-draped peaks, alpine valleys, and vast tundra where roaming wildlife have earned it the moniker 'Serengeti of the North"* ('Adventure's Not Far from Home', 2004, para. 5). The M-KMA was further framed as the last place to have a true frontier wilderness experience, where one can *"grab the reins yourself and head deep into the heart of this wilderness on horseback, following the old trails through high mountain passes, fording rivers and making camp where day's end finds you"* (Gruenfeld, 2011, para. 4). These publications all made appeals to the audience's sense of exploration and desire to immerse themselves in a unique landscape and lifestyle where they can visit a place like *"the region's Northern Rockies Lodge, nestled within the Muskwa-Kechika, [which] offers everything from adventure getaways to wildlife viewing safaris"* (Newell, 2010, p. 33).

Publications urging readers to visit the M-KMA listed the variety of recreation activities available to the intrepid explorer. Hiking, camping, fishing, hunting, and horse

packing were all mentioned, and so too was the availability of services, lodging, guides, and transport (road and all-terrain vehicles, horses, and floatplanes). Horse packing, particularly trips with Wayne Sawchuk's MK Adventures, was firmly positioned by the media content as *"the real adventure"* (Gruenfeld, 2011, para. 4) where one can *"gain new perspectives and skills that are immeasurably valuable"* (Burk, 2018, para. 6). Other outfitters were referenced in the media content, but none as often as MK Adventures, indicating that the multi-week, horse-packing trip fit well within the frame of independence, adventure, and frontier wilderness exploration deemed fitting.

5.1.5.2 Learn More About the M-KMA

Audiences were often encouraged to learn more about the M-KMA by both tourism and news publications. Readers were encouraged to visit the M-KMA's website to find out more about the management area itself but were also directed to publications by local authors and the MK Adventures company website (Burk, 2018; Hume, 2004; 'Muskwa-Kechika', 2020). These resources were frequently recommended as ways for the audience to find out more about how they could visit the M-KMA themselves. For example, publications made suggestions like: *"[t]o find out more about fishing and hunting opportunities in this wilderness area, contact the following organizations…"* (Gruenfeld, 2011, para. 6).

Articles and notices of upcoming presentations about the M-KMA encouraged community members to attend as a way to learn more about *"research opportunities in the Northern Rockies"* ('Talks Focus on Rockies', 2000, p. 3), *"the magic of the horse journey"* (Kirkby, 2012, para. 3), or simply hear and see *"stories and photos from the M-KMA"* (D. Hansen, 2012, para. 3). Each of the six M-KMA presentations mentioned in the media

content sample featured Wayne Sawchuk as either the keynote speaker, author, photographer, or all three.

5.1.6 Summary

This media analysis examined a census of all publications which referenced and addressed the M-KMA from May 1994 to May 2020. The media content was spread across six sub-types which included: news, arts and culture, tourism, educational material, governmental publications, and social media. Across all the media content, the management area's size, its wilderness values, and its abundant wildlife were the characteristics most often used to frame the M-KMA. Four key challenges facing the M-KMA were: industrial development pressures, conflict between conservation and other interests on the land, climate change impacts, and the availability of funding for research and management activities. Finally, the media analysis found that the audience was encouraged to engage directly with the M-KMA by visiting, or indirectly by learning more about the area at presentations, in books, or through online resources.

5.2 Interview Results

Fifteen semi-structured interviews were conducted to answer the following research questions: a) *How is sense of place and branding related to awareness and engagement?* b) *What do different actors in the M-KMA want the public to know about the management area?* c) *What value do they see in the public's engagement?* Fourteen interviews were analysed after one interviewee withdrew from the study. The results are presented in five sections: what the public needs to know; the value of public awareness and engagement; change in the mechanisms of awareness and engagement; challenges in successfully safeguarding the M-KMA; and finally, crises as rallying points.

5.2.1 What the Public Needs to Know

> *…it's important for people to know that there's this big wild place, and then first of all, that it exists, and then it being there's an attempt being made to manage in a way that protects wildlife and, you know, ecosystem and cultural values in going forward in time. - A1*

At the onset of each interview, interviewees shared what they felt was most important that the public be aware of about the M-KMA. Each respondent identified multiple characteristics that the public should know. These fell into one of five themes: the M-KMA's size and intactness; its wilderness values; its novel management; the simple fact that it exists; and its cultural value for Indigenous peoples.

5.2.2 The M-KMA's Size and Intactness

> *The MK, even though it's a big area, it's one of the last few intact areas. - R2*

The sheer size and intactness of the M-KMA were the characteristics most often identified by interviewees. Interviewees expressed that the M-KMA's size was vital for the public to understand because it is the foundation on which its other characteristics and values depend. Interviewee L4 expressed the importance of the M-KMA's scale in relation to its ecological values: "*it's a very large area. It represents a significant part of the real estate of all British Columbia, biologically and geographically very diverse*."

Along with size, intactness was identified as necessary. The M-KMA is "*one of the last few intact areas, … certainly in Western Canada, maybe in Canada"* (R2) and because of this intactness and "*vastness of the landscape*" (Y12), the M-KMA is rare and deserves the public's attention. Interviewee Z1 elaborated further:

> *Here you have one of the few remaining large, intact landscapes in North America. You know, certainly the north part of Canada is still pretty intact and remote but south of 60 they are vanishing and the Muskwa-Kechika represents one of the last best chances*.

The uniqueness of the M-KMA's intact state was frequently mentioned. For example, interviewee Y12 stated: *"the intactness of the ecosystems, the vastness of the landscape, all of that ecological aspect is, it's important for the public to know about that and understand that areas like the MK are rare."* Interviewee D18 pointed out that British Columbians, in particular, should take notice of the M-KMA's significance because: *"it's this, huge, massive chunk of fully-functional wilderness that very few people know about, but it's right here in our own backyard of British Columbia."*

5.2.3 Important Wilderness Values

> *The only place that is 100% no light. Nothing. It's black. Everywhere else in the entire province, there's light there… The MK was completely black. It was a clear night. I couldn't see light for 100 miles. -L4*

The M-KMA's wilderness value was the second most common characteristic identified by interviewees. Wilderness, while not explicitly defined by interviewees, was used to indicate the large, intact area of the M-KMA and the biotic and abiotic features within it like: *"Untouched forests, glaciers galore, spectacular mountains, big rivers, all unknown to people"* (L4). Notable for some was its global significance: *"it's probably on the global scale, one of the most significant wilderness areas. Yeah. On the planet" (T16).*

Interviewees also indicated that the M-KMA's wilderness nature is a vital part of the imagery typically attributed to northern British Columbia and northern Canada as a whole. Interviewee D18 noted that it is important for the public to have:

> *"the sense that there is a place that's as wild as it really has always been and its right here in British Columbia…just the idea that there's this wild area and it's relatively the same as it has been for thousands of years."*

Similarly, interviewee E8 stated: *"it's obviously really important for the public to be aware, like, it is kind of these, these places people think about when they have a picture of, kind of northern Canada, wilderness regions and kind of pristine wilderness."*

5.2.4 A Novel Kind of Land Management

> *[T]he MK as a landscape underpinned by the MK Act and the regulation and having an advisory board may not only be rare, but it might be unique in British Columbia, and North America. -Y12*

Interviewees indicated that the public should know that the M-KMA is managed differently than what the status quo of land management in BC might suggest. For example, interviewee R2 stressed that the public should know of the vision of the M-KMA Advisory Board: *"the vision for the MK, which isn't a conservancy, you know, they are open to development, but they're open to responsible development."* The public, according to interviewees, needs to be aware that in addition to *"responsible development"* (R2), *"there's an attempt being made to manage it in a way that protects the wilderness and wildlife, and, you know, ecosystem and cultural values in going forward in time… It's a bit of a different model"* (A1).

5.2.5 The M-KMA's Inherent Value

> *I think it's important for people to know that there's this big wild place, and then, first of all, that it exists. -A1*

Throughout the interviews, interviewees expressed dismay over their perception that so few people were aware of the M-KMA. Interviewee L4 stated:

> *"And I would say it's a very small single digit percentage of people that are aware of it. And also have awareness of it, maybe heard of it. It's quite sad because it's truly spectacular and extraordinary place because it's so difficult to get to and so remote."*

Others, like interviewee Y5, noted there is a need for better awareness of all kinds of protected and special management areas in British Columbia: *"Basically, I think that people need to be aware of what's in their province, period, not just necessarily the MK."*

5.2.6 Cultural Values

> *Oh, it's absolutely important that the public is aware of the values both ecological and cultural of the Muskwa-Kechika. -Z1*

Interviewees indicated that the public also needs to be aware of the cultural values of the M-KMA, specifically the traditional and contemporary land use and territories of Indigenous peoples on the land. Interviewee Z1 stated that: *"it's absolutely important that the public is aware of the values both ecological and cultural of the Muskwa-Kechika and I would say the greater Muskwa-Kechika area."* The importance of cultural values was tied to contemporary issues within the M-KMA:

> *...there's a lot going on right now in terms of land use planning, right. So, there's multiple provincial First Nation partnerships happening where, you know, there's act of planning and trying to promote the ability for the Nations to practice Treaty 8 rights and find where the balance between the practice of Treaty 8 rights and the practice of recreation and recreational hunting and those types of things fall for non-Indigenous Canadians. (T16)*

Interviewees expressed that the involvement of First Nations in the M-KMA's management had been inconsistent due to their superficial involvement during the initial LRMP processes in the 1990s (L4, R2, Y5). Perceptions of the contemporary involvement of First Nations differed among interviewees, some stating that *"none of them [First Nations] are engaged [with the M-KMA]"* (L4), while others posited that *"the Board currently has more of a First Nations connection to it right now"* (V9). This inconsistency in knowledge about how First Nations are currently involved with the M-KMA suggests an urgent need for knowledge mobilization on the subject among those working in and around the area.

One interviewee noted how the public's interest in the M-KMA has shifted over time. They noted that initially the most famous images of the area had consisted chiefly of landscapes and wildlife but that had changed:

> *…now that you tie a story of people that have had a presence there culturally for thousands of years, there seems to be a lot of interest in that, so I think that's one big thing. And the way it ties all together with the cultural significance of the Dena K'éh Kusãn, and the Kaska Dena peoples.* (D18)

5.2.7 Challenges to Safeguarding and the Value of Public Awareness & Engagement

> *…it needs a constituency to potentially defend it. -A1*

Interviewees felt that public awareness of the M-KMA was linked to the public's direct engagement and visitation to, the area. Most interviewees drew a connection between future higher awareness and safeguarding, where safeguarding would take public pressure on the provincial government to ensure it is maintained and improved existing management within the M-KMA. Nevertheless, others cautioned that too much awareness and engagement with the management area could lead to sudden changes in visitation that existing management and infrastructure would be unable to accommodate and successfully manage. Interviewees further noted that barriers to successfully safeguarding the M-KMA included: funding for management and research; communication issues between different groups; and gaps in legislation and land and resource management plans.

5.2.7.1 The Challenge of Available Funding

> *I believe there's also a strong need to have some development to get some cash flowing. -L4*

A lack of available funding for the M-KMA was a significant challenge noted by interviewees. Interviewee Y5 explained how funding changed over time:

> *…when it was first formed, they [the M-KMA Advisory Board] were given a million dollars a year to do whatever they wanted, with no conditions just as long as it*

> *referred back and followed the Act and the regulation… And then as things changed, and the new government came in, there was no funding or very little funding. So, all of the staff and all of the connection to the government and all the support [the Advisory Board] had, that disappeared.* (Y5)

Interviewees viewed the decline in funds as having a negative impact on all aspects of the M-KMA's management, from daily management to public awareness and engagement initiatives to tourism marketing and research (H3, L4, Y12, Y5).

Interviewees saw funding as a persistent issue. The tourism and recreation industries were mentioned as possible avenues to raise funds but were not without their own specific challenges. For example, one interviewee expressed frustration that there was no focused attempt at marketing and investment in the area (H3). More generally, interviewee L4 spoke to the lack of finances as a significant challenge to the continued existence of the M-KMA in the eyes of the provincial government:

> *But the problem I'm seeing now is that the province looks at its fortune, and they look at the map and there's a big empty spot, which, quote unquote, generates nothing. And when I say "generates nothing" - from an economic perspective there's no big revenue coming from hunting, trapping, fishing, tourism or anything like that, nor mining, oil, gas, nothing is coming out of there, from a financial perspective for the decision-makers in Victoria.* (L4)

5.2.7.2 Limits to Management Capacity

> *…well, this place is so fantastic. If we ever let it out into the public world, it's going to be just overrun immediately, right? That was our concern.* - S4

Interviewees noted a conflict between their personal and institutional desires for increased public awareness of the M-KMA and what that would mean for the land. Interviewee A1 described this conflict as: *"So there's not wanting it overrun, you know, from a selfish perspective and also in terms of, you know, safeguarding the values that are there. But it also, it also needs a constituency to potentially defend it.*" Interviewees expressed the need to find an equilibrium between an aware and engaged portion of the public that seeks a

"personal experience in the area" (Z1) and those who *"aren't so fortunate to be able to make a visit"* (Z1).

Interviewee E8 expressed how, while an increase in engagement and visitation to the M-KMA would be a good thing for the local economy, management agencies like BC Parks *"are at capacity… If anything, there's demand for more campgrounds."* E8 elaborated further on what a more manageable kind of awareness would look like:

> *I would say, like, awareness on more of an existence level, I would be happier for, just because I feel like you don't need to necessarily feel it to appreciate and value it, but I know for a lot of people you do so that's fine.*

5.2.7.3 Challenges in Communication

> *…a lot of us are recognizing that as a group, the Government of BC, the institutional knowledge about what the MK is all about, why it was created, the legislation and so on, that institutional knowledge is lost. - Y12*

Interviewees identified communication between those involved with the M-KMA and maintaining shared knowledge in the long term as significant challenges to successfully safeguarding the M-KMA. Interviewees attributed these challenges to the availability and content of signage and other interpretive material accessible by the public and the ability of different organizations and agencies to share and maintain their own institutional knowledge.

Interviewee V9 expressed concern over what they viewed as the nebulous nature of who was responsible for what in the M-KMA:

> *So, we do have the tourism booklet and we have a little spread about the Muskwa-Kechika and then resources back to the Muskwa-Kechika.com. There's been a lot of conversations about how it could be amplified. But it's kind of a catch 22, right? Is that a municipality function? Is that the Board function? Is that a combination? Is it just somebody that just wants to move forward with something but needs approval from the Board? How can we even get a hold of them?*

Interviewee Y12 mirrored this concern that the relevant groups were not communicating effectively and suggested that collecting these disparate groups together for a conversation would help to ease the confusion:

> *It's meeting as individuals, meeting with the local public employees and talking to them and having a one-on-one discussion with them saying, hey, what the heck are you guys doing in there [the M-KMA], you know, you're kind of missing what the MK is all about. Here's a bunch of background material that you should read and try to influence the government that way. In one-on-one dialogue.*

Interviewee priorities for these future conversations revolved around the idea of improved signage and interpretive material for the public. Existing signage (Figure 10) about the M-KMA, according to interviewee E8, was *"quite derelict and out of date."* Others, like interviewees V9 and A1, also expressed that current signage was inadequate and there was a need for additional and updated signage because they identified it as a key way in which the public becomes aware of the M-KMA when passing through the management area and nearby communities.

Figure 10
An example of interpretive signage about the M-KMA. Image: Rachelle Linde, Aug. 2020

Long-term institutional knowledge, that is, the communication of information about the M-KMA between out-going and incoming employees in government or tourism agencies, was identified by interviewees as a communication challenge. Interviewee Y12 noted how this change occurred slowly over time:

> *For those who have been around the MK on the Board or know about it going back to the 90s, a lot of us are recognizing that as a group, the Government of BC, the institutional knowledge about what the MK is all about, why it was created, the legislation and so on, that institutional knowledge is lost.*

Adequate institutional knowledge in government is imperative because:

> *They [the BC Government] establish what can and can't happen in the MK. And so, from a resource management point of view, it's really important that the government as a group, understand what the MK is all about and is aware of it.* (Y12)

These types of gaps in institutional knowledge were also identified outside of the BC Government. Throughout the tourism industry in northern BC, challenges were related to incomplete training on the M-KMA for new employees by interviewees V9 and H3. Interviewee Y5 noted that the M-KMA Advisory Board faced challenges in adequately informing partners in other organizations about the M-KMA and noted that there is a need for educational material or *"to set up something that maybe, that government [and others] can go by"* (Y5).

5.2.7.4 Change in the Mechanisms of Communications

> *I would say the major thing that's changed is the average person's ability to become involved and engaged with their fellow citizen on resource issues. -T16*

Since the M-KMA was created in the 1990s, land management approaches, conservation, and public engagement have changed. Interviewees identified a change in the priority of managers, shifting from a laissez-fair attitude to public involvement to more purposeful awareness and engagement campaigns. They also noted that rapid technological

advancements have changed how the public learns and engages with the M-KMA. These changes were noted positively. More focus on public involvement meant better management decision-making, and interviewees liked that they could communicate more quickly between agencies, organizations, and the public when, for example, using email instead of faxes.

Most interviewees spoke positively about the shift in methods of engagement, for example: *"…there's now a virtual space where people can have discussion points and counterpoint pieces around land management and wildlife management that wasn't there before"* (T16). Interviewee T16 further elaborated on this change:

> *…that's the first piece, there's more opportunity for the public to be involved and then the second piece is leveraging things like virtual conferencing or webinars or Twitter or ways to get information out more broadly, government is a little more clunky at that, but we certainly, we certainly can keep a more… it's a less cumbersome process.*

No interviewees were explicitly against the shift towards online public engagement. However, some did caution that while online forums were indeed opportunities for people to gather and share information in ways they could not previously, there was a risk that the information being shared could be misleading or entirely false (R2, J6, T16). Interviewees working with different agencies, governmental and otherwise, found it difficult to keep track of the reliability of the information shared, and were sometimes limited in how they could engage back with the public due to policy and mandates on the use of social media platforms.

5.2.7.5 Legislative Challenges

Interviewees praised both the management plans and the Act for being key characteristics which set the M-KMA apart and made it special as a management area, but interviewees noted the existence of gaps and dated components that could hinder the M-KMA in contemporary times.

Some interviewees indicated that within the LRMP processes, there were missed opportunities for ensuring the M-KMA's stability in the future. For example, interviewees A1, J6, S4, and Y5 each noted that the original LRMPs did not account for resource development other than forestry, oil, and gas within the M-KMA, namely that *"...there's not a word in the plans around wind power development"* (A1).

Planning effectively for all possible types of resource development in the M-KMA, such as forestry, roads, and wind power, was of high priority for interviewees. Interviewees gave examples of how such planning could be incorporated into future LRMPs and the M-KMA Advisory Board's resource management framework currently under development. A1 discussed what wind energy development in the M-KMA might look like, and noted a few major considerations they felt would need to be addressed in future plans to fill existing gaps:

> *...so, the wind one is something that, because it's [wind energy] a permanent footprint on the land, permanent access that they'd have to have to it to maintain the turbines and whatnot that you know, that fits the category as a permanent and permanently accessible thing and is something we need to think about going into the future.* (A1)

In regards to the M-KMA Act, interviewees expressed that, when the M-KMA was new, the legislation and management plans were *"at the leading edge of thinking about protected areas and large landscapes"* (Z1) but now, *"we've learned a lot in the past twenty years and the conservation model for the MK needs to be revised"* (Z1). Furthermore, interviewees were concerned that the M-KMA Act alone is vulnerable to the whims of government: *"it [the M-KMA] was created by a single piece of legislation with a single, I say, a single signature, which could be removed just as easily"* (S4).

5.2.8 Safeguarding the M-KMA by Public Awareness and Engagement

Interviewees expressed a connection between the public's awareness of the M-KMA, their emotional ties to the area, and direct actions taken to safeguard it. Most simply, interviewee S4 stated: *"to know it is to love it. If you love the area, then you will work to protect it."* Safeguarding behaviours might differ depending on the context, from letter writing to participating in public comment periods on land management plans. For interviewee J6, these types of actions by the public all amounted to holding the government accountable regarding areas like the M-KMA:

> *I think the most important thing is that the public keeps government accountable for their promises and decisions and that lack of awareness or… a complete lack of knowledge of a management area or you know, or the MK, can provide cover for changes to it that could be detrimental for conservation.* (J6)

Holding the government accountable, demonstrating the public's interest in the area to officials, and maintaining both in the long term were identified by interviewees as additional values of public awareness of the M-KMA. Interviewee S4 described the connection between these points as follows: *"…if you don't have an engaged and knowledgeable public… you will not have protection for the MK."* (S4). Interviewee Z1 expressed how important it is that managers and decision-makers take note of public voices, *"especially if those responses are informed about the area, or people have personal experience there... Because these are public lands, decision-makers do pay attention to what the public says."*

J6 cautioned that within the political context of British Columbia, there is a significant bias in which public it is that decision-makers listen to because of the high population in the southwest of the province:

> *…that's really the ongoing frustrating thing in conservation advocacy is consistently trying to educate and reach out to constituents in urban centers in Vancouver and*

> *Victoria for the most part, who would be sympathetic to the idea of conservation, the idea to have a sort of, safeguarding those protections as you said, but don't know anything about it. So, unless they do, they're not writing those letters and unless they're writing those letters, the politicians don't care.* (J6)

Interviewees agreed that current levels of public awareness and engagement were not ideal. They desired a higher and more consistent engagement level over time (Z1, S4, R2, J6, T16).

5.2.8.1 Crises as Rallying Points

"…there's not been a crisis, and there's a million things to do" - A1

Emergent from the interviews was the concept that the M-KMA has low public awareness and engagement because there has not been any crisis to rally public attention. Unprompted, eight of the fourteen interviewees expressed this sentiment and connected the phenomenon to the M-KMA being "untested" by industrial development at this time. Speaking to any future potential crises in the M-KMA, interviewees stressed the need to maintain a balance in priorities for resource development and conservation.

5.2.8.2 The Paradox of Crisis and Public Awareness

Nothing dramatic has happened there that has gotten into people's minds. - L4

The M-KMA, unlike other large management areas in British Columbia, was *"created through negotiation. And it was done quietly and in a positive, constructive manner with no confrontation"* (Y12). This quieter approach to its creation, contrasted with the confrontation that characterized places like Clayoquot Sound (Y12), has contributed to the M-KMA's low profile not only among the public, but also conservationists. *"[A] number of people in the conservation community have said, and in part that's why we – it's not top of mind for us now because we didn't have any casualties as it were, in its creation"* (Y12). Interviewee L4 noted that the public hasn't taken an interest because: *"There was no big wildfire or something that people might recall as an event."* L4 suggested an analogy to

explain the phenomenon: *"the squeaky wheel gets the grease, right? And the MK hasn't been squeaky."*

Other interviewees like J6 and S4 agree that the M-KMA hasn't been *"squeaky"* enough to gain widespread attention. Today, efforts to rally the public to support a cause essentially depend on a conflict to act as a focus point; J6 explains:

> *...threats are our organizing points. You know, you can easily build a campaign to stop a dam or a mine, you know we won't win, but sometimes! And those organizing points again, build engagement, awareness and then tend to be – it's a lot easier to get people to take a specific action to stop something than to do something positive. Yeah, as unfortunate as that is.*

In the context of the M-KMA, *"there's not a huge conflict there right now. So that - it seems it's relatively stable"* (S4), which, for interviewee S4, has created a paradoxical situation: *"a quiet, stable situation is not so good for public engagement."*

5.2.8.3 The M-KMA is Untested and in Need of Balance

> *...eventually one day there could be a big mining prospect or something worthwhile for the government or industry to go on. – D18*

The M-KMA's *"quiet, stable situation"* (S4) was attributed by interviewees to how *"it's never been tested"* (A1). Interviewee L4 noted that in the M-KMA's twenty-two-year history, *"there's been no development. The original mandate was to have a working wilderness, and it's a non-working wilderness."* Without development, *"there's no conflict and therefore no profile for the Muskwa-Kechika so we don't have a truly engaged public because, frankly, there's no need at this point as long as there's no change"* (S4).

However, change is inevitable in the M-KMA, whether it be driven by climate change or future industrial development (Y5, L4, D18). Interviewees noted the need for balance between all interests on the land because *"the management structure is designed for all parties, whether it be industry, government, First Nations, hunters, trappers, to be able to use*

the landscape unilaterally in meshing with each other" (D18). These various interests represented in the *"management structure"* (D18) all contribute to the idea of the M-KMA as a working wilderness. For example, J6 explains:

> *So, stakeholders in the northeast that have had a direct role in the MK, I would say the idea of a 'working wilderness' as they put it. For them, the key takeaway would be that you can have your environment and industry and – whether or not that, you know, accurate, but that is the model that they'd like – that they really like and extoll.*

5.2.9 Summary

Fifteen semi-structured interviews were conducted with individuals working in and around the M-KMA in various decision-maker positions. Fourteen interviews were analysed as one interviewee chose to remove themselves from the study. The analysis of these interviews revealed that it was most important for the public to know the M-KMA's size, intactness, wilderness values, novel management style, and inherent ecological and cultural values. Interviewees also addressed the significant challenges facing the M-KMA, the most pressing of which included an absence of available funding, limited management capacity, inefficient communication between those involved in the M-KMA, and challenges presented by dated legislation. Interviewees identified the public's awareness and engagement with the M-KMA as key to safeguarding the area against these challenges. However, it was noted that without a central crisis point around which to rally the public's attention, it is very difficult to maintain and leverage their awareness and engagement to safeguard the area.

5.3 Survey Results

The online public awareness survey, conducted in October 2020, helped to answer the research question "*What is the public's awareness and attitude towards the M-KMA?*" in relation to the respondents' sense of place and their positions within the New Environmental Paradigm and Value-Belief-Norm Theory (Dunlap, 2008; François Lecompte et al., 2017;

Kaiser et al., 2005). The following section presents the results of analysis from this quantitative survey data.

5.3.1 Demographic Characteristics of the Survey Sample

Ipsos panels are intended to broadly represent provincial demographics. In this study, I specifically asked for an over-sample of northerners to provide sufficient data to compare respondents who lived near the M-KMA with those who did not. The resulting sample included a slight over-representation of women compared to men. The mean respondent age was 54.5 years old, and most respondents had some college or university education. The mean annual income ranged from $100,000 - $124,999 (Table 7).

Table 7
Sociodemographics of survey respondents compared to BC population regarding the public's awareness and attitudes towards the M-KMA

Sociodemographic Characteristic	**Proportion of Respondents %**	**Proportion of British Columbians %**
Gender		
Female	58.7	50.4
Male	41.3	49.6
Age		
18–34	14.8	40
35–54	32.2	27.1
55+	52.9	32.9
Education		
High school or less	21.5	44.9
College/some university	48.8	30.5
University graduate	29.6	24.6
Income		
<$40K	24.1	57.8
$40K–$60K	19.7	17.5
$60K–<$100K	26.8	16.8
$100K+	29.4	7.9
Region		
Northern BC	16.8	6.5
Vancouver Island	18.6	17.4
Metro Vancouver	39.1	60.7
Southern Interior	25.5	15.4

Compared to the 2016 BC census numbers, this sample of survey respondents over-represented older populations and under-represented younger populations. Additionally, it under-represented those with an education level of high school or less and over-represented those with some college or university education and university graduates. The sample under-represented those with an income less than $40,000/annually and over-represented those making more than $40,000/annually in each other income bracket. Regionally, Metro Vancouver was under-represented in the sample, while Vancouver Island, the Southern Interior, and Northern BC were each over-represented.

5.3.2 Analysis of Demographic Variables

Tests of the relationship between survey respondents' gender, region, and their responses revealed some notable differences which are presented below. However, almost universally, tests of income and education revealed no significant differences. Correlations between respondent awareness, understanding, concern, and the sub-scales of sense of place, NEP, and VBN are also reported below.

5.3.3 Public Awareness and Understanding of the M-KMA

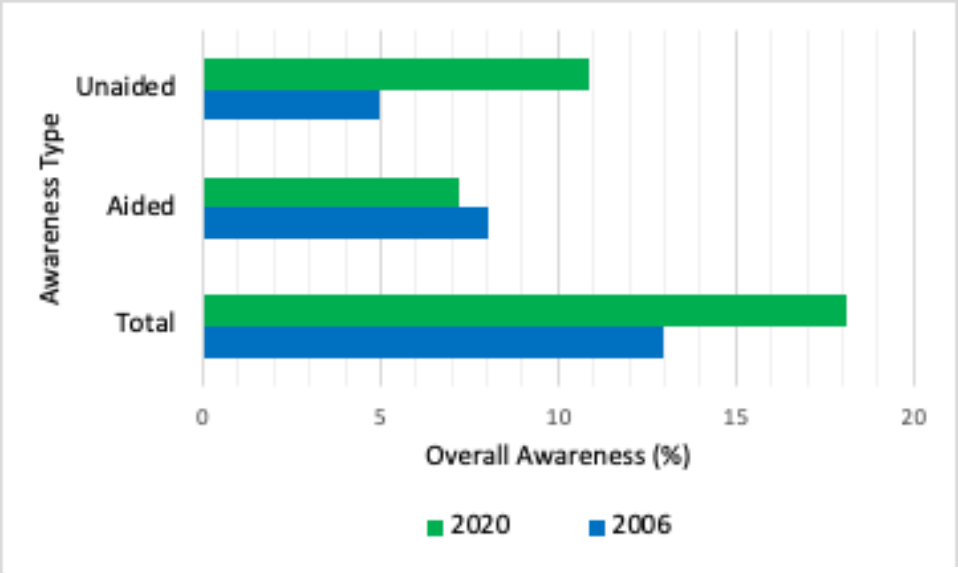
Unaided awareness refers to the extent to which survey respondents reported that they knew what the M-KMA was when provided only with its name (Appendix C). Participants were first asked for their unaided awareness of the Muskwa-Kechika Management Area; those who answered "not aware" or "don't know" had the question repeated after being presented with the following description:

> *The Muskwa-Kechika Management Area, hereafter referred to as 'M-KMA,' is an area of land in north-eastern BC that is home to wilderness, wildlife, and rich in natural resources. The M-KMA has been designated for varying levels of protection, conservation, and use including resource development, economic development, research, backcountry recreation, and Alaska Highway travel. Together, these designations make the M-KMA a*

'working wilderness.'

Overall awareness of the M-KMA in 2020 was 18%, where 11% was unaided and 7% was aided (Figure 11). In 2006, 13% of the population indicated they were aware of the M-KMA (5% unaided and 8% aided awareness). Due to differences in sampling methodologies, statistical comparisons could not be conducted between the two time periods.

Figure 11
Percentage of survey respondents with unaided and aided awareness of the M-KMA, 2006 and 2020



Note: Given differences in sampling methodologies, statistical comparisons were not conducted between the two time periods

Respondents in northern BC were significantly more aware of the M-KMA ($p = 0.001$) than those from elsewhere in BC, both unaided and aided. In total, 27% of northerners indicated that they were aware of the M-KMA compared to 16% of those who lived elsewhere in BC. In 2006, 68% of northerners indicated they were aware of the M-KMA (63% unaided, 5% aided) compared to just 13% awareness in the broader BC population. It is worth noting that methodologically in 2006, the northern population was explicitly restricted to the communities of Mackenzie, Fort Nelson, and Fort St. John, whereas in 2020,

‘northerners’ refers to respondents living in, and north of, Prince George, which is ?? km from the southern extent of the M-KMA.

University graduates were statistically more likely to be aware of the M-KMA (34%), and so too were women (52%). Those with annual incomes between $125,000 - $199,999 were also statistically more likely to be aware of the M-KMA (16%).

5.3.4 Source of Information

Participants who indicated they were aware of the M-KMA (both unaided and aided awareness) were asked to identify the source of their information including news media, radio, word of mouth, or social media. Of the 18% of respondents who were aware of the M-KMA in 2020, most (7.6%) had learned of the M-KMA from news media, both online and in print. Television (4.7%), which included film and streaming services, and word of mouth (4.3%) followed in popularity (Appendix I). In 2006, respondents identified newspapers as their main source of information, with word-of-mouth coming in second, and radio programming as the third.

5.3.5 Understanding of Key Characteristics of the M-KMA

Those who indicated awareness of the M-KMA (n = 187) were asked more specifically about their awareness and understanding of several key characteristics of the M-KMA (Table 8). This sub-set of respondents was most aware (61%) of the M-KMA’s purpose to protect wildlife and ecosystems in balance with sustainable development. This was followed by the awareness that the M-KMA was created by various groups working together (58%). Thirdly, respondents were aware that Indigenous communities are working towards safeguarding more of the M-KMA through an Indigenous Protected and Conserved Area (IPCA) (57%).

Table 8
Percentage of survey respondents with awareness and understanding of key characteristics of the M-KMA

Were you aware of the following statements about the M-KMA?	Awareness (%)
The M-KMA was established to protect wildlife and ecosystems while allowing sustainable resource development[1, 2]	61
The M-KMA was created by land and resource users, conservationists, First Nations, and the provincial government[1, 2]	58
Indigenous communities are working to ensure more of the M-KMA is conserved through an Indigenous Protected and Conserved Area[1, 2]	57
The M-KMA is intended to establish a world standard for sustainable management[1]	49
The M-KMA is the largest wilderness area in the Rocky Mountains[1]	38
There are both motorized and non-motorized recreation opportunities in the M-KMA[1, 2]	37
The M-KMA is managed by a public Advisory Board who makes recommendations to the government[1]	37
The M-KMA is 1/4 parks (resource extraction is prohibited) with 3/4 open for resource development (with high sustainability standards)[1, 2]	28

Notes: Response options included: yes – I am aware, no – I am not aware, and I don't know.
Respondents who were aware of the M-KMA were significantly more likely to indicate their understanding of items marked with: [1]
Respondents not from northern BC were significantly more likely to indicate their understanding of items marked with: [2]

Northern BC respondents were significantly more likely to be aware of all but two items than those living elsewhere in the province. The items 'the M-KMA is managed by a public Advisory Board' and 'the M-KMA is intended to establish a world standard' were not significantly different based on region. Men were found to be significantly more aware than women of three characteristics: the M-KMA's purpose ($p = 0.009$); that it is the largest wilderness area within the Rocky Mountain region ($p = 0.048$); and that it is intended to be a world standard for sustainable management ($p = 0.047$) (Table 9). All respondents were given an overall score for understanding of the M-KMA out of the eight items in the question. Mean respondent understanding scores were $\bar{x} = 3.5$ ($\pm$ 2.5 SD), indicating that understanding was less than half of what it could be.

Table 9

Independent Samples T-Tests between the question items for survey respondent understanding of the M-KMA and respondent awareness, region and gender

Test Variable	Group	N	Mean	Std. Deviation	F (Sig.)	t	df	Sig.
The M-KMA was established to protect wildlife and ecosystems while allowing sustainable resource development								
	Aware	186	1.39	0.490	917.926 (0.001)	-26.234	1041	<0.05
	Unaware	857	1.96	0.190				
	Elsewhere BC	869	1.88	0.330	32.881 (0.001)	3.086	1041	<0.05
	Northern BC	174	1.79	0.410				
	Men	426	1.83	0.379	28.841 (0.001)	-2.697	1041	<0.05
	Women	617	1.88	0.319				
Indigenous communities are working to ensure more of the M-KMA is conserved through an Indigenous Protected and Conserved Area								
	Aware	183	1.43	0.496	867.941 (0.001)	-23.555	1033	<0.05
	Unaware	852	1.96	0.201				
	Elsewhere BC	861	1.88	0.329	26.483 (0.001)	2.744	1033	<0.05
	Northern BC	174	1.80	0.402				
	Men	423	1.85	0.359	5.47 (0.020)	-1.175	1033	>0.05
	Women	612	1.87	0.332				
The M-KMA was created by land and resource users, conservationists, First Nations, and the provincial government								
	Aware	184	1.42	0.496	1621.47 (0.001)	-27.139	1029	<0.05
	Unaware	847	1.98	0.152				
	Elsewhere BC	855	1.89	0.309	40.907 (0.001)	3.425	1029	<0.05
	Northern BC	176	1.80	0.400				
	Men	418	1.85	0.356	17.772 (0.001)	-2.117	1029	<0.05
	Women	613	1.90	0.306				
The M-KMA is intended to establish a world standard for sustainable management								
	Aware	182	1.51	0.501	2640.42 (0.001)	-24.244	1038	<0.05
	Unaware	858	1.98	0.127				
	Elsewhere BC	863	1.90	0.293	3.541 (0.060)	0.958	1038	>0.05
	Northern BC	177	1.88	0.324				
	Men	427	1.88	0.327	16.772 (0.001)	-2.051	1038	<0.05
	Women	613	1.92	0.276				
There are both motorized and non-motorized recreation opportunities in the M-KMA								
	Aware	180	1.63	0.485	1058.815 (0.001)	-16.438	1027	<0.05
	Unaware	849	1.97	0.169				
	Elsewhere BC	856	1.93	0.255	83.904 (0.001)	4.881	1027	<0.05
	Northern BC	173	1.82	0.389				
	Men	428	1.89	0.310	11.734 (0.001)	-1.715	1027	>0.05
	Women	601	1.92	0.266				

Test Variable	Group	N	Mean	Std. Deviation	F (Sig.)	t	df	Sig.
The M-KMA is the largest wilderness area in the Rocky Mountains								
	Aware	183	1.62	0.487	1854.607 (0.001)	-18.920	1034	<0.05
	Unaware	853	1.98	0.132				
	Elsewhere BC	859	1.93	0.257	30.219 (0.001)	2.859	1034	<0.05
	Northern BC	177	1.86	0.343				
	Men	428	1.90	0.304	16.716 (0.001)	-2.045	1034	<0.05
	Women	608	1.93	0.251				
The M-KMA is managed by a public Advisory Board who make recommendations to the government								
	Aware	174	1.63	0.485	2236.407 (0.001)	-19.280	1021	<0.05
	Unaware	849	1.99	0.113				
	Elsewhere BC	852	1.93	0.252	10.912 (0.001)	1.693	1021	>0.05
	Northern BC	171	1.89	0.308				
	Men	422	1.91	0.287	10.358 (0.001)	-1.611	1021	>0.05
	Women	601	1.94	0.244				
The M-KMA is 1/4 parks (resource extraction is prohibited) with 3/4 open for resource development (with high sustainability standards)								
	Aware	180	1.72	0.452	1717.058 (0.001)	-16.341	1032	<0.05
	Unaware	854	1.99	0.090				
	Elsewhere BC	861	1.95	0.213	26.583 (0.001)	2.648	1032	<0.05
	Northern BC	173	1.90	0.299				
	Men	422	1.93	0.253	8.581 (0.003)	-1.465	1032	>0.05
	Women	612	1.95	0.213				

Although results for this question were presented (Table 9) just for those who indicated awareness of the M-KMA, all respondents were administered this question and the individual items. In this way, the survey became an educational tool as I presented additional information about the M-KMA to respondents to help them build their knowledge and facilitate more meaningful answers to the subsequent questions.

5.3.6 The M-KMA's Importance and the Public's Concerns, Values, and Attitudes

The second portion of the survey addressed the respondents' perception of the M-KMA's importance, their concern regarding contemporary challenges facing the management area (one overall concern scale, and two sub-scales based on concern for management

processes and issues), and their positions within the sense of place, NEP, and VBN sub-scales. In the following section, the question items are presented with their frequency of response, meanand standard deviations (SD), with results of the independent-sample t-tests on awareness, region, and gender.

5.3.6.1 Importance of the M-KMA

Respondents identified how important they felt the M-KMA was for various groups, causes, and industries across 16 different items (Cronbach's Alpha = 0.97). They identified that the M-KMA was most important, in descending order, for the protection of wildlife ($\overline{x}$ = 3.62), to protect the natural environment ($\overline{x}$ = 3.59), and for future generations ($\overline{x}$ = 3.54) (Table 10). While each item had a mean score that indicated it was, on average, important to respondents, the distribution of no importance to importance varied across items.

Table 10
Frequency of survey respondents who indicated the importance of 16 items related to the M-KMA

	Frequency*					
Variable	1	2	3	4	Mean	SD
To protect wildlife[2]	14	37	275	711	3.62	0.623
To protect the natural environment	20	42	281	693	3.59	0.661
To future generations	66	142	465	305	3.54	0.685
To protect our natural resources	21	45	330	632	3.53	0.678
To residents living in and around the M-KMA[1]	20	59	361	567	3.46	0.697
To the quality of life for those living in and around the M-KMA[1, 2]	16	60	368	552	3.46	0.683
As an example of how to manage sustainably[1]	17	59	403	506	3.42	0.684
To British Columbia as a whole[1]	27	65	399	521	3.40	0.726
As an example of different groups working together	32	78	409	481	3.34	0.757
As a place for Indigenous reconciliation[2]	75	103	333	459	3.21	0.919
To support local businesses	35	122	494	339	3.15	0.765
To provide economic growth and investment in BC	43	137	457	342	3.12	0.807
To provide recreational opportunities	26	150	508	324	3.12	0.748
To the tourism industry	41	141	508	305	3.08	0.779
For resource development	66	142	465	305	3.03	0.852
To you personally[1]	125	227	391	230	2.75	0.959

Notes: * Likert scale, numbers representing 1 – not at all important; 4 – very important
Respondents who were aware of the M-KMA were significantly more likely to indicate items marked with: [1] as having greater importance.
Respondents not from northern BC were significantly more likely to indicate items marked with: [2] as having greater importance.

Those items in Table 10 marked by [1] were significantly different between respondents who were previously aware of the M-KMA and those who were not (Table 11). Those who were aware were statistically more likely to rate those items as having higher importance. Respondents were statistically more likely to attribute higher importance to those items marked with [2] if they were not from northern BC. Women indicated a significantly higher importance score than men for all but one item ($p \leq 0.05$). The item: 'to provide recreational opportunities' was not significantly different between genders.

Table 11
Independent Samples T-Tests between the question items for the importance of the M-KMA and respondent awareness, region, and gender

Test Variable	Group	N	Mean	Std. Deviation	F (Sig.)	t	Df	Sig.
To protect wildlife								
	Aware	189	3.69	0.628	3.625 (0.057)	1.715	1035	>0.05
	Unaware	848	3.61	0.621				
	Elsewhere BC	864	3.64	0.607	6.854 (0.009)	1.71	1035	>0.05
	Northern BC	173	3.55					
	Men	416	3.5	0.694	63.264 (0.001)	-5.378	1035	<0.05
	Women	621	3.71					
To protect the natural environment								
	Aware	190	3.65	0.647	2.346 (0.126)	-1.416	1033	>0.05
	Unaware	845	3.58	0.664				
	Elsewhere BC	860	3.61	0.647	5.997 (0.014)	2.44	1033	<0.05
	Northern BC	175	3.48	0.718				
	Men	415	3.44	0.761	67.77 (0.001)	-6.29	1033	
	Women	620	3.70	0.562				
To future generations								
	Aware	189	3.65	0.598	10.267 (0.001)	2.38	1017	<0.05
	Unaware	830	3.15	0.701				
	Elsewhere BC	847	3.55	0.668	3.606 (0.058)	1.303	1017	>0.05
	Northern BC	172	3.48	0.761				
	Men	407	3.40	0.787	49.829 (0.001)	-5.425	1017	<0.05
	Women	612	3.63	0.589				
To protect our natural resources								
	Aware	187	3.59	0.685	0.506 (0.477)	1.296	1026	>0.05
	Unaware	841	3.52	0.676				
	Elsewhere BC	854	3.55	0.662	4.360 (0.037)	1.626	1026	>0.05
	Northern BC	174	3.45	0.749				
	Men	414	3.36	0.748	36.722 (0.001)	-6.854	1026	<0.05
	Women	614	3.65	0.599				
To residents living in and around the M-KMA								
	Aware	188	3.57	0.662	3.177 (0.075)	2.4	1005	<0.05
	Unaware	819	3.44	0.703				
	Elsewhere BC	832	3.48	0.688	0.463 (0.496)	1.233	1005	>0.05
	Northern BC	175	3.41	0.736				
	Men	404	3.33	0.772	21.505 (0.001)	-4.924	1005	<0.05
	Women	603	3.55	0.628				

Test Variable	Group	N	Mean	Std. Deviation	F (Sig.)	t	Df	Sig.
To the quality of life for those living in and around the M-KMA								
	Aware	183	3.58	0.632	3.901 (0.049)	2.582	994	<0.05
	Unaware	813	3.44	0.691				
	Elsewhere BC	830	3.48	0.675	0.220 (0.639)	2.33	994	<0.05
	Northern BC	166	3.35	0.712				
	Men	403	3.33	0.768	25.555 (0.001)	-5.087	994	<0.05
	Women	593	3.55	0.602				
As an example of how to manage sustainably								
	Aware	185	3.55	0.642	2.067 (0.151)	2.927	983	<0.05
	Unaware	800	3.39	0.69				
	Elsewhere BC	817	3.43	0.673	1.768 (0.184)	0.674	983	<0.05
	Northern BC	168	3.39	0.734				
	Men	394	3.29	0.734	4.802 (0.029)	-4.732	983	<0.05
	Women	591	3.5	0.635				
To British Columbia as a whole								
	Aware	188	3.52	0.697	0.509 (0.476)	2.575	1009	<0.05
	Unaware	823	3.37	0.73				
	Elsewhere BC	837	3.41	0.711	1.911 (0.167)	1.534	1009	>0.05
	Northern BC	174	3.32	0.79				
	Men	411	3.24	0.809	12.540 (0.001)	-5.902	1009	<0.05
	Women	600	3.51	0.641				
As an example of different groups working together								
	Aware	185	3.42	0.769	0.020 (0.889)	1.538	998	>0.05
	Unaware	815	3.32	0.753				
	Elsewhere BC	830	3.36	0.737	3.119 (0.078)	1.629	998	>0.05
	Northern BC	170	3.25	0.843				
	Men	404	3.32	0.825	6.210 (0.013)	-3.942	998	<0.05
	Women	596	3.42	0.697				
As a place for Indigenous reconciliation								
	Aware	178	3.26	0.939	0.702 (0.402)	0.74	968	>0.05
	Unaware	792	3.2	0.915				
	Elsewhere BC	807	3.25	0.905	0.092 (0.762)	2.588	968	<0.05
	Northern BC	163	3.04	0.971				
	Men	394	2.99	1.013	7.485 (0.006)	-6.288	968	<0.05
	Women	576	3.36	0.816				
To support local businesses								
	Aware	181	3.18	0.811	2.647 (0.104)	0.55	988	>0.05
	Unaware	809	3.14	0.755				
	Elsewhere BC	820	3.16	0.752	0.352 (0.553)	0.908	988	>0.05
	Northern BC	170	3.1	0.826				
	Men	404	3.04	0.788	3.362 (0.067)	-3.828	988	<0.05
	Women	586	3.23	0.74				

Test Variable	Group	N	Mean	Std. Deviation	F (Sig.)	t	Df	Sig.
To provide economic growth and investment in BC								
	Aware	182	3.14	0.815	0.002 (0.968)	0.395	977	>0.05
	Unaware	797	3.12	0.805				
	Elsewhere BC	810	3.14	0.793	0.007 (0.931)	1.21	977	>0.05
	Northern BC	169	3.05	0.868				
	Men	401	3.04	0.823	1.338 (0.248)	-2.483	977	<0.05
	Women	578	3.17	0.791				
To provide recreational opportunities								
	Aware	184	3.16	0.791	3.502 (0.062)	0.828	1006	>0.05
	Unaware	823	3.11	0.738				
	Elsewhere BC	834	3.12	0.744	0.161 (0.688)	-0.216	1006	>0.05
	Northern BC	174	3.13	0.768				
	Men	413	3.09	0.78	1.139 (0.286)	0.286	1006	>0.05
	Women	595	3.14	0.725				
To the tourism industry								
	Aware	184	3.15	0.786	2.029 (0.155)	1.241	993	>0.05
	Unaware	811	3.07	0.777				
	Elsewhere BC	821	3.09	0.774	0.048 (0.826)	0.358	993	>0.05
	Northern BC	174	3.06	0.806				
	Men	408	3.01	0.822	0.026 (0.871)	-2.374	993	<0.05
	Women	587	3.13	0.745				
For resource development								
	Aware	183	3.07	0.868	0.992 (0.320)	0.596	976	>0.05
	Unaware	795	3.02	0.849				
	Elsewhere BC	805	3.02	0.865	1.553 (0.213)	-1.132	976	>0.05
	Northern BC	173	3.1	0.79				
	Men	400	2.95	0.881	0.384 (0.536)	-2.577	976	<0.05
	Women	578	3.09	0.828				
To you personally								
	Aware	185	3.07	0.86	11.592 (0.001)	5.174	971	<0.05
	Unaware	788	2.67	0.966				
	Elsewhere BC	808	2.74	0.97	2.360 (0.125)	-0.168	971	>0.05
	Northern BC	165	2.76	0.905				
	Men	400	2.6	1.002	15.428 (0.001)	-4.141	971	<0.05
	Women	573	2.85	0.915				

5.3.7 Concern for Contemporary Challenges

When asked about their level of concern for a range of contemporary challenges the M-KMA may face, respondents indicated high levels of concern for seven of the eight items (Cronbach's Alpha of .93). Concern for challenges facing the M-KMA was ranked by respondents on a Likert scale of 1, 'not at all concerned,' to 4, 'very concerned.' The items of most concern, in descending order were: climate change ($\bar{x}$ = 3.06); inadequate public understanding of the M-KMA's value ($\bar{x}$ = 3.03); and differing priorities of those interacting with the M-KMA ($\bar{x}$ = 3.02) (Table 12). Additionally, women were significantly more likely to indicate a higher level of concern for each of the listed contemporary challenges facing the M-KMA.

Table 12
Frequency of survey respondents who identified with concerns about the contemporary challenges facing the M-KMA

	Frequency*					
Variable	1	2	3	4	Mean	SD
Climate change[2]	94	137	357	388	3.06	0.959
Inadequate public understanding of the value of the M-KMA[1]	64	159	415	313	3.03	0.875
Different priorities between resource development and environmentalists[1]	57	161	429	298	3.02	0.853
Increased demand for resource development	67	184	411	290	2.97	0.883
The low government priority given to the M-KMA[1]	74	199	391	223	2.86	0.889
Insufficient funding available for the management of the M-KMA[1]	80	204	388	225	2.85	0.901
Growing recreation and tourism use	71	290	423	161	2.71	0.834
The M-KMA is very remote	191	364	282	81	2.28	0.891

Notes: * Likert scale, numbers representing 1 – not at all concerned; 4 – very concerned
Respondents who were aware of the M-KMA were significantly more likely to indicate items marked with: [1] as having greater importance.
Respondents not from northern BC were significantly more likely to indicate items marked with: [2] as having greater importance.

Climate change was the only item significantly different based on respondents' region of residence. Non-northerners were more likely to be concerned than northerners with climate change and differing priorities between groups. Those respondents who were previously aware of the M-KMA were more likely to indicate higher levels of concern for contemporary challenges like 'inadequate public understanding', 'funding shortages', 'low government priority given to the M-KMA', and the impact of 'differing priorities between user and management groups' (Table 13).

Table 13
Independent Samples T-Tests between the question items for concerns about the contemporary challenges facing the M-KMA and respondent awareness, region, and gender

Test Variable	Group	N	Mean	Std. Deviation	F (Sig.)	t	Df	Sig.
Climate change								
	Aware	181	3.13	0.963	0.360 (0.549)	1.058	974	>0.05
	Unaware	795	3.05	0.958				
	Elsewhere BC	808	3.11	0.933	6.938 (0.009)	3.273	974	<0.05
	Northern BC	168	2.85	1.050				
	Men	402	2.87	1.017	4.985 (0.026)	-5.289	974	<0.05
	Women	574	3.20	0.893				
Inadequate public understanding of the value of the M-KMA								
	Aware	185	3.20	0.852	1.110 (0.292)	3.003	949	<0.05
	Unaware	766	2.99	0.876				
	Elsewhere BC	786	3.02	0.873	1.280 (0.258)	-0.439	949	>0.05
	Northern BC	165	3.05	0.885				
	Men	390	2.82	0.971	33.041 (0.001)	-6.357	949	<0.05
	Women	561	3.17	0.769				
Different priorities between resource development and environmentalists								
	Aware	184	3.20	0.846	3.510 (0.061)	3.050	943	<0.05
	Unaware	761	2.98	0.850				
	Elsewhere BC	781	3.02	0.854	0.132 (0.716)	-0.001	943	>0.05
	Northern BC	164	3.02	0.850				
	Men	399	2.86	0.932	18.781 (0.001)	-5.063	943	<0.05
	Women	546	3.14	0.770				

Test Variable	Group	N	Mean	Std. Deviation	F (Sig.)	t	Df	Sig.
Increased demand for resource development								
	Aware	184	3.14	0.861	0.037 (0.847)	2.838	950	<0.05
	Unaware	768	2.93	0.884				
	Elsewhere BC	790	2.98	0.865	10.193 (0.001)	1.098	950	>0.05
	Northern BC	162	2.90	0.967				
	Men	395	2.82	0.954	20.721 (0.001)	-4.545	950	<0.05
	Women	557	3.08	0.812				
The low government priority given to the M-KMA								
	Aware	179	3.03	0.880	2.513 (0.113)	2.931	885	<0.05
	Unaware	708	2.82	0.887				
	Elsewhere BC	731	2.87	0.888	0.838 (0.360)	0.614	885	>0.05
	Northern BC	156	2.82	0.898				
	Men	383	2.63	0.931	31.071 (0.001)	-6.919	885	<0.05
	Women	504	3.04	0.814				
Insufficient funding available for the management of the M-KMA								
	Aware	177	3.03	0.856	4.229 (0.04)	3.033	895	<0.05
	Unaware	720	2.80	0.907				
	Elsewhere BC	741	2.86	0.897	0.705 (0.401)	1.254	895	>0.05
	Northern BC	156	2.76	0.917				
	Men	375	2.64	0.959	35.481 (0.001)	-5.804	895	<0.05
	Women	522	2.99	0.828				
Growing recreation and tourism use								
	Aware	184	2.83	0.919	1.913 (0.167)	2.048	943	<0.05
	Unaware	761	2.69	0.811				
	Elsewhere BC	781	2.72	0.830	1.256 (0.263)	0.717	943	<0.05
	Northern BC	164	2.67	0.859				
	Men	396	2.61	0.892	20.873 (0.001)	-3.291	943	<0.05
	Women	549	2.79	0.782				
The M-KMA is very remote								
	Aware	183	2.36	0.937	2.079 (0.150)	1.352	916	>0.05
	Unaware	735	2.26	0.878				
	Elsewhere BC	756	2.29	0.897	2.435 (0.119)	1.035	916	>0.05
	Northern BC	162	2.21	0.859				
	Men	387	2.20	0.917	0.798 (0.372)	-2.155	916	<0.05
	Women	531	2.33	0.868				

5.3.7.1 Concern Sub-Scales

The items in the concern scale presented to survey respondents were divided into two sub-scales of concern: for Issues and for Processes (see items in Appendix J). The mean respondents' Concern for Issues was $\bar{x}$ = 2.9 (± 0.71 SD) and the Concern for Processes sub-scale had a similar mean response of $\bar{x}$ = 2.9 (± 0.81 SD). Respondents who were aware of the M-KMA prior to the survey were significantly more likely to have higher concern for both the sub-scales' items than those who were not aware. There were no significant differences based on region, and women were significantly more likely to state higher concern (Table 14).

Table 14
Independent Samples T-Tests between the concerns sub-scales (Issues and Processes) and respondent awareness, region, and gender

Test Variable	Group	N	Mean	Std. Deviation	F (Sig.)	T	Df	Sig.
Concern; Issues								
	Aware	174	3.0819	0.69170	0.645 (0.422)	2.669	879	<0.05
	Unaware	707	2.9201	0.72233				
	Elsewhere BC	726	2.9673	0.71369	2.226 (0.136)	1.363	879	>0.05
	Northern BC	155	2.8806	0.74093				
	Men	371	2.7938	0.78064	19.820 (0.001)	-5.670	879	<0.05
	Women	510	3.0672	0.64729				
Concern; Processes								
	Aware	172	3.0814	0.76546	2.676 (0.102)	2.902	835	<0.05
	Unaware	665	2.8802	0.82151				
	Elsewhere BC	690	2.9314	0.80943	1.803 (0.180)	0.759	835	>0.05
	Northern BC	147	2.8753	0.83603				
	Men	356	2.7013	0.87410	25.776 (0.001)	-6.921	835	<0.05
	Women	481	3.0845	0.72538				

5.3.8 Sense of Place with the M-KMA

The sense of place that respondents felt for the M-KMA varied across the 15 different items (Cronbach's Alpha = .93) (Table 15). Survey respondents indicated their strongest agreement with the need for areas like the M-KMA for species protection ($\bar{x}$ = 3.33), that the government should have a strong role in safeguarding the M-KMA ($\bar{x}$ = 3.25), and that the

M-KMA is a demonstration of sustainable land management ($\bar{x}$ = 3.22). Respondents disagreed most strongly with the statement of personal loss for having not been to the M-KMA ($\bar{x}$ = 2.23), and with the statement that the M-KMA's natural resources should be used to fuel the economy ($\bar{x}$ = 2.35).

Table 15
Frequency of survey respondents identifying with sense of place for the M-KMA

	Frequency*					
Variable	1	2	3	4	Mean	SD
We need areas like the M-KMA to help save species[1, 2]	35	56	443	451	3.33	0.741
Government should take an active role in safeguarding the M-KMA[1, 2]	44	71	444	397	3.25	0.782
The M-KMA is a place to demonstrate that we can manage public lands sustainably[1]	32	70	484	335	3.22	0.729
I don't have to visit the M-KMA to appreciate its value[1]	42	121	437	374	3.17	0.807
The M-KMA is an innovative and unique idea[1]	39	95	453	281	3.12	0.773
The M-KMA represents a wilderness that my grandchildren can someday visit[1]	53	88	467	300	3.12	0.805
I feel comforted knowing the M-KMA exists[1]	59	113	484	273	3.05	0.817
A visit to the M-KMA represents a true northern BC experience[1]	54	112	424	231	3.01	0.826
Supporting wilderness protection says a lot about who I am[1]	66	172	461	285	2.98	0.856
Someday I would like to visit the M-KMA[1]	82	155	442	251	2.93	0.886
I would like to learn more about the M-KMA[1]	86	155	478	232	2.90	0.871
I want to be involved in safeguarding areas like the M-KMA[1]	103	231	372	132	2.64	0.891
I will seek out content about the M-KMA (ex. In books, film, or online)[1]	119	238	395	147	2.63	0.908
The natural resources in the M-KMA should be used to fuel the economy	172	375	217	137	2.35	0.957
I feel a loss because I have not visited the M-KMA[1]	244	345	257	101	2.23	0.951

Notes: * Likert scale, numbers representing 1 – *strongly disagree*; 4 – *strongly agree.* Respondents who were aware of the M-KMA were significantly more likely to indicate items marked with: [1] as having greater importance. Respondents not from northern BC were significantly more likely to indicate items marked with: [2] as having greater importance.

Respondents who were aware of the M-KMA were significantly more likely ($p \leq 0.05$) to indicate higher agreement with all but one of the relevant items (natural resources should be used to fuel the economy). Respondents living outside of northern BC were significantly more likely ($p \leq 0.008$) to agree more strongly with two items related to saving species and an active role by the government in safeguarding the M-KMA. Women were significantly more likely to agree with all but one statement: 'the natural resources of the M-KMA should be used to fuel the economy' (Table 16).

Table 16
Independent Samples T-Tests between the question items for sense of place for the M-KMA and respondent awareness, region, and gender

Test Variable	Group	N	Mean	Std. Deviation	F (Sig.)	T	df	Sig.
We need areas like the M-KMA to help save species								
	Aware	182	3.43	0.803	3.366 (0.067)	2.104	983	<0.05
	Unaware	803	3.31	0.724				
	Elsewhere BC	819	3.36	0.717	0.365 (0.546)	2.974	983	<0.05
	Northern BC	166	3.17	0.831				
	Men	402	3.17	0.830	5.057 (0.025)	-5.749	983	<0.05
	Women	583	3.44	0.650				
Government should take an active role in safeguarding the M-KMA								
	Aware	183	3.41	0.785	1.988 (0.159)	3.107	954	<0.05
	Unaware	773	3.21	0.777				
	Elsewhere BC	796	3.29	0.757	0.320 (0.572)	3.433	954	<0.05
	Northern BC	160	3.06	0.878				
	Men	393	3.12	0.855	2.054 (0.152)	-4.137	954	<0.05
	Women	563	3.34	0.715				
The M-KMA is a place to demonstrate that we can manage public lands sustainably								
	Aware	179	3.37	0.757	6.405 (0.012)	3.206	919	<0.05
	Unaware	742	3.18	0.718				
	Elsewhere BC	760	3.24	0.716	0.001 (0.978)	1.564	919	>0.05
	Northern BC	161	3.14	0.787				
	Men	371	3.12	0.830	7.942 (0.005)	-3.426	919	<0.05
	Women	550	3.29	0.645				

Test Variable	Group	N	Mean	Std. Deviation	F (Sig.)	T	df	Sig.
I don't have to visit the M-KMA to appreciate its value								
	Aware	183	3.34	0.829	4.311 (0.038)	3.088	972	<0.05
	Unaware	791	3.14	0.798				
	Elsewhere BC	810	3.18	0.808	1.590 (0.208)	0.897	972	>0.05
	Northern BC	164	3.12	0.805				
	Men	397	3.04	0.855	0.032 (0.857)	-4.478	972	<0.05
	Women	577	3.27	0.758				
The M-KMA is an innovative and unique idea								
	Aware	172	3.26	0.805	7.456 (0.006)	2.496	866	<0.05
	Unaware	696	3.09	0.763				
	Elsewhere BC	718	3.13	0.763	0.317 (0.574)	0.773	866	>0.05
	Northern BC	150	3.08	0.823				
	Men	360	2.97	0.847	0.951 (0.330)	-4.947	866	<0.05
	Women	508	3.23	0.697				
The M-KMA represents a wilderness that my grandchildren can someday visit								
	Aware	175	3.37	0.753	2.399 (0.122)	4.605	906	<0.05
	Unaware	733	3.06	0.806				
	Elsewhere BC	750	3.12	0.810	1.975 (0.160)	0.374	906	>0.05
	Northern BC	158	3.09	0.780				
	Men	372	3.02	0.856	0.094 (0.759)	-3.153	906	<0.05
	Women	536	3.19	0.760				
I feel comforted knowing the M-KMA exists								
	Aware	181	3.20	0.758	0.723 (0.395)	2.932	927	<0.05
	Unaware	748	3.01	0.827				
	Elsewhere BC	771	3.07	0.806	1.977 (0.160)	2.371	927	<0.05
	Northern BC	158	2.91	0.858				
	Men	387	2.94	0.878	3.743 (0.053)	-3.480	927	<0.05
	Women	542	3.12	0.763				
A visit to the M-KMA represents a true northern BC experience								
	Aware	169	3.14	0.823	4.776 (0.029)	2.173	819	<0.05
	Unaware	652	2.98	0.824				
	Elsewhere BC	674	3.04	0.822	0.465 (0.495)	1.874	819	<0.05
	Northern BC	147	2.90	0.834				
	Men	351	2.87	0.914	18.097 (0.001)	-4.204	819	<0.05
	Women	470	3.12	0.737				

Test Variable	Group	N	Mean	Std. Deviation	F (Sig.)	T	df	Sig.
Supporting wilderness protection says a lot about who I am								
	Aware	179	3.20	0.817	0.256 (0.613)	3.835	982	<0.05
	Unaware	805	2.93	0.858				
	Elsewhere BC	819	2.98	0.854	0.254 (0.614)	0.081	982	>0.05
	Northern BC	165	2.98	0.869				
	Men	405	2.86	0.919	13.859 (0.001)	-3.745	982	<0.05
	Women	579	3.07	0.800				
Someday I would like to visit the M-KMA								
	Aware	173	3.18	0.822	1.388 (0.239)	4.287	928	<0.05
	Unaware	757	2.87	0.890				
	Elsewhere BC	771	2.92	0.890	0.945 (0.331)	-0.356	928	<0.05
	Northern BC	159	2.95	0.870				
	Men	391	2.82	0.941	21.078 (0.001)	-3.120	928	<0.05
	Women	539	3.00	0.836				
I would like to learn more about the M-KMA								
	Aware	183	3.15	0.776	5.679 (0.017)	4.411	949	<0.05
	Unaware	768	2.84	0.882				
	Elsewhere BC	795	2.90	0.877	0.785 (0.376)	-0.159	949	>0.05
	Northern BC	156	2.91	0.845				
	Men	403	2.79	0.925	23.381 (0.001)	-3.464	949	<0.05
	Women	548	2.98	0.821				
I want to be involved in safeguarding areas like the M-KMA								
	Aware	166	2.98	0.867	12.820 (0.001)	5.588	836	<0.05
	Unaware	672	2.55	0.877				
	Elsewhere BC	702	2.66	0.883	1.568 (0.211)	1.632	836	>0.05
	Northern BC	136	2.52	0.927				
	Men	366	2.51	0.915	7.756 (0.005)	-3.766	836	<0.05
	Women	472	2.74	0.859				
I will seek out content about the M-KMA (ex. In books, film, or online)								
	Aware	173	2.99	0.818	30.599 (0.001)	5.914	897	<0.05
	Unaware	726	2.55	0.908				
	Elsewhere BC	746	2.63	0.917	1.531 (0.216)	0.001	897	>0.05
	Northern BC	153	2.63	0.864				
	Men	387	2.51	0.928	6.244 (0.013)	-3.612	897	<0.05
	Women	512	2.73	0.882				

Test Variable	Group	N	Mean	Std. Deviation	F (Sig.)	T	df	Sig.
The natural resources in the M-KMA should be used to fuel the economy								
	Aware	176	2.30	1.011	2.226 (0.136)	-0.818	899	>0.05
	Unaware	725	2.37	0.943				
	Elsewhere BC	740	2.37	0.951	0.148 (0.701)	0.818	899	>0.05
	Northern BC	161	2.30	0.986				
	Men	391	2.38	0.951	0.001 (0.983)	0.812	899	>0.05
	Women	510	2.33	0.962				
I feel a loss because I have not visited the M-KMA								
	Aware	179	2.41	0.987	3.692 (0.055)	2.834	945	<0.05
	Unaware	768	2.18	0.939				
	Elsewhere BC	786	2.25	0.938	0.188 (0.665)	1.963	945	<0.05
	Northern BC	161	2.09	1.005				
	Men	392	2.15	0.974	0.062 (0.804)	-2.224	945	<0.05
	Women	555	2.28	0.932				

5.3.8.1 Sense of Place Sub-Scales

Sense of place to the M-KMA was further examined based on analysis of three sub-scales – place identity, place affect, and place dependence – of five question items each (see items in Appendix J). A single sub-scale score was computed by summing the values (from 1 - strongly disagree, to 4 - strongly agree) of each item divided by the total number of items. Any negatively worded items were reversed (Table 17).

Table 17
Independent Samples T-Tests between sense of place (SOP) sub-scales and respondent awareness, region, and gender

Test Variable	Group	N	Mean	Std. Deviation	F (Sig.)	t	df	Sig.
Overall SOP								
	Aware	192	43.0833	11.31849	22.419 (0.001)	7.093	1108	<0.05
	Unaware	918	35.1133	14.68121				
	Elsewhere BC	923	36.5872	14.52852	0.233 (0.629)	0.487	1108	>0.05
	Northern BC	187	36.0214	14.20660				
	Men	458	35.4716	14.73160	2.254 (0.134)	-1.971	1108	<0.05
	Women	652	37.2086	14.25107				

Test Variable	Group	N	Mean	Std. Deviation	F (Sig.)	t	df	Sig.
Place Identity								
	Aware	192	2.8898	0.86468	11.185 (0.001)	7.181	1108	<0.05
	Unaware	918	2.3175	1.03083				
	Elsewhere BC	923	2.4224	1.03211	0.429 (0.513)	0.421	1108	>0.05
	Northern BC	187	2.3877	1.00232				
	Men	458	2.3475	1.03523	0.552 (0.458)	-1.878	1108	>0.05
	Women	652	2.4650	1.01882				
Place Affect								
	Aware	192	2.8646	0.78119	26.174 (0.001)	6.580	1108	<0.05
	Unaware	918	2.3440	1.03629				
	Elsewhere BC	923	2.4438	1.02184	0.661 (0.416)	0.708	1108	>0.05
	Northern BC	187	2.3861	0.98681				
	Men	458	2.3616	1.02294	0.379 (0.538)	-1.995	1108	<0.05
	Women	652	2.4850	1.00845				
Place Dependence								
	Aware	192	2.855	0.8467	20.149 (0.001)	5.861	1108	<0.05
	Unaware	918	2.372	1.0752				
	Elsewhere BC	923	2.459	1.0555	0.003 (0.958)	0.205	1108	>0.05
	Northern BC	187	2.441	1.0546				
	Men	458	2.395	1.0732	1.826 (0.177)	-1.615	1108	>0.05
	Women	652	2.498	1.0406				

5.3.8.1.1 Place Identity

The mean place identity within sense of place for respondents was $\bar{x}$ = 2.4 (± 1.02 SD). Respondents who were aware of the M-KMA prior to the survey were significantly more likely (p = 0.001) to agree with the place identity sub-scale than those not aware. There were no significant differences based on gender or region (Table 17).

5.3.8.1.2 Place Affect

The mean place affect within sense of place for respondents was $\bar{x}$ = 2.4 (± 1.01 SD). Respondents who were aware of the M-KMA prior to the survey were significantly more likely (p = 0.000) to indicate their agreement with the place affect sub-scale than those who had not been aware. There was no significant difference in response based on region, but

women were significantly more likely to indicate their agreement with place affect items (p = 0.04) (Table 17).

5.3.8.1.3 Place Dependence

Respondents who were aware of the M-KMA prior to the survey were significantly more likely to indicate their agreement with items in the place dependence sub-scale (p = 0.000). There was no significant difference based on respondent gender or region (Table 17).

5.3.9 The New Environmental Paradigm

Environmental attitudes inform and influence perspectives and actions. Related to 10 items associated with the New Environmental Paradigm (NEP) (Cronbach's Alpha = .66), respondents most strongly agreed that humans are still subject to the laws of nature ($\bar{x}$ = 3.45), that plants and animals have equal right to live as humans ($\bar{x}$ = 3.14), and that humans are abusing the environment ($\bar{x}$ = 3.14).

There was a significant difference based on region for two items. Respondents from northern BC were more likely to agree that we are approaching the number of people our planet can support (p = 0.008), whereas respondents from elsewhere were more likely to agree that today's "so-called ecological crisis" is being exaggerated (p = 0.007) (Table 18).

Table 18
Frequency of survey respondents identified with 10 items associated with the New Environmental Paradigm (NEP)

	Frequency*					
Variable	1	2	3	4	Mean	SD
Despite our special abilities, humans are still subject to the laws of nature	10	36	458	542	3.45	0.613
Plants and animals have as much right as humans to exist	34	78	369	581	3.34	0.762
Humans are severely abusing the environment	32	95	413	525	3.14	0.765
The balance of nature is very delicate and easily upset	18	114	452	477	3.13	0.728
The so-called 'ecological crisis' facing humankind has been greatly exaggerated[2]	80	183	259	476	3.13	0.982
The earth is like a spaceship with very limited room and resources	62	141	473	351	3.08	0.845
Humans will eventually learn enough about how nature works to be able to control it	270	356	271	78	2.16	0.922
The balance of nature is strong enough to cope with the impacts of modern industrial nations[1]	341	368	217	73	2.02	0.923
Humans have the right to modify the natural environment to suit their needs	358	377	252	56	2.01	0.895
We are approaching the limit of the number of people the earth can support[2]	349	375	150	76	1.95	0.919

Notes: * Likert scale, numbers representing 1 – strongly disagree; 4 – strongly agree.
Respondents who were aware of the M-KMA were significantly more likely to more strongly agree with items marked with: [1].
Respondents not from northern BC were statistically more likely to indicate stronger agreement with the items marked with [2].

Men were significantly more likely to agree that 'the balance of nature is strong enough to cope with the impacts of modern industrial nations' ($p = 0.001$) and that 'humans have the right to modify the natural environment to suit their needs' ($p = 0.000$) Women were significantly more likely to agree that plants and animals have equal rights to existence as humans ($p = 0.000$); the ecological crisis is not being exaggerated ($p = 0.000$); nature's

balance is delicate (p = 0.000); and humans are causing environmental disturbance (p = 0.000) (Table 19).

Table 19
Independent Samples T-Tests between the question items related to the New Environmental Paradigm (NEP) and respondent awareness, region, and gender

Test Variable	Group	N	Mean	Std. Deviation	F (Sig.)	t	df	Sig.
Despite our special abilities, humans are still subject to the laws of nature								
	Aware	187	3.54	0.598	0.437 (0.509)	1.861	1044	>0.05
	Unaware	859	3.45	0.615				
	Elsewhere BC	869	3.46	0.611	0.034 (0.854)	-0.102	1044	>0.05
	Northern BC	177	3.47	0.622				
	Men	435	3.46	0.644	3.981 (0.046)	-0.114	1044	>0.05
	Women	611	3.47	0.590				
Plants and animals have as much right as humans to exist								
	Aware	188	3.44	0.725	0.359 (0.549)	0.526	1060	>0.05
	Unaware	874	3.40	0.771				
	Elsewhere BC	885	3.42	0.764	0.046 (0.830)	1.134	1060	>0.05
	Northern BC	177	3.35	0.755				
	Men	438	3.22	0.853	20.697 (0.001)	-6.796	1060	<0.05
	Women	624	3.54	0.662				
Humans are severely abusing the environment								
	Aware	185	3.38	0.813	2.851 (0.092)	0.679	1063	>0.05
	Unaware	880	3.34	0.755				
	Elsewhere BC	889	3.36	0.757	1.251 (0.264)	1.347	1063	>0.05
	Northern BC	176	3.27	0.803				
	Men	441	3.21	0.831	5.808 (0.016)	-4.729	1063	<0.05
	Women	624	3.44	0.700				
The balance of nature is very delicate and easily upset								
	Aware	189	3.29	0.822	7.482 (0.006)	-0.358	1059	>0.05
	Unaware	872	3.31	0.707				
	Elsewhere BC	882	3.32	0.717	0.412 (0.521)	1.596	1059	>0.05
	Northern BC	179	3.23	0.778				
	Men	435	3.18	0.796	3.081 (0.080)	-4.768	1059	<0.05
	Women	626	3.40	0.664				

Test Variable	Group	N	Mean	Std. Deviation	F (Sig.)	t	df	Sig.
The so-called 'ecological crisis' facing humankind has been greatly exaggerated								
	Aware	183	2.99	1.082	3.693 (0.055)	-2.119	996	<0.05
	Unaware	815	3.16	0.956				
	Elsewhere BC	833	3.17	0.972	0.007 (0.935)	2.785	996	<0.05
	Northern BC	165	2.94	1.010				
	Men	421	2.98	1.016	2.490 (0.115)	-4.220	996	<0.05
	Women	577	3.24	0.941				
The earth is like a spaceship with very limited room and resources								
	Aware	187	3.16	0.875	2.016 (0.156)	1.277	1025	>0.05
	Unaware	840	3.07	0.838				
	Elsewhere BC	851	3.10	0.832	2.072 (0.150)	1.740	1025	>0.05
	Northern BC	176	2.98	0.904				
	Men	432	3.05	0.864	0.178 (0.673)	-1.135	1025	>0.05
	Women	595	3.11	0.831				
Humans will eventually learn enough about how nature works to be able to control it								
	Aware	177	2.08	0.982	0.893 (0.345)	-1.217	973	>0.05
	Unaware	798	2.18	0.908				
	Elsewhere BC	809	2.18	0.928	0.882 (0.348)	1.455	973	>0.05
	Northern BC	166	2.07	0.889				
	Men	409	2.20	0.940	2.301 (0.130)	1.207	973	>0.05
	Women	566	2.13	0.908				
The balance of nature is strong enough to cope with the impacts of modern industrial nations								
	Aware	180	2.17	1.017	10.283 (0.001)	2.328	997	<0.05
	Unaware	819	1.99	0.898				
	Elsewhere BC	829	2.03	0.925	0.082 (0.775)	0.250	997	>0.05
	Northern BC	170	2.01	0.913				
	Men	422	2.14	0.951	6.403 (0.012)	3.470	997	<0.05
	Women	577	1.94	0.892				
Humans have the right to modify the natural environment to suit their needs								
	Aware	183	2.13	1.006	19.498 (0.001)	2.000	1041	<0.05
	Unaware	860	1.98	0.868				
	Elsewhere BC	872	1.99	0.903	0.062 (0.803)	-1.498	1041	>0.05
	Northern BC	171	2.10	0.845				
	Men	431	2.16	0.922	6.677 (0.010)	4.868	1041	<0.05
	Women	612	1.89	0.858				

Test Variable	Group	N	Mean	Std. Deviation	F (Sig.)	t	df	Sig.
We are approaching the limit of the number of people the earth can support								
	Aware	174	1.93	0.931	1.294 (0.256)	-0.401	948	>0.05
	Unaware	776	1.96	0.916				
	Elsewhere BC	789	1.91	0.890	9.655 (0.002)	-2.927	948	<0.05
	Northern BC	161	2.14	1.030				
	Men	412	2.00	0.960	0.733 (0.392)	1.382	948	>0.05
	Women	538	1.91	0.884				

A single NEP score was computed by summing the values (from 1 - strongly disagree to 4 - strongly agree) of each item divided by the number of items. Any negatively worded items were reversed. There was no significant difference in score based on awareness, region, or gender of the respondents (Table 20).

Table 20
Independent Samples T-Tests between the composite survey question scores related to the New Environmental Paradigm (NEP) and respondent awareness, region, and gender

Test Variable	Group	N	Mean	Std. Deviation	F (Sig.)	T	df	Sig.
NEP								
	Aware	170	2.9729	0.43348	2.159 (0.142)	1.578	903	>0.05
	Unaware	735	2.9218	0.36798				
	Elsewhere BC	752	2.9328	0.38882	2.189 (0.139)	0.256	903	>0.05
	Northern BC	153	2.9242	0.34375				
	Men	395	2.9286	0.39375	1.845 (0.175)	-0.192	903	>0.05
	Women	510	2.9335	0.37195				

5.3.10 Value Orientation

A value orientation is an overarching guideline regarding what is identified by respondents as a desirable result or a guiding principle in their overall life (Schwartz, 1992; Steg et al., 2005). Related to 12 items associated with universal values (VBN theory) (Cronbach's Alpha = .82), respondents most valued being free of war and conflict ($\bar{x}$ = 3.61), the preservation of nature ($\bar{x}$ = 3.50), and equal opportunity for all ($\bar{x}$ = 3.48) (Table 21).

Table 21
Frequency of survey respondents identifying with 12 items associated with value orientation (Value-Belief-Norm (VBN) Theory)

	Frequency*					
Variable	1	2	3	4	Mean	SD
Free of war and conflict	14	45	290	732	3.61	0.632
Preserving nature	13	45	418	614	3.50	0.636
Equal opportunity for all	16	45	426	596	3.48	0.649
Living in harmony with other species	17	50	459	561	3.44	0.658
Reducing pollutant emissions	18	72	455	542	3.40	0.687
Unity with nature[1]	22	108	485	458	3.29	0.727
Correcting injustice, care for the weak[1]	17	104	490	459	3.18	0.928
Working for the welfare of others	38	140	578	302	3.08	0.745
Having an impact on people and events	66	287	503	191	2.78	0.814
Material possessions, money	189	408	412	62	2.32	0.830
The right to lead or command	233	414	292	84	2.22	0.891
Control over others, dominance	593	314	113	38	1.62	0.816

Notes: * Likert scale of 1 - very important; 4 - not at all important.
Respondents who were aware of the M-KMA were significantly more likely to more strongly agree with items marked with: [1]. There was no statistical difference between regions.

Respondents who were aware of the M-KMA were statistically more likely to indicate that their own unity with nature ($p = 0.024$) and the correction of injustice ($p = 0.001$) were of the highest importance (Table 22). There was no statistical difference between regions. There was no significant difference based on gender for the item 'having an impact on people and events,' but there was significant difference for each of the other eleven items. The following were of significantly greater value to men: 'the right to lead or command;' 'control over others,' and 'material possessions.' Women indicated a significantly greater value given to the following scale items: 'correcting injustice,' 'working for the welfare of others,' 'equal opportunity for all,' 'free of war and conflict,' 'preserving nature,' 'living in harmony with other species,' 'unity with nature,' and 'reducing pollution.'

Table 22

Independent Samples T-Tests between the question items associated with value orientation (Value-Belief-Norm, VBN) and respondent awareness, region, and gender

Test Variable	Group	N	Mean	Std. Deviation	F (Sig.)	T	df	Sig.
Free of war and conflict								
	Aware	189	3.67	0.609	3.801 (0.051)	1.494	1079	>0.05
	Unaware	892	3.60	0.636				
	Elsewhere BC	900	3.60	0.644	1.993 (0.158)	-0.600	1079	>0.05
	Northern BC	181	3.64	0.567				
	Men	448	3.51	0.698	41.949 (0.001)	-4.546	1079	<0.05
	Women	633	3.68	0.570				
Preserving nature								
	Aware	191	3.56	0.645	0.107 (0.744)	1.485	1088	>0.05
	Unaware	899	3.48	0.634				
	Elsewhere BC	907	3.50	0.648	1.885 (0.170)	0.021	1088	>0.05
	Northern BC	183	3.50	0.573				
	Men	449	3.36	0.710	26.758 (0.001)	-6.065	1088	<0.05
	Women	641	3.59	0.560				
Equal opportunity for all								
	Aware	190	3.52	0.597	1.249 (0.264)	0.855	1081	>0.05
	Unaware	893	3.47	0.660				
	Elsewhere BC	904	3.48	0.647	0.466 (0.495)	0.602	1081	>0.05
	Northern BC	179	3.45	0.663				
	Men	448	3.36	0.691	6.503 (0.011)	-4.965	1081	<0.05
	Women	635	3.56	0.605				
Living in harmony with other species								
	Aware	190	3.51	0.632	0.596 (0.440)	1.656	1085	>0.05
	Unaware	897	3.42	0.662				
	Elsewhere BC	905	3.45	0.654	0.114 (0.736)	1.467	1085	>0.05
	Northern BC	182	3.37	0.676				
	Men	451	3.29	0.722	10.794 (0.001)	-6.475	1085	<0.05
	Women	636	3.55	0.585				
Reducing pollutant emissions								
	Aware	190	3.45	0.679	0.003 (0.955)	1.179	1085	>0.05
	Unaware	897	3.39	0.689				
	Elsewhere BC	904	3.41	0.700	2.967 (0.085)	0.833	1085	>0.05
	Northern BC	183	3.36	0.621				
	Men	447	3.29	0.761	10.965 (0.001)	-4.385	1085	<0.05
	Women	640	3.48	0.620				

Test Variable	Group	N	Mean	Std. Deviation	F (Sig.)	t	df	Sig.
Unity with nature								
	Aware	190	3.38	0.646	1.475 (0.225)	2.073	1071	<0.05
	Unaware	883	3.26	0.742				
	Elsewhere BC	891	3.29	0.733	0.116 (0.734)	0.101	1071	>0.05
	Northern BC	182	3.28	0.700				
	Men	443	3.14	0.788	1.217 (0.270)	-5.651	1071	<0.05
	Women	630	3.39	0.662				
Correcting injustice, care for the weak								
	Aware	192	3.44	0.660	3.661 (0.056)	1.523	1108	>0.05
	Unaware	918	3.35	0.783				
	Elsewhere BC	923	3.35	0.769	0.023 (0.879)	-1.518	1108	>0.05
	Northern BC	187	3.44	0.733				
	Men	458	3.23	0.793	0.084 (0.772)	-4.796	1108	<0.05
	Women	652	3.45	0.729				
Working for the welfare of others								
	Aware	188	3.17	0.711	0.491 (0.484)	1.806	1056	>0.05
	Unaware	870	3.06	0.751				
	Elsewhere BC	880	3.08	0.759	3.343 (0.068)	0.162	1056	>0.05
	Northern BC	178	3.07	0.673				
	Men	440	2.98	0.794	0.037 (0.847)	-3.770	1056	<0.05
	Women	618	3.15	0.700				
Having an impact on people and events								
	Aware	184	2.85	0.872	1.200 (1.305)	1.305	1045	>0.05
	Unaware	863	2.77	0.800				
	Elsewhere BC	871	2.79	0.816	0.079 (0.779)	0.983	1045	>0.05
	Northern BC	176	2.73	0.803				
	Men	438	2.74	0.809	0.011 (0.916)	-1.435	1045	>0.05
	Women	609	2.81	0.816				
Material possessions, money								
	Aware	189	2.30	0.879	2.229 (0.136)	-0.506	1069	>0.05
	Unaware	882	2.33	0.819				
	Elsewhere BC	890	2.32	0.832	0.038 (0.845)	-0.428	1069	>0.05
	Northern BC	181	2.35	0.820				
	Men	443	2.45	0.829	1.239 (0.266)	4.257	1069	<0.05
	Women	628	2.23	0.819				
The right to lead or command								
	Aware	185	2.23	0.906	0.498 (0.481)	0.178	1021	>0.05
	Unaware	838	2.22	0.888				
	Elsewhere BC	852	2.21	0.894	0.003 (0.959)	-0.570	1021	>0.05
	Northern BC	171	2.26	0.877				
	Men	436	2.33	0.864	0.255 (0.614)	3.444	1021	<0.05
	Women	587	2.14	0.902				

Test Variable	Group	N	Mean	Std. Deviation	F (Sig.)	t	df	Sig.
Control over others, dominance								
	Aware	187	1.68	0.906	6.018 (0.014)	1.127	1056	>0.05
	Unaware	871	1.61	0.795				
	Elsewhere BC	880	1.60	0.809	0.495 (0.482)	-1.812	1056	>0.05
	Northern BC	178	1.72	0.844				
	Men	436	1.75	0.865	9.564 (0.002)	4.518	1056	<0.05
	Women	622	1.52	0.767				

5.3.10.1 Value-Belief-Norm Theory Sub-Scales

The Value-Belief-Norm (VBN) theory scale is made up of three sub-scales: Egotistic values, Biospheric values, and Altruistic values. Respondents identified the importance of an item from 1 - not at all important to 4 - very important (see items in Appendix J). Independent samples t-tests were conducted to test for differences in response to each of the VBN's sub-scales based on respondent awareness, region, and gender (Table 23).

Table 23
Independent Samples T-Tests between Value-Belief-Norm (VBN) sub-scales and respondent awareness, region, and gender

Test Variable	Group	N	Mean	Std. Deviation	F (Sig.)	T	df	Sig.
Egotistic Values								
	Aware	192	2.1953	0.69563	0.002 (0.961)	1.789	1108	>0.05
	Unaware	918	2.0972	0.68994				
	Elsewhere BC	923	2.1100	0.68635	0.509 (0.476)	-0.452	1108	>0.05
	Northern BC	187	2.1350	0.71853				
	Men	458	2.2200	0.69288	0.108 (0.742)	4.305	1108	<0.05
	Women	652	2.0399	0.68148				
Biospheric Values								
	Aware	191	1.5170	0.55432	0.179 (0.672)	-1.571	1095	>0.05
	Unaware	906	1.5880	0.57037				
	Elsewhere BC	913	1.5690	0.57500	0.094 (0.760)	-0.865	1095	>0.05
	Northern BC	184	1.6087	0.53217				
	Men	453	1.7092	0.62775	19.392 (0.001)	6.657	1095	<0.05
	Women	644	1.4818	0.50151				

Test Variable	Group	N	Mean	Std. Deviation	F (Sig.)	T	df	Sig.
Altruistic Values								
	Aware	192	1.5521	0.47985	5.026 (0.025)	-1.967	1108	<0.05
	Unaware	918	1.6359	0.54798				
	Elsewhere BC	923	1.6224	0.54593	0.894 (0.345)	0.142	1108	>0.05
	Northern BC	187	1.6163	0.49545				
	Men	458	1.7227	0.58689	8.314 (0.004)	5.327	1108	<0.05
	Women	652	1.5502	0.48802				

5.3.10.1.1 Egotistic Values

Respondents indicated a mean agreement of $\bar{x}$ = 2.1 with the items in the Egotistic sub-scale. There was no significant difference in response based on awareness or region. Men were significantly more likely to indicate their agreement with items within the Egotistic sub-scale than women (p = 0.000) (Table 23).

5.3.10.1.2 Biospheric Values

Respondents indicated a mean agreement of $\bar{x}$ = 3.3 with the items in the Biospheric sub-scale. Those aware of the M-KMA were significantly more likely to agree with the Biospheric sub-scale items (p = 0.005). There was no significant difference in response based on region. Men were significantly more likely to indicate higher importance of Biospheric value items (p = 0.000) than women (Table 23).

5.3.10.1.3 Altruistic Values

Respondents indicated a mean agreement of $\bar{x}$ = 3.3 with the items in the Altruistic sub-scale. Respondents who were aware of the M-KMA prior to the survey were significantly more likely to indicate the importance of items within the Altruistic sub-scale (p = 0.002). There were no significant differences in response based on region. Men were

significantly more likely to indicate higher importance of Altruistic sub-scale items ($p = 0.000$) than women (Table 23).

5.3.11 Testing the Conceptual Model

An expanded and adapted version of the Theory of Planned Behaviour (TPB) served as the foundation of my conceptual model and the approach to my research questions. The public survey represented the quantitative data used to inform testing of the TPB. There were significant positive correlations between general values and attitudes and place-specific values and attitudes among survey respondents; these were strongest between the VBN scale and M-KMA-related concerns, and moderate between VBN and sense of place. Correlations between the NEP scale and all other scales/sub-scales were significant but mostly weak (Table 24).

Table 24
Means, standard deviation, and Pearson correlation (r) matrix for scales and sub-scales

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Sense of Place	36.49	14.47	(0.93)											
2. Place Identity	2.41	1.026	0.957**	(0.85)										
3. Place Affect	2.43	1.015	0.941**	0.856**	(0.84)									
4. Place Dependence	2.45	1.054	0.900**	0.792**	0.772**	(0.77)								
5. Egotistic Values	2.11	0.691	0.215**	0.231**	0.212**	0.143**	(0.68)							
6. Biospheric Values	3.32	0.719	0.489**	0.474**	0.473**	0.415**	0.241**	(0.87)						
7. Altruistic Values	3.3	0.611	0.400**	0.390**	0.386**	0.336**	0.228**	0.678**	(0.67)					
8. Understanding	0.74	1.750	0.235**	0.249**	0.202**	0.200**	0.102**	0.073*	0.069*	(0.90)				
9. Overall Concern	2.85	0.691	0.684**	0.635**	0.637**	0.588**	0.110**	0.626**	0.537**	0.098**	(0.93)			
10. Concern for Processes	2.92	0.813	0.681**	0.621**	0.636**	0.599**	0.070*	0.576**	0.504**	0.100**	0.930**	(0.84)		
11. Concern for Issues	2.95	0.718	0.574**	0.524**	0.540**	0.490**	0.055	0.612**	0.515**	0.076*	0.948**	0.798**	(0.84)	
12. NEP	2.93	0.381	0.283**	0.295**	0.244**	0.242**	0.281**	0.331**	0.196**	0.083*	0.312**	0.264**	0.282**	(0.70)

Notes: **p = 0.01 level (2-tailed)
*p = 0.05 level (2-tailed)
Cronbach's alphas are shown on the diagonal

6 Discussion

The Muskwa-Kechika Management Area is a public good: it was designed by various groups to address critical ecological and social values; and to do so in a way that was a model for long-term sustainability (Mitchell-Banks, 2007; MKMA Advisory Board, 2019b). Maintaining the M-KMA, like all public goods, requires a public that supports it through their actions or through encouraging or demanding policy makers, planners, and managers to support that public good (Mitchell-Banks, 2007; Owens, 2000).

Safeguarding behaviours require a citizenry (including policy makers, planners, and managers) to be aware, have understanding and concern, and positive values and attitudes towards the area itself. Additionally, effective safeguarding requires a citizenry with the knowledge, tools, and behavioural intent to take place-protective behaviours when needed. My research focused on the relationship of awareness through values and attitudes: the preconditions that drive behaviour (Ajzen, 2011; Anton & Lawrence, 2016).

I utilized three different methods to answer my four research questions. The media analysis and interviews sought to answer the questions: *How has the M-KMA been framed across media content*, and *What do key actors want the public to know about the M-KMA? And why is that knowledge important?* The public awareness survey sought to answer the question: *What is the public's awareness and attitude towards the M-KMA?* Finally, all three methods were analysed in an effort to answer the question: *How is sense of place and place branding related to awareness and engagement?*

Through the media analysis I determined that the M-KMA had been positioned across media by its significant size, wilderness values, and abundant wildlife. The analysis of media content also revealed four key challenges to the M-KMA including: industrial development

pressures, conflict between conservation and other interests on the land, climate change impacts, and the availability of funding for research and management activities.

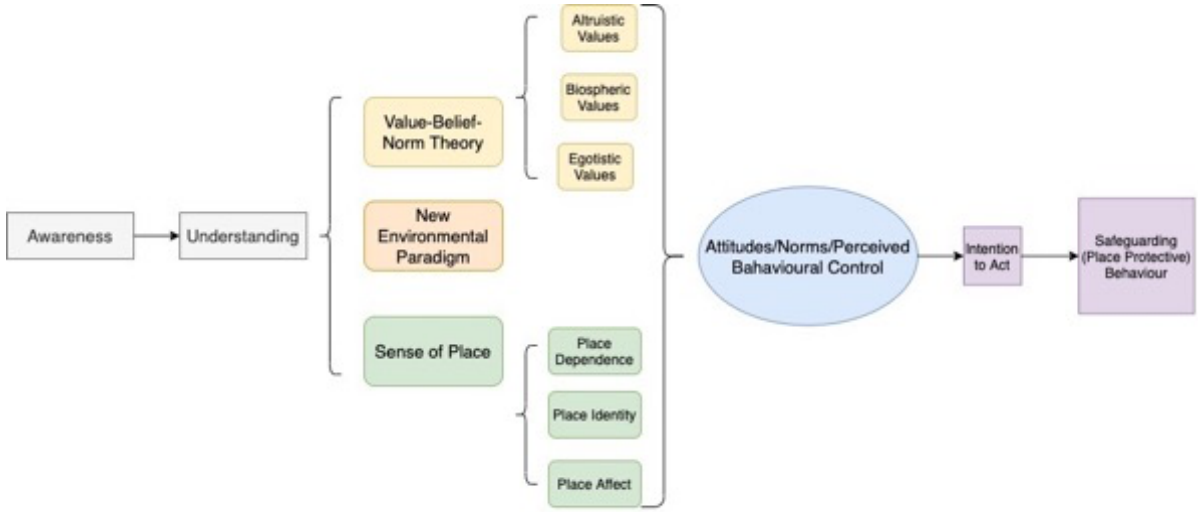
Key actors interviewed for this research indicated that the core characteristics of the M-KMA, and those most essential for the public to know about, were its size and wilderness values. Interviewees also noted the importance of the M-KMA's novel management style and the importance of its ecological and cultural values. Interviewees commented on contemporary challenges similar to those addressed in the media content: difficulties in the availability of funding, limited management capacity, inefficient communication between those involved in the M-KMA, and challenges presented by dated legislation. Although greater awareness and engagement with the M-KMA and its challenges were recognized as key to safeguarding the management area, without a crisis point around which to rally public attention, maintaining and leveraging awareness and engagement was viewed as incredibly difficult.

I conducted a province-wide survey to answer the third research question, *What is the public's awareness and attitude towards the M-KMA?* The survey determined that 18% of the sample reported awareness of the M-KMA, with differences in responses linked to sociodemographics like home region and gender. Analysis also revealed how increased concern for contemporary challenges was correlated with a respondent's sense of place.

I have structured the discussion chapter based on the conceptual model that informed my work. The discussion chapter starts with the role of the public in safeguarding a public good and then moves from the left side of the model with awareness and understanding

through to an exploration of attitudes and values. It weaves in implications of findings from different methods and research questions throughout (Figure 12).

Figure 12
The discussion chapter is organized by the conceptual model



6.1 The Role of the Public in Safeguarding a Public Good

There is agreement throughout the literature (Hessing & Summerville, 2014; Owens, 2000; Wu et al., 2018), among my interviewees, and even present in some media content (Burkhart, 2017; Sawchuk, 2005), that the public's awareness of the M-KMA is critical to safeguarding efforts. A public more aware and engaged with the M-KMA is important for many reasons. For interviewees, a public better informed on key characteristics like the M-KMA's size and wilderness values would be more likely to pressure the provincial government to maintain and improve existing management, legislation and policy in the M-KMA. The role that the public plays in policy formation is well documented (Chen, 2017; Owens, 2000; Walters et al., 2000), and increasingly the public's role specifically in environmental and land management policy has been examined (Dovers et al., 2015; Rose et al., 2018).

Interviewees suggested that public pressure on the provincial government to support the M-KMA's mission could contribute to policy change directly related to solving funding, capacity, and dated legislation challenges. Additionally, the public's awareness and engagement could encourage those groups already working in the M-KMA to work together and communicate more effectively to achieve positive results. These sentiments paralleled Rose et al., (2018) on the matter of public influence on policy: *"...priorities should focus on convincing the public of the importance of conservation as an issue, which will then influence policy-makers to adopt pro-environmental long-term policies"* (2018, p. 2). Together, according to interviewees, these actions would support safeguarding the M-KMA against the contemporary challenges it faces and would better prepare the area for future tests.

Interviewees were quick to note that while greater public awareness and engagement would be beneficial, the realities of how to encourage and maintain public attention on the M-KMA were complicated. Institutional capacity is needed to instigate and maintain efforts to raise public awareness and to grow engagement, but paradoxically growing capacity cannot be achieved without greater awareness and engagement. Other related barriers and challenges identified by interviewees, like insufficient funding or poor inter-group communication on management and research, were not unique. Those working in conservation and protected area management around the world have identified similar barriers to their work (Rose et al., 2018).

Solutions proposed by other key actors in conservation and land management similarly identified an informed public as important but expanded that idea of greater learning to all those involved. In other applications, improved understanding of science and policy and effective communication and outreach between groups were some of the key

components of solutions to existing and future barriers (Dovers et al., 2015; Rose et al., 2018).

6.1.1 Challenges in Initiating and Maintaining the Public Interest

According to interviewees, complicating matters was the fact that without a specific crisis in the M-KMA around which to rally public awareness and engagement, there is little impetus to initiate awareness-raising (*"that's only because… it's a lot of work, man. Seriously, I know it's a little bit joking, but it's a lot of work maintaining public awareness",* interviewee R2). While the reality that there is no immediate crisis in the M-KMA was viewed positively, some interviewees admitted that raising necessary public awareness was easier to accomplish when driven by crisis. Interviewees pointed to examples elsewhere in BC where public outcry was vital in forcing pro-environmental land management decisions, like public outcry regarding timber harvesting threats around Clayoquot Sound and the Great Bear Rainforest. Pleasant et al. (2002) and Vela et al. (2013) provide evidence of this phenomenon: *"environmental communication focusses on environmental risks, emergencies, and anything to do with natural disasters"* (Vela, 2013, p. 260) because the influence of mass media has encouraged that dramatization.

Interviewees were uncertain of the best way forward regarding raising public awareness of the M-KMA and noted that there is currently no formal plan on the matter. Recent literature into the influence of social media, place brands, and consistent messaging about place may be the answer. Messaging that focuses on positive, emotional aspects of an issue concerning the environment are much more likely to have positive impacts on audience attitudes and behaviours in the long term, compared to messages of shame and doom (Bueddefeld, 2021; Parsons et al., 2014; Wu et al., 2018). Through cooperation between

groups like the M-KMA Advisory Board, different tourism organizations, and First Nations, it might be possible to produce consistent and positive messaging to grow public awareness of the M-KMA (Dovers et al., 2015; Rose et al., 2018).

6.2 Knowledge Sharing

Sharing knowledge about the M-KMA and the lands within its boundaries was a critical topic that interviewees felt necessary for the area's continued success. The recurrent theme was that more people, from the public to land managers, need to know more about the M-KMA because that is how it will be safeguarded against contemporary challenges. Given the time elapsed since the creation of the M-KMA there has been significant staff turnover in key positions within government and other organizations invested in the area. This was echoed by interviewees who expressed their frustration at the lack of institutional knowledge about the M-KMA present in agencies like BC Parks and the lack of awareness of the land and its pre- and post-colonial history among non-Indigenous peoples. While interviewees attributed these gaps in knowledge to inconsistencies in policy application, community engagement, and challenges in the tourism industry, this may be the inevitable result of the elapsed time, distance of the area from the public eye, and a lack of an immediate-attention grabbing crisis.

Interviewees noted that the kind of knowledge that needed mobilizing and its format was dynamic; ideas included short pamphlets for visitors at roadside pull offs, resources posted to websites, and a stronger social media presence focused on the M-KMA. The target audience for these materials was mainly the public, though interviewees suggested that even they and their peers could use a refresher on the finer details of the M-KMA. To build awareness, any approach would need to be multifaceted and likely include each of the modes

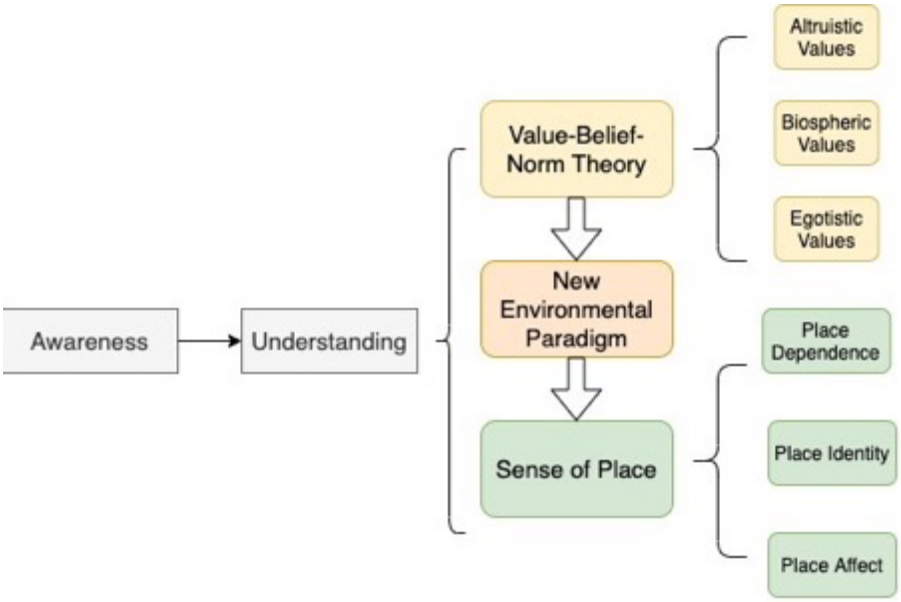
of mobilization suggested by interviewees. Pushing for additional focus on existing materials like the M-KMA's website (MKMA Advisory Board, 2019b) and documentary films like *The Muskwa-Kechika: A Delicate Balance* (Frantz, 2013) might serve as a possible stop-gap while new materials are created.

Awareness-raising initiatives should, according to both the interviewees and the literature, be planned with the caveat that it is essential to monitor and assess how awareness of the M-KMA might change over time and that set outcomes are being met (Cheung & Hui, 2018; Wu et al., 2018; Wynveen et al., 2014). Without proper planning and monitoring the expectations of the many key actors involved in the M-KMA and visitor expectations risk being unmet and possibly misrepresented.

6.3 Awareness and Understanding of the M-KMA

The theory of planned behaviour (TPB) is the centre point of the model I used to situate my research. TPB typically starts with beliefs, moving to attitude, intention, and ultimately behaviour (Ajzen, 1985, 2011). I incorporated the 'awareness' and 'understanding' elements of the theory of environmentally responsible behaviour (ERB) (Borden & Schettino, 1979; Mobley et al., 2010) as explicit, initiating elements in my application of TPB. Awareness and understanding both influence, and are influenced by, people's attitudes. This includes both broadscale attitudes (e.g., worldviews) and specific attitudes towards a topic, place, or issue. In product marketing, these elements are often referred to more simply as a 'hierarchy of engagement' building from awareness to understanding to belief to action. Therefore, building initial awareness of the M-KMA, including being aware or 'understanding' some of its key features, is the first step in moving people towards safeguarding behaviours (Figure 13).

Figure 13
Awareness and understanding inform values, beliefs, and norms (VBN), the new environmental paradigm (NEP), and sense of place



Analysis of the public survey revealed that 18% of respondents stated that they were aware of the M-KMA. Consistent with the reviewed theories, those who were aware of the M-KMA had a better overall understanding of the area, as well as stronger pro-environmental values and attitudes, and a stronger sense of place for the M-KMA than those respondents who were not aware of the management area. Compared to the 13% overall awareness of the M-KMA in 2006, this survey's finding of 18% awareness seems positive but was surprising.

If true, the finding of 18% would signal that awareness of the M-KMA has increased significantly over the approximately 20-year period since its creation through relatively spotty media coverage and competing against all of the background issues, places and other social and ecological crises that have emerged since then. Growth in the level of public awareness was unexpected because, while there have been some small initiatives to garner public interest in the tourism opportunities in the M-KMA (*Exploring the Muskwa-Kechika Wilderness in Northern BC*, 2018; *Muskwa-Kechika*, 2018), there has been little else done

that would build public awareness. Analysis of M-KMA-related media revealed some recent spikes in publications, but those numbers were relatively small, had niche audiences, and limited access to the broader public. For example, nearly all the posts made on Twitter about the M-KMA were posted by individuals or organizations already involved in the conservation science community or who were members of local communities.

Consistent with the 2006 survey, I first measured awareness in an unaided manner and then presented a definition of the M-KMA to ask about awareness (aided awareness) but only for those who indicated initially that they were unaware. It is possible that those who stated their unaided awareness were mistaken and had confused the name *Muskwa-Kechika Management Area* with something else. For example, when asked what it was specifically that they recalled learning about the M-KMA, some respondents mentioned *"lobster dispute."* This suggests that those respondents, and possibly others who did not write a response, had confused the M-KMA for the lobster fishery dispute occurring concurrently on the Mi'kmaq First Nation's traditional territory (Slaughter, 2020). The lobster fishery dispute was widely covered in the news at the same time that my research survey was being conducted in October 2020. Phonetically, 'M-KMA' and 'Mi'kmaq' could be easily confused.

The potential for name confusion among respondents, in addition to limited recent media coverage of the M-KMA, casts doubt on the accuracy of the 18% awareness result. However, as previously mentioned, those respondents who indicated their aided awareness were shown a detailed description of the M-KMA and would therefore have responded more accurately. This suggests that aided awareness, which was 7%, is likely the more accurate assessment of contemporary public awareness and would be a better, more conservative, number on which to base future strategic and long-term planning.

6.3.1 Awareness by Region of British Columbia

Respondents identified what region of British Columbia they resided in and I translated their responses into either northern BC residents or residents of "elsewhere BC." This separation by region mirrored the analysis of the 2006 public awareness survey, and also served to provide insight into what region was most aware of the M-KMA. I expected that northern BC residents would be more aware of the M-KMA than those from elsewhere by sheer virtue of being physically closer to the management area. This proved to be true: just over 27% of northern BC residents were aware of the M-KMA while just over 15% of those from elsewhere were aware. Interviewees suggested that this would be the case, but they also noted that although local awareness is important, in terms of public pressure on decision-makers, it might be the residents of "elsewhere" who should be targeted for awareness-raising initiatives. If the larger southern population were to be more aware and engaged with the M-KMA, their more numerous and politically powerful voices might be better heard by decision makers (Hessing & Summerville, 2014; Owens, 2000).

6.3.2 Understanding the Specifics

A key question posted to both interviewees and the broader media content was: *What did the public most need to know regarding the M-KMA*? Interviewees focused on their view that the public needed to know about how large the M-KMA is, as well as how important its intactness is to wildlife and other ecological values like watershed integrity and climate refugia. Size and intactness naturally flowed into discussions of what the public should know about the M-KMA's wilderness values for plant and animal species as well as humans.

In the media, the M-KMA was most often described using three core characteristics: its size, wildlife, and wilderness values. These characteristics paralleled what the

interviewees saw as most important, suggesting that an aware public would be familiar with those features as they would have been most often present in M-KMA-related materials. Survey respondents identified their highest understanding of the M-KMA's mission for the protection for wildlife and ecosystems while allowing sustainable development. Consistency between what interviewees felt was necessary for the public to understand, and what the public actually understood was limited to this primary purpose, however. Respondents had a middling understanding of the multi-stakeholder management involved in the M-KMA, and of the contemporary work of First Nations like the Kaska Dena on IPCA initiatives in the region (Council, 2019; Cox, 2019a).

6.4 An Opportunity to Build Awareness

> *"[First Nations] do understand the land and I think, I think in the future, they are – they are going to be one of the very strongest bulwarks against destruction on the land base. I think they're that – they are the ace in the hole for the Muskwa-Kechika." (S4)*

An absence of thorough and detailed awareness and understanding of the M-KMA is cause for concern as such an absence threatens the strength of work needed to safeguard the area. However, it does present an opportunity to build a comprehensive awareness-raising initiative designed to target key areas of importance. For example, in the absence of a crisis around which to rally public awareness, a large-scale, positive alternative could be the IPCA proposal of the Kaska Dena (Council, 2019; Cox, 2019a). Providing further support for such an initiative, a survey of public attitudes towards conservation and Indigenous partnership found that *"78% [of Canadians] back a federal program to support Indigenous protected areas that conserve lands and wildlife"* (Abacus Data, 2019).

Eight of 14 interviewees spoke to their perception that if the M-KMA is to continue to succeed in its mission, there needs to be further involvement of First Nations in the actual

management of the area and awareness and engagement building. This stems from an ethical standpoint where interviewees acknowledged that: *"it should also always be recognized that these are the ancestral homelands of the Indigenous people, and so they need to be very much aware and engaged"* (Z1).

Interviewees agreed that ensuring that First Nations are involved and engaged with the M-KMA is paramount to its success now and in the future. This is consistent with the literature regarding land management and conservation of biodiversity; when Indigenous peoples lead or have active, meaningful roles in land management and conservation, all benefit (Reo et al., 2017; Tiakiwai et al., 2017; Wood, 2019). When Indigenous peoples lead and contribute to conservation areas and other special management and protected areas in land management and conservation, higher conservation effectiveness, higher biodiversity, and improved social and cultural values have been reported (Artelle et al., 2019; Reo et al., 2017).

6.5 Conflict over Land Use Priorities

Of the M-KMA's three core characteristics presented by the media, its size was a key feature that publications focused on throughout the area's history. The M-KMA's size was highlighted by those praising the ingenuity of the M-KMA's conservation efforts, and was also used as a key talking point by the critics of the area to illustrate the scale of natural resource values being *"lost"* to a *"de-facto park"* (Meissner, 1997, para. 15). This opposition demonstrated an initial over-simplification in the news headlines about what exactly the M-KMA was. For example, the M-KMA was repeatedly referred to as a park: headlines regarding the M-KMA included phrases like "a global treasure," and "huge park in the north" ('BC Creates Vast New Park', 1997; Meissner, 1997).

Anything similar to the size, scale, and management style of the M-KMA would have been new, novel, and evidently difficult to effectively explain in a catchy headline. Referring to the M-KMA as a 'park' was direct and simple, and conveyed the idea that it was protected in some manner from the same environmental and cultural strife seen elsewhere in BC at the time, like in Clayoquot Sound. Yet, referring to the M-KMA as a park, even a 'vast' or 'huge' one, distorted its true makeup of different types of special management zones managed in conjunction with provincial parks under an advisory board. Calling the M-KMA a park, especially one *"hailed as a global treasure"* ('BC Creates Vast New Park', 1997), implied total protection of the area within, thereby further obscuring from audiences the area's mission to balance resource development, other human activities, and healthy ecosystems (MKMA Advisory Board, 2013b).

Past the headlines, media content surrounding the M-KMA did share more information on how the area was to be managed, specifically sharing details on how the special resource management zones were planned ('BC Creates Vast New Park', 1997). However, these explanations did not appease those involved in the timber, mineral, or oil and gas industries; for example, one headline claimed *"Industry wary of 'protected' status"* (Lang, 1997) in reference to the recently announced M-KMA.

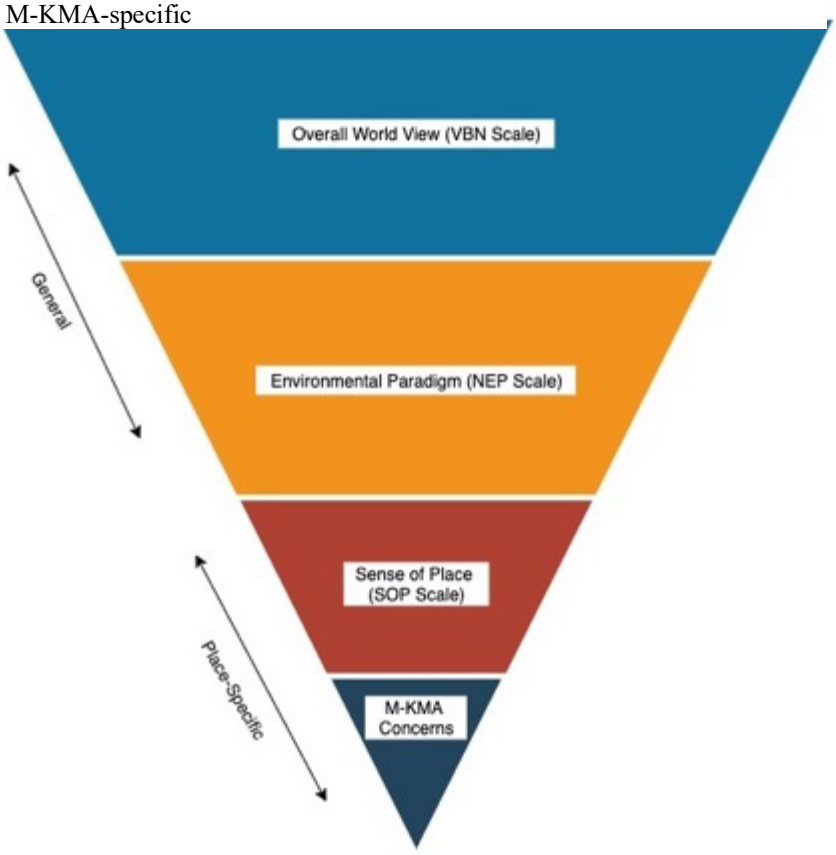
The misunderstanding of the M-KMA's park status has persisted over time and is reinforced by the lack of development in the M-KMA to date. Neither the provincial government nor the M-KAB have yet completed frameworks on exactly how resource development should be conducted in the zones where it is permitted. Additionally, the size and remoteness of the M-KMA present cost and technical challenges to conducting resource development, and as such, the natural resource industry has yet to enter the area. As a result, the M-KMA is effectively a *de-facto* park. If the Kaska Dene proposal for an IPCA is

granted, this will substantially change the land management status and potential for resource development of a significant portion of the M-KMA. As such, communicating about the importance of the M-KMA as a model of ecosystem-based management is further challenged.

6.6 Environmental Values and Attitudes

My research scope included assessing respondents' values and attitudes from broad worldviews down to M-KMA specific values and attitudes. The values and attitudes of survey respondents were expressed through the concept of sense of place and the identification of specific concerns about contemporary challenges facing the M-KMA (Figure 14).

Figure 14
Values and attitudes of survey respondents, from general (Value Belief Norm (VBN), followed by New Environmental Paradigm (NEP) and sense of place to M-KMA-specific



Consistent with my conceptual model, those who indicated that they were aware of the M-KMA had higher mean scores on the values and attitudes scales from general to place-specific. The strength of relationships between the more general values and attitudes and the more place-specific values and attitudes varied. There were weak to moderate positive relationships between general values and attitudes and place-specific values and attitudes but strong relationships ($r = 0.684$) between sense of place and concern. However, when the direction was reversed, there were interesting findings. Those with high levels of concern showed high scores not just on sense of place but also on the relevant (Biospheric and Altruistic) worldview scales and moderate correlations with NEP. Sense of place was moderately correlated with environmental worldviews (Biospheric and Altruistic subscales). This suggests the need for further examination of intervening variables and the formation and nature of the relationships between general values and attitudes and place-specific values and attitudes.

6.6.1 Overall Worldviews: The Importance of Biospheric and Altruistic Values

Survey respondents with prior awareness of the M-KMA were more likely to indicate their agreement with pro-environmental statements within VBN's Biospheric and Altruistic sub-scales. This may indicate that respondents who held Biospheric and Altruistic values in their lives were more likely to seek out or at least register the subject of the M-KMA if media coverage was encountered directly, or during prior pro-environmental engagements (Bouman et al., 2018, 2020).

The respondents' strong Biospheric and Altruistic values were also apparent in what they indicated was most important about the M-KMA. Those who indicated that protecting wildlife, the environment, and the M-KMA's natural resources were important were more

likely to have higher Biospheric values. Promisingly, Bouman et al. (2020) found a positive association between individuals that perceived high Biospheric values within groups and their pro-environmental engagement. This suggests that to build awareness of the M-KMA, groups and individuals who have strong Biospheric and Altruistic values, and who are already members of pro-environmentally focused groups, may be the most readily open to engaging with safeguarding initiatives.

The overall NEP scores were not significantly different based on awareness, nor were they significantly different based on region. The NEP represents a pro-ecological worldview that prioritizes a balance between human activity and nature, and that rejects an anthropocentric worldview that puts human interests before all else (Anderson, 2012; Dunlap & Van Liere, 1978). Evidenced by their very close overall NEP scores, respondents from both northern BC and elsewhere in the province indicated that they at least somewhat agree with the NEP worldview. Notably, respondents to the NEP scale might hold contradictory or inconsistent attitudes (Anderson, 2012; Dunlap & Van Liere, 1978), and Dunlap and Van Liere (1978) caution not to assume that agreement with NEP will necessarily translate into safeguarding behaviours. The NEP is, however, a tool *"useful in clarifying the value bases of environmental concern"* (Dunlap, 2008).

NEP and the items of overall concern for challenges to the M-KMA were significantly and moderately correlated ($r = 0.312$, $p = 0.000$), as were NEP and VBN's Biospheric Values sub-scale ($r= 0.331$, $p = 0.000$). Positive correlations between NEP and both the M-KMA-related concerns and Biospheric values were expected because NEP is an assessment of general environmental concern, and Biospheric values parallel the tenants of NEP. The positive correlations between general environmental concern, concern for the M-KMA specifically, and overall Biospheric values of respondents provides a better

understanding of respondents' attitudes towards the M-KMA. By establishing this understanding, future research will have a clearer insight into the values and concerns of individuals who might form an intention to engage with safeguarding actions regarding the M-KMA (Halpenny, 2006).

All other correlations between NEP and sense of place, VBN, and concern scores were significant ($p = 0.000$) although only modestly correlated ($r = 0.29$). The literature supports a connection between environmental concern, sense of place, and values (Dunlap et al., 2000; Halpenny, 2006; Steg et al., 2005). Together, those theories inform models to predict pro-environmental behaviour. Alone, however, environmental concern is not viewed as a reliable predictor of pro-environmental behaviour, and is instead more of an explanatory tool for understanding the motivations of individuals to plan their engagement in pro-environmental behaviour (Halpenny, 2006; Milfont, 2009).

6.7 Place Branding and Sense of Place

A place brand echoes the essence of a place as it is a reflection of *"a few simple, coherent and compelling truths"* (Mayes, 2008, p. 125). A place brand can be intentionally crafted but often follows a more unconscious path, created by shared visitor experiences in place and through *"images that inform people's relations"* (Mayes, 2008, p. 124) with the place in question. The media analysis demonstrated that hints at elements of an organic place brand for the M-KMA emerged from the media content without explicit direction. The M-KMA's size, wilderness, and wildlife were recurrent themes that could, in the future, serve as the basis on which to form a place brand and are highly consistent with the vision to maintain "a globally significant area of wilderness, wildlife and cultures" (muskwa-kechika.com). This

emergent brand, however, has not been intentionally directed in any formal way and it is unfocused and inconsistent across time and place.

In the M-KMA, visitation trends and media attention are lower than other management areas of similar vintage in British Columbia (Clayoquot Sound Biosphere Reserve, for example). The combination of low visitation, remoteness, and low media attention make creation of a successful, organic place brand challenging. A result of this is a low level of public awareness and understanding of the M-KMA found in British Columbia. However, what minimal place branding that has been curated for the M-KMA has grown organically from the media content, predominantly from news media and television programming, suggesting these platforms as opportunities for disseminating any formal M-KMA place branding in the future. The priority of these materials has been primarily to drive visitation to the M-KMA (*Exploring the Muskwa-Kechika Wilderness in Northern BC*, 2018; 'Get Outdoors and Explore BC', 2011).

For an area like the M-KMA to have a fully-realized place brand, three dimensions must be included for the successful *"creation of an a priori perception"* (Vela, 2013, p. 258) of the M-KMA: 1) cognitive (belief and perception), 2) affective (emotions and feelings), and 3) conative (behavioural intention and commitment) (Stedman, 2002; Vela, 2013). My research focused on the affective and cognitive dimensions of the M-KMA's place brand and explored the public's current beliefs and perceptions about the area. Place branding strategies are most successful when managed holistically and fair consideration to each of the three dimensions is given (Govers & Go, 2009), as well as moved *"beyond an analysis that only refers to marketing, branding, and communications"* (Vela, 2013, p. 258).

The M-KMA sense of place question examined place identity, place affect, and place dependence sub-scales. Vela et al. (2013) suggest that those dimensions and place

attachment, memory, and satisfaction each play a role in how people experience place. Therefore, sense of place and place branding have a symbiotic relationship where an individual's sense of place for an area like the M-KMA can be informed and reinforced by a place brand which reflects elements of the place identity, affect, and dependence they already feel (François Lecompte et al., 2017; Vela, 2013). Sense of place can only be informed by place branding though, if the individual in question is aware of, and engaged with, the place branding materials.

Vela et al. (2013, p. 258), cautioned that a major difficulty in building a place brand lies within the *"cognitive disjunct between expectations regarding the place created a priori through communication strategies and the real experience of the place as experienced by the individual person."* Interviewee E8 addressed this challenge when prompted to elaborate on their perception of the M-KMA's moniker, 'The Serengeti of the North:'

> *"Yes, the Serengeti of the North term, and the fact that humans are very attracted to that landscape… So, when that comes into play, how that area is marketed, or the photos that are shown on that area can perpetuate for sure, and influence like, the public awareness of it. Yeah. And that's the pressure to, though it really has always come down for me to, if we're not leaving it in its natural state or around natural variability and disturbance regime, then that's fine. But let's talk about what our desired state is… because if it's the Serengeti of the Northeast that is the desired state for the public, from the public of BC, we're going to be managing it very differently."*

6.7.1 Place and Emotional Investment in the M-KMA

The M-KMA was most often depicted by three core characteristics: its size, wildlife, and wilderness values. These attributes are exactly the kind of simple and compelling truths necessary on which to base a place's brand (Mayes, 2008; Vela, 2013). Stressing the size, wildlife, and wilderness of the M-KMA to audiences was how the media could direct their readership's attention immediately to the significance and scale of the stories they were telling. For example, Meissner opened his article with an emotive depiction: *"The sound of*

two huge bull moose charging through the forest and knocking heads is a Victoria environmentalist's most stirring memory of B.C.'s newest park" (1997, para. 1). This was promptly followed by an immediate aim at the reader's emotional investment into the M-KMA's wildlife, wilderness, and size, which was typical throughout the media addressing the M-KMA. Content that evokes positive emotions in social media users has been linked to increasing their pro-environmental behaviour and knowledge of conservation issues (Parsons et al., 2014; Wu et al., 2018).

Encouraging emotional investment in a place or a cause is a common strategy used in building public awareness and engagement through different media (Di Minin et al., 2015; Wu et al., 2018). Emotional ties to a place encourage place attachment, a key component of sense of place (Anton & Lawrence, 2016; François Lecompte et al., 2017). Place attachment is typically built by individuals having direct experiences within a place (Anton & Lawrence, 2016). This is a challenge for the M-KMA because few people visit the area in person, and few will due to the cost, skill, and distance necessary to get there. Therefore, encouraging emotional investment in the M-KMA through appeals and knowledge sharing in media is the next best way to build sense of place and place attachment for the M-KMA.

6.7.2 Sense of Place for Visitors and Non-visitors Alike

An individual's attitudes and values, as well as their social and cultural experiences, moderate how they experience sense of place. However, the literature on sense of place is not in complete agreement on whether sense of place can develop without direct experiences within a place. Some researchers studying sense of place believe that direct experiences are necessary, while others, in particular those with sociocultural research backgrounds, do not (Farnum et al., 2005). Sociocultural perspectives suggest that individuals and groups can feel

symbolic or cultural meaning for a place without needing to visit it, and sense of place is not limited to the place's state in the present, but also includes its state in the past and how it might be in the future (Farnum et al., 2005). Farum et al. (2005) suggest that the sense of place of non-visitors should not be ignored, regardless of the decision maker's epistemological background, because *"it may be dangerous to ignore the emotional attachments and reactions of non-visitors"* (p. 16) towards proposed policy change or management decisions.

Like the explicit inclusion of awareness and understanding into my conceptual model, I also included sense of place as an expression of specific attitudes towards the place. I measured sense of place using an adaptation of Halpenny's (2006) sense of place scale. Designed for, and normally distributed to, people who have direct experience with a place, I adapted certain items to relate to people who had likely never visited the M-KMA. The scale in this form is untested, but from my understanding of the literature and my examination of practical cases like the environmental campaigns for places like Clayoquot Sound and the Great Bear Rainforest, it seems plausible that people can develop some sense of place even if they have not, and are unlikely to ever, visit a place.

It is important to note that I applied this revised sense of place scale to an overwhelming majority (at least 82%) of people who were unaware of the M-KMA prior to completing the survey. Although some survey questions (such as the definition of the M-KMA or the question of the M-KMA's importance) that respondents encountered prior to the sense of place scale were intended to give them information about the M-KMA, I recognized that low prior awareness of the M-KMA meant these individuals might have a weaker sense of place for the M-KMA. This appears to be confirmed by statistical testing that demonstrated that those who were previously aware of the M-KMA had higher sense of place

scores than those who were unaware. Interestingly, however, there were no significant differences in overall sense of place score for those who were northerners versus non-northern residents. It is possible that what I measured as sense of place is a slightly different concept than sense of place as it was originally developed. Regardless, my sense of place question had very high internal consistency (Cronbach's alpha of 0.93) and did examine attitudes that were place-based.

6.7.3 Concern for the M-KMA

The contemporary challenges facing the M-KMA were nearly all viewed by survey respondents as at least somewhat concerning. The remoteness of the M-KMA was seen as the least concerning challenge; less than 40% of respondents indicated concern, compared to over 60% being concerned about the next lowest item. Interviewees suggested that the remoteness of the M-KMA, while detrimental to public awareness because the area is effectively *"out of sight and out of mind"* (S4), might actually be a key aspect of safeguarding the area against other items of concern.

The M-KMA is physically far-removed from existing industrial development infrastructure, and because of that, the costs associated with development in the area have been identified as potentially prohibitive by interviewees. A similar sentiment was expressed in reference to the tourism industry because it is difficult to encourage visitation to an area without abundant available infrastructure. Some interviewees expressed frustration that the planning processes involved in all types of development in the M-KMA were progressing slowing. However, others noted that the slow pace of change across industries has allowed the M-KAB and other groups to be methodical in their planning frameworks. Once those plans are complete, the M-KMA will be well-positioned to address development proposals,

thereby ensuring that the M-KMA's mission will be safeguarded. For others, the lack of development may be a way to keep the entirety of the M-KMA in its current park-like state.

6.7.3.1 From Sense of Place and Concern to Action

The place-specific attitudes captured in the M-KMA sense of place scale were not only higher for those who were previously aware of the area but showed moderate correlations with the overall worldviews consistent with ecological values (Biospheric and Altruistic sub-scales) and strong correlation with concern for contemporary issues that the M-KMA faces. This is paralleled in the literature where environmental or place-specific concerns are greater for those who feel strong sense of place (Brehm et al., 2013; Farnum et al., 2005; Schultz et al., 2005).

My research did not track intent or actual participation in safeguarding behaviours for the M-KMA because it was outside of my scope, and because there are no current initiatives with which to engage. Future research could, however, explore predictive behaviour models in the M-KMA related to sense of place concerns, and values. Similar research exists where sense of place and environmental concern have contributed to predictive models of pro-environmental and place-protective behaviours taken when individuals and groups are in opposition to changes in the focus of their place attachment (Devine-Wright, 2009; Farnum et al., 2005; Manzo & Devine-Wright, 2013).

6.8 Fit of the Conceptual Model

The Theory of Planned Behaviour (TPB) has been widely used in studies related to conservation behaviour (Anton & Lawrence, 2016; Devine-Wright, 2009; Kaiser, 2006). TPB acts as a predictive model for conservation behaviour, where attitudes and norms inform an individual's intention to act, and ultimately their actual behaviour (Kaiser, 2006).

Together, attitudes, norms, and sense of place inform an individual's intention to act, and once intention is formed, it serves as a reliable predictor of behaviour (Anton & Lawrence, 2016; Kaiser, 2006). Sense of place motivates individuals to behave in ways they believe will reduce the rate of change in the place of their attachment (Anton & Lawrence, 2016; Cheung & Hui, 2018; Lin & Lockwood, 2014).

The conceptual model that I used presented the connections and relationships from awareness to understanding to attitudes and values. If it had been within my scope, it could have progressed to TPB's intention and actual behaviour. Previous research supports the relationships between these concepts (Bouman et al., 2020; Steg & Vlek, 2009; Stern et al., 1995). Contemporary projects like Blye's (2021) investigation into the role knowledge gained through interpretive materials plays in behavioural intention demonstrate other ways in which to build a similar model. Specifically, Blye (2021) demonstrated the validity of a model where NEP has a reciprocal relationship with environmental knowledge leading to an individual's affective and cognitive attitudes and environmental emotions, and informing pro-environmental behaviour intentions.

7 Recommendations, Limitations, and Conclusions

The following section provides a series of recommendations, split into management recommendations and recommendations for future research. These recommendations are intended to contribute to effectively safeguarding the Muskwa-Kechika Management Area from the contemporary challenges it faces. Following the recommendations, I address the limitations in my work, and then conclude my research.

7.1 Recommendations for Management

The M-KMA is currently without any formalized place brand or cohesive image. I recommend that key actors first determine the desired deliverables of greater public awareness (for example, to drive visitation or increase understanding without needing to visit), as well as strategies for monitoring those outcomes. A specific place brand identity for the M-KMA would ideally be consistent both in content and over time. By developing and testing specific branding materials, the M-KMA's place identity can be more widely shared among the public and with key actors who would benefit from a better understanding of the area's core characteristics. The work involved in developing and sharing the M-KMA's place brand should be done cooperatively, and involve key actors across industries and communities, including First Nations. For example, the Kaska Dena First Nation are already planning to include tourism opportunities in their IPCA management plans (Council, 2019).

Additionally, key actors in the M-KMA should consider what other opportunities are available for building awareness and understanding of the management area which do not depend on driving visitation. This includes exploration of alternatives that focus on experiences available online or in communities away from the M-KMA. For example, The Exploration Place: Museum & Science Centre in Prince George presents a monthly speaker

series, currently presented online and therefore available province-wide (*Virtual Adult Speaker Series*, 2021), where key actors in the M-KMA could present recent research findings, photo series, or other materials. Other opportunities for general audiences to learn about the M-KMA could include online documentary screenings of *The Muskwa-Kechika: A Delicate Balance* (Frantz, 2013), or the forthcoming *In the Land of Dreamers* film (MacDougall, 2021).

The *In the Land of Dreamers* film is set to be released in summer, 2021 on CBC's Absolutely Canadian program (MacDougall, 2021). A partnership with the film makers, the M-KAB, First Nations, and other key actors could drive awareness of the M-KMA through media releases, social media attention, and traffic to their various webpages. The surge in attention could be directed to other materials like previous documentaries, reports, and IPCA proposals (Case, 2019; Frantz, 2013; Weaver, 2019), thereby increasing awareness of a variety of contemporary issues facing the M-KMA. The audiences involved in such an endeavor would not be limited to the public either; drawing policymakers and government officials' attention to the documentary and other materials would contribute to filling some of the institutional knowledge gaps identified in my research.

While the COVID-19 pandemic has forced a major shift to online public engagement, continuing to use virtual spaces to share information once restrictions start to lift is an opportunity for broader engagement as it removes barriers associated with accessibility and proximity. I recommend that key actors in the M-KMA look to build awareness through community presentations and engagement in person, while also making live-streams or recordings of those events available online and therefore accessible not only to those who attend in person.

7.2 Recommendations for Research

My recommendations for future research focus on two themes: expanding understanding of the public and key actors' awareness and engagement with the M-KMA; and further examination of sense of place and place brand identity in the area.

7.2.1 Expanding Awareness

Public awareness of the M-KMA was higher than expected at 18%, but because there is some doubt regarding the accuracy of that number, I recommend that the M-KAB and other key actors use the likely more accurate 7% aided awareness as a benchmark for future decision making. Additionally, I recommend that the M-KAB continue to conduct public awareness surveys at regular intervals to monitor change over time in public awareness and understanding of the M-KMA. In doing so, a clearer picture of how and why public awareness might have changed over time, and the impacts of specific events or initiatives, like documentary releases or tourism publications, can be examined in detail and management decisions can be adjusted accordingly.

In addition to continuing assessments of public awareness, I recommend that future research explore awareness and understanding of the M-KMA within the policy and decision-making sectors. Gaps in institutional knowledge were identified as an issue for the M-KMA, but there was no clear understanding of what knowledge exactly is missing, nor how best to rectify that lack.

7.2.2 Sense of Place and Place Branding

There is a lack of consensus in the literature regarding how place attachment and overall sense of place are established without direct experiences within an area, and the M-KMA could serve as an ideal case study for such research. I recommend further research into

the applications of the sense of place scale in situations where direct experiences and visitation to an area are notably low, and how else sense of place might be built for remote and inaccessible places.

Furthermore, future research should explore specific place brand identity development and practical applications for places removed from the public eye and with no obvious rally point. Finally, future research should explore how to sustain public awareness and understanding in the long term, and how to encourage groups and individuals to form an intention to act, and to conduct safeguarding behaviours for areas like the M-KMA which are difficult to access and face no immediate crisis.

7.3 Limitations

This research was limited primarily due to the realities of conducting research during the COVID-19 pandemic. During the spring and summer of 2020, when I expected to travel to conduct in-person interviews with key actors in the M-KMA, provincial health orders mandated that all non-essential travel be suspended (Engagement, 2021). Additionally, the University of Northern British Columbia suspended in-person research activities involving human participants (Lewis, 2021). In response, I adjusted my interview data collection to take place by phone or video call. In-person interviews would have been preferable as they allow for more comfortable rapport between interviewer and interviewee (Jenner & Myers, 2019); however, the phone and video call interviews I conducted still felt comfortable and retrieved quality results.

Data collected for the media analysis was also disrupted due to COVID-19. Some local newspapers, like the Alaska Highway News, had not yet digitized their archives so they

were only available to access in person. Had travel been possible, I had hoped to include those archives in my search of media content related to the M-KMA.

Finally, my search for social media posts related to the M-KMA was limited to only posts by publicly available accounts. The information I was able to collect from Instagram posts was particularly difficult as that social media platform had inconsistent publication date information and some comments and number of likes were not available.

With respect to my survey, the price of administering a province-wide survey through polling firms dictated the need to limit the number of questions asked. Additionally, there were limitations in the form with which questions could be asked as a result of Ipsos survey protocols as well as the desire to maintain some consistency with the previous M-KMA survey.

7.4 Conclusion

I explored the role of public awareness and engagement in safeguarding a public good like the Muskwa-Kechika Management Area using a mixed-methods approach that sought to answer four research questions. My questions focused not only on contemporary awareness and understanding of the M-KMA, but also on how the M-KMA had been framed in the media, how sense of place and place branding were connected, and how key actors viewed public awareness and engagement. The necessity of an aware and engaged public surrounding the M-KMA was supported by the many contemporary challenges facing the management area today and the findings within existing literature and my own research.

Over the course of its history, the M-KMA has been presented to the public through many different mediums, from news stories to public slideshows, and collectively that content has focused on a few key characteristics of the management area. The M-KMA's

size, wildlife, and wilderness values were most often used to frame the area, and authors across mediums used those qualities to contextualize their stories. While there is no formal place brand set for the M-KMA, these characteristics might serve as the foundations of one in the future.

Key actors in the management of the M-KMA were adamant that public awareness of the M-KMA was, and will continue to be, critical to safeguarding the area against the many contemporary challenges it faces. The public's awareness and understanding of the mere basics of the M-KMA like its size and intactness, and wilderness and cultural values, are highly necessary, but many interviewees despaired that even those basics are too poorly known. The power of an engaged public was seen as an important tool in swaying government to act in the best interests of the M-KMA. However, acquiring and maintaining the public's awareness and engagement at a level where it would be effective in doing so seems out of reach without a rally point around which to gather it.

Assessment of the public's awareness of the M-KMA better informs key actors of what the public identifies as important and of strengths and weaknesses in their understanding. The public's awareness of the M-KMA was higher than expected, but future management decisions would benefit from using the more conservative finding of 7% aided awareness. Members of the public living closest to the M-KMA were more aware and had a better understanding of the management area, however, their more general values and attitudes were not so different from those living elsewhere in British Columbia.

The literature supports the inter-reliance between the theories incorporated into my conceptual model. The model used in this research drew connections from awareness to understanding, through to public attitudes and values and demonstrated how each informs the others. Future research could continue to use this model and examine how it might be used to

inform a predictive tool in determining respondent intention and actual safeguarding behaviours.

The Muskwa-Kechika Management Area has existed since the mid-1990s, and was built through a collaborative, iterative process based on attaining consensus among the key actors involved. This was done in the spirit of creating a public good that would balance wilderness and sustainable development values on the land in perpetuity. Climate change, capacity and funding challenges, and low public awareness each contribute to uncertainties in the M-KMA's future. In response, management decisions and research priorities should seek to build public awareness, while continuing to explore how best to encourage the public's sense of place for an area they may never experience in person. With greater public awareness and engagement in the M-KMA, key actors will be better informed of the public's will for the area, and how best to represent those interests and encourage management decisions which will support safeguarding one of British Columbia's, and the world's, largest intact natural landscapes.

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9 APPENDICES

9.1 Appendix A: Participant Information & Consent

Participant Information Letter
May 2020

The Role of Awareness & Engagement in Safeguarding
the Muskwa-Kechika Management Area

Who is conducting the study?

The research is being conducted by UNBC NRES graduate student Rachelle Linde, supervised by Dr. Pamela Wright. This research will contribute to Rachelle's Master's thesis and will therefore be part of a public document.

Graduate Student Researcher:
Rachelle Linde
MNRES Candidate
University of Northern
British Columbia
Office 8-239
linde@unbc.ca
604-441-6220

Faculty Supervisor:
Pamela A Wright, Ph.D.
Outdoor Recreation and Tourism Management
Ecosystem Science and Management Program
University of Northern British Columbia
Prince George, BC
pwright@unbc.ca
250-960-6353

Why are we doing this study?

The purpose of this research is to examine the role of awareness and engagement in safeguarding the Muskwa-Kechika Management Area against contemporary challenges related to its remoteness, climate change, and lagging support. This study will focus on an aspect which is often overlooked; the role of the broader public whose engagement (or lack thereof) may strengthen or weaken mechanisms in place to effectively manage areas like the M-KMA. My research will ask the following questions: 1) how is sense of place and branding related to awareness and engagement? 2) what do various actors want the public to know about the M-KMA and why is that important?

Why are you being asked to take part?

I am asking you to participate in this research because of your experience volunteering or working in or around the M-KMA, be it through management, tourism, industry, or some other capacity. Your perspective on public involvement in the M-KMA and/or past and contemporary challenges are valuable to gaining insight and finding answers to my research questions (listed above). **This interview should take approximately 60 minutes.**

Research Ethics

Your participation is entirely voluntary and if you do choose to participate, you may stop at any time and your interview will be discarded. You are free to not answer any question(s) you do not wish to.

Given the current COVID-19 outbreak I will not be conducting the interviews in person and will coordinate with you to see if a phone call or a video-chat is the best way to reach you. With your permission, I will record and transcribe the interview to help with notetaking and to improve the accuracy of the information. I will not record any personal identifying information about you and will not be attributing specific comments by name as pseudonyms will be used. However, I cannot guarantee that people will not be able to identify you.

Anonymity and Confidentiality

Your individual interview will not be read or heard by anyone other than myself and my supervisor. After our interview, the original information will be held for two years on a secure computer in my supervisors' office at UNBC. Once the data is analyzed and published, all interview recordings and any identifying information will be deleted.

Interview Benefits

By examining of the role of awareness and engagement in safeguarding the M-KMA, this research will contribute a new understanding of how the public can be involved in resource management decisions in protected areas and special management areas throughout Canada. This new understanding will be based on the context of the M-KMA but can be adjusted and applied to initiatives aimed at maintaining, renewing, or establishing new protected areas with the support of an informed and engaged public. Furthermore, the public will benefit as they come to understand their own role and power in management decision making. More narrowly, this research will contribute to the M-KMA Advisory Board's understanding of public awareness about the M-KMA and will help them more accurately target support as they move to resolve the many contemporary challenges facing the M-KMA today.

Participant Agreement

If you agree to participate in this interview, please complete the informed consent form at the end of this document.

Contact

If you would like further information on the research results, please contact myself, Rachelle Linde (linde@unbc.ca) or Dr. Pamela Wright (pwright@unbc.ca). Our full contact information is listed at the top of the first page of this letter.

Who can you contact if you have complaints or concerns about the study?

If you have any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, contact the UNBC Office of Research at 250-960-6735 or by e-mail at reb@unbc.ca.

Study Results

To share the results of my research, I will produce not only the final thesis document, but also present the results of my research to the M-KMA Advisory Board, at the Exploration Place, Museum & Science Centre's Adult Speaker Series, and conferences (e.g., BC Protected Area Research Forum). A copy of my final thesis will be given to the M-KMA Advisory Board and participants will be notified that the final thesis will be available at the UNBC library and upon request from the Advisory Board and myself.

Thank you!

Rachelle Linde

Participant Consent and Withdrawal
May 2020

Taking part in this study is entirely voluntary and you have the right to refuse to participate or to end your participation at any time. You may choose to pull out of the study without giving reasons and without negative impact. If you have already provided some information, such as a partial interview, please inform me whether you want that contribution to remain in the study or to be removed.

Any data and/or information you have provided for this project will be treated in the following manner:

- Your participation in the project in entirely voluntary and you are of legal age to provide informed consent;
- You are free to withdraw from the project at any time without disadvantage;
- You are free to not answer any question you do not wish to;
- Personal identifying information from any notes or audio files will be destroyed at the conclusion of the project or within two years;
- I will not attach your name or any other obvious identifier to the information you provide;
- There are no anticipated discomforts or risks associated with your participation;
- There is no remuneration or compensation to be made for your participation, nor will the information provided be used for any commercial purpose;
- You understand that only the principal researcher and her supervisor will have access to the information provided (such as transcripts) and that it will be stored securely for two years and then destroyed;
- Data/information that is collected will be used to write Rachelle Linde's UNBC Master's Thesis;
- You agree that the interview will be recorded and transcribed to facilitate note-taking and analysis

CONSENT

I have read or been described the information presented in the information letter about the project.
YES NO

I have had the opportunity to ask questions about my involvement in this project and have received any additional details I requested.
YES NO

I understand that if I agree to participate in this project, I may withdraw from the project at any time up until the project completion, with no consequences of any kind. I have been given a copy of the information letter.
YES NO

I consent to audio recording of the interview.
YES NO

I understand that while the intent is to maintain confidentiality of participants by removing participants' identifying information the nature of participation in an interview with relatively few participants means that I cannot guarantee anonymity.
YES NO

☐ Please check here if you would like to receive a PDF copy of the completed thesis and provide an email address: _____

Signature: _____

Name of Participant (Printed): _____

Date: _____

9.2 Appendix B: Interview Guide

1. What are the most unique or important characteristics of the M-KMA?
    a. In a few words, how would you describe the M-KMA to others?
2. Is it important/useful that the "public" be aware of the M-KMA?
    a. How does/should/could their awareness influence policy/management/stewardship?
3. What challenges/issues/management concerns are connected to public awareness/engagement?
4. How aware do you think the public is of the M-KMA?
    a. How has that changed over time? Why?
5. What is it that the public should be made aware of about the M-KMA?
    a. Why do you think those aspects are important?
6. What does public engagement with the M-KMA look like right now? Is this state desirable?
    a. What would an ideal form of public engagement with the M-KMA look like?
    b. Has public engagement changed over time?
    c. Why has their engagement changed?
7. Is there a point in the management process that the public's awareness and engagement would be most effective in strengthening mechanisms of management?
8. What would be useful for you to know about public awareness and engagement as they relate to the M-KMA?
    a. Do certain demographics draw particular interest?
    b. How would you use this information?

9.3 Appendix C: Survey Instrument

1. Have you heard of the Muskwa-Kechika Management Area (also known as the M-KMA)?
   a. Yes
   b. No

If yes in Q1, ask Q2, otherwise skip to Q3

2. What do you specifically recall reading, seeing, or hearing about the M-KMA?
   a. Open ended, write in box

Skip to Q4 after completing Q2

3. Please read the following:

   The Muskwa-Kechika Management Area, hereafter referred to as 'M-KMA,' is an area of land in north-eastern BC that is home to wilderness, wildlife, and rich in natural resources. The M-KMA has been designated for varying levels of protection, conservation, and use including resource development, economic development, research, backcountry recreation, and Alaska Highway travel. Together, these designations make the M-KMA a 'working wilderness.'

   Based on this description, have you heard of the M-KMA prior to today?
      a. Yes
      b. No

If no in Q3, skip to Q5

4. Where have you learned about the M-KMA? Select all that apply
   a. Television, film and/or streaming services (documentaries, news stories, etc.)
   b. Magazines and journals
   c. News Media (online or in print)
   d. Books
   e. Presentations and/or lectures
   f. Radio
   g. Social Media (e.g., Instagram or Twitter)
   h. Word of mouth
   i. Online (e.g., the M-KMA website)
   j. Other (please specify):

5. Prior to today, were you aware of the following statements about the M-KMA?

	Yes, I was aware	No, I was not aware
The M-KMA was created by land and resource users, conservationists, First Nations, and the provincial government		
The M-KMA was established to protect wildlife and ecosystems while allowing sustainable resource development		

Indigenous communities are working to ensure more of the M-KMA is conserved through an Indigenous Protected and Conserved Area
The M-KMA is the largest wilderness area in the Rocky Mountains
The M-KMA is intended to establish a world standard for sustainable management
The M-KMA is 1/4 parks (resource extraction is prohibited) with 3/4 open for resource development (with high sustainability standards)
There are **both** motorized and non-motorized recreation opportunities in the M-KMA
The M-KMA is managed by a public Advisory Board who make recommendations to the government

6. Overall, how important would you say having an area like the M-KMA is:

	Very Important	Somewhat Important	Neither important nor unimportant	Not very important	Not at all important
To protect the natural environment					
To the quality of life for those living in and around the M-KMA					
To protect our natural resources					
To provide recreational opportunities					
As a place for Indigenous reconciliation					
As an example of how to manage sustainably					
To you personally					
To provide economic growth and investment in BC					
To protect wildlife					
As an example of different groups working together					
To residents living in and around the M-KMA					
To the tourism industry					
To future generations					
For resource development					

To British Columbia as a whole
To support local businesses
Other (please specify)

7. How concerned are you about the following challenges facing the M-KMA?

	Very concerned	Somewhat concerned	Neither concerned nor unconcerned	Not very concerned	Not at all concerned
Inadequate public understanding of the value of the M-KMA					
Insufficient funding available for the management of the M-KMA					
Increased demand for resource development					
The low government priority given to the M-KMA					
Climate change					
Growing recreation and tourism use					
The M-KMA is very remote					
Different priorities between resource development and environmentalists					
Other (please specify)					

8. Please identify your level of agreement with each of the following statements:

	Strongly agree	Somewhat agree	Neither agree nor disagree	Mostly do not agree	Do not agree
Supporting wilderness protection says a lot about who I am					
The M-KMA represents a wilderness that my grandchildren can someday visit					
I want to be involved in safeguarding areas like the					

M-KMA
I will seek out content about the M-KMA (ex. In books, film, or online)
A visit to the M-KMA represents a true northern BC experience
We need areas like the M-KMA to help save species
I feel a loss because I have not visited the M-KMA
I feel comforted knowing the M-KMA exists
Someday I would like to visit the M-KMA
I don't have to visit the M-KMA to appreciate its value
I would like to learn more about the M-KMA
The natural resources in the M-KMA should be used to fuel the economy
The M-KMA is an innovative and unique idea
The M-KMA is a place to demonstrate that we can manage public lands sustainably
Government should take an active role in safeguarding the M-KMA

9. Please state the degree to which you agree or disagree with the following statements.

	Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Mostly do not agree	Do not agree
We are approaching the limit of the number of the earth can support					
Despite our special abilities, humans are still subject to the laws of nature					
Plants and animals have as much right as humans to exist					
The balance of nature is strong enough to cope with the impacts of modern industrial nations					
The so-called 'ecological crisis' facing humankind has been greatly exaggerated					

The earth is like a spaceship with very limited room and resources
Humans have the right to modify the natural environment to suit their needs
The balance of nature is very delicate and easily upset
Humans will eventually learn enough about how nature works to be able to control it
Humans are severely abusing the environment

10. Please state how important each of these is as a guiding principle in YOUR life.

	Extremely important	Somewhat important	Neither important no unimportant	Not very important	Not at all important
The right to lead or command					
Control over others, dominance					
Material possessions, money					
Having an impact on people and events					
Correcting injustice, care for the weak					
Working for the welfare of others					
Equal opportunity for all					
Free of war and conflict					
Preserving nature					
Living in harmony with other species					
Unity with nature					
Reducing pollutant emissions					

9.4 Appendix D: Survey Information & Consent Letter

The following survey is being conducted by UNBC NRES graduate student Rachelle Linde and supervised by Dr. Pamela Wright. This research will contribute to the student's master's thesis and will therefore be part of a public document. If you would like further information on the research results, please contact myself or my supervisor.

Graduate Student Researcher:
Rachelle Linde
linde@unbc.ca
250-960-5132

Faculty Supervisor:
Pamela A Wright, Ph.D.
pwright@unbc.ca
250-960-6353

If you have any concerns or complaints about your rights as a research participant and/or your experiences while participating in this study, contact the UNBC Office of Research at 250-960-6735 or by e-mail at reb@unbc.ca.

The purpose of this research is to examine BC residents' perspectives on public land management in the province. This research will benefit land managers by helping them gain a deeper understanding of what the public thinks about management and decision making and will contribute to helping them respond to contemporary challenges. For you, this survey provides an opportunity to express your opinions to decision makers.

Your participation is entirely voluntary and if you choose to participate, you may stop at any time and any questions you may have completed will be discarded. Your responses will be entirely anonymous, and Ipsos will share only your response data with the researcher. None of your personal information will be collected by the researcher. The data will be held for two years by the researcher in a secure location. After two years the data will be destroyed.

By completing the questionnaire, you are consenting to participate in this research.

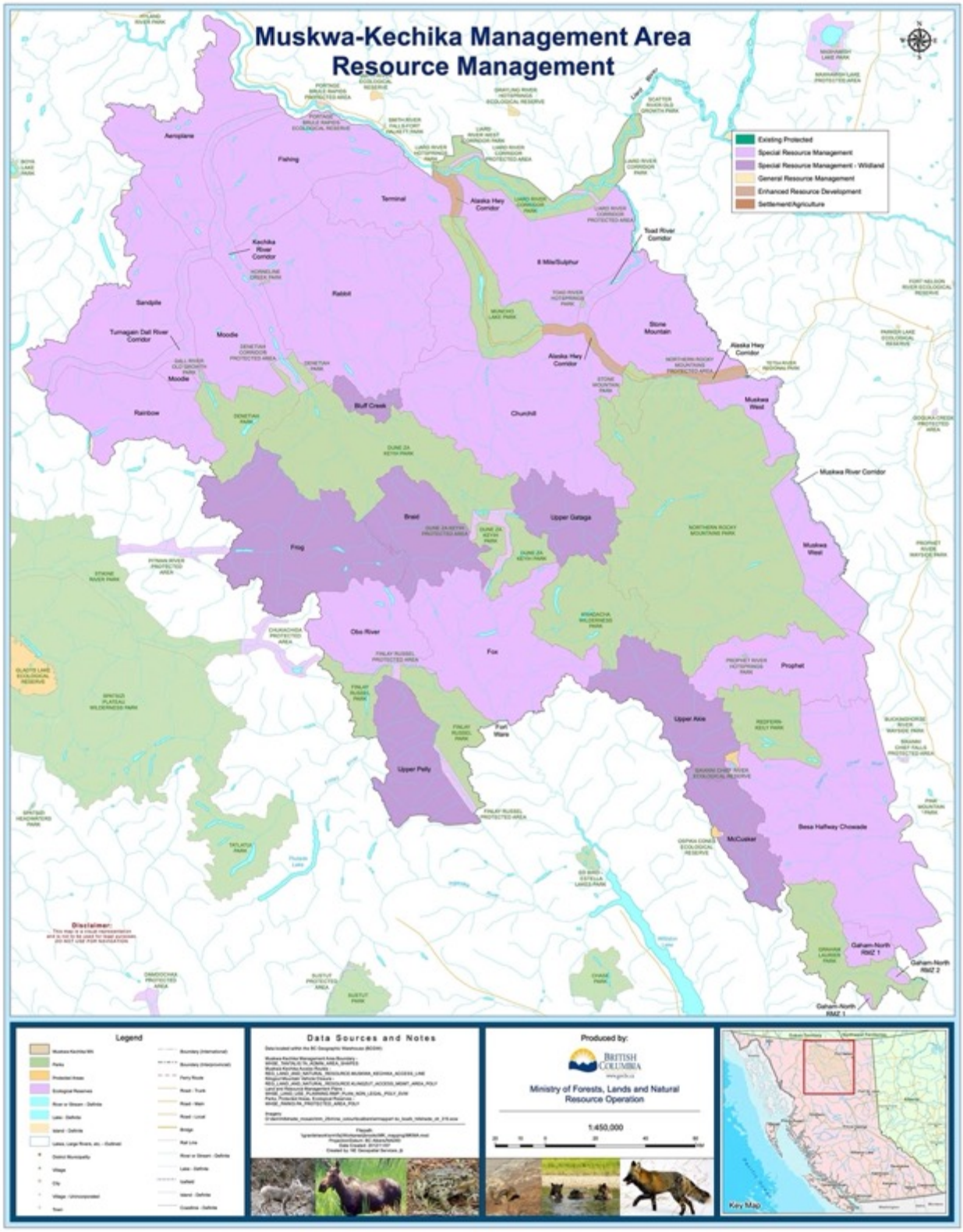
9.5 Appendix E: 2006 Public Awareness Survey Methods

The 2006 survey was used for comparative analysis and thus to facilitate review, those methods are described here. In 2006, n=600 telephone surveys were conducted with a sample of adults in British Columbia living in and around the M-KMA. Overall results were accurate $\pm$ 4%, and respondents reflected the actual population according to the 2001 Census (Ipsos Reid Public Affairs, 2006). An additional sample of n=800 adult British Columbians from outside of northern BC were surveyed with results being accurate $\pm$ 3.5%. Both samples were surveyed using the same questionnaire so that *"the Muskwa-Kechika Advisory Board [was] able to understand how awareness, knowledge, and perceptions vary depending on where respondents live"* (Ipsos Reid Public Affairs, 2006, p. 9). Given the methodological differences between the 2006 phone survey and the 2020 web survey, statistical comparisons could not be made.

9.6 Appendix F: Sociodemographic of Survey Sample (2020 Web Survey)

Characteristic	Proportion of respondents (%)
Gender	
Female	58.7
Male	41.3
Age	
18–34	14.8
35–54	32.2
55+	52.9
Education	
<High school	4.4
High school	17.1
College/some university	48.8
University graduate	29.6
Income	
<$40K	24.1
$40K–$60K	19.7
$60K–<$100K	26.8
$100K+	29.4
Region	
Northern BC (Prince George and further North)	16.8
Vancouver Island	18.6
Metro Vancouver	39.1
Southern Interior (south of Prince George)	25.5

9.7 Appendix G: Map of the Muskwa-Kechika Management Area



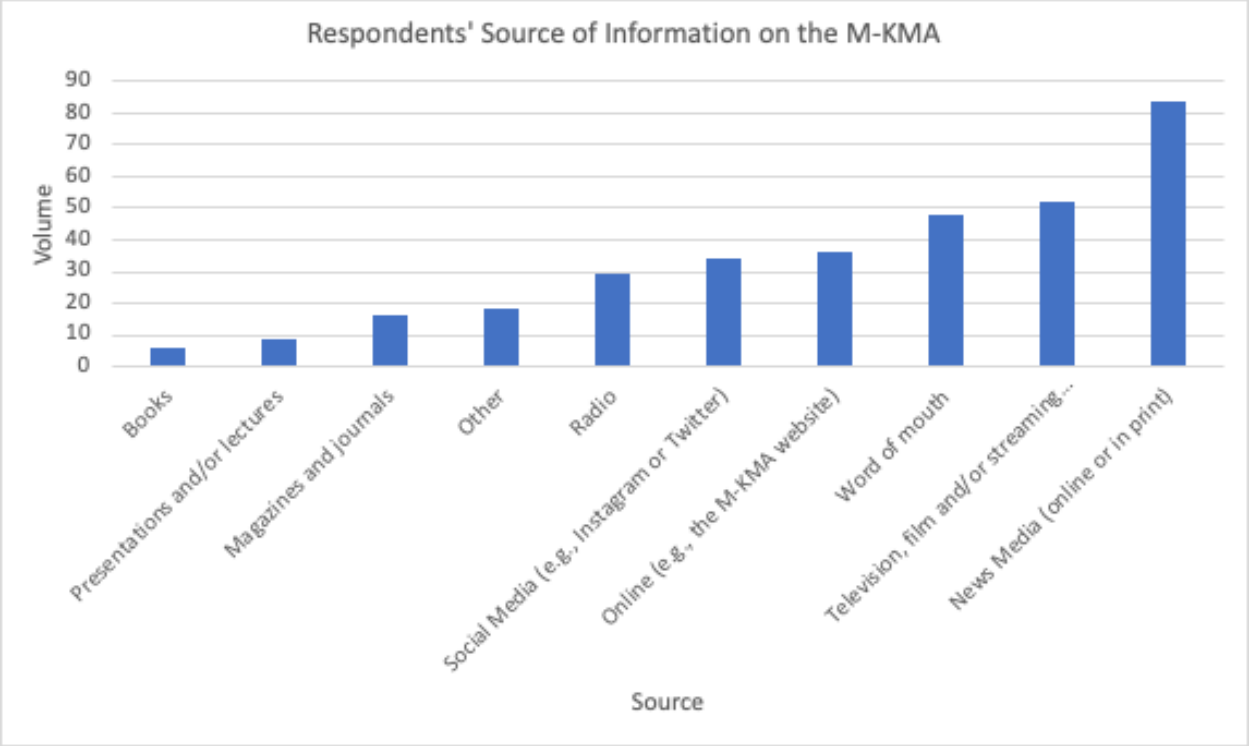
9.8 Appendix H: Publishers and Number and Year of M-KMA-Related Content (1994 – 2020)

Media Outlet	Number of Publications	Year of Publications
Alaska Highway News	10	2004
		2011 x2
		2012
		2015
		2016
		2017
		2019 x 3
BC Magazine	5	2001
		2011
		2013
		2017 x 2
BC Parks	1	2000
Campbell River Mirror	2	2007
		2012
Canadian Broadcasting Company (CBC)	2	2014
		2020
Canadian Geographic	1	2019
Coquitlam Now	1	2011
Daily News Prince Rupert	1	2006
Dawson Creek Daily News	3	2009
		2011
		2019
Destination BC	1	2018
Journal of Mountain Hunting	1	2019
Kamploops Daily News	1	2004
Kaska Dena News	2	2019
NorthWord	3	2012
		2013
		2018
Over the Edge Newspaper	2	1998
		2012
Penticton Western News	1	2007
Round River	1	2009
The Chilliwack Progress	1	2007

Media Outlet	Number of Publications	Year of Publications
The Coast News	1	1994
The Free Press Prince George	4	1997
		1999 x2
		1999
		2000
The Globe and Mail	4	2002
		2011
		2012
		2018
The Narwhal	6	2016
		2019 x 3
		2020 x 2
The Ottawa Citizen	1	2008
The Prince George Citizen	11	1997
		1998
		1999 x 5
		2000
		2001
		2010
		2012
The Tyee	1	2005
The Vancouver Sun	12	1998
		2000 x 2
		2002 x 2
		2004
		2006
		2011
		2012
		2014
		2015
		2017
Times Colonist Victoria	3	1997
		2008
		2019
Toronto Star	1	1997
Tourism Northern Rockies	1	2020
Williams Lake Tribune	3	2008
		2011

Media Outlet	Number of Publications	Year of Publications
Williams Lake Tribune	3	2014
Total	**87**	

9.9 Appendix I: Sources of Information on the M-KMA (1994 – 2020)



9.10 Appendix J: Survey Question Sub-Scale Compositions

Survey Question	Sub-Scale Name	Question Item
Sense of Place		
	Place Identity	Supporting wilderness protection says a lot about who I am
		The M-KMA represents a wilderness that my grandchildren can someday visit
		I want to be involved in safeguarding areas like the M-KMA
		I will seek out content about the M-KMA (ex. In books, film, or online)
		A visit to the M-KMA represents a true northern BC experience
		We need areas like the M-KMA to help save species
	Place Affect	
		I feel a loss because I have not visited the M-KMA
		I feel comforted knowing the M-KMA exists
		Someday I would like to visit the M-KMA
		I don't have to visit the M-KMA to appreciate its value
		I would like to learn more about the M-KMA
	Place Dependence	
		The natural resources in the M-KMA should be used to fuel the economy
		The M-KMA is an innovative and unique idea
		The M-KMA is a place to demonstrate that we can manage public lands sustainably
		Government should take an active role in safeguarding the M-KMA
Value-Belief-Norm Theory		
	Egotistic Values	
		The right to lead or command
		Control over others, dominance
		Material possessions, money
		Having an impact on people and events
	Altruistic Values	
		Correcting injustice, care for the weak
		Working for the welfare of others
		Equal opportunity for all
		Free of war and conflict
	Biospheric Values	
		Preserving nature
		Living in harmony with other species
		Unity with nature
		Reducing pollutant emissions

Survey Question	Sub-Scale Name	Question Item
Contemporary Concerns		

Concern; Issues	
	Climate change
	Inadequate public understanding of the value of the M-KMA
	Growing recreation and tourism use
	The M-KMA is very remote
Concern; Processes	
	Different priorities between resource development and environmentalists
	Increased demand for resource development
	The low government priority given to the M-KMA
	Insufficient funding available for the management of the M-KMA