Understanding Lost Person Behaviour in Australian Wilderness Environments:

Learning from the Experts

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For the degree of Doctor of Philosophy

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James Cook University,

June 2024

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AUSTRALIA

Steven Schwartz and colleagues undertaking cave rescue training Chillagoe, Far North Queensland.

Photograph supplied by Winifred Wiess.

Acknowledgements

A doctoral thesis is not something that can be accomplished without the help and support of others, and I would run out of space before I thanked everyone that has contributed to this thesis. My thanks must however go first and foremost to my family, my supervisory team, and my own wilderness community.

To my immediate family, my partner Karyn and my two beautiful children Zoe and Amy you have walked this journey for me, and I thank you for that. Karyn thank you, you are amazing you have seen my tears of joy and my outbursts of frustration as you have watched me try, fail, regroup, and finally succeed in achieving my life goal of accomplishing a completed doctoral thesis. No thanks can ever be enough for your support throughout this journey. This is your thesis too.

To my children Amy and Zoe, I love you more than anything I ever have or ever will love and I will never get sick of telling you that. You have seen me aim high, work hard, chase my dream, and achieve this important life goal. I hope you take three lessons from watching my journey. Aim high, there is no glass ceiling that you can't break through with a bit of will power. Chase your dreams, life without passion is never as fulfilling as life with passion. Finally, you are never too old to chase your dreams, I don't recommend waiting until your fifty years old but I did and I am glad I have achieved my PhD goal. To my mother Isabell and my father Frank. When it came to parents I won the lottery, I am so lucky to be your son. Thank you for always being there through the ups and downs in my life. I hope you are as proud of me as I am of you.

To my supervisory panel and my academic advisors past and present. My doctoral journey would not have happened without you. Yetta, you understate your role in this thesis. From the day we met I knew that I wanted to work with you and I am grateful for the opportunities and support you gave me in the early part of my thesis, for the many chats we have had along the way and for the networks you have introduced me to. I am especially grateful for the one simple piece of advice you gave me, that PhD stands for perseverance, hard work, and determination. I suggest that anyone who reads this page and is thinking about a doctoral journey of their own take that mantra on board.

To David, Professor King, if I might be formal. Your wisdom is only surpassed by your senses of humility, duty, and service. You have taught me so much as an academic, but you have also taught me a lot about what it means to be a good man. No thanks will ever be enough, I only hope I do you justice when I tell my future colleagues that I studied under your tutelage.

Turning to the topic of this thesis, my own wilderness story has been an integral part of my life and is one that I hope will continue until I reach a ripe old age. My early wilderness journey begins with family hikes, cubs, scouts and dragging friends and family through the NZ bush in places such as

the Waitawheta Valley. To the many people who have been on those journeys with me thank you. My love of the outdoors led me to the NZ Territorial Army Infantry regiment, so to the many soldiers of the NZ Army and the 6 Hauraki regiment I say 'Kia Kaha', 'Onward' and thank you.

Over the last 10 years I have been fortunate to serve in the Far Northern State Emergency Service, predominantly in the search and rescue space. Through this time I have lived, laughed, cried, learned, made good friends and fallen in love with the Australian wilderness. I have also had the privilege of operating at the forefront of a great number of wilderness search and rescue operations throughout this magical part of the world. I am grateful for the opportunities I have had to be involved in these search and rescue operations. I am grateful to the many colleagues I have worked with, to the leaders who have supported me through both my SAR and academic careers, to the wider emergency services members I have worked with and to the people who we have helped through our service. I am even more fortunate to have met some amazing friends who have nicknamed me five by one due to my own lost incident in rainforest in Australia's Torres Straits.

To my broader academic community, thank you. I did not get to the start of my thesis without the expert tutelage of my teachers past. From my humble beginnings at Insoll Avenue primary school, through my bachelor's degree at Waikato Polytechnic and through my post graduate work at Waikato University I was taught by some of the best so thank you. Likewise, to my colleagues who have joined me in this journey thank you for your zoom calls, chats over coffee, conference catch ups and opportunities to compare notes about thesis journeys, supervisors, and life in general you have been a great help when I have needed it.

My final words of thanks must go to the many people who have directly contributed to this thesis. To the members of the broader emergency service community who have shared their own personal tales and insights with me, thank you, you shaped the early formation of this thesis. To the brave people who have had the courage to share their lost wilderness stories with me, this is your story. Telling lost stories can be traumatic and sometimes embarrassing. My hope is that by sharing your stories and your hard earned insights we can achieve several goals. We can show that anyone can get lost, we can show that lost people are not fools, we can shed light on lived lost experiences and we can help to find ways to reduce the frequency, trauma and cost of lost wilderness tourist experiences.

Statement of the Contribution of Others

Whilst a PhD is a very personal endeavour it cannot happen with the necessary academic, financial, and infrastructural support. I therefore wish to formally acknowledge the support of my supervisors, the Australian research training program, and James Cook University. I would also like to acknowledge the following.

Nature of Assistance	Contribution	Names, Titles, and Affiliations
Intellectual Support	Thesis Development Supervision Editorial advice Editing	Dr Yetta Gurtner & Professor David King (Centre for Disaster Studies, College of Science and Engineering, James Cook University).
Financial support	Tuition support Stipend support Conference attendance funding Conference funding	Australian Government Research Training Program Scholarships. Queensland State Emergency Service Volunteer Bursary Scheme. Australian Institute of Emergency Services.
Administrative support	Office facilities Photocopying Library Services Vehicle hire	James Cook University.

Statement of the use of Generative AI

Generative AI technology was not used in the preparation of any part of this thesis.

Acronyms and Abbreviations

SAR	Search and rescue
PSAR	Preventive search and rescue
WiSAR	Wilderness search and rescue
PLB	Personal locator beacon
UN	United Nations
AJEM	Australian Journal of Emergency Management
GPS	Global Positioning System
RFDS	Royal Flying Doctor Services
SES	State Emergency Service
PTSD	Post Traumatic Stress Disorder
PPRR	Prevent, prepare, respond, recover

Abstract

People visit wilderness areas in the pursuit of leisure and pleasure. Most of these wilderness tourists engage in their chosen outdoor activities as planned and leave the wilderness happier, healthier, and recharged. Sometimes however things go wrong and people become lost. These lost wilderness tourist events are traumatic for lost people, their loved ones, and the wider stakeholder community.

Contemporary lost person behaviour research has been statistically driven, has sought to categorise people demographically and has sought to predict likely lost locations. Very little research has been done to understand the specific needs of wilderness tourists or to understand the lived lost tourist experience. This thesis utilises qualitative research techniques to address these knowledge gaps by defining lost wilderness tourists, establishing how lost events are constructed and identifying potential trauma reduction opportunities.

The findings establish that a lost wilderness tourist is 'a person who has entered a wilderness area in pursuit of leisure or pleasure and has become unable to reach a place of safety because they are geographically disorientated, geographically stuck or both disorientated and stuck'. The findings also show that lost wilderness tourist events are constructed by multiple stakeholders over six temporal phases.

These six lost event phases are labelled pre-event, pre wilderness, trigger, lived lost experience, rescue and recovery. The thesis explores each of these phases individually to identify key characteristics and trauma intervention opportunities. The discussion then links the empirical findings to relevant tourism, lost person behaviour and disaster and emergency management literature. It does this by developing two models that might be utilised separately or in conjunction with one another to identify possible lost person trauma prevention opportunities.

The findings, discussion, and developed models aim to extend relevant theoretical knowledge and have the potential to reduce human and non-human costs associated with lost tourist events by reducing the frequency, severity, and trauma of such events. This could benefit wilderness tourists, tourism related industries, the extended search community, and external stakeholders.

List of Publications

Publications

Schwartz, S. (2020). Feature story: Preventative search and rescue. *National Emergency Response, 33*(2), 12-13.

Schwartz, S. (2022a). Get lost! Safeguarding lost tourists in wilderness environments. *Australian Journal of Emergency Management, 37*(2), 63-67. doi:10.47389/37.2.63

Schwartz, S. (2022b). Preventative search and rescue is a joint responsibility. *National Emergency Response, 35*(1), 10-11.

Schwartz, S. (2023). Who is a lost wilderness tourist? *Australian Journal of Emergency Management, 38*(3), 48-54.

Conference presentations

Schwartz, S. (2021). *Get Lost! Understanding Lost Tourists in Australian Terrestrial Wilderness Environments*. Paper presented at the Disaster and Emergency Management Conference, Gold Coast, Queensland.

Schwartz, S. (2022c). *Preventive Search and Rescue: Learning from the experts*. Paper presented at the Disaster and Emergency Management Conference, Gold Coast, Queensland.

Schwartz, S. (2024). *Analytical Tools for Lost Person Prevention and Trauma Reduction.* Paper presented at the Disaster and Emergency Management Conference, Gold Coast, Queensland.

Table of Contents

List of Tables

List of Figures

List of Plates

CHAPTER ONE INTRODUCTION

Background

Wilderness spaces are natural environments that have not been significantly modified by human activity and that convey the idea of undisturbed biophysical areas (Boller, Hunziker, Conedera, Elsasser, & Krebs, 2010). Land based wilderness spaces occur in all climates and cover a wide range of terrains including tropical and sub tropical rainforests, alpine regions, arid desert environments and savannahs (AMSA, 2019). Tourists visit these wilderness spaces in pursuit of leisure and adventure (Boller et al., 2010; Boore & Bock, 2013). The benefits of wilderness recreation are well documented. The risk of getting lost in them are also well documented and the consequences of being lost can be extreme.

Lost Wilderness Events

Lost wilderness events occur when wilderness users become disoriented and unable to return to places of safe refuge or are considered to be in this predicament by others. These events occur regularly throughout Australia (Whitehead, 2015) and around the world (Boore & Bock, 2013; Scott & Scott, 2008). Each year in Australia over 2000 lost people are rescued by search and rescue agents and agencies (Whitehead, 2015). Whitehead (2015) suggests that returning people to places of safety through effective search and rescue channels may represent an annual savings of around $10 billion to the Australian economy. Anecdotal evidence also suggests that there may be many more unreported lost person incidents that did not engage the services of search and rescue agents.

Lost Wilderness Tourists

Tourism is an interactive process that involves various phenomena and relationships that arise from the interactions of tourists, suppliers, governments, and communities (Gurtner, 2014). The demand for wilderness tourism is growing (Boller et al., 2010) but tourists may be uniquely vulnerable in the wilderness due to their lack of familiarity with the environment, their behaviour, their attitudes, and because of barriers to effective communication (Faulkner, 2001; Gurtner, 2014; Jeuring & Becken, 2013).

When lost wilderness events occur they affect multiple stakeholder groups. Lost tourists are impacted by the trauma of their experiences. Search communities are impacted by the financial and human costs associated with search and rescue events. Other stakeholders, including those from the tourism sector, can experience trauma, negative publicity and lost revenue associated with lost tourist

events. There is some research to suggest that these interactions occur before (Boore & Bock, 2013; Pearce et al., 2019), during (AMSA, 2019) and after (Zibulewsky, 2001) lost person events.

Search and Rescue Theory

Lost person events occur in phases (AMSA, 2019). Most search and rescue research however, is searcher centric and is focused on searching for and recovering lost parties. This has led to a body of literature that emphasises categorising lost people and focuses on location probability. This is useful but it offers limited contribution from the lost person voice.

Taxonomies

Within the lost person literature there have been some attempts to classify or group the types of people who go missing based on their unique characteristics and vulnerabilities. Popular taxonomies such as those of Koester (2008) and AMSA (2021) do not address the uniqueness of lost wilderness tourists. Furthermore, lost person research has concentrated on the processes of searching for, locating, and rescuing lost people. Little work has been done to understand the holistic lost person event. One notable exception to the search and rescue action phase focus is the small body of work that explores preventive search and rescue (Boore & Bock, 2013; Pearce et al., 2019). Preventive search and rescue (PSAR) refers to attempts to reduce the frequency of lost person events and to reduce the impact of the lost person events that do happen. This has been identified as an underdeveloped research field that could address this gap (Boore & Bock, 2013; Spano, Seymer, Crane, & Auerbach, 2019).

A thorough search of the available literature indicates that there have been few attempts to study either the holistic lost person experience or preventive search and rescue (PSAR) opportunities from pre-event to recovery. Furthermore, there have been few attempts to incorporate the voice of the lost person in lost person literature. This presents an opportunity for research to extend the literature to include the lost person's voice and to extend search theory beyond the action phases. It also presents an opportunity to develop a holistic understanding of the lost person experience from pre-event to post event recovery. One way to approach this task might be to explore lost wilderness tourist behaviour through the lenses of popular tourism crisis and disaster management tools.

Disasters and Crisis Tools

Lost tourist events may be conceptualised as crises or disasters to lost tourists, to search communities and to external stakeholders depending on levels of involvement, interpretation, impact,

definition, and lens. Conceptualising lost tourist events as crises or disasters might enable the use of tools such as Faulkner's (2001) tourism disaster framework, the prevention, preparedness, response and recovery (PPRR) model (Rogers, 2011) and Boon et al's adaptation (2012) of Bronfenbrenner's bioecological model to analyse and interpret lost tourist events. The aforementioned tools are all well-established tools for analysing and interpreting events including tourism disasters, floods, virus outbreaks, tsunamis and terror events. Such tools might also provide useful start points for interpreting lost tourist events, identifying the phases of these events, and identifying intervention opportunities.

Disasters, Crisis, and Lost Tourists Events

The terminology surrounding crisis, disaster, and tourism disaster is unsettled. Typically though a tourism crisis is conceptualised as an unexpected event, affecting travellers' confidence in destinations, negatively affecting destination reputation and appeal, threatening or interfering with the ability to continue operating normally and ultimately leading to the reduction in tourist arrivals and expenditure. (Gurtner, 2014).

Conceptualising lost tourist events as tourism disasters or crises infers that these lost tourist events consist of pre-event, during event and post event phases. It also infers that such events can cause harm, that they can result from the interactions of tourists, other stakeholders, and the environments. This conceptualisation also infers that lost events can damage the appeal of wilderness destinations and that they have the potential to reduce tourist numbers and expenditure in wilderness destinations. This has implications for lost tourists, search communities and other stakeholders within the wilderness tourism industry.

Regardless of whether or not lost person events actually qualify as disasters they may be similar enough to share common analytical tools because crisis and disaster events have been shown to consist of multiple phases and involve multiple stakeholders over extended temporal boundaries (Boon et al., 2012; Cronstedt, 2002; Faulkner, 2001). This review therefore suggests that disaster and crisis management tools might also be useful for interpreting lost tourist events as they progress from pre wilderness experiences to post event recovery. Such an application might present insights into how to deconstruct lost events into phases and how to identify potential community intervention and PSAR opportunities throughout the various phases. Understanding the changing nature of the lost event phases might then help to identify intervention opportunities to reduce or minimise the impact of lost tourist events.

Research Direction

Preventive search and rescue (PSAR) has been identified as an important and effective but understudied phenomena (Boore & Bock, 2013; Kortenkamp et al., 2017; Pearce et al., 2019; Spano et al., 2019). Understanding the phases and the interactions between lost tourists, environments, stakeholders, and communities before, during and after individual lost person experiences may help identify preventive search and rescue (PSAR) opportunities throughout the holistic lost tourist experience.

Implementing effective tourist centric PSAR strategies has the potential to reduce the incidences of lost tourist events and minimise the associated trauma. The aim of this research is to define lost wilderness tourists and to explore the interaction between lost tourists, the extended search community, and other stakeholders throughout the entire lost experience in order to better understand the lost wilderness tourist experience and identify possible PSAR intervention opportunities.

Outcomes

The thesis is presented in three parts. Part one introduces the topic and the informing literature streams. Part two deconstructs the lived lost experiences of people who have been lost wilderness tourists. Part three develops the findings, discusses their implications and proposes analytical models that are both grounded in literature and empirical research.

Key outcomes include an empirically backed definition of lost wilderness tourist, a phase based understanding of the lived experience of lost wilderness tourists and interpretive PSAR models. At the time of publishing this thesis the results of the study had been disseminated through peer reviewed journal publications (Schwartz, 2022a, 2023) and conference presentations (Schwartz, 2021, 2022c). Non-academic channels include public lectures and in house SES lectures as well as non peer reviewed Journals in the Australian National Emergency Response Journal (Schwartz, 2020, 2022b). By way of recognition the Schwartz (2022) article received the Australian Institute of Emergency Services' golden pen award for best article of the year.

A Note on Word Length

This thesis has a long wordcount. The long wordcount has two contributors. First and foremost, this is a qualitative research thesis. Raw data consists of recorded interviews with the participants who were brave enough to share the stories of their own lived lost experiences. This data is presented throughout the thesis as verbatim quotes. The use of these verbatim quotes allows readers to enter the participants lived worlds and adds a richness that would otherwise not be possible to achieve.

A second contributor to the word length is the use of appendices at the end of the thesis. These appendices serve a variety of functions. They allow the interested reader to deep dive into the data collection tools, definitions, ontologies and epistemology that inform the thesis. The appendix section also provides the reader with a sample tool that could be used by future PSAR practitioners.

A Note on the Use of Informal Language

This thesis relies on raw, honest and authentic first person accounts of people who have been lost in Australian wilderness settings. Vignettes of the interview transcripts are presented throughout the thesis as verbatim quotes. These verbatim quotes contain several profanities. The quotes and the profanities are presented exactly as they were recorded to capture the essence of lived experiences and make a meaningful contribution to the authenticity of the thesis.

CHAPTER TWO LITERATURE REVIEW

There has been limited lost person work that extends beyond the action phases of search and rescue. Based on the available literature it appears that There is little understanding of either the lost wilderness tourist, the lost persons understanding of lost events or of the holistic lost wilderness experience from pre to post event recovery. This thesis suggests that lost tourist events might be understood as a series of linked phases from pre-event to post event. The thesis also suggests that understanding these phases and the environmental, community and other stakeholder interactions that occur throughout the phases provides valuable insights into the lived experiences of lost wilderness tourists.

This literature review seeks to explore the interaction between lost tourists, natural environments, and other stakeholders throughout the entire lost experience from pre-event to post event with the objective of clarifying how best to define lost tourists, identify lost tourist event phases and identify potential PSAR opportunities. This will benefit, wilderness tourists, loved ones, search communities, tourism groups, destination brand managers and those with a general interest in lost people, tourism, and crisis management.

It does this by developing key terms, establishing the possible phases of lost person events, and developing an understanding of the communities that tourists might interact with through each phase. In doing this the review addresses calls to develop the voice of lost people in lost person literature, to develop the voice of tourists in tourism literature and to extend search literature beyond the action phases. The findings develop opportunities to further understand lost tourist events and suggest empirical research directions into how tourists, search communities and other stakeholders might be able to intervene to minimise the occurrences, costs and consequences associated with lost wilderness tourist events.

This review suggests that it may be possible to extend preventive search and rescue (PSAR) theory through a combination of search theory, lost person behaviour theory, tourism theory disaster management theory and community theory through the lenses of contemporary disaster models and through the voices of lost people.

The review begins by defining the WiSAR environment, defining lost person events, defining tourists, defining touristic behaviour, and defining lost tourist events. It then establishes that lost wilderness tourist events have many similarities with natural disasters and crisis events. Part three of the review suggests that disaster management tools such as Faulkners (2001) tourism disaster management framework, the widely accepted PPRR model (2002) and Boon et al.s' (2012) adaptation of Bronfenbrenner's bioecological model might be good tools to interpret lost person experiences. Part four of the review examines who might interact with lost tourists before, during and after lost

tourist events, how these interactions might occur and what community intervention opportunities might exist. The review concludes by developing the agenda that has guided this research project as it has sought to define lost wilderness tourists, extend lost person behaviour theory, extend tourism disaster theory, develop an interpretive framework and to identify PSAR opportunities to reduce both the frequency and trauma associated with lost wilderness tourist events.

Theory developments in these areas have the potential to lead to policy changes and PSAR intervention opportunities to reduce or minimise the impact of WiSAR events and their associated costs and traumas. This might help better inform wilderness tourists, search communities and other interested stakeholders.

Contributing Literature

This review draws on literature from a wide range of disciplines including tourism, lost person theory, search theory, consumer behaviour and disaster management. This multi discipline approach is typical of tourism disaster studies. Literature searches were conducted of major academic databases using key words and terms such as 'lost person', 'search and rescue', 'preventive search and rescue', 'tourism', 'disaster', 'crisis', 'community' and 'disaster management framework'. Initial searching yielded around 500 results. Articles were imported into an endnote database and screened for relevance. After screening roughly 300 articles were kept and around 70 of these have informed this review.

The articles that inform the review of literature have been selected for their relevance to the research aim of defining lost wilderness tourists, interpreting lost tourist events and, exploring the interaction between lost tourists, the wilderness environment and other stakeholders throughout the lost person experience. Articles were also selected on their ability to inform opportunities for community PSAR intervention opportunities and to investigate the utility of existing frameworks as a means of developing a holistic approach to understanding lost person events.

Themes

Lost People

Dudchenko (2010, p. 4) refers to becoming lost as "being unable to find one's way". Hill (1998) confirms the geographic elements, the inability to reorientate and the psychological component. Syrotuck and Syrotuck (2000) and Dudchenko (2010) also emphasis the geographic disorientation and inability to return to safety. These descriptions demonstrate that there are physical and non-physical aspects to being lost.

Physical aspects to being lost involve geographic disorientation, inability to reorientate, inability to return to a point of safety or a combination of all three (Dudchenko, 2010; Hill, 1998, 2013; Syrotuck & Syrotuck, 2000). Hill (1998) and Dudchenko (2010) also identify that being lost has a psychological component. The psychological aspects of being lost are discussed explicitly and implicitly throughout this review. Neurology is outside of the scope of this review. This review therefore refers to lost people as people who are geographically disoriented, considered missing by others or both.

The way people become lost has been conceptualised in two different ways. Hill (1998, 2013) states that wayfinding is constant and dynamic and that people become lost when they fail to stay found. In contrast Syrotuck and Syrotuck (2000) claim that people go missing by disappearing from known locations, by going missing en route or by becoming disorientated after entering wilderness areas. The difference between these perspectives raises the question of whether becoming lost is a systemic failure or a distinct event. It is likely that wilderness tourists experience both phenomena.

Lost Person Events

Lost person events may be triggered by, geographic disorientation, misunderstandings, psychological issues, not wanting to return to a place of safe refuge, injury, incapacitation or death (Hill, 1998). Understanding how and why people become lost can provide clues to their whereabouts and their likely lost person behaviour (AMSA, 2019; Koester, 2008; Syrotuck & Syrotuck, 2000).

In Australia there are four categories of lost person events (AMSA, 2019; Whitehead, 2015). These are maritime events (MarSAR), land-based events (LandSAR), aviation-based events and incidents involving military agents. This review is restricted to LandSAR events. It is however worthy to note that LandSAR events are occasionally triggered by maritime (MarSAR) and aviation (AvSAR) incidents.

Search Events

Search events are triggered when search agencies receive notification of lost person events (Boore & Bock, 2013; Harrington, Brown, Pinchin, & Sharples, 2018; Heggie & Amundson, 2009; Phillips et al., 2014; Silk, Lenton, Savage, & Aisbett, 2018). LandSAR events have many different triggers including; hostile acts (Malone, 2004), disaster events (Bogue, 2016), industrial accidents (Altinoz & Ozmen, 2015), psychological issues (Bantry White & Montgomery, 2015) and misadventure (Boore & Bock, 2013; Heggie & Heggie, 2012; Hung & Townes, 2007; Scott & Scott, 2008). When these events happen they invoke a predetermined search response called a general land search (AMSA, 2019). Such search responses are organised in accordance with the knowledge, skills, and abilities of

search commanders and in accordance with their understanding of search theory best practice (Lin & Goodrich, 2010).

Wilderness Search and Rescue (WiSAR) Events

Wilderness search and rescue operations involve finding and providing assistance to people who are lost or injured in wilderness environments (Goodrich et al., 2008). These events can occur in all types of remote environments including rainforests, mountains, outback deserts, lakes, rivers, or other remote settings (AMSA, 2019; Whitehead, 2015). These events are commonly referred to as WiSAR events (Lin & Goodrich, 2010; Pearce et al., 2019). Most WiSAR research has been restricted to the action phases of searching for, locating, and rescuing lost people (e.g. Koester, 2008; Sava, Twardy, Koester, & Sonwalkar, 2016; Twardy, Koester, & Gatt, 2006). This has led to a searcher centric understanding of WiSAR events. An examination of the available literature has shown little evidence of the lost persons voice in WiSAR literature.

Search and Rescue Theory

Often the terms 'search' and 'rescue' are used simultaneously (e.g. Scott & Scott, 2008) even though they are two different things. Search theory refers to the theory of locating a lost party. Rescue is the action of recovering lost people and returning them to places of safety. Academic interest in search theory dates back as far as the early 1900s ("The Circular Track of Lost Persons," 1912). Current literature can be divided into action phase theory and preventive search and rescue (PSAR) theory.

Overall, search theory is currently underdeveloped and in need of growth (Lin & Goodrich, 2010). The current body of lost person literature is narrow and lacks the experiential voice of lost people. The extant literature focuses mainly on search action phases, is predominantly quantitative in nature and is focused on where lost people might be expected to be found (e.g.Koester, 2008; Sava et al., 2016; Twardy et al., 2006) and not on how they may have become lost, on their individual lived lost experiences or on how they recovered.

Lost Person Behaviour

There have been many attempts to categorise lost people based on demographics, psychographics, and behavioural patterns (AMSA, 2019; Koester, 2008; Sava et al., 2016). These lost person categories are inconsistent. Koester (2008) identifies 41 lost person categories. AMSA (2019) identifies 13 lost person categories. Twardy et al. (2014) identify ten categories. These taxonomic

inconsistencies present a challenge for anyone attempting to categorise and study one specific group of lost people.

Lost person behaviour refers to the behavioural and psychological actions that people undertake when they discover they are lost (Heggie & Amundson, 2009; Hill, 1998; Koester, 2008; Lin & Goodrich, 2010; Sava et al., 2016). These actions may be instinctive, panicked or well thought out (Hill, 1998; Koester, 2008; Syrotuck & Syrotuck, 2000; Twardy et al., 2006). Understanding lost person behaviour allows searchers to categorise lost people, predict likely locations and develop lost person profiles (AMSA, 2019; Koester, 2008; Twardy et al., 2006).

Locating Lost People

Effective searches aim to find lost parties quickly and efficiently with minimum cost and minimum risk exposure to lost parties, searchers, and search assets (Doherty, Guo, Doke, & Ferguson, 2014; Lin & Goodrich, 2010). In WiSAR incidents the incident commander typically creates a search plan based on the most likely location of the missing person (Lin & Goodrich, 2010). Likely locations are derived from lost person behaviour profiles, from geofencing, from mathematical probability models, or from a combination of all three.

Geofencing uses boundaries such as ridgelines, riverbeds, and fences to identify areas that may contain lost people and stop their progress (Doherty et al., 2014). Probability modelling identifies areas of high probability where lost people might be. Bayesian probability models have been developed based on geographical features (Lin & Goodrich, 2010), lost person behaviour (Twardy et al., 2006) and combined geographical and lost person behaviour data (Sava et al., 2016). There has been an ongoing and sustained effort to develop and improve the accuracy of these models as can be seen through the work of Koester (2008), Lin and Goodrich (2010), Sava et al. (2016) and Twardy et al. (2006).

Preventive Search and Rescue (PSAR)

Existing lost person literature mostly focuses on the emergency phases of search and rescue (see Abi-Zeid & Frost, 2005; Al-Kaff, Gómez-Silva, Moreno, de la Escalera, & Armingol, 2019; Hill, 2012; Koester, 2008; Syrotuck & Syrotuck, 2000). Preventive search and rescue however refers to attempts to prevent lost person events from occurring.

There has been some work in this preventive search and rescue and this is an identified growth area for future research (Boore & Bock, 2013; Kortenkamp, Moore, Sheridan & Ahrens, 2017; Pearce et al., 2019; Spano et al., 2019). Boore and Bock (2013) studied historical missing person data to identify where and when people are likely to go missing in Yosemite National Park. Pearce et al. (2019)

conducted en route interviews to understand behaviour patterns that might lead to injury or lost person events. Kortenkamp et al (2017) examined literature to look for possible PSAR opportunities. Kortenkamp et al (2017) identified that key areas for lost person prevention are individuals, groups and relationships, agents, institutions, sociocultural practices, and equipment. Boore and Bock (2013) identified education to assist in preventing lost person events. E.A. Pearce et al (2019) identify that education could also assist in injury prevention. All the aforementioned PSAR researchers have called for more work in this area.

Tourists

Lost tourists might be especially vulnerable due to lack of familiarity with the environment, their assumed behaviour, their attitudes, and various barriers to effective communication (Faulkner, 2001; Gurtner, 2014; Jeuring & Becken, 2013). Furthermore, they likely have different motives to other types of lost people (Cohen, 1974). The uniqueness of tourists has however been excluded from the taxonomies that have been produced by AMSA (2019), (Koester, 2008) and Twardy et al. (2006). Engaging with tourists before, during and after lost person experiences therefore has the potential to reduce and minimise the impact of these experiences (Boore & Bock, 2013; Malcolm, Hannah, & Pearce, 2014; Spano et al., 2019).

Defining Tourists

There have been several attempts to define tourists. These definitions may be tight or fuzzy (Cohen, 1974; Leiper, 1979). They typically identify that tourism involves a temporary journey, an unfamiliar environment, and some form of touristic behaviour. Some definitions also differentiate between true tourists and people engaging in touristic behaviours. In 1963 the United Nations (UN) defined tourists as temporary visitors staying for at least 24 hours. The UN also distinguished between tourists and excursionists (in Leiper, 1979). Further attempts to define tourists include Cohens' (1974) attempt to answer to the question "who is a tourist", Leipers' (1979) framework of tourism definitions, McCabes' (2005) updated answer to the question "who is a tourist" and Yu et al.'s (2012) work to have people self-categorise as tourists or not tourists[1].

Tourism literature therefore establishes that; there are many different types of travellers, that travellers may be tourists or may engage in touristic behaviours and that tourist behaviours involve travel, time, and touristic intent. There is discourse between theorists who believe definitions are strict and those who support fuzzy boundaries. There is also discourse between theorists who believe

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[1] See Appendix A for more comprehensive analysis of tourist definitions.

that definitions should remain in the realms of academia and those who support the self-defining voice of the tourist. Thus, a working definition of tourist might be:

A person making a discretionary trip away from their normal place of residence for longer than 24 hours, engaging in touristic behaviours and being identified by themselves or others as a tourist.

Defining Lost Tourists

A definition for lost tourist can be developed by blending tourism literature with lost person literature. Tourism literature has proffered different traveller classifications based on factors such as length of travel, distance travelled, purpose of activity and self-identification (Cohen, 1974; Leiper, 1979; McCabe, 2005; P. L. Pearce, 1982; Yu et al., 2012). This literature suggests that tourists are travellers, engaged in touristic behaviour for leisure or pleasure, outside of their usual environment, on their own free will and self-identifying as tourists. This includes domestic tourists, international tourists, overnight tourists, excursionists, and day trippers.

Similarly, lost people literature has classified lost people by psychographics, demographics, behavioural characteristics and role identification (AMSA, 2019; Koester, 2008; Twardy et al., 2006). From the typologies offered by Twardy et al. (2006), AMSA (2019) and Koester (2008) lost people can be broadly categorised as children, despondent people, recreationalists and people with intellectual or psychological conditions. From these categories lost recreationalists are the most likely to also be lost tourists.

Not all lost recreationalists will qualify as lost tourists. According to Leiper (1979) tourists must also be on a journey, outside of their usual environment, for a period of 24 hours or more and acting with a touristic intent. Yu et al. (2012) and McCabe (2005) also suggest that they must also either self-identify or be easily peer-identified as a lost tourist. Therefore, a working definition of a lost tourist in the wilderness might be:

'A person making a discretionary trip away from their normal place of residence for longer than 24 hours, engaging in touristic behaviours in a wilderness environment and being identified by themselves or others as a tourist, who is geographically disorientated and/or unable to return to a place of safe refuge or considered to be so by others.'[2]

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[2] See Schwartz (2023) for a more in-depth discussion on who a lost tourist is.

Disasters, Crises and Related Terms

Disasters can be human made, environmental, naturally occurring or technologically induced (Ritchie, 2008; Zibulewsky, 2001). They involve risks, hazards, and social construction. They have elements of material damage to people or property (Oliver-Smith, 1996) and they occur at the interface of society, technology, and environment (Oliver-Smith, 1996).

The United Nations defines a disaster as "a serious disruption of the functioning of a community or society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope with using its own resources." (Mimura, 2014, p167).

Oliver-Smith (1996, p. 303) defines a disaster as "A process / event involving the combination of a potentially destructive agent(s) from the natural and/or technological environment and a population in a socially and technologically produced condition of vulnerability". Zibulewsky (2001, p. 144) offers the definition of "when the destructive effects of natural or human made forces overwhelm the ability of a given area or community…" and the World Health Organisation (WHO) definition is "a sudden ecological phenomenon of sufficient magnitude to require external assistance".

This range of definitions demonstrates that there is no universally accepted definition of disaster but that there are several common themes and terms across multiple disciplines. Common themes include unpredictability, significant occurrence, disruption, loss, and an inability to cope. Common terms include hazard, risk, and crisis. Hazards are potential threats that have the potential to trigger an incident (Oliver-Smith, 1996; Ritchie, 2008). Risk is the likelihood that a hazard will trigger a disaster event (Laws & Prideaux, 2005; Oliver-Smith, 1996; Ritchie, 2008).

Crisis is a term that typically refers to an event that is like a disaster but is not actually a disaster. Distinctions between disasters and crises include cause and scale but this distinction has fuzzy boundaries. Laws and Prideaux (2005) propose that the difference between a crisis and a disaster is scale of impact. Ritchie (2008) and Faulkner (2001) suggest that crises refers to events where the cause is at least partially self-inflicted whereas a disaster event is entirely unpredictable. Ritchie (2008) also recognises the distinction between human made and natural events and claims that only natural events can be disasters whereas human made events are crises with respect to the tourism sector.

Lost Tourist Events and Disaster Management Tools

A lost person event may be conceived of as an emergency management event, a disaster or a crisis[3]. When lost events involve tourists it might therefore be reasonable to use tourism disaster management tools to interpret those events.

Tourism disaster management is informed through multiple disciplines (Faulkner, 2001; Ritchie, 2004). Within the tourism literature Faulkner (2001, p. 136) refers to tourism disasters as "situations where an enterprise (or collection of enterprises in the case of a tourist destination) is confronted with sudden and unpredictable catastrophic changes over which it has little control". Laws and Prideaux (2005, p. 6) further define a tourism disaster as "unpredictable catastrophic change that can normally only be responded to after the event, either by deploying contingency plans already in place or through reactive response".

Lost person events are not necessarily disasters, but natural disasters and lost person events have similar problems and characteristics. These similarities present an opportunity to examine lost person events through the tourism disaster lens. They might also justify the use of disaster management tools to analyse and interpret lost tourist events. Common problems include unsettled taxonomies, the need to increase the voice of experiencing individuals and the need to extend theory beyond the action phases. Common characteristics include that they are significant events that are unpredictable, that they occur at the intersection of people and the environment, that they can be triggered through human made or natural events, that they need outside assistance and that they are serious threats to people. Furthermore, they can be lethal, they require external assistance, they can cause damage to tourism destinations, and they happen in phases.

Event Phases

Disasters and lost person events both have three main events phases. These are pre-event, action, and post event. The pre-event phase is recognised in both disaster and lost person literature as the phase where the greatest prevention opportunities exist (Boore & Bock, 2013; Cronstedt, 2002; Faulkner, 2001; Kortenkamp et al., 2017; Pearce et al., 2019; Ritchie, 2008). The action phase is when people are experiencing disasters or lost person events. There has been a strong focus on this action phase in the literature (AMSA, 2019; Koester, 2008; Syrotuck & Syrotuck, 2000; Twardy et al., 2006). The post event phase occurs after the immediate impact of the events. This post event phase has the potential to be a valuable feedback provider.

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[3] See appendix C for a discussion on the similarities between lost events, disasters and crisis and the connection to preventive search and rescue.

The action phase focus has arguably come at the expense of theory development in the other phases. Lost person, disaster and tourism disaster literature streams all call for more work in prevention (Boore & Bock, 2013; Faulkner, 2001; Ritchie, 2008; Twardy et al., 2006) and there are specific calls in lost person literature for more preventive search and rescue (PSAR) work. Based on the available literature it appears however that there are no well recognised attempts to understand lost tourist incidents from pre-event to post event. Faulkners' (2001) tourism disaster management framework has proven itself to be a useful tool in various tourism related disasters and may also provide useful insights into the lost tourist experience. This tool has a number of similarities with the well-known PPRR (Cronstedt, 2002) model and with Boon et al's (2012) adaptation of Bronfenbrenner's ecological systems theory.

The PPRR Model

The PPRR model breaks events into the four phases of prevention, preparation, response and recovery (Cronstedt, 2002). This model was developed by the U.S. State Governors Association in 1978. Since its inception the PPRR model has been used extensively throughout Australia as a tool to interpret, prepare for, respond to and recover from disaster, crises and emergency events (Cronstedt, 2002; McArthur & Holley, 2022; Rogers, 2011). This same tool might therefore provide a useful starting point for deconstructing lost wilderness tourist events into before, during and after phases.

Faulkner's Tourism Disaster Framework

Faulkner's (2001) framework is a theoretical and conceptual framework for tourism disaster analysis that draws from a broad stream of disaster management literature. The framework extends beyond the PPRR model. It identifies six disaster management phases. These phases are; pre-event, prodromal, emergency, intermediate, long term and resolution. Faulkner (2001) offers disaster management response elements and management strategies for each of these phases. The framework has been widely popularised by researchers working in tourism disaster management[4].

The suitability of the framework for long term events has been questioned (Miller & Ritchie, 2003) and some attempts have been made to develop the model (e.g. Ritchie, 2004). The model has however been tested in disaster and crisis situations including the Katherine Floods (Faulkner & Vikulov, 2001; Gurtner, 2014), Britain's foot and mouth outbreak (Miller & Ritchie, 2003) and Asia's Bali bombing and the 2004 Indian Ocean tsunami (Gurtner, 2014). Through these studies the framework has been shown to be a versatile and useful tool. The framework's suitability for lost person theory development might be found in lenses, similarities, common characteristics, and the multi-phase nature of the events as outlined above.

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[4] This is evidenced by over one thousand citations on the Google Scholar database.

Mapping the Phases

Disasters and lost person events both happen in phases. Mapping lost person phases to Faulkner's (2001) framework could offer insights into the lost tourist experience. Empirical research might allow researchers to explore the utility of the model for developing lost tourist theory. If the model is found to be suitable then this may provide pathways to develop lost person theory and to identify PSAR opportunities. Any such theory would have the advantage of being grounded in an already accepted theoretical framework. Table 1 presents a first attempt at mapping the lost tourist experience to Faulkner's framework.

Table 1

Applying Faulkner's Model to the Lost Wilderness Tourist Experience.

Phase	Summary	Lost Tourist
Phase One: Pre-event	Action can be taken to prevent disasters.	Tourist has not yet entered a wilderness area.
Phase Two: Prodromal	It is apparent that a disaster is imminent.	Tourist has entered or is about to enter a wilderness area.
Phase Three: Emergency	The effect of the disaster is apparent, and action is needed to prevent loss.	Tourist identifies that they are lost or are identified as lost by others.
Phase Four: Intermediate	Short term needs are met, and focus is on returning to normal.	A search has been initiated and the search team has reached the lost tourist.
Phase Five: Long Term (recovery)	Continuation of restoration phase. Self-analysis, healing.	Tourist has been recovered to a place of safety.
Phase Six: Resolution	Routine restored or new and improved state established.	Tourist has recovered both physically and psychologically and has reflected on and learnt from the experience.

- Adapted from Faulkner's (2001) Tourism Disaster Framework.

Bronfenbrenner's Bioecological Model

A supporting tool that might also be useful for understanding lost wilderness tourists' lived experiences is Boon et al's. (2012) adaptation of Bronfenbrenner's bioecological model of human development (Bronfenbrenner & Morris, 2007). Through this adaptation Boon et al (2012) propose that events and community resilience to those events might be understood through a person centric lens. This is depicted visually by Boon et al. (2012) as the model shown in figure 1. This model places the individual at the centre of the event being influenced by an overlapping microsystem, mesosystem, exosystem, and macrosystem. Similarly, it may be possible to conceive a lost wilderness

event as a person centric event that is influenced by an expanding series of such systems occurring across temporal boundaries.

Figure 1

Conceptual Scheme of Bronfenbrenner's Systems and their Interactions (Diagram constructed by authors to illustrate Bronfenbrenner's theory).
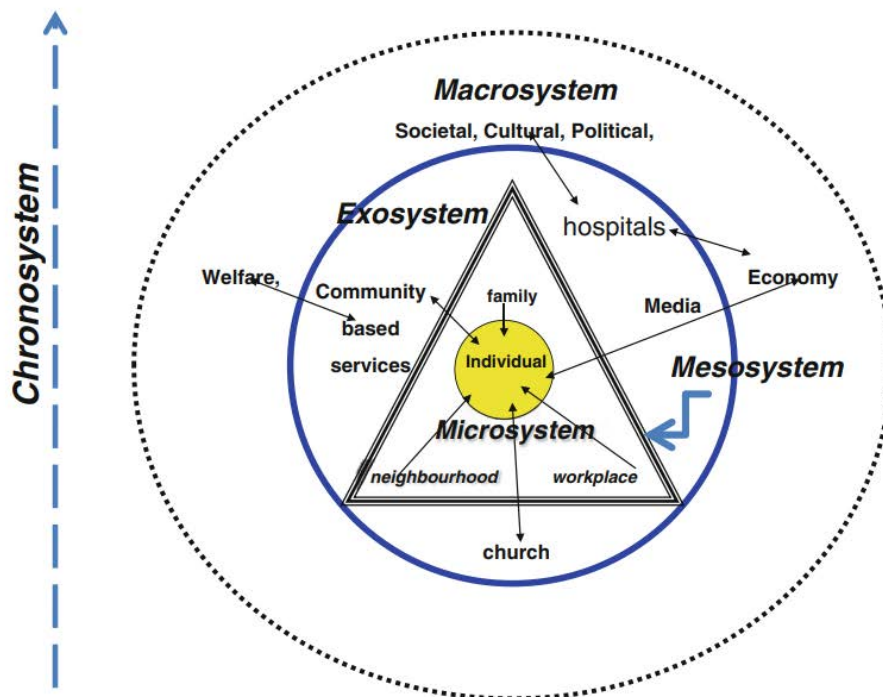
From "Bronfenbrenner's bioecological theory for modelling community resilience to natural disasters", by Boon, H. J., Cottrell, A., King, D., Stevenson, R. B., & Millar, J., 2012, Natural hazards (Dordrecht), 60(2), p 390, Fig. 1, 381-408. doi:10.1007/s11069-011-0021.

Stakeholder Communities

Introduction

Community is a broad term that is used to describe groups of people with common goals who come together for common purposes. These communities can provide a good opportunity to analyse and understand social groups (Barrett, 2015). They can also present a convenient tool to interject in disaster and crisis events, and to work with distressed people (Barrett, 2015; Titz, Cannon, & Krüger,

2018). Developing an understanding of interactions between lost wilderness tourists and the broader stakeholder community might therefore provide opportunities for effective intervention to reduce the frequency and severity of lost tourist experiences.

Communities can and do play several roles in lost tourist experiences. Tourists interact with various stakeholder communities throughout lost person experiences, communities attempt to resolve lost person events and communities are impacted by lost tourist events. The various communities that tourists encounter before, during and after lost tourist events might also offer opportunities for PSAR intervention to reduce or minimise incidences and consequences of lost tourist events.

Defining community therefore provides a useful starting point in understanding how lost tourists connect with communities and their individual members throughout the extended lost person experience. The understanding of the term 'community' utilised in this thesis draws from the work of Barrett (2015), Brint (2001), Greenaway (2018), Oliver-Smith (1996) and Titz, Cannon, & Krüger (2018) as shown in Appendix B 'The Problem with Community".

Risk Reduction and Community Intervention

Communities offer advantages and disadvantages to the people that they affect. Communities can be cultural touchstones around which groups and individuals find structure, meaning and value. Positive effects can come from fraternalism, mutual support, low levels of stratification and informal dispute resolution structures (Brint, 2001). Conversely, communities can also place constraints on personal liberties, enforce conformity, create deviance, and erect cultural boundaries between members and non-members (Brint, 2001; Titz et al., 2018).

Within disaster and crisis management community is often put forward as a useful way to define, describe, and address the needs of groups. Community engagement is frequently involved in disaster management and risk reduction (Bulley, 2013; Kolopack, Parsons, & Lavery, 2015; Titz et al., 2018). This is particularly so where outside agencies have prevention and aid based agendas (Bulley, 2013; Kolopack et al., 2015; Titz et al., 2018). This is because communities offer the opportunity for outside agents to engage in a meaningful manner with people they are trying to help. This also helps community members develop a sense of ownership and legitimacy for outsider interventions (Bulley, 2013; Titz et al., 2018).

Unfortunately, most communities are not necessarily homogeneous nor harmonious. Further, an overly optimistic understanding of communities can create an illusion that is unrealistic and has limited practical use to those undertaking community diagnostic or intervention work (Barrett, 2015; Brint, 2001; Titz et al., 2018). Titz et. al. (2018) suggest that these difficulties may be so great that the

notions of community and community engagement may be of little practical use to those with an interest in disaster risk reduction so an effective community diagnostic must be undertaken before developing intervention strategies.

Communities, Lost Tourist Events and Disaster Management Tools

Community Diagnostic

Identifying communities and community characteristics can start to shape an understanding of how tourists interact with various individuals and stakeholder communities throughout their lost person experiences. This might in turn help to identify potential community based PSAR intervention opportunities.

Effective community intervention requires community identification and appropriate intervention strategies. This is achieved through a community diagnostic. The diagnostic must look for structural and cultural variables (Brint, 2001), recognise and uncover structural complexities, uncover inclusion and exclusion features and develop community intervention strategies that forge strong mutually reinforcing linkages (Barrett, 2015).

The limited work that has been done in PSAR indicates that community diagnostics and community based interventions may be of some value in reducing the frequency and severity of lost wilderness tourist events. Boore and Bock (2013) and Pearce et al. (2019) have identified educational opportunities. Spano et al. (2019) has explored the value of permitting activities. Pearce et al. (209) have sought to understand behaviour patterns that might lead to injury or lost person events. Kortenkamp et al (2017) have examined previous literature and have identified that individuals, groups and relationships, agents, institutions, sociocultural practices, and equipment might all contribute to lost wilderness events. The overwhelming theme in PSAR however is the need for further research. This thesis proposes that such research could take the form of an extended community diagnostic that holistically investigates the entire lost tourist experience from pre-event to resolution and that is framed within already established disaster management tools.

Communities, Lost Tourist Events and Disaster Management

One aim of this review is to explore the interaction between lost tourists, search communities and other stakeholders. Existing tourism and disaster management tools may be helpful in exploring these interactions, establishing how tourists connect with communities throughout lost person experiences and identifying potential PSAR interventions.

Utilising the prevention, preparedness, response and recovery (PPRR) model, Faulkner's framework (2001) and Boon et al's. (2012) model could offer consistency and legitimacy to theory

development and could ground lost tourist experiences within emergency management literature. Consistency might come from applying the well-established frameworks to a new scenario. Legitimacy might come from the widespread acceptance of the frameworks. Grounding lost tourist theory in tourism disaster management literature might also provide opportunities for future development in tourism, tourism disaster, and lost person disciplines.

A first draft of possible connections between communities, lost wilderness tourist events and Faulkner's tourism disaster framework (Faulkner, 2001) is presented in Table 2. This table will be referred to periodically throughout the thesis and is presented more comprehensively in the discussion chapter. Similarly, the PPRR model and Boon et al's (2012) adaptation of Bronfenbrenner's bioecological model will form theoretical touchstones throughout the thesis before being presented comprehensively in the discussion chapter.

Table 2

Mapping Event Related Community Roles to Faulkners (2001) Framework.

Phase	Summary	Role of Community
Phase One: Pre-event	Action can be taken to prevent lost tourist event.	Preventive search and rescue (PSAR). Education and lost person prevention programs.
Phase Two: Prodromal	It is apparent that a lost tourist event is imminent.	Preventing tourists from becoming lost or injured.
Phase Three: Emergency	The effect of the lost tourist event is apparent. Tourist is lost and in need of help. Action is needed to minimise trauma.	Communities can provide search and rescue operations.
Phase Four: Intermediate	A search team has reached the lost tourist. Lost tourists short term needs are met. The focus is on returning to normal.	Communities provide first aid and transport to a place of safety.
Phase Five: Long Term (recovery)	Tourist has been recovered to a place of safety. Restoration phase, healing and learning take place.	Communities can provide health care needs, feedback loops and education advice.
Phase Six: Resolution	Tourist has recovered. Tourist and community routines are restored or new and improved state established.	Communities can reflect upon and learn from the lost tourist experience. This can lead to more effective PSAR methods.

Adapted from Faulkner's (2001) Tourism Disaster Framework.

Conclusions

Every year thousands of people require assistance after becoming lost in wilderness environments. Lost wilderness tourist events involve wilderness environments, lost tourists, search communities and other stakeholders. Each stakeholder group stands to lose from lost tourist events. Each group also has opportunities to reduce the frequency and severity of lost tourist events through PSAR interventions.

Tourists can suffer the physical and psychological trauma of lost tourist events but they can also pre arm themselves with knowledge and skills to reduce and minimise trauma. Search communities can incur financial and non-financial costs associated with lost tourists' events but they may also be able to educate the wider community and implement effective PSAR initiatives. Other stakeholders can be impacted through vicarious trauma but may also be able to educate tourists and implement PSAR initiatives to reduce the frequency and severity number of lost tourist WiSAR events.

The Research Direction

Six topics inform the literature review. These are tourism, lost person behaviour, search and rescue, crises and disasters, tourism disaster management and community. Tourism draws people to engage in recreational wilderness experiences. Lost person behaviour refers to the actions of lost people. Search and rescue refers to locating and recovering lost people. Crisis and disasters have been shown to be similar to lost person experiences. Disaster management literature establishes that crisis and disaster events happen in phases, over time and involve multiple stakeholders. Lastly, the review posits that tourists interact with identifiable communities, search communities and other stakeholders throughout their individual lost tourist experiences.

Three problems that exist in the literature are unsettled taxonomies, the need to develop the experiential voice of lost individuals and the need to develop a holistic understanding of the lost wilderness tourist experience. All these problems could be addressed separately or collectively through research. This review has therefore focused on the need to develop a holistic understanding of lost wilderness tourists experience that draws from the voices of lost wilderness tourists and extends beyond the action phases of search and rescue.

The review has posited that lost person events are similar enough to natural disaster events to be informed through disaster management tools. This is because both natural disasters and lost tourist events occur in phases. Examining how tourists construct lost person experiences through each phase places lost tourists at the centre of lost tourist events. Deconstructing lost tourist experiences through each phase may help map the interactions that tourists have with wilderness environments, search related communities and other stakeholders.

CHAPTER THREE: RESEARCH METHOD

Chapter Introduction

Deconstructing and interpreting the holistic lost tourist experience is a novel research direction that is yet to be explored. As such there is no prescribed a-priori method or methodology to inform this study. There are however precedents that have been set within the informing literature streams of tourism, crisis management, search and rescue, lost person behaviour and preventive search and rescue.

Disaster and crisis management literature has offered phase based frameworks and holistic frameworks such as those posited by Faulkner (2001), Ritchie (2004) and Boon et al. (2012). These frameworks have been applied to investigations such as community resilience (Boon et al., 2012), Britain's 2001 foot and mouth outbreak (Miller & Ritchie, 2003), the 1998 Australia day Floods in Katherine Australia (Faulkner & Vikulov, 2001) and Gurtner's (2014) investigations into the Bali bombing and the Indian Ocean tsunami that both occurred in the early part of this century.

Search and rescue (SAR) literature has been dominated by positivist approaches that have sought to develop taxonomies (e.g. AMSA, 2019; Koester, 2008; Twardy et al., 2006) and mathematical prediction models based on statistical data (Lin & Goodrich, 2010). Some attempts have been made to extrapolate this data and develop an understanding of the behavioural patterns of lost people (e.g. AMSA, 2019; Koester, 2008; Twardy et al., 2006).

Preventive search and rescue (PSAR) studies have likewise maintained a generally positivist trend. Boore and Bock (2013) examined historical statistical data to identify trends in search and rescue incidents in the Yosemite National Park and concluded that educational efforts might help decrease injury and illness in the Yosemite backcountry in the future. Spano et al. (2019) coded two sets of historical SAR data from Yosemite's half dome and undertook comparative statistical analysis to determine what role the issuing of access permits had on SAR related incidents. PSAR studies have also demonstrated the utility of field data collection methods. Pearce et al. (2019) surveyed 617 participants en route to understand behavioural patterns of long-distance hikers and runners to better inform preventive search and rescue rangers' understandings of client needs.

The aforementioned studies demonstrate that the dominant approach to SAR and PSAR research has been to adopt a positivist ontology and to focus on the action phases of locating, rescuing, and recovering lost people. A thorough review of current literature did not identify attempts to study PSAR holistically from pre-event to post event recovery or to study the holistic lost tourist experience through a qualitative research lens. This research therefore seeks to extend knowledge by exploring the lost holistic lost tourist experience. It studies the lost experience through an interpretivist lens using a combination of phenomenological and grounded theory methodologies. It

is frawitmed within the phase based approach suggested by Faulkner (2001) and Ritchie (2004) and the holistic approach of Boon et al. (2012).

Research Methods

The literature review presented in the previous chapter identified that tourists are especially vulnerable in non-familiar environments due to their inherent naivety. The review also identified that there has been insufficient theory development in preventive search and rescue, that little work has been done to interpret the complete lost person experience from pre to post event and that the voice of lost people has been largely overlooked in search and preventive search and rescue (PSAR) literature.

The purpose of this research is therefore to explore the lost wilderness tourist experience from pre-event to post event and to examine the interactions between lost tourists, their companions, their wilderness environments and other stakeholders. The aim of this is to better understand the lived experiences of lost wilderness tourists and to identify ways to reduce event related trauma.

Method Overview

This thesis seeks to answer three questions. It asks who a lost wilderness tourist is, it asks what the lived lost Australian wilderness tourist experience is and it asks what might be done to reduce the likelihood of lost wilderness tourist trauma.

The research questions are addressed through a three-part qualitative research project. The first part seeks to establish a definition for the term 'lost wilderness tourist' based on both theoretical insights and lived experiences. The second part seeks to understand the lived lost experience through the lens of self identified lost wilderness tourists. The third part of the study merges the findings from parts one and two, reconnects them with relevant literature and develops models that might be useful for understanding lost wilderness tourists, interpreting lost events, identifying relevant stakeholders and identifying possible preventive interventions.

Research data consists of interviews and participant supplied secondary data such as photos and maps. Data was collected throughout the latter half of 2021. Data analysis was consistent with generally accepted qualitative coding methods within emergency management. Data management utilised both local storage and cloud-based storage and NVivo qualitative software.

Methodology and Research Design

This research adopts an interpretivist approach[5] as it explores who self identifies as a lost wilderness tourist, how they experience being lost wilderness tourists and how they interact with other stakeholders throughout their lost wilderness tourist events. It seeks to develop a rich multi perspective qualitative understanding of the topic. Method and methodology have been matched to the research objective, the interpretivist approach, the participant groups, and to practical considerations.

Phase one of the study merges empirical data with relevant literature to define who a lost wilderness tourist is. It establishes a definition of lost wilderness tourist, it identifies what constitutes a lost wilderness tourist event and it introduces the reader to some of the lost participants who inform this study. Phase two of the study builds on phase one as it explores lost events, identifies lost event phases and examines the interactions between lost tourists, wilderness environments, external stakeholders, and the extended community from pre-event to post event. Phase three phase brings the findings together to develop a phase based interpretive model and a person centric stakeholder systems model.

The study takes a holistic approach that encompasses the experience from pre-event to post event. This holistic approach is consistent with phase based disaster management models including the PPRR model (Cronstedt, 2002), Faulkner (2001) and Ritchies (2004) tourism crises and disaster management approaches. It also facilitates the utilisation of Boon et al's. (2012) adaptation of Bronfenbrenner's bioecological model.

Methodologies

This research utilised phenomenology and grounded theory. These methodologies are commonly utilised in qualitative research. They are well suited to the interpretivist approach, to understanding lived experiences from multiple perspectives and to exploring a topic with little existing theory.

Phenomenology

Phenomenology is a form of qualitative research that aims to describe the essence of lived experiences within the world (Neubauer, Witkop, & Varpio, 2019; Neuman, 2014). Phenomenological enquiry describes how things appear to individual consciousnesses and identifies the essential

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[5] See appendix D for a discussion about ontology and epistemology.

structures that characterise these lived experiences (Neuman, 2014). This approach holds that people are always conscious of something, that meaning exists through the interaction of object and subject and that separations and duality of the subject-object relationship do not exist (Neuman, 2014).

Phenomenological research involves collecting data to capture the essence of lived experiences. Phenomenological interviews seek to establish what lived experiences mean to individuals and what context they are experienced in (Miller & Salkind, 2002). Interview questions are typically open ended and broad and focus on lived experiences, contexts, and situations that have influenced or affected the phenomenon (Creswell & Poth, 2016).

Grounded Theory

Grounded theory is a research process that uses a systematic set of procedures to develop theory that is grounded in field research data (Lewis-Beck, Bryman, Bryman, & Liao, 2004; Neuman, 2014; Strauss & Corbin, 1994). The intent is to move beyond description and to generate or discover theory (Creswell & Poth, 2016). Grounded theory is particularly useful when there is not sufficient theory to address the research direction or problem (Creswell & Poth, 2016), as is the case in this research project. The process involves identifying and interviewing suitable participants and developing and refining theory through a cyclical process of collecting, coding and refining data until saturation is achieved and a theoretical framework can be developed. Thus grounded theory generates theory through interrelating categories of information based on data collected from individuals (Creswell & Poth, 2016).

Methods

Research design is open to structured and unstructured approaches and data can take multiple forms (Maxwell, 2012). Design was therefore built around research relationships, site selection, participant selection, data collection and data analysis (Maxwell, 2012).

Research Relationships

Good interpersonal relationships can be vital in qualitative research (Maxwell, 2012). For this study good relationships were achieved through goodwill, empathy and legitimacy and by installing feelings of empowerment and catharsis to individual participants who inform the study. This helped to gain commitment from participants and to draw rich data from them. I have a personal background in search and rescue. Through this background I have developed an empathetic understanding of lost people and have established relationships with many Queensland emergency services members and

stakeholder communities. This helped with access to lost tourist information, to lost tourist participants, to lost person event locations and to members of the extended stakeholder community. My personal background also gave me some legitimacy as an informed researcher when I connected with participants.

Research Sites

The project examined lost person events that occurred in Australian terrestrial wilderness environments and which involved people engaging in touristic behaviours. The environments that participants had been lost in included rainforests, savannahs, deserts, mountains, alpine regions and a subtropical island. Field research was intended to be conducted in situ wherever possible to assist with memory recall. This however became impractical due to travel restrictions including those that were associated with the Covid-19 pandemic response. Interviews were therefore either conducted online or at mutually convenient locations.

Sampling

There was no attempt to recruit a representative participant group as this is not an essential requirement of qualitative research (Maxwell, 2012). Participants were instead selected using a blend of purposeful sampling and convenience sampling. This sampling recruited formal participants for one on one interviews. Throughout the research period I also had several hundred hours of informal research based conversations through my role as a volunteer search and rescue operator.

Purposeful Sampling

Purposeful sampling selects participants based on set criteria (Maxwell, 2012; Neuman, 2014). An advantage of purposeful sampling is that it allows the study to focus on selected participants. A disadvantage is that it is not representative of the wider population. It is however generally accepted that qualitative research produces results that are specific to the study group as indicators and is not designed to represent the whole population (Maxwell, 2012; Neuman, 2014). For this study purposeful sampling sought to connect with candidates who were likely to pass the screening test described in chapter four. This sampling was mostly effective and only two potential participants were rejected.

Convenience Sampling

Convenience sampling is a non-random sampling method where participants are selected on the basis of ease of availability (Neuman, 2014). This was deemed suitable for both the pilot study and the main study. Potential participants were identified through multiple channels including personal contacts, mainstream media, social media, radio advertising and through other study participants. All participants were personally approached by me as the researcher once they were identified as potential participants.

The Participants

Participants were identified through mainstream media, social media, personal communications and through word of mouth. Individuals were selected on the basis that they were qualified to inform the study, they were available, they were accessible, they agreed to participate, and they were unlikely to experience undue stress from participating in the study. The study was subject to James Cook University Human Research Ethics Committee (HREC) approval.[6]

For this study participants were selected on the basis that they fitted one of three criteria. They either had been lost in the wilderness while engaging in touristic behaviour, had been part of the extended search community or were representative of groups who were likely to have been in contact with lost people before, during or after lost tourist events. All three groups were interviewed concurrently and no attempt was made to separate the groups on temporal boundaries.

The study aimed to achieve a wide demographic spread to reduce bias. The final nature of this participant group was however revealed through emergent design. The lost wilderness tourists were the primary focus of this topic. The other participants were interviewed to develop a background understanding of lost tourist events. Lost tourist data was investigated in depth. Time and scope limitations precluded in depth examination of the other interviews but this may represent a future research opportunity.

Lost Wilderness Tourists

The primary participants who inform this study were people who had all been lost in wilderness areas while engaging in touristic activity. For the purposes of this study these participants needed to have experienced being lost in an Australian wilderness environment whilst engaging in activity that could be broadly described as recreational or touristic in nature[7]. I initially intended to

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[6] The allocated HREC number was H8401.
[7] See Appendix D for more information.

work with the emergency services community to identify lost person events as they occurred and to gain access to this participant group. I was instead able to use a combination of online media, offline media, and outdoors networks to identify and recruit sufficient participants to inform this study without the use of these personal connections. Thus, lost tourist participants were identified through personal contacts, media, and snowballing. These participants' lived lost wilderness experiences inform the theory developed throughout this thesis.

Secondary Participants

Secondary participants included emergency services members, loved ones of people who had been lost wilderness tourists and other interested stakeholders. Sampling for other participants followed a two-step process. The first step was to identify the type of external stakeholders that lost tourists might connect with throughout the lost person journey. The second was to identify and connect with individuals who were representative of these stakeholder groups. These participants were interviewed through one on one interviews.

The initial research design sought to triangulate findings around the themes that emerged from the interview data and compare these findings between the three participant groups. This research design was however changed through the early stages of data collection and analysis for two reasons. First the initial scope proved to be too big for a single PhD thesis. Secondly it became evident that the lost participants gave rich descriptions of their interactions with other stakeholders. This change is consistent with emergent design. The interviews with other stakeholders were however useful for background information in the early stages of data collection and analysis.

Extended Search Community

The extended search community included groups, individuals and organisations who actively respond to, seek to prevent, and seek to resolve lost person events. Whitehead (2015) suggests this group is likely to include Police, State Emergency Services, rescue helicopter providers, ambulance services and more. The purpose of connecting with this group was to develop background information about how or if representatives of the extended search community believe lost tourists connect with, or attempt to connect with the extended search community throughout lost person events.

These participants were recruited through personal networks, purposeful sampling, snowballing and cold calling. Sampling involved identifying suitable organisations and then connecting with them to identify, recruit and interview individual participants. Groups and individuals were identified through background knowledge, through personal networks, through interviews with lost tourist participants and through the early phases of the grounded research project. Individual

participants were identified through their association with search related groups, specific lost person events, personal contacts, and other study participants. These individual participants included police officers, rescue staff and volunteers and ambulance staff. These participants participated in one on one semi structured interviews. The interviews were audio recorded for future reference but not formally coded for the reasons discussed above.

Other Stakeholders

Other stakeholders included groups, individuals and agencies who lost tourists interact with before, during and after lost person events but were neither lost people nor part of the extended search community. Preliminary investigations suggested that this group might include family members, tourist associations, tourism boards, outdoors stores, accommodation providers and park managers. The role of these participants was to inform the study if they seek to interact with lost tourists, how any such interactions might occur and to identify potential roles external stakeholders might be able to play in PSAR.

These stakeholders were identified through the research process, through interviews with lost tourists and through representatives of the extended search community. Likely candidates included family members, tourist associations, tourism boards, outdoors stores, accommodation providers and park managers.

Other stakeholder participants who informed the early part of the study included loved ones, hiking group representatives, wilderness enthusiasts, a member of a hiking support group and a self-proclaimed psychic. Whilst it is likely that some members of this group have insights to contribute to the topic this line of investigation was largely discontinued for two reasons. It was discontinued to reduce the scope of the project and because these types of external stakeholders were discussed in depth by the other participants. Better understanding external stakeholders could however be a topic for future PSAR investigators.

Data

Qualitative data relies on cases, contexts and cultural meaning (Neuman, 2014). Collecting data for this study therefore involves connecting with appropriate participants, collecting, recording, and storing data (Creswell & Poth, 2016). Primary data consisted of audio taped interviews with suitable participants. Secondary data included maps, photos, web pages and other documentation. The exact nature of this data was revealed as the research progressed.

Collecting Data

This research first sought to define lost wilderness tourists and then to examine the lived lost wilderness experience through the phase-based interactions between lost wilderness tourists, wilderness environments and other stakeholders. Realising these research goals required data that captured understandings of lost events from pre to post event. This was achieved through the use of semi structured interviews with the above mentioned participant groups. These interviews were sometimes supplemented with participant supplied secondary data such as photos and maps.

The participants participated in one on one semi structured interviews. The interviews were audio recorded for future reference but not formally coded for the reasons discussed above. Semi structured open ended interviews were guided by open ended questions such as those presented in appendix G of this thesis and utilised probing and free flowing conversation techniques as deemed suitable. Some participants also provided and discussed secondary data as described above. Interviews either took place online or in person and were audio recorded for later transcription and analyses. Sampling and interviews began unstructured and became increasingly structured as event phases and emergent themes were identified, developed and investigated. This is consistent with emergent design.

Interviews

Primary data was collected through 27 semi structured interviews. This included 14 people who had previously been lost wilderness tourists and 12 people who had been affected by lost events as external stakeholders. These interviews were conducted either online or in person. Advantages of one on one interviews included the ability to clarify answers, the ability to collect supplementary information, the ability to contextualise, the ability to establish rapport and the ability to directly target participants (Miller & Salkind, 2002). The target time for the interviews was approximately 45 minutes. The actual interviews ranged from approximately 20 minutes to a little over one hour.

Selective Coding, Interview Data and Verbatim Quotes

The participants' interviews are the raw data that informs this thesis. Throughout this thesis selective coding has been used to identify quotes that represent the participant voices. These quotes are presented as verbatim transcriptions from recorded interviews. These verbatim quotes make up approximately 20% of the thesis and substantially extend the word count beyond what might otherwise be expected. The reader should also be aware that these verbatim quotes are not written

in concise of formal academic language and as such contain numerous grammatical errors, and profanities.

Secondary Data

Empirical data collected through participant interviews was occasionally complemented by additional secondary data such as maps and photos. This secondary data was collected on an ad hoc basis. It provided a contextual backdrop that helped develop an understanding of the participants lived experiences. This was useful in developing a clearer understanding of how the participants become lost in wilderness environments, why they behaved the way they did and what role, if any, outside influences had in their lost wilderness tourist events.

Data Management

All data and study related material were digitised and kept on secure local and cloud storage. Raw data consisted of audiotaped interviews, transcriptions of the interviews, participant supplied material and secondary data collected from outside of the interview process. Interviews were transcribed and stored as raw data in the NVivo software environment. All other data that was collected was likewise converted to digital formats and stored in the NVivo environment. Raw physical data was kept in secure storage at James Cook University Digital data was kept on the primary researchers' local computer, at James Cook University, and backed up on an external hard drive. All data storage was password protected.

Data Analysis

Data analysis centred around the three step coding process that is typical of both phenomenological and grounded theory research (Creswell & Poth, 2016; Della Porta & Keating, 2008; Neuman, 2014). Raw data was open coded, was reduced into themes through axial coding and was then presented in a useful manner through selective coding (Creswell & Poth, 2016). Open coding categorised the raw data using low levels of abstraction and reduced it into basic subcategories. Axial coding established links and connections that joined the open codes together. Selective coding identified cases that illustrated themes that emerged from the data analysis. The analysis followed a nonlinear logic path and an emergent design as is typical of grounded theory research. Data analysis began during data collection and continued throughout the research process (Neuman, 2014). There was some cycling between the phases, and data analysis followed a deductive-inductive process

known as abduction (Héritier, 2008; Neuman, 2014). Nvivo software was used throughout this process.

Phase One – Defining Lost Wilderness Tourists

Phase one drew exclusively from the interviews with people who had previously been lost wilderness tourists. Sampling targeted individuals who had experienced lost person events while engaging in touristic behaviour in Australian wilderness settings. These people were identified and approached through multiple sources as previously described. Semi structured, one on one, in depth phenomenological interviews were conducted.

Data analysis began with open coding. Open codes were axial coded to themed clusters. Selective coding then identified rich descriptions that represent the essence and structure of what it means to self identify as a lost wilderness tourist. Through this approach it was possible to gain a richer understanding of who a lost tourists was and to develop a definition that was both grounded in literature and empirical data.

Phase Two - Developing a Phase Based Understanding

Phase two of the research sought to develop an experiential understanding of the lived experience of lost wilderness tourists as they consciously and subconsciously interacted with their environment, their companions the emergency services community and other stakeholders throughout their lost person experiences. This section drew from data from semi structured, one on one, in depth phenomenological interviews with people who had been lost tourists, representatives of the emergency services community and other stakeholders.

Phase two of the study explored the lost wilderness tourist person experience from pre to post event. Data was collected through in depth qualitative interviews with self-identified lost wilderness tourists, members of the extended search community and other stakeholders. Raw data consisted of audio recorded interviews and relevant secondary material. Lost person data was coded, categorised, analysed, and presented using a three-step coding process. Other stakeholder data was used for background information only. I continued to return to the data and to new interview participants to collect more data as themes emerged. This process continued until theme saturation was reached.

Sampling for the main study built from the pilot study, from the extant literature and from the emerging results as the grounded theory study evolved. Data for each individual lost participant was analysed independently through open coding and then individual results were merged through axial

coding. Interview transcriptions and secondary data were open coded for initial classifications. Open codes then drove axial coding. Each axial code drove future data collection and analysis around that theme until saturation was reached. Six phases were identified and each of the phases was then revisited to identify phase specific themes. This process continued until saturation was reached, a basic framework was developed and major themes for each phase had been identified and developed. Selective coding was then used to present a description of the lost tourist experience as represented by the data.

Outcome

The outcome of the study is an understanding of the lived lost wilderness experience as understood by the study participants. These findings are presented throughout this thesis as first person vignettes, researcher interpretations and a synthesis with extant literature as is consistent with accepted research practices (Wotela, 2018).

It is hoped that consistent lessons learned from the study might be applied and developed beyond the study group. The findings may have the potential to benefit tourists, search communities and external stakeholders that are not part of the study group. Benefactors could also include tourists who are involved in less serious lost person events, lost people who are not tourists and people who are lost in environments outside of the Australian terrestrial wilderness. Future research could explore this further.

Ethics

This study deals with the potentially traumatic and sometimes embarrassing experience of being a lost tourist in an unfamiliar wilderness environment. It has the potential to cause harm to both the participants and the researcher (Kumar & Owen, 2019). It is therefore subject to several ethical considerations. The study keeps the identity of the informants anonymous and informed consent was gained before interviewing participants (Creswell & Poth, 2016).

Full ethical approval was gained prior to commencing any fieldwork as prescribed by James Cook University guidelines. This included the preparation of, a JCU human research ethics risk assessment, a participant information guide, a participant informed consent guide and a plan for any adverse reactions to participants, including information about how to access counselling services should they be required. Preparation of this material was undertaken in under the guidance of the project supervisor and the centre of disaster studies. The JCU human ethics research approval number H8401 was granted prior to any contact with potential study participants. The participant information

guided the invitation to participate, and the informed consent form are presented as appendices K and J of this thesis respectively.

With respect to researcher impact I have a personal background that includes approximately 10 years as an active search and rescue volunteer, and I am a current state emergency services (SES) executive in Far North Queensland. Through this background I have been involved in many search events including several with fatal outcomes. As such, I have the personal skills to cope with any traumatic incidents that I may have encountered and I have established counselling networks in place should I require them.

Validity, Limitations and Bias

Validity refers to the credibility of descriptions, conclusions, explanations, and interpretations. Two major validity concerns that are commonly associated with qualitative research are researcher bias and reactivity (Maxwell, 2012). Researcher bias is possible in this study because my personal background in search and rescue could have influenced data collection and analysis work. Reactivity could have occurred because of participants reactions to being interviewed. I attempted to overcome these potential issues by collecting rich data, by utilising bracketing, by utilising triangulation and by utilising informant validation. The semi structured interview approach and probing helped develop rich data. Participant validation was used to clarify data as it was produced through the interviews. Triangulation sought to reduce the likelihood of results being influenced by any single participant or participant type or of overlooking key information.

Covid Considerations

The study was initiated pre covid-19. It quickly needed to become flexible enough to suit the ongoing dynamic environment. Covid-19 considerations altered some of the research design. These considerations did not present major problems for the study, but some appropriate contingencies needed to be developed.

The original intention was to interview lost people as close as possible to the time their events occurred with respect to both time and location. Travel restrictions meant that interviewing on site was generally not possible. There was also a concern that covid restrictions might change how many people got lost and who got lost. Because of these considerations the participant selection was expanded to include people who had been lost before the study commenced. This was consistent with the emergent design nature of this study.

Opening the study to include events that had occurred before the study began made it easier to find enough lost people to inform the study. Expanding the working definition of tourist beyond

Leipers' (1979) man away from home definition and toward McCabe's (2005) notion of people acting with touristic intent and Yu et al's (2012) notion of self-identification meant that anybody who had been lost in Australian terrestrial wilderness environments while engaging in touristic behaviours was qualified to inform this study. These considerations ensured that there were enough suitably experienced participants to inform the study.

The second problem that covid considerations presented was access to the participants. It was initially planned to interview participants as close as possible to the event location to ensure recall recency and accuracy. It was however not possible to travel to interview participants due to covid restrictions. This meant that most interviews were conducted online via zoom instead of in person. It is my opinion these covid considerations did not substantially jeopardise the research for the reasons mentioned through this chapter.

CHAPTER FOUR: DEFINING LOST WILDERNESS TOURISTS

Chapter Introduction

The Australian landmass is vast. It covers approximately 7.6 million square kilometres (AMSA, 2021) and includes almost all types of wilderness terrain that can be found on earth. This includes deserts, savannahs, rainforests, mountains, and alpine regions. Each year approximately one and a half million people enter Australian wilderness spaces in pursuit of recreation and leisure and several thousand become lost (Dacey, Whitsed, & Gonzalez, 2021).

Lost wilderness tourists are people who become lost in these wilderness areas whilst embarking on recreational wilderness activities. Understanding who self identifies as a lost tourist can help stakeholders understand this group of wilderness users. Understanding how they become lost might help identify mitigation strategies to reduce the frequency and trauma associated with lost wilderness tourist events.

This chapter examines who lost wilderness tourists are and what defines their lost status. It uses extant literature and self-selection to identify and recruit participants who have been lost in Australian wilderness environment while embarking on touristic activity. It then explores who a lost person is, what a lost person event is and what a lost wilderness tourist event might look like through the first person stories of people who self-identify as having been lost recreational wilderness users[8].

The chapter begins by developing a working definition of lost wilderness tourist from extant literature. It then shows how this definition was utilised to develop a screening tool for identifying and recruiting lost participants. The chapter then examines how one on one qualitative interviews were used to establish what wilderness users considered to be lost person events. This process identifies the different types of lost experiences described by the study participants. It also introduces the reader to the individuals, events and environmental settings that inform this study.

The chapter concludes by linking findings to extant literature. This approach provides a base level understanding of lost person events. This approach also offers the reader an understanding of the events that inform the rest of this thesis as it explores the lived experience of lost wilderness tourists through a phase-based lens.

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[8] An abridged version of the chapter was published as a peer reviewed article in the Australian Journal of Emergency Management (AJEM) under the title 'Get lost! Safeguarding lost tourists in wilderness environments' (Schwartz, 2022a).

Data was analysed using the previously described three step coding technique. Open coding identified loose themes, and axial coding identified 2 meta level and 5 sub meta level lost person event categories. Selective coding is used to present rich qualitative text throughout the chapters to present the participants understandings of their lost experiences.

Key findings are that the 2 meta categories of lost are geographically disoriented or geographically stuck, that these meta categories can be further developed to show 5 different types of lost person categories, that the categories are not mutually exclusive and that compounding factors can exist. Geographically disorientated participants could be partially or completely disoriented, or unable to navigate from where they were to where they wanted to be. Geographically stuck participants experienced limited mobility due to internal or external factors. Compounding factors included individual traits, group dynamics and environmental conditions.

Defining Lost Wilderness Tourist Events

Establishing a definition for lost wilderness tourist is theoretically challenging because of its multiple elements and its multidisciplinary nature. This thesis takes the approach that such a definition should be grounded in empirical data provided by people who have self-identified as lost tourists and also nested in relevant extant theory. This chapter develops such a definition by using theory drawn from multiple disciplines to develop a criteria tool and utilises this tool to identify recruit and screen potential study participants.

Theoretical Background

Understanding lost person experiences requires a clear understanding of lost people and of lost wilderness experiences. At its core a lost wilderness tourist event involves an individual or group, who are lost, in a wilderness setting, while engaging in touristic behaviours. This hints to a multi discipline background that includes, tourism, search and rescue, lost person, and wilderness theory.

Wilderness Tourists

Tourism theory defines tourists as people making discretionary trips, outside of their usual environments, to engage in touristic behaviour in pursuit of leisure (Leiper, 1979; McCabe, 2005; Yu et al., 2012). Wilderness tourists engage in such activities in wilderness environments (Boller et al., 2010) but some regularly become lost in such settings (Boore & Bock, 2013; Goodrich et al., 2008; Scott & Scott, 2008; Twardy et al., 2006). A broad definition of a wilderness tourist is someone entering

into a wilderness area, on a discretionary trip, in pursuit of leisure or pleasure and able to be identified by themselves or by others as a tourist (Schwartz, 2022a).

Lost

The definition of 'lost' is also fraught with difficulties. There is little evidence of a consistent, reliable, and universal definition. The first challenge for this thesis therefore is to develop a suitable working definition.

Becoming Lost

Schwartz (2022a) advises that "Lost person events may be triggered by geographic disorientation, inability to reorientate, inability to return to places of safety, misadventure, misunderstandings, psychological issues, injury, incapacitation or death" (p64). Montello (2020) advises that "geographic disorientation (being lost) occurs when people are aware that they are not certain about where they are and/or where they need to go to get to their destination" and that "a closely-related use of the term 'lost' means that someone else is aware they are not sure where you are or where you are headed, and they care…" (p307). Velasco and Casati (2020) suggest that being lost has both subjective and objective elements as the lost subject negotiates between the objective reality of being lost with the subjective feeling of disorientation. Hill (1998, 2013) states that wayfinding is constant and dynamic and that people become lost when they 'fail to stay found' or reorientate themselves (Hill, 1998, 2013). Syrotuck and Syrotuck (2000) claim that people go missing by disappearing from known locations, by going missing en route, or by becoming disorientated after entering a wilderness area. Syrotuck and Syrotuck (2000) and Dudchenko (2010) suggest that people become lost when they experience geographic disorientation and inability to return to safety.

Lost Person Taxonomies

Lost people have been categorised into various taxonomies by lost person behaviour theorists such as Koester (2008), Twardy et al. (2006) and AMSA (2021) on the basis of demographic profiles, activities and behavioural characteristics. These taxonomies are inconsistent but their prevalence in both theoretical and practical applications show that they are valued and useful (Schwartz, 2022a; Whitehead, 2015). There is currently no widely accepted demographic profile describing lost tourists, lost wilderness tourists or lost Australian wilderness tourists.

Summary

While there is some dispute over the key terms 'lost', 'tourist' and 'lost wilderness tourist' it is possible to establish broad definitions and descriptive parameters from extant literature. Such broad parameters may be found in the tourism, social sciences, search and rescue (SAR), wilderness search and rescue (WiSAR), and lost person behaviour literature. These parameters might be amalgamated with the pragmatic precedent of tourism theorists such as Yu et al. (2012) to define a lost wilderness tourist as someone who could reasonably be described as displaying the traits described above and who self identifies, or is identified by others as a lost wilderness tourist. This approach has been taken in developing the research methodology for this chapter as we seek to answer the question 'who is a lost Australian wilderness tourist?'.

Recruiting Lost Wilderness Tourists

The first part of this chapter merges existing definitions to develop a screening tool that was used to recruit and qualify people who self-identified as having been lost recreational wilderness users. It then develops a workable definition of lost wilderness tourists. The participants who were recruited and suitably qualified inform this chapter. These same participants also provide a lost person voice to the remainder of the thesis as it seeks to establish the phases of lost person events and potential phase-based interventions.

Engaging with Lost People

Lost person events occur when people are unable to orientate themselves, are not certain about where they are, are uncertain about how to get to their destination, are unable to get to chosen places of safety or are deemed to be in one of these predicaments by other interested stakeholders (Montello, 2020; Velasco & Casati, 2020). Throughout the research phase I was also an active member of the North Queensland search and rescue community. Through this involvement I engaged with numerous lost people, searchers, search planners and loved ones who had been impacted by lost person events. This provided a personal lived understanding that was useful throughout the research phase.

Recruiting Participants

Participants were recruited through a variety of online and offline channels. Suitability was established through the use of screening questions as described graphically in the screening tool

shown in Appendix F. Ethical considerations were addressed through the James Cook University Human Research Ethics Committee.

Sampling

The goal of sampling in qualitative research is to identify and examine a small group of people who share characteristics that the researcher is interested in (Maxwell, 2012; Neuman, 2014). For this study the goal of sampling was therefore to recruit participants who had been lost Australian wilderness tourists as previously described and to study their lost experiences in depth. Sampling did not seek to identify or recruit a large group of people who were representative of the entire lost wilderness user population. This is consistent with qualitative research design.

Sampling used a combination of purposive sampling, convenience sampling, and snowball sampling (Maxwell, 2012). Purposive sampling sought to identify and recruit people who self-identified as having had lost recreational wilderness experiences. Convenience sampling methods dictated that suitable participants be recruited through the most accessible channels. Snowball sampling sought to recruit participants through others who had heard of or contributed to the study.

Advertising for Participants

Advertising sought to recruit people who had been lost in Australian wilderness environments whilst engaging in recreational activities. Participants were initially targeted through various methods that aimed to get self-identified lost person participants to connect with me as the primary researcher. This included the use of media releases, word of mouth, posters, radio advertising, social media advertising, snowballing and the use of personal contacts. Appendix H shows an online advertisement that was run through a local hiking Facebook page.

Offline advertising included the use of personal contacts and placing posters at locations such as local trail heads. The media campaign resulted in participants connecting directly with me as the researcher and in people being referred to the study by friends and family.

Screening Potential Participants

Recruiting drew interest from several sources. Initial screening conversations established that only suitable participants were selected for the study. For the purposes of the study participants had to be over the age of 18, had to have been lost in Australian wilderness environments while engaging in touristic behaviour and had to be happy to participate in the study. In other words they had to be people who were looking for a good time in the bush but ended up having a bad time and were willing

to talk about their experience. This screening process is depicted in the flowchart presented in Appendix E. For ethical reasons the selected participants were assigned pseudonyms and these pseudonyms are used throughout the rest of this thesis.

The Lost Events

Recruiting enlisted 14 people who self-identified as having previously had lost experiences in Australian wilderness environments while engaging in touristic activities. There was a wide spread of demographic profiles and incident specifics but all shared common characteristics. The remainder of this chapter develops an understanding of how these participants describe their own lost situations. The findings establish how the participants defined lost and then clusters these definitions together to find common themes.

The People

The lost person participants who informed this study cover a broad range of demographic backgrounds. There was no attempt to recruit based on criterion-based quotas. This is consistent with generally accepted qualitative research methodologies. Participants included males and females ranging in age from their early 20's to their mid 70's. All participants identified as Australian nationals. All described having some wilderness experience prior to their lost experiences. A brief description of the 14 lost people and their events is presented in table 3.

Potential participants self-identified as having had a serious lost wilderness experience. All the participants had entered wilderness areas on foot in pursuit of leisure or pleasure. All were motivated by recreational goals such as hiking, photography or exploring and all ended up becoming lost. Some had travelled considerable distances to reach their wilderness destinations. In short, they were looking for a good time but ended up having a bad time. This is typified by the following participant quote.

> "And I wanted to climb the mountain, you know it's a famous mountain, very famous mountain. And I love walking to the tops of hills and things. So, it was one of the things we went to Lord Howe Island to do - to climb the mountain. And one of the first things I did when I got there was booking to the trek to the top of the mountain." - William[9]

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[9] Pseudonyms are used throughout this thesis to protect participant anonymity.

Table 3

Brief Introduction to Lost Participants.

Participant Pseudonym	Brief description[10]	Brief description of event
Carly	20-30 year old female.	Hiking solo on a trail in Central Australia. Became disorientated after missing a trail marker.
Liz	18-25 year old female	Hiking with family in Tasmanian Mountains. Became disorientated due to navigation difficulties.
Max	50-60 year old male.	Hiking off trail with friend in Far North Queensland. Became disoriented due to navigation difficulties.
Mark	40-50 year old male.	Hiking solo on well known trail in North Queensland. Became disorientated after following a false trail.
Bryan	40-50 year old male.	Hiking and abseiling with friend. Became stuck after experiencing technical difficulties while attempt to ascend a waterfall.
Bruce	30-40 year old male.	Hiking with companions in Tasmanian overland trail. Became disoriented due to poor visibility.
David	20-30 year old male.	Travelling off piste with someone he met on the ski field. Became disoriented due to poor visibility.
Jack	30-40 year old male.	Hiking solo on Queensland's highest mountain. Became disorientated after following a false trail.
William	50-60 year old male.	Hiking solo on off shore island. Became disoriented due to poor visibility.
Sophia	20-30 year female.	Hiking solo in Far North Queensland rainforest. Became disorientated after crossing a river.
Mary	70 – 80 year old female.	Hiking solo in Northern Australia. Became disorientated after missing a trail marker.
Thomas	50-60 year old male.	Hiking off trail alone in Far North Queensland rainforest. Became disorientated whilst exploring unknown area of forest.
Oscar	20-30 year old male	Hiking in Far North Queensland with friends. Became stuck after damaging his foot whilst crossing a log.
Dale	40-50 year old male	Hiking with friends to an off track Aircraft wreck. Became disorientated due to poor visibility.

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[10] Note: These are approximate ages only.

The Terrain

One lost event occurred on a small subtropical island approximately 700km off the Australian east coast. The rest of the lost events occurred throughout the country from the southernmost state of Tasmania to the northern tropics. The meant that lost events occurred from the arid regions of central Australia across to the tropical and subtropical eastern seaboard. Terrain had varying impacts on lost events. For example an alpine blizzard resulted in poor visibility and hypothermia for Bruce and his companions and extreme heat impacted Max and his companion. This role of terrain is discussed throughout the thesis as lost events are explored in more depth.

The Events

When a tourist or recreational wilderness user enters a wilderness area they do so in the pursuit of leisure or pleasure. They expect their wilderness experience to begin when they independently enter the wilderness area, they expect to traverse their chosen path and they expect to leave the wilderness at a place and time of their choosing. For the vast majority of wilderness experiences in Australia this is what happens (Dacey et al., 2021). For some wilderness users, however, this will not be the case.

Geographic disorientation occurs when the lost person fails to stay found. Navigational difficulties occur when a person does not know how to find their way from one wilderness location to another. Mobility problems occur when a person is unable to proceed because injury, terrain or some other factor causes them to become stuck in their lost location. Some lost person events also involve a combination of geographic, navigational and mobility factors. Thus, lost person events can be broadly categorised as lost due to difficulties with geographic orientation, lost due to mobility difficulties or lost due to a combination of geographic and mobility difficulties. Furthermore, lost person events can range from completely disorientated or immobile to partially disorientated or immobile. The remainder of this chapter explores how this manifested in the lost experiences of the study participants.

Geographically Disorientated Lost Person Events

Geographically disorientated people are the subjects of lost person events because either they don't know where they are, they believe that they don't know where they are or someone else believes that they don't know where they are. These people often represent what is first thought of as lost people.

Participants became disorientated at various stages of their lost person journeys. Some became lost when they were close to known locations, some became lost part way through their

expected journeys, some became disorientated while attempting to navigate cross country, some became lost whilst traversing from one known location to another known location and some became lost, found their way and then became re lost.

Becoming Geographically Disorientated

Dudchenko (2010) and Hill (1998) assert that people become geographically disorientated by failing to way find. Wayfinding failures may occur at any point of a wilderness journey. People may become disorientated in respect to their current geographic location, their intended destination, or the path to their intended destination. Lost person orientation can thus be categorised based on knowledge of lost location, knowledge of destination and knowledge of path from the lost location to an intended place of safe refuge.

Geographic disorientation could be partial or complete. This meant that at any point on their journey a wilderness user may have complete geographic awareness, approximate geographic awareness, or no geographic awareness with respect to their current location, their intended route, and their intended destination. Some of the participants therefore had some idea where they were whereas others had no idea at all. The most common scenario was that people had a rough idea where they were and the least common scenario was that people reported being completely geographically disorientated. This was however dynamic and could change over time.

Becoming Disorientated is Gradual

For the geographically disoriented participants becoming lost was a gradual process. This disorientation generally progressed from being sure of their locations to being unsure of their locations. It began with a feeling of uncertainty, progressed through attempts to reorientate and then proceeded to a lost person situation. There was often a moment of realisation when that participant considered themselves lost. This realisation moment was typically preceded by a period of uncertainty and was often accompanied by disbelief. Participants then either successfully reorientated themselves and became unlost or became increasingly lost until they were eventually completely lost.

As part of the gradual process most geographically disorientated participants made some attempt to self-rescue. This often involved trail sampling and aiming for known locations such as tracks, high points and roads. As part of this process some participants successfully reoriented themselves to known places of safety such as marked tracks and peaks. One example of successful reorientation was William who successfully reorientated himself from the top of a peak after low visibility cloud dispersed.

"I didn't, I didn't realise the weather was a problem until actually I got the break in the clouds. And three or four hours later, after I'd been trying to get down. And I got the break in the clouds, climbed a tree, and looked out and thought shit the islands off to the right, not straight ahead. And that's when I realised that the clouds had confused me. Until then I didn't realise and I perhaps I might have been able to get myself out of it if I'd realised it was the clouds and the weather and my direction was wrong.[11]" - William

Some participants however were unable to reorientate themselves to their intended destination. Some also became re lost after believing that they had successfully reorientated. An example of being lost, found and then re lost was Mary. Mary had become lost on a short day walk. On the second day she found a marker and thought she had become reorientated. She then lost the track again and had a 3 day and 2 night lost person experience.

Mary describes this experience.

"And the next morning I got up and I found a marker. So I set off thinking oh this is great. You know, I'll be back. I knew I hadn't walked very far… I'm on my way back, I can't be very far, I'm right, I still had a tin of sardines. And I wasn't worried about food. I think I still had a muesli bar. I was positive and somehow then I got lost again." - Mary

Types of Disorientation

Failures in wayfinding resulted in the participants having unknown locations, unknown destinations or unknown paths in any combination. Some participants became mildly disorientated after failing to navigate hiking tracks but self-rescued through reorientation (Jack). Some became disorientated while experiencing harsh environmental conditions (Bruce). Some knew where they were but were unable to navigate from one known point to another (Max). Others became disorientated after failing to navigate marked trails (Mary).

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[11] All quotations are literal transcriptions intended to capture lost person voices as they were spoken.

Most participants who reported being geographically disorientated described themselves as having some idea where they were. This might mean that they could be more accurately described as being partially, or temporarily disoriented. This temporary or partial nature of these experiences was evidenced by people successfully reorientating to their original track, to alternative routes, to alternative places of safe refuge or to their intended destinations.

Some participants became partially disorientated while navigating formed tracks, others became partially disorientated while venturing off track. Some became disorientated at known locations and others became disorientated trying to navigate between known locations.

Partially Disorientated on Track

Participants who became partially disoriented while following formed and marked tracks included David who became lost while skiing along a known trail, Mark who became lost by following a false trail from a popular day walking track, Jack who became lost while hiking a challenging but well known rainforest track and Bruce who became disoriented on the Tasmanian overland track because of unexpected foul weather. Bruce describes being partially disorientated on track.

"So, you basically, Overland Track you walk from Cradle Mountain in the central highlands of Tasmania to Lake Sinclair, which is a five to six day walk, basically heading straight south. And the first day is brutal, because you've gotta get right from the lowlands right up into the table lands with full packs for the whole week. And then you go across, you know, across the ravine, across the plateau and then drop off the mountain on the other side to get to the first hut.

There is an emergency shelter up there called Kitchen Hut, which is about 80 years old. It's like a literally a timber plank hut. Two levels with a snow door up the top level for people to get out because the snow level gets that high up there.

And we had a group of eight of us, we were about halfway up the mountain when it started sleeting, we thought oh the weather will be fine like it'd be okay, we're like we're all geared up for it. And the further we got up, the harder the wind got, the icier things got, the snow started or the sleet turned into little cubes of ice.

We had trail markers, we weren't necessarily lost. But we also didn't know just how far because I hadn't been on that trail. I've done the other one like four times, but hadn't been at this particular trail, which is all exposed across the top of

the plateau. We knew that we had to get to kitchen hut at one point on the trail but we had no idea how far along the trail we were.

Yeah. So we basically half us got really severely hypothermic, there was no way we were getting any sort of rescue that evening. Because the wind was so strong and it was snowing quite heavily...pure sheer anxiety and holy shit we're in a really bad space." - Bruce

Partially Disorientated off Track

Some participants became disorientated while undertaking off trail excursions. Liz and her family became disorientated while traversing off track to a known high feature. Thomas became disoriented while trying to return from an off-trail hike. Max and his companion became disorientated while attempting to return from a planned off-track hike.

These participants had all planned to explore off track wilderness areas and were comfortable doing so. Thomas knew the area well and his plan was to explore the lower parts of a rainforest valley and return to his start location. Liz and her family planned to do a loop walk starting with a sparsely marked trail, traversing off track, and then connecting to much clearer trail mid-way through the hike. Liz' party was led by her father who believed he knew the area well. Liz describes her party's plan and the experience of being disorientated.

"The one that comes to mind is Mt Ossa and trying to climb that from the northern aspect and so we walked in from the Arm River track or Arm River trail...And we had camped near the old Pelion hut area. And dad decided we would not approach Mt Ossa by the usual track, we would go up a different track and then walk out the easy track. The problem with that was that, so we were following the, I think it's the Paddys Nuts trail, which then you would follow markers on trees and rocks and so on because there wasn't a defined trail. it wasn't as well marked as many of the other trails. So that initially was difficult to find. So it took us a while to find our way up. So the idea was to walk up to where there was a saddle between Paddys Nut and Mt Ossa. And we were to turn left instead of right, so we went left where there were no trail markings to connect that where we'd stopped and left the trail and the top of Mt Ossa...

...And of course, finding Mt Ossa was meant to be easy, the peak was meant to be easy, because you could see it. But of course, if you had cloud cover well, how do you know what is the peak and what isn't? Luckily, we didn't. But we managed

to get up the top. And of course, there was a cairn there and there were footprints everywhere. And it was like okay, which ways the way down. And we couldn't find the trail marking down because most people approach from the trail knowing where to go back to. So there were too many footprints. And you if you followed some, it would lead to nothing.

And the issue with the map, though, was I think we must have had a very, like, I don't know what you'd call it, just a typical sketch, rough sketch map. Yeah, it wasn't, wasn't topographic at all. It showed, I think, the ridge that, that runs between it and I think Mt Doris and so, and the track then slips just to the southern side of Mount Doris. So you're meant to track one side of this particular ridge line. So that was what was on the map.

So we were looking for a ridge and then the track should of been slightly to the side of it. And so unfortunately, there was another very prominent ridge running directly south which was not the ridge that we were looking, meant to be on. So we searched everywhere along that ridge line and to the, to the bank on the side of it. And it had been too many years since my dad had climbed Ossa. He couldn't remember. So of course, we're looking down, and everywhere we looked it was this huge boulder field. So these massive boulders took a lot of effort to climb up and over them…. And so we looked, I don't know how many hours we were looking." – Liz

Disoriented Navigating Between Known Locations

Several participants became lost due to unclear paths between two known locations. These people had not lost their track due to wayfinding errors but were not certain of whether they could proceed from their current known locations to other known locations via known routes.

These participants were partially disorientated. They were mobile, knew where they were and knew where they wanted to go but were unable to travel to their desired locations without becoming disorientated. They were lost because they were unable to get from where they were to where they wanted to be and they could not progress without becoming geographically disorientated. This caused them to either become disoriented as they attempted to traverse between known points, become stuck and immobile between two points or become trapped at their known location.

Inability to navigate between locations occurred on both formed and unformed tracks. For the participants it occurred because of poor visibility, unclear tracks, poor weather, extreme environmental conditions, inhospitable terrain, a lack of navigation expertise, poor wayfinding ability

or a combination of these factors. This was described by Dale when dealing with a panicked member of his lost party.

> "Two of the guys got into a panic state and we had to try and keep them from getting too panicked about the fact that you know, we don't know where we are and everything and I said well we know where we are on top of this mountain we know exactly where we are. We can't see where we're going." - Dale

Peaks

Several participants became stuck at the tops of mountains and peaks. This occurred on well-formed tracks, poorly formed tracks and off track. These participants had successfully navigated to their chosen destinations but became unable to descend to their intended places of safe refuge. They knew where they were but could not progress without getting lost. Whenever they tried to descend and failed they could however easily return to their known lost locations at the tops of hills or mountains.

Participants who became stuck at the top of peaks included William who became stuck at the top of Lord Howe Island's Mount Gower, Max who became stuck at the top of a rainforest hill on the edge of the city boundary, Liz who became stuck at the top of a Tasmanian mountain and Dale who became stuck at the top of a peak above the bush line in Southeast Queensland. Each of these participants became disoriented at the top of peaks when they were attempting to descend. They knew where they were and where they wanted to be but could not work out how to get to their destination.

Becoming stuck at the top of peaks typically resulted from a lack of clarity around which path would lead them back down from mountains or peaks. Their inability to navigate typically resulted from lack of trail sign, poor visibility or too many choices. William and Max for example both found that they could not way find from the tops of peaks that they had climbed due to large numbers of false trails and poor visibility.

Max typifies this situation.

> "My story is at that lower end of the story. It was probably about six hours was all we were lost. In fact, I don't even like to use the word lost because I knew exactly where I was. I just couldn't get out." - Max

Max continued by describing his disbelief at being unable to find any sign of a track leading down from the peak he was stuck on.

"I was feeling a bit scared at this stage. We continued going up and down for probably two hours, three hours. And I could not believe that we couldn't find our way back down because there was no trail, but it was. We simply just walked up. And well, how come, how come we can't walk back down?" - Max

And Max summarised his experience by saying.

"Yeah, I mean, it's just to follow a ridge line. And to know you're going to a peak. Yeah. It was amazing that you can be so close and still not, get out. Your still lost, you still can't get down." - Max

In Dale's case it was multiple factors that made it impossible to navigate from the peak that his party was stuck on. This included a large number of trails leading out from the peak and poor weather that reduced visibility.

"And we got to the, once we got on top of the mountain there was a big plateau there was just tracks every way. And then a big weather front came through. And it just closed in over us and we were walking around in. It was just, the visibility was about two metres in front of us, so we had no idea exactly where we were." – Dale

Completely Disorientated

Two participants who reported being completely lost included Mary and Carly. In separate events Mary and Carly had been hiking on well-known hiking trails when they became disorientated, lost their trails and became disoriented. Mary had become disoriented because the trail she was walking on was poorly marked. Carly became disoriented when she followed a false trail.

Mary had a three day, two night lost person experience before she was spotted and rescued by helicopter. Carly made the decision to activate her personal locator beacon (PLB) and was spotted by a search plane and rescued by a helicopter on the first day of her lost person experience. Both Mary and Carly were found reasonably close to the tracks they had been following.

Mary described how she became disoriented from a poorly marked track.

"Once I got onto the tabletop track, that's the junction, the landscape changed quite a lot. And after a bit you couldn't see any path on the ground. It wasn't discernible at all and it was rocky, it was open. But it was, you know, a bit hilly and you were relying on metal posts with a triangle. And sometimes you couldn't see, you couldn't always see them in your line of sight. So you were heading thinking, I think I'm going the right way. And then I'd have to backtrack to the previous post. And, and that's how I got lost. I lost the posts." - Mary

In spite of feeling completely lost Mary was located close to the original track and had even crossed over the track during her lost person ordeal as this map shows.

Figure 2

Map showing Marys lost location.
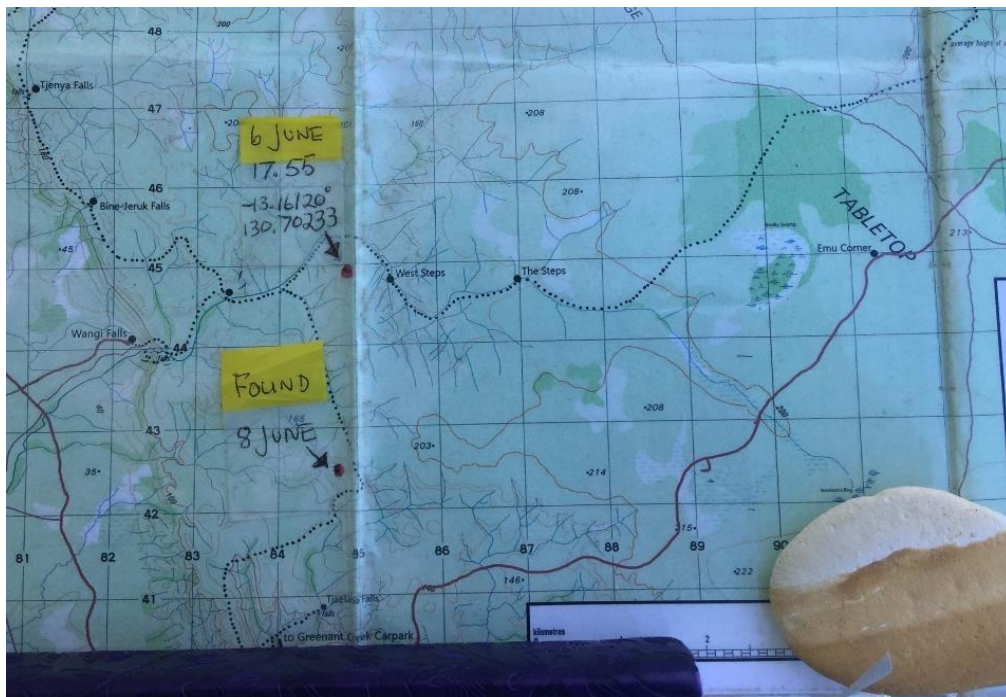
Participant Supplied (Mary).

Carly also described the realisation that she was disorientated.

"Packed my bags and decided to head off on the Larapinta. Day two I realised that afternoon that I was meant to be at a campsite at a certain time, and that time had passed. And I was just happily travelling along a creek bed. And I looked at my map, and realised that I'd actually meant to be going, just trying to get the track in my mind, but I was meant to be going, I think, southeast and I was going northeast. And I had no idea how long I'd been going in the wrong direction for. I had no idea kind of where I was, and, immediately panicked.

And like now looking back, I'm like how the fuck did I follow the wrong creek bed. But I was obviously just having a great time trotting along. There were markers, yeah, I just missed the marker. Yeah, yeah, I just missed the marker like, there's so many dry creek beds that are kind of going every which direction along that trail and I'd obviously been looking at something and missed it and just kept walking. And as I said it was when I looked at the map that day, and I was like, fuck, I'm supposed to be going southeast, but I'm going northeast, that, that's what I really realised. Like I've missed, I'm not in the place where I'm meant to be. And I'm not going the way that I'm meant to be going." - Carly

Carly was also located relatively close to her intended location as shown on the map she supplied. Her found location is labelled untitled placemark.

Geographically Stuck Lost Person Events

Stuck

While some participants identified as lost people because they had been geographically disorientated others identified as lost people because they had been geographically stuck. These participants had become unable to extract themselves to places of safe refuge unaided. They were still considered lost because they self-identified as lost, were considered to be lost by others or they both self-identified as lost and were considered lost by others.

Stuck people became stuck due to environmental conditions or stuck due to injury. Their lost events may or may not have coincided with being geographically disorientated. This meant that they had varying amounts of geographic awareness. Some had full geographic awareness, some had partial geographic awareness, and some had no geographic awareness. Some, like Bryan knew exactly where

they were but could not progress because they were trapped. Some participants like Oscar had some idea where they were but couldn't progress due to injury. Other participants like Thomas had no geographic awareness at all and could not progress because they were injured, trapped, and geographically disorientated.

Figure 3

Found location of Carly relative to the track.

Participant Supplied (Carly).

Becoming Stuck

Physically stuck participants became stuck because of one or more factors such as injury, environmental conditions, climatic conditions, terrain, weather, fatigue and being trapped. Their events can be broadly categorised as stuck due to environmental factors, stuck due to personal factors, or a combination of both.

Trapped – Bryan

One example of being stuck due to environmental factors was Bryan. Bryan had joined another person on an abseiling and hiking adventure. He successfully abseiled to a flat section midway down a waterfall and became trapped and unable to ascend or descend from that location. After several attempts to self-rescue he became fatigued and accepted that he was stuck and needed help from external rescuers. He was stuck until he was rescued by helicopter the following morning.

Bryan described the experience of realising that he had become stuck.

"We decided to start climbing and I just, was having a lot of trouble. I was only getting a few meters, taking a long time to do it. He was sort of trying to show me but we were just having trouble. Then we stopped for a while and then the next section I actually just free climbed up. It was actually easier for me than. It was exhausting but I found it easier than the... And that's as far as I made it. Then we got to the point where I stopped for, where I was for about three hours, and that's where I stayed really." - Bryan

Stuck due to Injury- Oscar

An example of being physically stuck due to injury was Oscar. Oscar became unable to move after a log he was crossing broke causing him to slip and injure his foot. Oscar describes this situation in his own words.

"So basically, it (the log) fell and it collapsed on my foot. And what I did is. Yeah, I just looked around at everyone and I said, look, I said, we've just, um, I just laughed, and I said, we'll go to the summit, I'll put my boot on. And, and straightaway, I remember standing up, and this enormous pain, um, I just went holy fuck, this is so intense. This is like, this absolutely sucks. And what I did is I literally stood up and then fell back down, and then my foot just stayed in the water. And that's where I stayed for two and a half hours, I couldn't move". - Oscar

Oscar's first reaction was to carry on as planned. Once he realised that he could not carry on he thought that he would walk back to his car at the point of entry. He prepared to return to his car.

"I just want to get back to the end of the car, cause I knew the trip was over straightaway. And I just said, and before I said that, I said look, I said maybe we'll come back in three weeks to do it again." - Oscar

It was only after an extended time period and the onset of a genuine fear for his survival that he accepted his fate and called for rescue assistance.

"And I looked at everyone and I said, look, we've got a call. We've got to call an ambulance, because I said, what happens if a blood clots here? You know, like, what happens if there's a blood clot and I, I, I don't want to die." – Oscar

Figure 4

Oscar became Stuck in this unnamed creek after injuring his foot.

Participant supplied (Oscar)

Figure 5

The log that Injured Oscars foot.
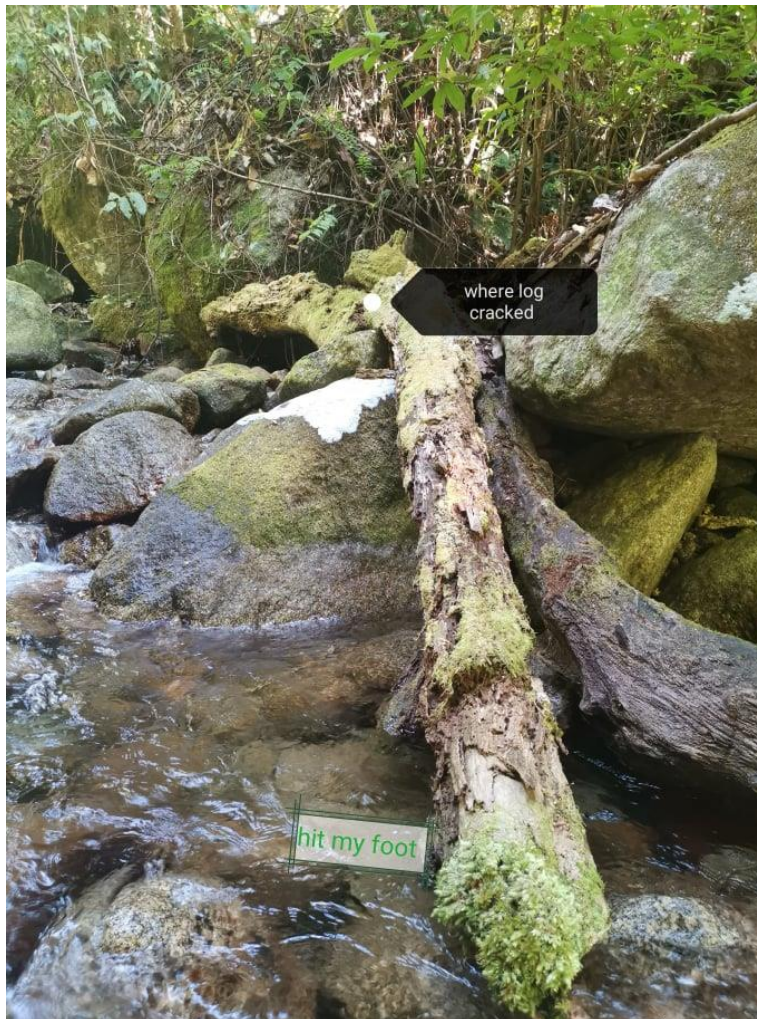
Participant supplied (Oscar).

Disorientated and Stuck Lost Events

Some participants experienced being geographically disorientated while still mobile. Some were stuck and knew exactly where they were. Some participants experienced being stuck and geographically disorientated. Some became stuck after becoming disorientated.

It was also common for participants to report that they or their companions had become so tired that they were physically unable to progress due to fatigue, injury, exhaustion, cramps, or such like. Bruce knew where he was, where his intended destination was and where a secondary place of safe refuge was but was not certain that he would make his intended destination because poor weather had reduced visibility and caused Bruce and other members of his party to become hypothermic. Thomas became disorientated in tropical rainforest, he then found himself stuck in

impassable terrain, fell down a waterfall, and became injured trying to self-rescue. Another example was Max who became stuck with an exhausted companion after unsuccessfully trying to navigate through harsh tropical vegetation. As Max says of his hiking companion.

"And when we started to come back down, we got caught in this big wait a while thicket, that was the thickest infestation of wait a while I've ever seen in my life. And we're getting lacerated and so we went OK, this is stupid. We didn't come through this on the way up. So we just climbed back up, and it's quite steep at the top. Got to the very top, you can tell you the top because it's only about the size of a small house. Then, so we thought okay, so we just go on there. So let's just bear off a couple of degrees and we beared off a couple of degrees. And we thought we'll go down here…But anyway, so we beared of a few degrees and we went down again. Still wait a while forest. What the hell. So we went back up again. Beared off a bit more went down again, wait a while. So we thought okay, we must have been a bit this way. So we try the third time. And we came to the real cliff face… my heads starting to go holy crap…And Bruce was cramping. We've run out of water. And he started to get a little panicky. So I was trying on the outside to be really calm, but inside I'm thinking how can we not find this trail?... He got so exhausted and the cramps were so bad, he just had to sit, I made him just stop and just sit under a tree." - Max

Discussion

Establishing who identifies as a lost Australian wilderness tourist poses a number of considerations. First it must be established who a lost person is, then it must be established who is a lost tourist and then this must be contextualised in an Australian wilderness setting. Utilising extant definitions such as those provided by Dudchenko (2010), Hill (1998), Montello (2020) and Syrotuck and Syrotuck (2000) it may be possible to define lost people as people who are unable to find their way, unable to be found, unable to understand or to cope with a situation, thought of by others as lost or experiencing a combination of these predicaments. Velasco and Casati (2020) further advise that this is likely to include both subjective and objective characteristics.

Having established who a lost person is, the next challenge is to define a lost tourist. Characteristics of tourist include a voluntary temporary traveller who is travelling in the expectation of pleasure (Cohen, 1979), making a discretionary journey (Leiper, 1979) and self-identifying as a

tourist (Yu et al., 2012). Merging these characteristics led Schwartz (2022a) to define lost wilderness tourists as "…people who engage in touristic behaviours in wilderness environments and are identified by themselves or others, as a tourist who is geographically disorientated and / or unable to return to places of safe refuge." (p64).

From these definitions it was possible to develop a tool to drive self-identification of people who have had lost wilderness experiences while engaging in touristic behaviours in Australian wilderness areas. After the tool was developed people were recruited through various channels including online media, traditional media, and word of mouth. Potential participants were then screened for suitability. Those candidates who were deemed to qualify as lost wilderness tourists were offered the opportunity to participate in the study. Those who agreed then took part in in depth qualitative studies to discuss their experiences. It is these interviews that were analysed in depth through the three step coding process.

The Lost Events

All the study participants experienced unique lost events. They all however shared the common experience of having been lost people in Australian wilderness environments. The study participants all entered wilderness areas of their own free will with the expectation of leisure or pleasure. Their journeys had planned starts, routes, and ends but the participants all unexpectedly became lost people.

Broadly speaking, the participants were disorientated, stuck or both disorientated and stuck. People who were disorientated were unable to geolocate current locations, intended destinations, routes or a combination of any of these. People who were stuck were unable to travel to their intended destinations unaided.

Mary was a clear case of disorientated because she had no idea where she was relative to her desired place of safety and Oscar was a clear case of stuck due to his injured foot. It was however unusual that people were either completely disorientated or simply stuck and most participants experienced varying degrees of being stuck or disoriented without such clear demarcations. Max had experienced being both geographically stuck and unable to navigate between two points. Thomas transitioned from being partially disorientated to completely stuck.

From the data that was collected it is therefore apparent that lost events can be described under the two meta headings of geographically disorientated or geographically stuck, that these two meta headings can be further divided into five core lost person categories and that lost wilderness tourist events may be partial or complete. This interplay between mobility, geographic awareness and degree of completeness is summarised in Table 4.

Table 4

Lost Categories.

	Not Lost	Partially Lost	Completely Lost
Mobility	Fully Mobile	Partially Stuck	Geographically Stuck
Geographic Awareness	Not Disorientated	Partially Disorientated	Geographically Disorientated

Geographically Disorientated

Geographically disorientated lost people were unable to way find. This group of participants had two unique subcategories. They were either partially disorientated or completely disorientated. The most common scenario was that they had some idea of their location but were unable to navigate to a place of safe refuge.

Partial disorientation could involve several different scenarios. A person might be partially disorientated if they know where they are, know roughly where they are or know where they want to get to but are unable to travel from their current location to their desired location. This may be caused by factors such as lack of personal skills, hostile terrain, an impenetrable route, vegetation or extreme conditions affecting visibility. This was especially common at the tops of hills or mountains, where weather closed in, when a direction of travel became unclear or when both of these circumstances existed. It was also common when there was harsh and unnavigable terrain such as waterfalls, cliffs and dense vegetation.

Partially disorientated participants included Jack (40's) who became temporarily lost while travelling on a known track and Thomas (late 30's) who could see where he wanted to go but could not navigate to that location due to dense vegetation. Similarly, William (early50's) had a very clear idea where he was but became unable to navigate to the track that he lost or the road that he was attempting to get to. Another example was Bruce (30's) who became trapped in near whiteout conditions while hiking a well-known mountain trail.

In contrast to partial disorientation total disorientation occurred when a person felt that they had no idea where they were. However even in these cases it was unlikely that the participants were as lost as they thought they were. For example, Mary was located around 1km from the track she had been hiking on and Carly was only 7 km away from her intended destination.

Table 5 summarises the characteristics that geographically disorientated participants reported. It demonstrates that while geographically disorientated people must be uncertain of their geographic location, they need not be completely unaware. It also shows that disorientation can occur with respect to current location, intended destination, or the route from their current location to their destination.

Table 5

Geographic Disorientation.

Fully aware of location	Somewhat aware of location	Not at all aware of location
Knows geolocation of • Current location • Destination • Path	May know • Current location • Destination • Path	No awareness of • Current location • Destination • Path
This person is not geographically lost.	This person is geographically lost because they may not know. • Current location • Destination • Path Or they may be experiencing a combination of these situations.	This person is geographically lost because they have no idea where they are, where their intended destination is or how to get from where they are to their intended destination.

Geographically Stuck

The second meta category for lost people was geographically stuck. These lost people were unable to travel to their chosen destinations because they were immobilised or because environmental conditions made progress impossible. Being stuck was not necessarily associated with being geographically disorientated. Some geographically stuck participants had full geographic awareness whereas other had partial geographic awareness or none at all.

Geographically stuck participants could be further separated into two subcategories. Some were stuck due to personal limitations such as injury or skill deficiencies whereas otherwise were stuck due to external limitations such as extreme weather and impenetrable terrain.

Becoming stuck could occur at a known point, at an unknown point or en route between two known points. Those who were trapped due to personal limitations included Oscar who had a badly injured foot and Bryan who lacked the necessary skills to successfully ascend a waterfall he had abseiled down. Those who were stuck due to external factors included Dale who had become stuck in thick cloud. Those who became stuck en route included Bruce and his party who became stuck due to poor weather and hypothermia. Table 6 summarises the characteristics of participants who reported being stuck.

Table 6

Characteristics of Geographically Stuck Participants.

	Internal causes	External causes	Stuck en route	Geographically and physically stuck
Geographic Location	• May be known. • May be Unknown.	• May be known. • May be Unknown.	• Known.	• May be known. • May be Unknown.
Mobility	• Limited mobility *or* • Not Mobile	• Limited mobility *or* • Not Mobile	• Limited mobility *or* • Not Mobile	• Limited mobility or • Not Mobile
Path to Safe Refuge	• Maybe known. • May be passable.	• Maybe known. • Not Passable.	• Maybe Known. • Not Passable.	• Maybe Known. • Not Passable.
Summary	These participants are identified as lost people because they are physically stuck due to internal factors. This may be due to them or a member of their party. • Becoming injured. • E.g. a broken foot.	These participants are identified as lost people because they geographically stuck due to external factors. This may be due to them or a member of their party. • Becoming trapped. • e.g. down a bank or waterfall section.	These participants are identified as lost people because they are unable to progress along their intend path to their intended place of safe refuge. This may be due to them or a member of their party. • Being unable to progress due to conditions. • E.g. experiencing impenetrable vegetation, terrain and / or weather.	These participants are identified as lost people because they are physically and geographically stuck. This may be due to them or a member of their party. • Being injured and trapped. • E.g. stuck on waterfall with fall injuries.

Geographically Stuck and Geographically Disorientated

This discussion separates lost person events into those that involved participants who were stuck and those that involved participants who were disorientated. It deconstructs geographically disorientated events into partially or completely disorientated and deconstructs geographically stuck events into those that were triggered by internal factors and those that were triggered by external factors. The suggested demarcations are useful for understanding the nature of lost person events but are somewhat oversimplified.

A lost person may be stuck with full, partial, or no geographic awareness. They may have limited understanding of where they are but still have full or partial awareness about where their

chosen destination is. They may also have full or partial knowledge about where they are but no idea how to get to their chosen destination.

Several participants experienced more than one lost event type through their individual lost events. Some became both geographically disorientated and physically stuck. For example, Thomas was initially geographically disorientated but then became stuck in impenetrable vegetation and injured himself before he was rescued by helicopter. This interplay between geographic awareness and mobility is summarised in Table 7.

Table 7

Geographic Awareness of Lost People.

Fully Aware	Somewhat Aware	Not at all aware
Knows geolocation of; • Current location • Destination • Path	May know; • Current location • Destination • Path	No awareness of; • Current location • Destination • Path
This person is not geographically lost.	This person is geographically lost because they may not know; • Geolocation • Destination • Path Or they may be experiencing a combination of these situations.	This person is geographically lost because they have no idea where they are, where their intended destination is or how to get from where they are to their intended destination.
They still may be considered a lost person because they or a companion are geographically stuck because; • They are injured • They have encountered impassable terrain • They have encountered extreme weather • Other events	They may also be stuck because they or a companion is geographically stuck because; • They are injured • They have encountered impassable terrain • They have encountered extreme weather • Other events	They may also be considered a lost person because they or a companion is geographically stuck because; • They are injured • They have encountered impassable terrain • They have encountered extreme weather • Other events

Conclusions

This chapter begins by developing a definition of lost wilderness tourists from extant literature. Search and rescue theory and lost person behaviour theory (e.g. Koester, 2008; AMSA, 2021) is used to establish that a wilderness search and rescue (WiSAR) event occurs when a person becomes trapped in a wilderness environment and unable to travel to a place of safe refuge without assistance. Lost theory establishes that lost events are both subjective and objective in nature. Tourism theory establishes that a tourist might be anyone who travels in pursuit of leisure or pleasure, who self identifies as a tourist, or who is identified by others as a tourist. Therefore, from extant literature it might be possible to describe a lost Australian wilderness tourist as 'someone who enters an Australian wilderness area in pursuit of leisure or pleasure, who self identifies or is identified by others as a tourist and who becomes unable to return to a place of safe refuge unaided'. This literature-based definition was used to develop a tool to identify and recruit suitable lost tourist participants to inform this study.

The second half of this chapter explored how to describe, define, and categorise lost tourist events in Australian wilderness environments. Self-identified participants undertook in depth qualitative interviews about their personal experiences as lost Australian wilderness tourists. From these interviews it was established that for the participants there appeared to be two main categories of lost people. These categories were geographically disoriented or geographically stuck.

People who were geographically disoriented were either partially disorientated, completely disorientated, or unable to navigate between known points. People who were geographically stuck were unable to extricate themselves to places of safety because they experienced internal limitations such as injury and lack of technical skills or external limitations such as impenetrable terrain and extreme weather.

The lost categories were not exclusive. Some participants experienced aspects of being both disoriented and stuck. Participants also often experienced compounding factors that contributed to their lost experiences. These included internal factors such as perception, knowledge, navigation skills, climbing skills, resilience, fatigue, fear and insecurity and external factors such as bad weather, harsh terrain, poor visibility, environmental conditions, and track conditions. When people were lost as part of larger groups there was also the inevitable role of group dynamics in decision making and coping abilities. The role of communication also influenced events before, during and after the participant experiences. These compounding factors are explored in more depth in the coming chapters.

Implications

Lost person behaviour theorists have developed several taxonomic models based on statistical data. This quantitative approach has given rise to excellent models that are routinely used to locate lost people throughout Australia and the rest of the world. The extant models however do not actively seek to include the voice of lost people nor do they seek to develop rich understandings of lost person experiences.

This chapter addresses the shortcomings of extant research by taking a qualitative approach and drawing exclusively from the voice of self-identified lost wilderness tourists to ask the question 'who is a lost wilderness tourist'. Through this approach the chapter has established that a lost wilderness user is 'a person who has entered a wilderness area in pursuit of leisure or pleasure and has become unable to reach a place of safety because they are geographically disorientated, geographically stuck or both disorientated and stuck'.

This chapter has developed a method to recruit lost wilderness tourists and to categorise their lost experiences. These participants who were recruited and their lost experiences will be further explored over the coming chapters. Their experiences will be deconstructed to develop a phase-based understanding of their lived lost experiences, to compare their understandings of lost events with other stakeholder understandings of lost events and to identify potential trauma prevention opportunities. Beyond this thesis the same methodology might also be used to develop better understandings of other lost person groups including especially vulnerable groups such as people with dementia and people with intellectual disabilities but this is of course a task for future research.

CHAPTER FIVE: PRE WILDERNESS

Introduction

The pre wilderness phase was the first phase identified by the data analysis. This pre wilderness phase occurred before the participants entered the wilderness. During this phase the study participants were able to freely access equipment, supplies, knowledge, and advice that they could take with them into their wilderness experiences. Furthermore, for the participants in this study the pre wilderness phase had two aspects. There was a long-term aspect that was part of their ongoing engagement with wilderness recreation. There was also a trip specific aspect that encompassed the planning and preparation that they did for the trip that they eventually became lost on.

Previous disaster theorists such as Faulkner (2001) and Cronstedt (2002) have determined that that this pre-event period is the optimal period for planning and preparation for any emergency response. Turning more specifically to lost person behaviour theory it has been shown that planning and preparation can influence wilderness behaviour (Kortenkamp, Moore, Miller, & Truell, 2021; Mason, Suner, & Williams, 2013). Lost person behaviour theorists have identified that different individuals take different approaches to planning, preparation, and risk management (Jeuring & Becken, 2013). Previous researchers have also indicated that the pre-event phase is a useful tool in wilderness incident prevention as is evidenced by preventive search and rescue literature (Mason et al., 2013; Pearce et al., 2019; Schwartz, 2022a). Previous research has however shown that pre-event planning, preparation and information seeking varies from individual to individual (Jeuring & Becken, 2013). Previous research has also shown that there is likely to be a mismatch between what wilderness managers consider to be effective methods of disseminating safety information and what is actually effective messaging (Kortenkamp et al., 2021).

This chapter therefore examines the lost participants' pre wilderness activities before they became lost wilderness tourists. The three components of this phase for the participants were planning, resource gathering and travel. Planning included travel planning, route planning, activity planning and contingency planning. Resource gathering involved gathering resources, developing skills and knowledge and, where applicable taking stock of group resources. Travel involved moving to wilderness points of entry. This phase was also influenced by the personalities and character traits of the participants, their companions, and their influencers.

Preparing for a Wilderness Journey

All the lost participants interviewed for this study had prior wilderness experience. Their wilderness knowledge was continuously being developed and utilised as they moved from one wilderness experience to another. Each trip also had its own unique characteristics and resource requirements. This thesis focuses on trip specific details for each of the lost wilderness tourist's experiences.

Trip specific activity refers to any activity that the lost participants engaged in to prepare for the wilderness journeys where they became lost wilderness tourists. This trip specific preparation involved planning, resource gathering and travel. It was also influenced by individual personalities and group dynamics. Planning included trip planning, activity planning and contingency planning. Resource gathering involved collecting physical resources such as tools, equipment and supplies and developing requisite skills and knowledge for the upcoming trip. Travel involved getting to the general wilderness area and getting to point of entry locations. Individual personalities and group dynamics influenced how the participants engaged with individuals' ability to undertake these tasks.

Planning

Planning activity included travel planning, route planning, activity based planning, contingency planning, and team building. For some participants this planning process was meticulous and well thought out for others it was more spontaneous or haphazard.

Travel Planning

Attention to trip planning was influenced by factors such as travel distance, length of trip, expectation of risk and personality traits. For some participants, such as Mary, Carly, Oscar and William, travel involved significant journeys. For these participants travel planning was a significant task that involved coordinating flights, accommodation, and overnight stops. Oscar described spending over a month planning his trip.

> "So, I think this plan would have been a month in advance… I drove from Brisbane to Townsville in one hit… so what we do is we usually go to Miriwinni. So we went to the service station. So we wake up at the rest stop... And then what we do is we go to the service station and we have a shower at the Miriwinni servo... Yeah. And then we just get on track." - Oscar

Other participants had significantly shorter journeys to their wilderness entry points. These people tended to be less invested in travel planning. Max and Bryan both undertook short drives to their wilderness locations and Thomas walked from his home to a nearby national park. Max even made a spur of the moment decision to visit an area closer to home because of time pressures. Max believed that this last minute change of plans made his lived lost experience more traumatic for himself and his loved ones.

> "So that was the first mistake. We told our families we were going somewhere where we didn't go and we made that decision on the fly."- Max

Route Planning

The second part of travel planning was planning the route that the participants intended to take once they entered their wilderness areas. Some participants had made extensive route plans while others had looser plans. Some took sole charge of planning, some developed plans with others and some developed plans that involved other people leading, guiding, or joining them. Several participants also had background knowledge about their chosen wilderness areas based on previous experience in those areas.

Dale was one participant who had done extensive route pre planning. Dales' route planning involved drawing on previous experience, undertaking map study and developing an appreciation of what navigational tools were required.

> "Yeah, well, it was just a planned day out walk to go to Mt Superbus in southeast Queensland. Go and see an old Lincoln bomber wreck. Done the walk a couple of times before so we knew the, the walk itself was strenuous and difficult and also in wilderness and off, it was off track so it was compass and stuff… Well, we'd planned it about a week, about a week and we did all the, you know, checked the maps and worked out the route we're going to take and. Yeah, having done it a couple of times before we just said, well, we'll just do the usual way we do it."
> - Dale

In contrast Liz had relied completely on her father to do the route planning.

> "But the thing is, he was the only one doing the planning. He was the only one who had this knowledge. So you know, not that planning aspect?" - Liz

Some participants stuck to or attempted to stick to their route plans precisely. Other participants changed their route plans shortly before they entered their chosen wilderness areas. Changing plans at the last minute often led to poor route planning and this in turn triggered lost events for several participants. Max had planned to hike in one location but due to time pressures he moved to a different location that he hadn't done any significant route planning for. Mary found herself with a spare day and undertook a spontaneous, unplanned day walk where she became lost. This role of changing plans is discussed in more depth in later sections of this thesis.

Activity Based Planning

All the lost participants had been lost wilderness tourists as defined by Schwartz (2022b). They were motivated by various recreational goals including climbing, hiking, skiing, sightseeing and photography. Undertaking these activities required planning and preparation. Their planned length of time in the wilderness and their anticipated environments also meant that some participants had to plan for eating, sleeping, keeping hydrated and dealing with challenging climates. There was also a range of safety and navigation requirements and plans. Some participants also developed safety and navigation plans that included such things as first aid kits, maps, compasses, mobile phones and personal locator beacons.

There was a range of understandings of and commitments to activity based planning amongst the participants. Furthermore, some individuals took personal responsibility for needs-based planning whereas others relied or co relied on other people. Bryan for example understood that the technical abseiling he was undertaking would require specialist skills and equipment, so he was happy to follow his more experienced companion. Max relied on his companion having a phone. Bruce worked with his companions to plan what was required and Jack worked independently as he preferred to hike solo.

Contingency Planning

A third part of planning was to develop contingency plans. This was not universally undertaken. Some participants developed in depth contingency plans, some undertook limited contingency planning, and some did no contingency planning. Those who did do contingency planning included Dale who included turnaround times in his planning.

"And we gave ourselves till two o'clock in the afternoon as being on top of the mountain. If we were still there two o'clock then it was time to just leave

because it's about two climb, descent to get off there… So yeah we just sort of gave ourselves two o'clock was the time to depart the mountain." - Dale

Jack and Carly both included first aid planning in their contingency plans. Carly went so far as to develop an emergency rescue plan that included taking a user activated, satellite based personal locator beacon (PLB). Carly also planned a time for loved ones to call for help if she became overdue.

"This is something that like for me, it has been drilled into me to carry a PLB... I'll carry the PLB like just on a day walk. It's just been drilled into me and so that's something that I tell everybody now as well is you've gotta have a PLB. It doesn't matter if you've got a snake bite if you've fallen down broken your leg. Just have a PLB." - Carly

Not all contingency planning was good. Mary developed a plan to use an app on her phone if she needed to call for help. She was however unaware that the app required phone coverage or that the area she was going into had no phone coverage. She felt that misleading advertising had led her to this erroneous belief.

"That was the other problem with that app, which, it's not a problem with the app. It's a problem with the way it's advertised.... It's a bit of gobbledygook actually. It does say that you can't get it without reception. And so then I contacted the app people when I was back home, and I got a call from a guy who had been one of the government people on the working group that devised the app with the people that, you know, the commercial people that developed it. And, and he was the one that explained to me what are the limitations of that app…

That was only one part of the problem. Another part of the problem was, I hadn't thought I'm going to be in Litchfield National Park, I had thought I was going to quite a big campground, which I was, I had assumed there'd be some kind of, I knew there was cafe there… There was no reception, no telephone reception for me. Currently there is Telstra, but it's very difficult. Now, I know from the Ranger there, Sam, who was part of the rescue that 90% of Litchfield doesn't have telephone reception." - Mary

Resource Gathering

The second part of the pre wilderness phase involved gathering tangible and intangible resources and assembling wilderness parties. Tangible resources included physical equipment such as climbing gear, sleeping bags, food, water, and safety equipment. Intangible resources included knowledge and skillsets. Resource gathering was typically based on prior knowledge, planned activities and group dynamics. This was often more intensive for people who had planned longer or more in depth wilderness experiences. For example, Bruce and his companions took what they thought would be enough food and equipment for a 65 km multi day hike.

> "The weather can be four seasons in one day on the overland track. And you can expect snow and heat and awful rains and stuff. That's just normal. So we all, we all had gortex jackets, waterproof pants, you know, all the good gear. You know, down jackets, thermals… the whole walk is about 65 K's." - Bruce

In contrast, Max and his companion paid little attention to resource gathering and took insufficient food, water, and safety equipment.

> "This one day we did everything wrong…we broke all the rules but this is the worst thing about it and we don't normally do. We normally both have phones too. If we go off trail we have a map and we have extra water and we do all of those things." - Max

Knowledge and Skills

A key intangible resource was the knowledge that the participants developed before they entered their wilderness areas. Some knowledge was developed over a long period of time, some was developed specifically for the trips. Some participants relied exclusively on their own knowledge and skills, some worked with hiking companions, friends, family, and hiking groups. Some also took companions with them who also had their own knowledge and functional skills.

Individual commitment to knowledge building was based on personal attitudes, perceived needs, and the desire for functional skills. Participants cited the need for general wilderness skills, physical fitness, navigation skills and functional skills.

Some participants felt a need to learn a lot about the environments they were entering. Others took a more relaxed attitude to knowledge building or let others guide them. Jack for example

felt compelled to collect as much information as possible from multiple sources. William, David and Oscar all developed specialist skills for their chosen activities before embarking on their journeys whereas Mark simply saw a peak he wanted to climb and Liz blindly followed her father. In a more extreme case Bryan did not understand that he needed specialist climbing skills and this knowledge gap led to him becoming stuck halfway down a waterfall and unable to climb up or down.

Knowledge Building

All the participants had previous wilderness experience and pre-existing knowledge and wilderness skills. This pre-existing knowledge was built and developed over extended periods of time through experiential learning, formal training, informal training, and active study.

Formal Training

Examples of formal training included past involvement with outdoor education groups. William cited the positive influence of outward-bound training.

> "Okay. Well, first of all I've done a lot of bushwalking through my life from about high school. I went to a boarding school, the only excuse you could get out of school was if you join the bushwalking club and walked on weekends, which we did. So I've got a pretty extensive background. I went to the Outward-Bound school. I used to be an instructor at Outward Bound." - William

Bruce and David both cited learning through Scouts.

> "But I was a boy scout in my earlier days. And frankly, I think some of the training that I got in that is probably what kicked in when I got in when I was in the shit." - David

Informal Training

Several participants received informal training from friends, family members and wilderness companions. Carly and Liz both cited their fathers as their primary sources of bushcraft. Mary cited her ex-partner. Max, Dale and Bruce cited the role of past and present hiking companions in their knowledge development.

"I think we were observing I guess what his decision making process was. I suppose that was a good thing... It was just like what we learned as we were exposed to it." - Liz

Experiential Learning

All the lost participants had experiential learning from previous wilderness excursions. There was however a range of experiential knowledge and skill building levels amongst the participants. Some such as Max, William, Oscar and Jack considered themselves to be very experienced, skilled and knowledgeable about wilderness areas.

"I thought I was okay because I was really experienced. There's no way I would have allowed a relatively inexperienced person to go. I would have told them definitely don't do it. But gee, I'm an Outward Bound instructor. Like, you know, I've got the experience." - William

Mary considered herself to be less knowledgeable.

"I've done a lot of walking with my ex partner who was a navigational whiz. This is the other bit of information and so I got extremely lazy and didn't bother to keep those skills up. Because I don't walk anywhere difficult on my own. Except on this occasion, and I didn't think it was difficult... that was another thing that, I had inadequate information about. You know, say it's my fault or not my fault, well, I didn't know. It is my fault." - Mary

Active Study

Some participants also learnt about wilderness activities and areas by actively seeking out third party resources such as local knowledge, literature sources, and web sites. This included Jack who was committed to learning about wilderness areas before he went in them.

"I found the Kim and Johnny books, the walking books… Yeah, I want to know where I'm going and how long it's going to be, how steep it is… So that makes a big difference… And I generally read the write up on national parks, all the social media." - Jack

Combination of Sources

Most participants drew on a combination of knowledge sources. All had some experiential learning and informal training, some also had formal training and used third party resources. For example, Carly had formal training through Outward Bound and Duke of Edinburgh Award, and she also had informal training from her dad and experiential learning from a lifelong commitment to wilderness adventures.

> "So definitely going bush was part of the mythology of me growing up… So whilst I did Outward Bound and Duke of Ed and things in school, and it was definitely, like part of our lives. And definitely part of I guess what was drilled into me from a very young age with dad was just around emergency management."
>
> - Carly

Companion Resources

Not all the participants were alone when they entered their chosen wilderness areas. Wilderness companions therefore also had an influence on what resources would be available in the wilderness. Companions took physical resources, knowledge, skills, and abilities with them. Developing, or failing to develop an understanding of these companion resources was part of the pre wilderness phase.

The knowledge and resources that companions took with them and the pre wilderness expectations placed upon these companions varied amongst the participants. Bruce designated himself party leader and as such he felt that developing an appreciation of resource needs and satisfying those needs was his responsibility. Dale and Max felt that their companions had shared responsibilities. Liz and Bryan placed the responsibility primarily on their companions. Liz had a clear understanding that her father was in charge of the trip. Bryan understood that he was a passenger in his companions' hiking and abseiling adventure and relied completely on his companions' knowledge and expertise. The mismatch between lost persons resources and knowledge, their companions' resources and knowledge and the understanding of each other's resources and knowledge triggered or exacerbated several events.

Impact of Knowledge and Skills

All the lost participants had some resources and knowledge. Some of them also had companions who brought their own resources and knowledge. The participants who were better prepared tended to fare better through their lived lost experiences. The participants who were not so well prepared, had not developed a good understanding of where they were going, what they were

doing and what resources they had between themselves and their companions, tended to have more difficult lived lost experiences.

Good knowledge led to good planning, good preparation and good decision making. In contrast lack of knowledge or a poor understanding of the match between actual and requisite knowledge bases, resources, and skillsets often led to poor planning, poor decision making and inadequate resources. This in turn made lived lost experiences more challenging and restricted rescue options. For example, Bruce established that his companions were mentally and physically fit for task before they departed for the Tasmanian mountains and this led to a successful self-rescue. In contrast Bryan and his companion failed to identify that Bryan did not have requisite skills and this led to failed self-rescue attempts and a traumatic night. This is explored in more depth through the rest of this thesis.

Travel

The final part of the pre wilderness phase is travel to the wilderness area. The shortest journey among the participants involved Thomas walking across the neighbourhood to the rainforest. The longest journey was Mary who travelled approximately 3500 km each way to her wilderness location. Other notable journeys were those of Oscar who drove approximately 1000km driving each way to and from his wilderness site and William who flew nearly 800km to an offshore island.

The travel to the sites did not feature highly in participant interviews in relation to their lost person events. The final preparations and decision making before entering wilderness areas however did have an influence. Mary for example made a spur of the moment on site decision to undertake what she thought would be a short-day walk and Max spontaneously changed his plans en route. This led to both of them becoming lost.

Personalities and Attitudes

Previous research has shown that people have different approaches to risk identification, information seeking and risk propensity (Jeuring & Becken, 2013; Kortenkamp et al., 2021; Mason et al., 2013). Similarly, pre wilderness activities were influenced by the attitudes and personalities of this studies participants and their companions. Some participants were more stringent in their planning than others. Some were more committed to knowledge development then others. Some were more risk averse than others. Some had stronger loci of control and some were more influenced by companions than others.

Risk Taking Propensity

Wilderness tourism always comes with some inherent risk. There was however a range of risk profiles amongst the lost participants. Jack was methodical about learning all he could about hiking areas and staying on track and altered his safety equipment to match the level of risk he was taking. A less risk averse participant was Carly who actively sought an increased risk level when she set out to hike the Larapinta trail to challenge herself.

> "Like, I just find it so interesting that yeah, when you've got these well maintained, well managed trails, they are safer and the way that Park Services are able to put in these measures to make them safer. But for people like myself, I don't want to do the safe trail. Like I want to push myself, I want to challenge myself and so you know, then, then I'm adding levels of risk." – Carly

Locus of Control

Locus of control refers to the degree to which a person expects that an outcome depends on their own behaviour or personal characteristics versus the degree to which they believe it is outside their control and is a function of chance, luck, or fate (Rotter, 1990). The internal locus of control in some participants was much stronger than in others. Jack and Dale had strong internal loci of control as was evidenced by their commitment to planning. Dale also displayed a strong internal locus of control when he took control of his lost hiking group of four people and led a successful self-rescue. Likewise, William had a strong internal locus of control as was evidenced by his strong self-belief in his climbing skills and his decision to climb solo.

> "I was telling myself, I'm a good rock climber, I can get up here, I can go down, I can get past anything. And I was really confident." – William

Group Dynamics

Group dynamics and other peoples' attitudes influenced wilderness experiences. In the pre wilderness phase this peer influence came from companion hikers and non-hiking friends and family. This influence of others could be positive or negative in the pre wilderness phase. A positive influence was when companions, friends and family acted as educators, co-planners, sounding boards and emergency contacts. Liz discussed her trip with her father and developed an emergency action plan before they got lost on their trip. Bryan also discussed his upcoming trip with his partner and with his daughter so they knew when and where to send for help. The influence of others could also be

negative. Negative influences were seen in Liz' blind faith in her dominant father and in the influence of Bryans' egotistical climbing companion.

> "But the thing is, he was the only one doing the planning. He was the only one who had this knowledge". - Liz

Chapter Discussion

Previous literature has linked hikers' pre wilderness activity to wilderness incident prevention (Hung & Townes, 2007; Kortenkamp et al., 2021; Pearce et al., 2019). This chapter has used empirical research to explore the pre wilderness activity of people who had been lost wilderness tourists in Australian wilderness environments. This pre wilderness phase encompasses all event related activity before the tourist enters the wilderness area.

For the participants it consisted of both an ongoing aspect and a trip specific aspect because the participants typically viewed individual wilderness trips as a part of their ongoing recreation lifestyle. It was also influenced by the personalities and attitudes of the participants, their associates, and their wilderness companions. The phase is unique because it is the only part of the lived lost experience where individuals have access to ample time and resources.

The pre wilderness phase can be understood through five components. These are planning, resource gathering, travel, personal attributes, and influence of others. Each of these had subcategories as shown in Table 8. Each of the five elements and their respective subcategories could influence lost person events for the better or for the worse. Each category and subcategory might also offer intervention opportunities to reduce the frequency and severity of lost wilderness tourist events.

Planning

Both planning and failing to adequately plan have been linked to wilderness incidents and severity rates (Boore & Bock, 2013; Mason et al., 2013; Pearce et al., 2019). For the participants in this study, planning involved working alone and with others to develop plans for upcoming wilderness trips. This included general ongoing wilderness adventure planning and trip specific planning as wilderness tourists progressed from one wilderness experience to another. General planning was vague, unfocused, and part of the participants' ongoing lifestyles. Event planning involved working out trip specific details such as routes, resource needs, travel needs, overnight needs and specific activities needs such as cameras, skis, and abseiling ropes.

Table 8

Pre Wilderness Elements.

Pre Wilderness	Brief Overview	Key Features
Planning	Developing plans for upcoming wilderness journeys.	• Background • Event planning • Travel planning • Route Planning • Activity planning
Resource Gathering	Collecting the resources that are deemed necessary for the trip.	• Physical resources • Knowledge building • Team building
Travel	Travel to site and preparation for entry into wilderness.	• Travel to site • On Site preparation
Personal Attributes	Unique personal attributes and characteristics belonging to the individual and their companions.	• Participant attributes • Knowledge • Risk profile • Locus of control
Influence of Others	Formal and informal roles as educators, advisors, and wilderness companions.	• Wilderness companions • Non companions

Resource Gathering

The match or mismatch between requisite resources and actual resources have been identified as key contributory factors with respect to both incidence avoidance and harm minimisation (Boore & Bock, 2013; Mason et al., 2013; Pearce et al., 2019). Resource gathering for the lost participants in this study involved collecting tangible and intangible resources and assembling wilderness parties. Tangible resources included food, water, and specialist gear. Intangible resources included general knowledge, specialist skills, and the knowledge, skills, and attitudes of wilderness companions.

Travel

The third part of the pre wilderness journey was the travel. This ranged from a short walk across town to the site through to journeys of hundreds of kilometres. Travel involved travelling, making final on site preparations and decisions, and getting to points of entry. Travel has not previously been identified as influencing either lost incidence rates or severity. It may however provide an opportunity to present wilderness users with en route education. This need for education has been identified by previous researchers (Hung & Townes, 2007; Mason et al., 2013).

Education was also identified throughout this study as a significant harm reduction opportunity by both lost people and non lost people interviewees. Furthermore, several emergency

responders suggested that en route education messaging might contribute to a reduction in lost incident and a reduction in incident related harm.

Role of Personalities

The role of personality has been previously linked to wilderness behaviour particularly with respect to information seeking and risk taking (Boore & Bock, 2013; Jeuring & Becken, 2013; Kortenkamp et al., 2021; Mason et al., 2013; Pearce et al., 2019). The personalities and attitudes of the participants, their companions, and other stakeholders involved in this study also influenced decision making, knowledge building, risk propensity and group dynamics throughout the pre wilderness phase. Personalities could have positive or negative influences on the trauma associated with lost events. Participants that had committed to planning, developed good knowledge and skills, were risk averse, had strong internal loci of control and experienced positive peer pressure tended to fare better than others. Conversely participants who overestimated their abilities, had less risk averse attitudes or inappropriately relied on companions tended to fare was than others.

Conclusions

This chapter has drawn from both extant literature and empirical research to describe the pre wilderness phase of the lost participants wilderness experiences. For the participants this pre wilderness phase consisted of planning, resource gathering and travel and was influenced by the attitudes and attributes of the lost people and other people who were connected to their wilderness events. This part of the lived lost experience occurred before they entered wilderness areas and equipped them for upcoming journeys.

Implications

Each of the five elements in the pre wilderness phase and their various subcategories presents intervention opportunities for stakeholders seeking to reduce both the frequency and the severity of lost person events. Such preventive interventions could be incorporated into planning, resource gathering, travel and wilderness education programs aimed at wilderness users, their companions, and their influencers. These interventions could be self guided, directed informally through friends, family, and companions, promoted through commercial entities or installed more formally through third parties such as scouts, outdoor education and social media groups.

The coming chapters will demonstrate how the pre wilderness components combined to influence the likelihood of lost person events occurring and the severity of those events when they did occur. They will show that when people made good pre wilderness decisions they were better prepared for their lived lost experiences and their experiences were less traumatic. They will also show that when participants made poor pre wilderness choices they had more traumatic outcomes. The challenge therefore is for all wilderness tourism stakeholders to learn about, engage in, promote and encourage positive pre wilderness activities in order to contribute to harm reduction and incident minimisation.

Looking Forward

This chapter has explored pre wilderness activity. The next two chapters will explore what happened after the participants entered the wilderness and what caused them to become lost wilderness tourists. This will be followed by an examination of their lived lost experiences and their rescue and the recovery processes.

CHAPTER SIX: PRE-EVENT

Chapter Introduction

The second phase of the lost experiences was the pre-event phase. This pre-event phase began when the participants crossed physical thresholds, entered wilderness areas and commenced their wilderness journeys.

Before entering their chosen wilderness areas, the participants had developed expectations of what they would experience and had planned and prepared for those wilderness excursions. After they entered their wilderness areas they undertook their wilderness journeys, utilised their resources, experienced the environments, applied their personal skills, were influenced by others and constructed their wilderness experiences with very limited, or no, access to the outside world.

Previous researchers have identified differences in planning, preparation and information seeking behaviour amongst wilderness users (Boore & Bock, 2013; Jeuring & Becken, 2013; Mason et al., 2013). Similarly, for the participants in this study some had engaged in more planning, preparation, and knowledge acquisition than others. Some participants were therefore well prepared, some believed they were well prepared but weren't and some did not pay much regard to planning and preparation at all. The match or mismatch between planning, preparation, resources, capabilities, expectations, and realities perhaps unsurprisingly became evident during this pre-event phase for some participants.

Five Factors

The pre-event phase was influenced by five factors. These factors were the journey, the environment, physical resources, the lost people themselves, and influential others. The journey was the physical journey from the start of the wilderness excursion to the point where the lost person events were triggered. The environment was where the journey occurred. Physical resources were the items that the participants carried with them into the wilderness. Participants also took knowledge, personality traits and attitudes with them, and they were also influenced by other people who accompanied them or influenced them beforehand.

The Journey

The pre-event journey began when the participants and any companions entered wilderness areas. For most participants this occurred when they entered at defined trail heads and headed up

clearly delineated tracks. Some participants such as Max and Thomas entered wilderness areas at unmarked locations to begin their planned off track journeys.

Once the participants entered their chosen wilderness areas, they had limited access to the outside world. They begin to experience the realities of their wilderness environments and their resource choices. They began to experience the group dynamics of their wilderness groups. They also began to rely on the knowledge, skills, abilities and personality traits of themselves and others. For some this interplay was as expected. For others it was different to what was expected. Oscar and his companions found the journey easier than expected and undertook a short side trip up a stream. Bruce found the going tougher than expected and felt they were travelling too slowly.

During their pre-event journeys the participants began to engage in their chosen wilderness activities such as hiking, nature photography (Oscar), cross country skiing (David), and climbing (Max and Bryan). Some participants reported becoming temporarily disorientated due to navigation difficulties and others reported what they considered to be minor injuries along their journey such as cuts, scratches and minor strains and other fatigue issues.

The Environment

The participants' lost events occurred in a wide range of Australian wilderness environments. These environments had natural features and human made features. Natural features included terrain, ground cover, and weather. Human made features included trail markings, signage, physical structures, and technological infrastructure. The ability to anticipate, interpret, understand, learn from and engage with their environments impacted the participants' journeys through their pre-event phases. This ability varied greatly amongst the participants.

Natural Environment

The natural environments participants encountered reflected the vastness of the Australian landscape. David and Bruce experienced alpine environments with near whiteout blizzards. Carly and Mary encountered dry, hot, flat, and arid landscapes. Bryan, Jack and Thomas encountered tropical and subtropical rainforests. Max and his companion experienced steep terrain. William became unable to progress due to rocky cliffs. Bryan and Thomas became stranded in and around waterfalls. Mark, Thomas, and Max also had difficulty dealing with thick vegetation.

Thomas described the terrain he encountered as being so terrible that not even wild animals would live in it.

"In between that wait a while stuff is like that clay, like a muddy, cause there's no grass and it's too dark. It's like, just dirt. It's like, nothing lives there. I look, I go oh, that's no good sign when there's no toads, you know. Nothing wanted to live there. There was no toads I couldn't hear them hopping, I could at first but as we got to the different part of the hill, the climate sort of went more muggy, so it got denser, then the ground couldn't get enough sunlight and the grass couldn't grow. So I was thinking oh it aint no good thing. When you shouldn't really be here because it's just not a good place to be. I could hear some pigs running around, I thought, where I actually got over further there was no pigs or nothing and I thought they're not even here cause they're not stupid enough to be here." - Thomas

Meteorological Environment

Weather conditions could make the pre-event journeys easier or more difficult. Some weather conditions also triggered lost events as will be discussed in the next chapter. Participants' experiences included extreme heat, high humidity, extreme cold, blizzards and near whiteouts. Dale, David and William all experienced near whiteouts that restricted their visibility and therefore their ability to navigate. Bruce experienced a near whiteout accompanied by a blizzard and extreme cold.

"Visibility is crap. Early on when I stopped to get my, to change my gear out visibility was fifty, a hundred meters. But by the time we kind of actually got up onto the very top plateau visibility was dropping. So it was dropping like 40 metres and then kind of 30 metres and then you know mist just blowing in as well and kind of by that last K and a half two K's you couldn't see, you know, six metres in front of it, you had to kind of stay really close to each other" - Bruce

In contrast Max and his companion experienced extreme heat and humidity.

"But we were about probably an hour, probably it took us only to get to the top and when we got to the top it was January so it was very hot. And we got through our water pretty quickly." - Max

The ability to anticipate, prepare for and respond to these meteorological conditions varied amongst the participants. Some participants were well prepared, some were not well prepared, and

some were not as adequately prepared as they first believed. This ability was influenced by the extremity of the weather and on the knowledge, skills and experience of the individual participants and their companions.

Human made Environment

Most of the participants had interactions with human made environments. The main interaction was with tracks, trails, markers and signposts. There were also visual interactions with structures and roadways and interactions, or attempts to interact, with communications infrastructure and technological environments. These interactions could be an aid or a hindrance. Tracks, trails, markers, structures, signposts and roadways were used as navigation and wayfinding tools. Relying too heavily on clearly marked trails could however lead to navigation difficulties when they became less defined or led to false trails as Mary, Max and Dale learned.

> "The landscape changed quite a lot. And after a bit you couldn't see any path on the ground. It wasn't discernible at all. And it was rocky, it was open. But it was still you know, bit hilly and you were relying on metal posts with a triangle. And sometimes you couldn't see, you couldn't always see them in your line of sight. So you're heading thinking, I think I'm going the right way." – Mary

Signage

A prominent feature in the human made environment was signage. It has previously been noted by Kortenkamp et al. (2017) that signage has limited value in preventing wilderness incidents or controlling wilderness users' behaviours. William confirmed these findings of Kortenkamp et al. (2017) when he deliberately chose to ignore the warning signs that said not to hike alone after his guide cancelled.

> "So there were three signs. I just thought, well, if I would have done it with a guide, I was prepared to do it with the guide, they cancelled it. I'm only here for, I think I was there for a week or something. They roster so many walks per week and they didn't have any more planned while I was there. So I just thought, blow it, bugger em so to speak … And for their convenience they weren't going to take me up there so I'm going up there anyway." - William

Figure 6

The warning sign that William ignored.

Source (Stanley, n.d.)

Technological Environment

Another part of the human made environment was the technological environment. Oscar and Thomas had difficulties with poor phone coverage. Mary expected to find charging facilities and mobile phone coverage in the national park she was visiting and was surprised that there were none.

"Another part of the problem was, I hadn't thought 'I'm going to be in Litchfield National Park', I had thought I was going to quite a big campground, which I was …There was nowhere to charge anything. There was no reception. No telephone reception for me." - Mary

Mary's problem was compounded by her mistaken belief that the rescue app on her non satellite phone would operate using satellites instead of conventional cell towers.

"So when I thought no, I'm lost now, I'm going backwards and forwards, I can't see any markers at all. I thought I'll use the emergency plus app. I'll call for help. It's sensible at this stage. And I hadn't understood. And I now know that I've since discovered that a lot of people in our club don't know that you can't use that app to call for help if there's no reception." - Mary

Physical Resources

When the participants entered their wilderness areas, they carried all the physical resources that they intended to use through their wilderness experiences. This included food, water, headlamps, clothing, sleep systems, tents, phones, maps, compasses, specialist equipment, GPS units, personal locator beacons (PLB's) and similar items. Participants who were accompanied by others also had access to collective group resources. This was typically all the resources that they had access to until they were either rescued or became unlost. Some participants did however find and utilise other resources from the natural environment such as water and rudimentary shelter as discussed further in this thesis.

Some participants were well equipped, some believed they were well equipped, and some had not given much thought to physical resource needs. Oscar, Bruce, and Jack were experienced hikers and were well equipped with clothing, wood, water and safety equipment.

"I've been in crappy weather. The weather can be four seasons in one day on the overland track. And you can expect snow and heat and awful rains and stuff. That's just normal. So we all, we all had gortex jackets, waterproof pants, you know, all the good gear. You know, down, down jackets, thermals the whole lot." - Bruce

Max thought he was well prepared for his short-day hike until he ran out of water and also realised that neither he nor his companion had a phone to call for help.

"Anyway, we're running a bit late, so I thought I didn't bring my phone because it so flat. I just thought oh Bruce will have his. And I said, can I just use your phone… of course Bruce didn't have his phone. I went your joking? I didn't bring mine. What?" - Max

Mary had made a spontaneous decision to go on a short day walk and transferred equipment from her main hiking pack to a small day bag without a lot of thought.

> "One of the problems is, I've found is when you move from a daypack to a full pack, you don't always transfer the right stuff. I always transfer my first aid kit, but not necessarily the other stuff." - Mary

Individual Factors

Previous research has shown that individuals have different attitudes toward wilderness behaviour, particularly with regard to planning, preparation, risk, risk perception, risk avoidance and risk acceptance (Gstaettner et al., 2018; Haegeli & Pröbstl-Haider, 2016; Jeuring & Becken, 2013; Mason et al., 2013; Pearce et al., 2019). Similarly, the participants in this study all had unique attitudes to preparation, knowledge acquisition, decision making and risk. During the pre-wilderness phase this was seen in the approach they took to preparation. During the pre-event phase it was evidenced by the way they approached their journeys, responded to change, utilised their resources and worked with other people.

Knowledge, Skills, and Abilities

All the participants were experienced wilderness users. They all had unique knowledge, skills and abilities that influenced how they approached their wilderness journeys. Mental skills included problem solving and decision-making abilities. Practical skills included general bushcraft as well as more specific skills such as navigation and climbing skills. The match between assumed, actual and required skills became evident during the pre-event phase.

Practical Skills

The participants required practical skills to undertake their planned wilderness activities. The presence or lack of such skills became evident during the pre-event phase as participants engaged with the environment, navigated pathways, and began to undertake their chosen wilderness activities. Participants had different skill levels and different understanding of what was required to do this. Bruce felt that he was well equipped for a hostile environment, but Max was certain that he was not well equipped for a hostile environment. Max was comfortable off track, Jack had faith in his ability to navigate and Mary did not have good navigation skills or faith in the skills she did have.

> "I've done a lot of walking with my ex partner who was a navigational whiz, this is the other bit of information. And so I got extremely lazy and didn't bother to keep those skills up. Because I don't walk anywhere difficult on my own." - Mary

Similarly, Bryan's lack of technical climbing ability caused him to experience difficulty during the pre-event phase.

> "Had a bit of a rest, had a bit of lunch and everything and that's when we decided to start climbing and I just was having a lot of trouble, was only getting a few meters, taking a long time. He was sort of trying to show me showing me but we were just having a lot of trouble." - Bryan

Decision Making

Decision making was influenced by knowledge, resources, the environment, the task, and other people. Some decisions were well thought out and preplanned. Some decisions were spontaneous or less well considered. Decision making was also influenced by participant experiences, their willingness and ability to adhere to plans and their general attitudes to risk management. Some participants also had their cognitive and decision making abilities affected by stress.

Preplanned decisions included route plans, activity plans, turnaround times and rescue plans. It was not always possible to implement these preplanned decisions as the reality of the pre-event phase unfolded. The environment hindered the implementation of a preplanned decision for Dale, Bruce, William and Thomas because hostile weather and terrain meant that their original plans became unviable. Dale and his companions were unable to adhere to a preplanned turnaround time because a weather front closed in on them.

> "So yeah we just sort of gave ourselves, two o'clock was the time to, to depart the mountain. But the weather rolled in at one and then it caused all sorts of confusion as to exactly which way was the best way off, and which way we were going and all that as well." - Dale

Some participants also made spontaneous decisions in response to changing circumstances, the physical environment or new opportunities that presented themselves. William decided to climb solo when his prebooked guide was unavailable. Mark followed a poorly marked trail that was a different trail to the one he originally planned because it seemed interesting.

"I don't know what made me do it. I just, it wasn't a sign there was just like I could see was a clear track." - Mark

David was motivated by the company of an attractive female he met while skiing solo.

"Because all I did was follow a pretty girl." - David

Stress and Decision Making

During the pre-event phase several participants began to experience stress. This stress had the ability to impact cognitive functioning and decision making. It could induce tunnel vision, hyper fixation and the inability to make sound rational decisions. An example of this was Bruce who became hypothermic. Bruce was an experienced wilderness tourist but his hypothermia impaired his ability to make sound and rational decisions including the decision to don weatherproof clothing.

"I said look, I'm gonna stop and get my gators off and I'm going to put some warmer pants on. And the wind was blowing so strong like I felt like I was starting to get blown off the, because it's quite, quite exposed, starting to get blown off the trail…

I got to the point where I'm like, like my hands getting cold, already starting to shiver. If I stop and get my big heavy pack off, and then try. And I thought oh crap like, like my, my waterproof pants are like halfway through my pack because I didn't think I'd need them. My down jacket, I didn't want to get it wet, and I didn't have a polar fleece with me. And that was kind of halfway through my pack as well and I just, I just, it just went in the way too hard basket. I just thought nah it'd be okay I'll just drink some water and have some, have a muesli bar or something I'll be right and I just. I'll just push on and the further we got up the colder I got and I already felt like I was past the point of no return before you know." - Bruce

Risk and Attitude to Risk

Everyone who enters a wilderness environment for recreational purposes assumes and accepts some risk (Gstaettner, Lee, & Rodger, 2018). Some participants enjoyed the challenge of developing skills to safely engage in otherwise risky behaviour. William and Oscar understood that mountaineering and rock climbing could be risky but had dedicated a lot of time to learning skills to

engage in these activities. Some participants however were simply willing to accept more risk than others and some actively sought out more risk than others. Carly describes this.

> "I think I find it so interesting that yeah, when you've got these well maintained, well managed trails, they are safer and the way that park services are able to put in these measures to make them safer. But for people like myself, I don't want to do the safe trail like I want to push myself I want to challenge myself and so you know, then then I'm adding levels of risk." - Carly

Confidence and Overconfidence

All participants were confident of their ability to undertake their chosen adventures. Confidence and overconfidence led to poor decision making by a number of participants. Oscar was confident of his ability to cross a log before it snapped and damaged his foot. Bruce was confident in his ability to deal with the demanding climate. William was confident of his ability to climb unguided. These participants were all proven wrong. Their over confidence however stemmed from the mismatch between their belief in their abilities. William describes this.

> "I thought I was okay because I was really experienced. There's no way I would have allowed a relatively inexperienced person to go. I would have told them definitely don't do it. But gee, I'm an Outward Bound instructor. Like, you know, I've got the experience and experience got me into trouble. My overconfidence, which is why I got in shit too. Because I think a lot of people get into trouble from overconfidence, and they are experienced, they can do a lot of things that it's you can still have an, you know, have an accident, get lost. So the signs, I agree, definitely, you should have to have a guide." - William

Influence of Others

Kortenkamp et al. (2017) have previously identified that hiking companions can influence wilderness behaviour. Other people influenced the lost participants in this study throughout their pre-event phases. Some people had direct influence as members of their wilderness parties. Others had more indirect roles when they influenced the participants planning, preparation, knowledge, skills, and attitudes. Two further roles that other people had in the pre-event stage was when they were

expected to be part of the hiking party but failed to join the group and when they serendipitously joined the lost party on their wilderness journeys.

Influence of Other Group Members

The participants who took part in group wilderness experiences had groups ranging in size from two to eight people. Other group members influenced their pre-event phases through their resource contributions, their roles in group dynamics, and their roles in individual and collective decision making. Other people also had capabilities and limitations that influenced group decisions.

Other Members Resources

Other members influenced the physical and human resources of the party. The physical resources that each party member carried become part of the group resources. Other people also influenced the resources that were available to the participants less directly. Bryan followed the lead of his companion and did not give much thought to equipment. Likewise, Liz did not give much thought to resource needs because her father was in charge of packing and planning.

> "You know, there would have been a sufficient first aid kit. There would have been, we had hammocks to sleep in because we knew we wouldn't be able to sleep on the ground in the middle of the rainforest. You know, we had plans, I suppose, or he did...
>
> But the fact that we didn't have water bottles, I thought was like, why don't we have water bottles doesn't make a lot of sense to me... We also weren't carrying water bottles, because there apparently there was plenty of water around. And that's all we would need." - Liz

Group Dynamics

Some participants had established positions as team leaders before they entered their wilderness areas. Some participants took up leadership roles as their journeys progressed. Some participants established that they would be followers and not leaders before they entered their respective wilderness areas. These decisions to lead or follow could have both positive and negative impacts on the participants. Roles within the group established how much responsibility they had and how much influence they had over group decision making.

The participants who took up leadership roles carried the burden of leadership and felt accountable for all the positive and negative outcomes of the pre-event phase but they also felt an increased ability to influence their groups. Dale felt the need to tell people to calm down and accept their situation by speaking some hard truths about their situation and by leading attempts to self rescue.

"The two guys that panicked all they could think of was we gotta get off here as quickly as possible and I said, I said to them we can't get off here as quickly as possible because what if we get to the top of a cliff and then step off of it and that'll be the end of it. So we've gotta try and you know make sure that we, we've got ourselves calm and sorted out to know what we're doing and how we're going to attack it.

… it was gonna get a bit steep that's all right but we just gotta not let it get too steep as we were going. And that's what we were doing and yeah every time we got to really steep point we thought, no fail that, let's go back up and try again from a different direction so.

…yeah, it was, it was really hard to try and keep everybody together. With the panicking ones it was trying to calm them down, so we have to stop, let them calm down and then also discuss how we're going to tackle it from that particular point and, and then go from once we're happy that maybe that's a good way to do it let's, let's move on. But of course then we'd go right to this is not the way to go and then panic would just set in again." - Dale

Bruce had established that he would lead his group before entering into the wilderness. For Bruce the burden of leadership meant that he felt responsible for the situation that the group found itself in.

"It was mainly me leading. Ben was kind of supporting it…The hard thing was I had to keep in balance between looking after the group and being responsible because I'm just thinking shit, like, I've got, I'm the one who's gotten us into this situation because I've organised the hike. I'm the one who's done this the most. I'm the most experienced walker in the entire group. You know, let's all go to Tassie, it's gonna be great, you know, and here we are in a blizzard and lost late in the

afternoon. So there was that whole component playing out for me where I'm just thinking shit, this is awful." - Bruce

The Followers

Some participants had committed to following others through their wilderness journeys. For Bryan this was because his companion was much more technically skilled than he was. For Liz it was because her father was leading their wilderness journey and she had no option. This follower role meant that these participants gave up a lot of control in their wilderness activities and decision making. For Bryan this resulted in him unknowingly being inadequately prepared. For Liz this meant that she followed her father automatically even when it meant being inadequately prepared, becoming lost, or becoming injured.

"But all of my experiences with the hiking, and the lost, being lost, was back when I was a teenager, and my dad was leading his walks. So he had a lot of experience and yeah got us into some sticky situations, but we always got out of them. You know, we, we trusted him completely with knowing that he'll figure it out, you know, we'll just do what he says. And invariably, yeah, we were just extremely lucky that none of us ever suffered severe injuries, other people, on walks, had issues, but it never happened to us." - Liz

Influence of Others not in the Group

People who were not part of the wilderness party also influenced the participants pre-event experiences by providing advice, taking up support roles and causing external pressures.

Educators

Several participants had gained wilderness skills through formal and informal educators. Formal educators included Outward Bound and Scouts.

"But I was a boy scout in my earlier days. And frankly, I think some of the training that I got in that is probably what kicked in when I got in when I was in the shit. Yeah," - David

Informal educators included friends and family. Carly had received her outdoor education from her father.

> "I'll give you some background, which is that my dad is a kiwi as well. Big tramper, so definitely going bush was part of the mythology of me growing up."
> - Carly

Outsider advice was not always useful. Mary undertook her walk following well meaning but inappropriate advice from a stranger.

> "He said, Oh, yeah, it's a lovely little track, it's fine, it's easy, blah, blah, blah. So that's why it's not his fault, either. But I was reassured that it was just a bit probably a bit like the way I'd gone the day before. And it wasn't at all like that." - Mary

External Pressures

Other people could also hold negative influences when they created external pressures. Max and his companion felt pressure to return in time for a school working bee so they spontaneously changed their route.

> "And then I said to him, now I'm rethinking because Whiterock's a bit of a drive to get there and whatever and I've got a working bee at school later on that day. So I said maybe we might just do Red Peak... and we've made that decision on the fly." - Max

Rescue Planning

People outside the wilderness party could also play a security role in case wilderness experiences did not go to plan. Several participants gave their plans to friends and family so that they could activate rescue plans if they became missing or overdue. Jack did this through phone calls and emails.

> "I always tell my family where I am. Where I'm going to go to, which trail and when I'm expecting to get back… My mothers up here as well, I'll email her the notes, the link to the national parks track. I'll email the link to the track and give her the start and finish time." - Jack

Other people also played a role in the pre-event phase when they cancelled plans to be part of the wilderness journey. William had booked a guide, but the guide cancelled. This led William to illegally undertake his journey without a guide.

> "When you get to Lord Howe Island there are lots of notices saying you are not allowed to climb Mount Gale or Mount Lidgbird without a guide… it's illegal to climb up without a guide. There are signs everywhere saying it's illegal do not pass this point without a guide and all that sort of stuff… So I went there to do it. Once I got there, the fact that it was forbidden wasn't going to stop me."
>
> - William

Chapter Summary

Previous research in tourism disaster management has identified that emergency events happen in phases (Faulkner, 2001). Previous research into wilderness preparedness has shown that different people have differing approaches to planning, preparation, information seeking and risk management (Boore & Bock, 2013; Gstaettner et al., 2018; Jeuring & Becken, 2013; Mason et al., 2013). Previous preventive search and rescue literature has also shown the wilderness experiences can be influenced the environment (Whitehead, 2015), personal characteristics and peer influences (Kortenkamp et al., 2017).

This chapter has explored the pre-event phase of the lost wilderness tourist experience. This phase occurred after the participants entered their wilderness areas and continued until the lost events were triggered. Some participants experienced this pre-event phase alone while others experienced it as part of a larger group.

For the participants the pre-event phase consisted of five elements. These elements were the journey, the environment, physical resources, individual factors, and influential others. The journey refers to the physical journey that the participants undertook. The environment was the physical, meteorological, and technological environment where that journey occurred. Physical resources were what the participants took with them to enable their wilderness experiences. Individual factors such as knowledge, skills, abilities and personality traits guided how the participants constructed their wilderness journeys. Other people influenced the pre-event phase either directly as wilderness party members or indirectly as external influencers. These factors and the way they interconnected

influenced the pre-event phase, as did the match between the participants expectations, experiences and ability to cope.

Anticipated Needs, Actual Needs, and Capabilities

People enter into wilderness areas to spend time in nature and away from modern society (Boller et al., 2010). Once they enter these wilderness areas, they have limited access to the outside world. They therefore constructed their wilderness experiences through the interplay between the five elements of the journey, the environment, physical resources, individual traits, and the influence of others. They also experienced the match or mismatch between what they planned for, what they prepared for and what they needed.

What the participants planned for, what they prepared for and what they experienced could be categorised as anticipated needs, actual needs, and resources. Anticipated needs were what the participants thought they needed to successfully undertake their planned wilderness activities. Actual needs were what they really needed. Resources were all the tangible and intangible assets that they had available to them through their wilderness journeys. These resources included all the knowledge, equipment, skills and abilities that the participants and any companions took with them on their wilderness journeys. How closely anticipated needs, actual needs, and resources aligned became a key characteristic in their pre-event experiences.

Matches, Mismatches, and the Five Elements

The match or mismatch between anticipated, required, and actual preparedness resulted in people being well prepared, under prepared or not well prepared for their wilderness journeys. The likelihood of a good match between anticipated needs, actual needs and available resources was influenced by individual knowledge, their personality traits and the interplay of the five pre-event elements. When the anticipated, actual amounts of required preparation were closely aligned the participants were well prepared for their wilderness journeys. When they were poorly aligned the participants were less well prepared. Mismatches between anticipated needs, actual needs, and resources could be due to poor planning and preparation, a different to expected environment, insufficient physical resources, individual attributes, or the influence of others.

Figure 7

Actual needs, Anticipated needs, and Resources.
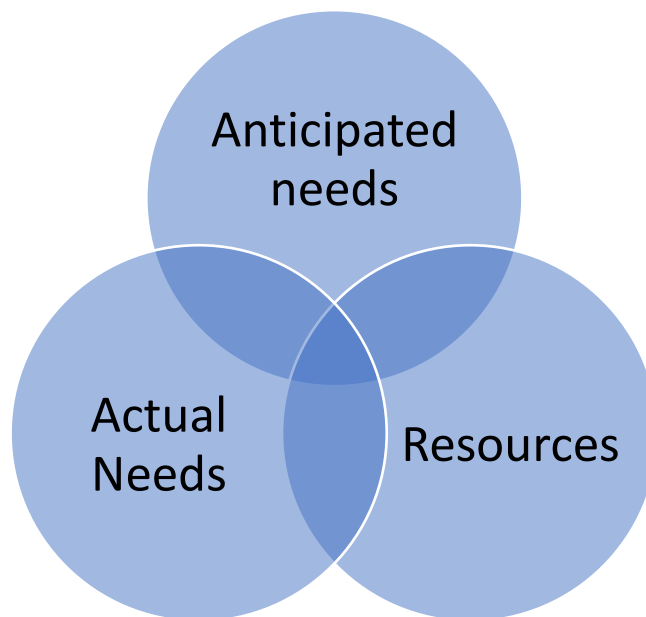
The more that anticipated needs, actual needs and resources overlap the less likely it is that trauma will occur.

Journey Planning and Preparation

Some participants were better prepared for their journeys than others. Poor preparation could result from lack of understanding, lack of commitment or lack of interest. Participants who had developed a good understanding of where they were going, what they were doing and what they needed had the opportunity to be well prepared. Likewise, participants who had put effort into planning and preparation were less likely to be underprepared than their counterparts as the coming chapters will show.

Examples of good planning were demonstrated by Oscar, Bruce and Jack who had all developed task plans, contingency plans and rescue plans. Participants who were less well prepared included Max, Mary and Bryan. Neither Mary nor Max had given much thought to their presumed short-day walks. Bryan was unprepared because he had put in little personal preparation and simply did not understand what he was attempting to do.

Environment

The environment consists of geographical features, meteorological elements and human made features. The environments that the participants encountered during the pre-eventpre-event phase were not always what they expected. This match or mismatch between the expected and actual environments led to harder than expected journeys and to inappropriate equipment choices. Several participants experienced harsher than expected climate, vegetation, and terrain. Several participants also experienced unexpected cell phone black spots.

Equipment

All the participants took physical resources such as clothing, sleep systems and provisions with them when they entered their wilderness areas. The items that they took, the suitability of these items and the ability to use these items made their pre-event experiences easier or harder. Examples of this influence included Bruce who took clothing suitable for an extreme environment, Max who did not take enough water and Bryan who did not know how to use his climbing gear.

Individual Factors

Individual factors included the knowledge, skills, abilities, and attitudes of the participants. These had a global influence on how well the anticipated needs, actual needs, and resources aligned. Some participants were committed to leading their parties, developing good wilderness skills and learning about their wilderness areas whereas others took a more laissez faire approach to knowledge building. Those participants with strong loci of control had a greater opportunity to align anticipated needs, actual needs, and resources.

Influence of Others

Wilderness experiences were influenced by the participants, but they were also influenced by other people. The influence of others could be positive or negative. Other people could also influence the experience as members of the wilderness party or from a distance. Other people who were members of the participants' wilderness parties brought resources and knowledge and could contribute to group dynamics but could also bring physical and mental stressors such as panic, physical limitations and poor leadership. Other people who weren't part of the party could provide education, information and advice but they could also provide bad advice as was the case for Mary.

Advancing the Literature

Previous literature has sought to classify lost people and predict likely lost locations (AMSA, 2021; Koester, 2008; Lin & Goodrich, 2010). This chapter has sought to understand the pre-event journey that leads to lost events. It has shown that the pre-event journey occurs after entering into a wilderness area and before becoming a lost wilderness tourist. It has confirmed that lost events can happen in different wilderness environments (AMSA, 2019; Schwartz, 2022a; Whitehead, 2015) and that these environments can influence pre-event experiences. The chapter has shown that wilderness tourists take a variety of physical resources with them into wilderness environment and that the suitability, adequacy, or inadequacy of these resources can influence pre lost events. It has confirmed that personal traits such as information seeking (Jeuring & Becken, 2013), locus of control (Rotter, 1990) and risk profile (Bricknell, 2018; Jeuring & Becken, 2013; Kortenkamp et al., 2017) influence wilderness behaviour. It has also confirmed the influence of peers from within wilderness groups (Kortenkamp et al., 2017). Finally, the chapter has shown that the match or mismatch between anticipated and requisite needs can interplay with the five elements of journey, environment, resources, individual factors and the influence of others to make the pre-event journey easier or harder.

The chapter has sought to extend the extant literature in several ways. It has confirmed previous findings. It has sought to extend lost person behaviour beyond taxonomic and location predictions. It has identified the five core elements of the pre-event phase, it has examined the five elements in more depth than previous studies and it has investigated the interplay between expectations, realities and the five elements. These findings have implications for wilderness incident prevention.

By focusing on actual behaviour instead of taxonomy and location prediction it may be possible to identify likely causes of lost events and therefore possible intervention opportunities before incidents occur. This might be achieved through targeted interventions and education programs that influence wilderness tourist information seeking, planning, preparation and, behaviour before lost incidents occur. Such programs may be aimed at wilderness users, hiking companions, loved ones, wilderness managers or any other stakeholders with an interest in preventive search and rescue.

Conclusions

The pre-event phase occurred after the participants entered wilderness areas but before they became lost. The way the participants experienced this phase was determined by the interplay

between their journeys, their environments, their available resources, their personal traits and the influence of others. Participants with good understandings of their upcoming wilderness journeys, environments and resource requirements, personality traits and peer influences were better able to ensure that they had sufficient tangible and intangible resources to match anticipated needs, actual needs and resource requirements throughout both their pre-event journeys and their lived lost experiences as the upcoming chapters will show. Conversely the opposite was true.

Looking Forward

Chapter four of this thesis defined who a lost wilderness tourist is. Chapter five explored pre wilderness experiences. This chapter has examined what happens between entering wilderness areas and becoming lost wilderness tourists. The next chapter examines what triggered individual lost experiences and explores possible links between the pre wilderness, pre-event and trigger phases. Chapters seven and eight will then examine lived lost experiences and rescues, and chapter nine will examine trauma and recovery.

CHAPTER SEVEN: LOST EVENT TRIGGERS

Chapter Introduction

The participants in this study had all been lost wilderness tourists. They had been through pre wilderness phases and entered wilderness areas. Something then happened that triggered their lost events. This chapter explores the different lost event triggers and trigger types. It shows that triggers can be internal or external. It identifies that triggers can be spontaneous or that they may result from a cumulative buildup of circumstances. It also establishes that triggers can be isolated and unique but that lost events are more commonly triggered by multiple contributory factors. These findings will be useful for stakeholders who have in interest in categorising and understanding lost event triggers, identifying potential triggers, and introducing appropriate mitigation strategies.

Lost Definition Revisited

Schwartz (2022a p64) defined lost wilderness tourists as "people who engage in touristic behaviours in wilderness environments and are identified, by themselves or others, as tourists who are geographically disorientated and/or unable to return to places of safety". The participants in this study all self-identified as having been lost in Australian wilderness environments. They had been either geographically disorientated, physically stuck or both. Some were temporarily lost, and some required external assistance. Lost events could be triggered by internal or external causes. They could happen spontaneously, or they could develop over extended periods of time.

This chapter presents the type and temporality of lost event triggers in four tables. Tables 8 and 9 describe external triggers, tables 10 and 11 describe internal triggers. Each table also categorises triggers according to temporality. External triggers are grouped into natural triggers and human made triggers. Internal triggers are grouped into participant-based triggers and other people-based triggers. Temporality is classified as spontaneous triggers, pre-event triggers and pre wilderness triggers.

Triggers

External Triggers

External triggers came from outside the wilderness party. All of the participants knowingly and willingly undertook journeys into wilderness environments. These environments had natural and human made features and were impacted by climatic conditions. These natural and human made environments, the climatic conditions, and the interplay between environmental features and climatic conditions triggered several lost events. Common external triggers included poor weather, false trails,

and poorly marked trails. External triggers could occur while travelling on or off trail. They were especially common around peaks and mountain tops.

Natural External Triggers

Natural features that triggered lost events included difficult terrain and poor weather. Several participants discovered multiple trails, false trails, animal tracks and difficult vegetation which made it difficult or impossible to identify and follow their paths to safety. Several participants also experienced challenging weather that caused fatigue or made navigation difficult. These participants experienced these natural triggers throughout their pre-event journeys. They could have a cumulative effect, or they could spontaneously trigger lost events. These are presented in table 9.

Table 9

Natural External Triggers.

Trigger	example	Pre-event	Spontaneous
Natural environment	Animal tracks	√	
	Difficult terrain	√	
	Thick vegetation	√	
	Impassable terrain		√
	Snapping log		√
Weather	Cold	√	
	Heat	√	
	Clouds	√	√
	Sleet / Snow	√	√

The Natural Environment

The natural environment consisted of terrain, topography, ground cover and weather. Mark and Thomas became stuck in vegetation that they found to be impenetrable.

> "I still tried to find my way back. I just couldn't get through the bushes like I could, probably could've. But it just seemed easy to go in another direction. So I just went in the other direction. Big mistake. And finally, I looked at my GPS and I thought well I need to go that way. But it's too thick. I mean I can't get, I mean I could have got through there if I tried. But it just seemed easy to go this way. So I

thought well, I looked at where Lake Morris road was I thought okay, well, why don't I have a go for Lake Morris Road. It was a hell of a trip. Oh my god… there was no track, there were creepy crawlies everywhere, I'm sorry, wait a while was everywhere. And I mean I was scratched to bits I had to go on antibiotics it was so bad. I was scratched to bits. And it was kind of scary because the biggest fear I had was going missing."- Mark

Weather

Weather played two roles in triggering lost person events. It increased fatigue and it reduced visibility. Fatigue was created or worsened by extreme heat and extreme cold. Max was hiking in North Queensland in summer, and this resulted in heat stress which made his progress difficult. In contrast Bruce was hiking in Tasmania and experienced hypothermic fatigue which made his progress extremely difficult.

"So we, basically half us got really severely hypothermic." - Bruce

Dale and William both became lost because cloud cover restricted their visibility and caused them to become stuck at the top of mountains. Dale and his group were forced to overnight unexpectedly at the top of the mountain.

"We knew we were pretty well, in the shit, then because we, because we had no idea exactly where we were, because we couldn't see anything around. It was just totally white out. And hard to see them couldn't see anything, couldn't even see the track, or a trail or anything to say that we were on anything. We were just sort of just willy nilly following all these different, because there's just a network of tracks out there anyway which doesn't help. But um, it was just a case of, we knew the mountain was steep sided around it. We just had to sort of go, let's go in this general direction till we get to the edge and try and work out which edge we're on to then work out from there." - Dale

Cloud also reduced William's visibility to near zero and after several unsuccessful attempts to find his way down he became stuck.

"There was cloud everywhere and that's what they always say is dangerous about it, you get to the top, the cloud comes in, and you lose the track." – William

Temporality of Natural External Triggers

Natural triggers could be spontaneous. For Oscar the trigger was stepping on a rotten log that snapped. This came about because of a spontaneous decision to adventure off-track into an area where the rainforest had not been regularly visited by other hikers.

"The log wasn't really that, it, it was about 20 kilos. But when he touched it, it was lodged on a rock and it cracked. So basically, he touched the rock and it was lodged on this rock in between and it snapped and it fell from like a metre. So I guess it's like dropping a 20 kilogram weight on your foot. And there was a rock underneath my toes at the time...

And the log started cracking like I heard this. And I'm pretty damn quick. Like, I've got great reflexes. And by the time I looked down, this log just collapsed on my foot. And it just it, it hit right down on it." - Oscar

Natural triggers could also have their roots in the pre-event phase. For example, Max encountered much tougher terrain than he anticipated, and this led to his companion's fatigue which triggered their lost event.

"He got so exhausted and the cramps were so bad, he just had to sit, I made him just stop and just sit under a tree." - Max

Natural triggers could also come from compounding events. Compounding triggers involved more than one trigger that led to the lost event. Thomas entered a wilderness area, encountered thick, dense and thorny vegetation, encountered extreme heat, then encountered difficult terrain and become injured and trapped in the rainforest at the base of a waterfall.

"But it was halfway along wait-a-while ruined everything … So I just slipped so then I just jumped and I just aimed for the water… I can't remember there was a tree branch and there was a rock like tapered like that and the edge was sort of sticking up…

Oh no, like it didn't hurt but I was just like, oh just like you know when you cut yourself a razor blade that feeling, I hate the feeling. So I looked at me foot,

blood everywhere. It was like oh, I just thought I can't put me singlet on it because it's sweaty and I thought I'm gonna stop it from bleeding and I just left me crocs on and everything and it was just starting to fill up with blood and all congealed I was like oh no, this is ain't no good so I'll just rang 000 because I thought I can't walk out of here like this." - Thomas

Non-Natural External Triggers

Non natural external triggers included interactions with human infrastructure and with people outside of the wilderness party. These could be spontaneous, or they could have their roots in the pre wilderness or pre-event phases. This is shown in table 10.

Table 10

External Human made Triggers.

Trigger	Example	Pre wilderness	Pre-event	Spontaneous
Human Infrastructure	No telephone		√	
	Inadequate trail markings		√	
	False trails		√	
	Deteriorating tracks		√	
	Can't find track			√
	Too many tracks			√
People not in Group	Guide cancelling	√		
	Poor intelligence	√		
	Creating external pressure	√	√	

Human Infrastructure

Human Infrastructure consists of physical and technological infrastructure. Interactions with this infrastructure, the absence of expected infrastructure and inability to work with infrastructure triggered some lost events.

Several participants encountered problems interacting with trails and tracks. Carly lost attention and began following a creek line instead of the trail she was intending to follow. Mark followed a false trail that led to dead ends. Mary and Thomas encountered poorly marked and hard to follow trails.

"And it was hard just to follow one yellow old ribbon to the next yellow ribbon it was 20 metres exactly between each one. And I thought when did they put these here, the 80's or the 90's but I'm sure it was probably either 80's or 90's. I don't know and I looked and everything's so mouldy.

… but I couldn't find each one because it was so dense in between. And I was like, it would take me about 15 minutes to find one and I thought like, I've got to keep just finding them because I thought oh if you don't find them you're not even gonna know where the trials going." - Thomas

Mary became geographically disorientated on day one, found the track on day two, became lost again and then ended up having a three day and two night lost person event.

"And the next morning I got up and I found a marker. So, I set off thinking oh this is great. You know, I'll be back. I knew I didn't walk very far.

…good I'm on my way back. I can't be very far. I'm right. I still had a tin of sardines. And I wasn't worried about food, I think I still had a muesli bar. I was positive and, and somehow then I got lost again." - Mary

Temporality of Human Infrastructure Triggers

Human Infrastructure triggers could occur spontaneously when conditions changed, or they could occur over time as the participant engaged with their pre-event wilderness experiences. Mary's event was triggered by a combination of increasingly difficult navigation and unexpected difficulties in interacting with telecommunications infrastructure.

"The landscape changed quite a lot. And after a bit you couldn't see any path on the ground. It wasn't discernible at all. It was rocky, it was open. But it was still you know, bit hilly and you were relying on metal posts with a triangle. And sometimes you couldn't sit, you couldn't always see them in your line of sight. So you're heading thinking, I think I'm going the right way. And then I'd have to backtrack to the previous post. And, and that's how I got lost. I lost the posts at various times, backtracked, you know, dragged my, my pole in the ground, blah, blah, blah. So I got lost…

…And then at four o'clock that day when I thought no, I'm lost. Now I'm going backwards and forwards I can't see any markers at all. I thought I'll use the

emergency plus app, I'll call for help. It's sensible at this stage… There was no reception. No telephone reception for me." - Mary

People Outside of the Wilderness Party

Interactions with people outside the participants' wilderness parties triggered or contributed to several lost events. William undertook his solo trip because his pre booked guide cancelled.

"I just thought well, if, I would have done it with a guide, I was prepared to do it with the guide. They cancelled it. I'm only here for I think I was there for a week or something. They roster, so many walks per week. And they didn't have any more plans while I was there. So I just thought, blow it, you know bugger em so to speak. I want to get to the top. I paid a lot of money to get to Lord Howe for a holiday. It's not a cheap place, even to stay. And for their convenience they weren't going to take me up there. So I'm going up there anyway." - William

Mary took the advice of a well-meaning stranger to undertake the day walk where she became lost.

"And I had spoken before, I got the map actually from a school teacher from a private school in Darwin who just finished doing the tabletop track with his year 12 students, which he does every year, and I was talking to him, I said, oh, what's a nice walk then I went this way yesterday. He said, oh, you can go that way. You can go all the way to Florence Falls. I said, no, I don't want to go that way. But he said, oh, yeah, it's a lovely little track. It's fine. It's easy, blah, blah, blah. So that's why it's not his fault, either. But I was reassured that it was just a bit probably a bit like the way I'd gone the day before. And it wasn't at all like that. So that's how I got lost."
- Mary

Max changed his plans at the last minute because he felt time pressure to get back to a school working bee.

"And then I said to him, now I'm rethinking because Whiterock's a bit of a drive to get there and whatever and I've got a working bee at school later on that day. So I said maybe we might just do Red Peak... and we've made that decision on the fly." – Max

Internal Triggers

Internal lost event triggers had their origins within the wilderness party. These triggers could involve the participants or their companions. Participant based triggers were preparation, attitudes, skills, equipment, and physical problems. Companions could also trigger events by influencing decisions, by providing poor leadership by becoming physically fatigued, or by becoming injured.

Participant Based Triggers

Participant based triggers could occur throughout the pre wilderness phase or the pre-event phase or they could be spontaneous. These are shown in table 11.

Table 11

Participant based Triggers.

Trigger	Example	Pre wilderness	Pre-event	Spontaneous
Preparation	Poor preparation	√		
	Poor route planning	√		
	Last minute plan change	√		
Equipment Shortfalls	No PLB	√		
	Low phone battery	√		
	Inadequate maps	√		
Attitudes	Committed to hike	√		
	Risk seeking	√		
	Over confidence	√	√	
Skill Deficiencies	Inexperience	√		
	Following wrong creek		√	
	Poor navigation skills	√	√	√
	Poor climbing skills			√
Health Problems	Fatigue		√	√
	Injury		√	√

Pre-event Triggers

Participant triggers that occurred in the pre-event phase involved inappropriate attitudes, health problems and skill deficits.

Attitudes

Overconfidence played a role when Max and Thomas trivialised the challenges they took on. William's overconfidence in his own ability also steered his decision to hike without a guide.

"And I was telling myself, I'm a good rock climber, I can get up here, I can go down, I can get past anything. And I was really confident… And I kept telling myself, I'm good I can rock climb, you know, I've never got into trouble. I can keep going….

But gee, I'm an Outward Bound instructor. Like, you know, I've got the experience and experience got me into trouble. My overconfidence, which is why I got in shit too because I think a lot of people get into trouble from overconfidence, and they are experienced, they can do a lot of things that it's you can still have an accident, get lost." - William

This overconfidence was echoed by Carly who also stated that she was seeking the thrill of a higher level of risk.

"I think I find it so interesting that yeah, when you've got these well maintained, well managed trails, they are safer and the way that park services are able to put in these measures to make them safer. But for people like myself, I don't want to do the safe trail like I want to push myself I want to challenge myself and so you know, then, then I'm adding levels of risk." - Carly

Health Problems

Injury and fatigue were not necessarily spontaneous triggers and often began in the pre-event phase. They also often occurred in conjunction with other triggers. For participants such as Jack and Mary fatigue led to lack of concentration, and this led to deviating off track. Other participants also reported minor to moderate injuries that compounded with other triggers to cause their lost events. Bruce became physically and mentally fatigued due to hypothermia.

"So there were a couple of us that were really cold, but I don't know for
sure. Whether there was any cognitive ability. Me, I was certainly starting to head
that way." - Bruce

Skill Deficits

Skill deficits triggered lost events when the participants were unable to successfully undertake the wilderness tasks that they had set for themselves. These were not necessarily spontaneous but could occur over time. This commonly manifested as inadequate technical and navigation skills. Bryan was unable to ascend his waterfall because he did not have the necessary skills.

"We started climbing and I was having a lot of trouble, was only getting a
few meters taking a long time to do it… He was trying to show me but we were
having a lot of trouble… he was trying to explain it to me." - Bryan

Navigation Difficulties

Several participants experienced navigation difficulties. This included participants who strictly adhered to their original plans and those who deviated from their original plans. For both of these groups something or some things occurred that meant that they could no longer 'stay found' as described by Dudchenko (2010). Navigation failures commonly came from lack of skills, insufficient navigation tools, from impromptu plan changes or mismatches between expectations and realities.

Insufficient Navigation Tools

Some participants chose to take maps, compasses, and GPS units with them when they went into the wilderness. Other participants chose to rely on tracks, trails, and markers for wayfinding. Participants who did not have sufficient navigation tools were unable to reorientate once they became disorientated. For Max failing to take a map was an unusual thing to do.

"When we normally go off trail, we usually take a map and compass, and
we didn't bring them. Take a map and compass...we broke all the rules, but this is
the worst thing and we don't normally do, we normally both have phones if we go
off trail we have a map and we have extra water and we do all of those things."
- Mark

Insufficient Navigation Skills

Effective navigation required varying amounts of map reading, GPS navigation, compass work and terrain interpretation skills. For some participants effective navigation required the ability to follow marked, unmarked and poorly marked trails.

Some participants such as Dale and William had undertaken formal wilderness navigation training, some such as Jack had put considerable efforts into developing their own navigation skills through multiple trips of many years. Other participants such as Carly had relied on others for wilderness navigation and had not developed their own skill set much. The difference in navigation skills meant that some participants were more prepared for wilderness navigation than others.

Failure to Understand Navigation Needs

The ability to successfully navigate in wilderness environments required that the participants understood navigation, understood the importance of navigation, understood navigation tools and understood how to use navigation tools. Shortfalls in this area were highlighted by several of the disorientated participants. This was described my Mary.

"Because I've got no means, I don't use a compass, I don't anymore. I've travelled, I've done a lot of walking with my ex partner who was a navigational whiz, this is the other bit of information. And so I got extremely lazy and didn't bother to keep those skills up. Because I don't walk anywhere difficult on my own. Except on this occasion, and I didn't think it was difficult." - Mary

Pre Wilderness Triggers

Several lost events were triggered by actions or inactions during the pre wilderness phase. These triggers included poor preparation, skill deficiencies and inappropriate attitudes. Preparation failures included failing to adequately plan a route, failing to identify needs and failing to pack appropriate equipment. Navigation and wilderness skill deficiencies meant some participants were incapable of undertaking their tasks. Inappropriate attitudes contributed directly and indirectly to lost events as they drove planning, preparation and decision making. An example of this was Liz's father's overconfidence leading to his failure to sufficiently plan and failure to take suitable navigation equipment.

"So the issue with the map, though, was I think we must have had a very, like, a, I don't know what you'd call it. Just a typical sketch, rough sketch map. Yeah,

it wasn't, wasn't topographic at all. But it showed, I think, the ridge that that runs between it and I think Mount Doris and so, and the track then slips just to the southern side of Mount Doris. So you're meant to track one side of this particular ridge line. So that was what was on the map. So we were looking for a ridge and then the track being slightly to the, to this side of it. And so unfortunately, there was another very prominent ridge running directly south, which was not the ridge that we were looking for, meant to be on. So we searched everywhere along that ridge line and to the to the bank inside of it. And it would have been too many years since my dad did the climb. And so he couldn't remember." - Liz

Spontaneous Triggers

Spontaneous lost events occurred when participants suddenly experienced disorientation or incapacitation. Carly described the sudden realisation of being lost.

"And I had no idea how long I'd been going in the wrong direction for. I had no idea kind of where I was. And immediately panicked...

Gutted, hearts racing. I think I knew pretty quickly that I wasn't going to get unlost. Like it was one of those situations where I was gonna give it a red hot go at getting unlost, but pretty much very immediately knew that I was fucked."

- Carly

A spontaneous trigger could also be the sudden realisation of being trapped, fatigue, or injury. An example of this was when Oscar fell and injured his foot.

"And the logs started cracking like I heard this. And I'm pretty damn quick. Like, I've got great reflexes. Again, yeah. And by the time I looked down, this log just collapsed on my foot." - Oscar

Becoming trapped was the cause of Bryan's lost event. Bryan did not have the technical skills to ascend the waterfall and after he made a few failed attempts to climb the waterfall he quickly became too fatigued to continue.

"We started climbing and I was having a lot of trouble, was only getting a few meters taking a long time to do it... He was trying to show me but we were

having a lot of trouble. Then we stopped for a while and then the next session I just free climbed up, it was actually easier for me, it was exhausting but I found it easier… And that's as far as I made it to the point where I stopped and that where I stayed." - Bryan

Companion Based Triggers

Wilderness companions could trigger or contribute to events from within wilderness parties. This could be by influencing decisions, by providing poor leadership, or by being physically fatigued. This occurred during the pre wilderness phase, during the pre-event phase and could also be spontaneous.

Table 12

Companion based Triggers.

Trigger	Example	Pre wilderness	Pre-event	Spontaneous
Companions	Influencing spontaneous plan changes	√	√	
	Poor leadership	√	√	
	Becoming fatigued		√	√

For David a chance encounter with a "pretty girl" led him to change his planned route. David and his newfound companion became disorientated because she did not want to take on the difficult challenge of traversing to their intended destination. This led to David and his companion taking a path that seemed easier but was in fact riskier and this led to them become geographically disorientated.

"So she said look, I hate, I hate traversing. So let's get the lift right up to the top and we'll climb up as far as we can. And then we'll just drop down when we get past Olympic…

She was the trigger for it because it was her suggestion to go up high and then. Because she hated traversing. I would have gotten to the top of the lift and dropped down from there." - David

Poor leadership and bad decision making from Liz's father triggered their lost event.

> "There was a family dynamic where you didn't question his decision making… Because he was the planner, he was the one deciding where we'd be going and how long it was going to take and you know, it was unquestionable …You know, we, we trusted him completely with knowing that he'll figure it out, you know, we'll just do what he says." - Liz

Other people's fatigue also triggered lost events. Maxs' his lost event was triggered when his companion became too fatigued to continue.

> "He got so exhausted and the cramps were so bad, he just had to sit, I made him just stop and just sit under a tree." - Max

Chapter Summary

People become lost when they are unable to proceed to their chosen places of safety without external assistance (Dudchenko, 2010). The lost participants in this study were disorientated, stuck, or both disorientated and stuck. Disorientated people could not navigate out of their predicaments. Stuck people were unable to progress due to barriers such as poor weather, extreme terrain, injury, and fatigue.

For some participants there was a sudden realisation that they were lost, for others it was a more gradual realisation. This realisation followed a triggering event or series of events. These causative factors could be categorised as internal or external and further sub-grouped on the basis of trigger type and temporality. Some participants experienced single standalone triggers and some experienced multiple unique or interconnected triggers.

Internal and External Triggers

Lost events could result from internal triggers, external triggers, or a combination of internal and external triggers. The boundaries between internal and external triggers were not concise and could be viewed as more of a continuum. Some event triggers were almost all internal but they still would not have occurred without the external wilderness environment. Some event triggers were essentially external, but they could possibly have been avoided through more internal consideration. Some events also had both internal and external triggers.

Internal triggers were causative factors that could be attributed to the lost wilderness party. These internal triggers revolved around the participants, members of their wilderness parties and direct interactions with wilderness environments and activities. External triggers revolved around the natural environment and some external triggers revolved around human factors. Specific internal triggers included inadequate preparation, inadequate equipment, inappropriate attitudes, skill deficiencies, physical limitations, injury and fatigue and group dynamics.

External triggers were causative factors that were external to the lost party. Specific external triggers included terrain, topography, ground cover and weather. Human made external triggers included telecommunications infrastructure, trail maintenance and the influence of significant others who were not part of the wilderness party.

Temporality

Lost event triggers could occur spontaneously, could occur in the pre wilderness phase, could occur in the pre-event phase or could occur over an extended period of time through a combination of pre wilderness, pre-event and spontaneous factors.

Pre Wilderness Triggers

Pre wilderness triggers happened before the participants entered wilderness areas. These typically involved actions or inactions on behalf of the participants or other people who influenced the pre-event phase and that resulted in the lost person event. Participant pre wilderness triggers included inadequate preparation, inappropriate attitudes, and insufficient skill development. Pre wilderness triggers that did not involve the participants were last minute cancellations, external pressures and poor intelligence.

Pre-Event Triggers

Pre-event triggers occurred after the participants entered wilderness areas. These included internal and external triggers. Naturally occurring external pre-event triggers included challenging terrain, thick vegetation, an overabundance of tracks and poor weather. Non natural external pre-event triggers included poor infrastructure and external pressures. Internal pre-event triggers included overconfidence, inadequate navigation skills, fatigue and injury. These occurred over time and led to or contributed to the participants' lost experiences.

Spontaneous Triggers

Spontaneous triggers occurred with little or no warning. An example of this was a tree snapping when it was being crossed. In most cases however even seemingly spontaneous triggers had their roots in the earlier event phases. For example, the cloud cover that Dale and William experienced may be considered spontaneous but their inadequate navigation resources meant that the spontaneous cloud cover triggered their lost events.

Discussion

Previous researchers have sought to explore what causes or contributes to lost person events. Mason et al. (2013) have examined hiker preparedness with respect to demographics, experience, hiking gear, pre trip planning, and communication devices and determined that better preparation might result in fewer incidents. Pearce et al. (2019) identified the roles of preparation, hydration, and fatigue. Hung and Townes (2007) studied ten years of search and rescue data in Yosemite National Park and established that major triggers for search and rescue operations included lower extremity injuries, dehydration, and fatigue. Boore and Bock (2013) studied similar search and rescue data to Hung and Townes (2007) and concluded that major causes of incidents included injury, fatigue, lack of situational awareness, and inappropriate gear. Turning to attitude and personality traits, Jeuring and Becken (2013) have noted that different wilderness users have different levels of interest in information seeking, risk acceptance and loci of control. Kortenkamp et al. (2017) have also identified the role of personality, risk acceptance and self-exempting beliefs.

Mason et al. (2013) suggested that education might be the way to overcome unpreparedness. Pearce et al. (2019) echoed this call for education when they studied risk factors in Grand Canyon hikers and trail runners. Hung and Townes (2007) mooted that it seems reasonable to direct future preventive interventions to these commonly identified problems. Boore and Bock (2013) refined this and suggested that education programs should address footwear choices, hydration needs and mismatches between perceived needs and actual needs.

Kortenkamp et al. (2017) examined preventive education in depth by studying 91 peer reviewed articles and concluded that preventive recommendation focused on hikers, groups and relationships, agent inducing the incident, institutions and sociocultural practices, and equipment. Kortenkamp et al. (2017) however expressed concern that the majority of recommendations (60%) of preventive recommendations focused on changing the hiker's decisions and behaviours, only 16 % of recommendations addressed equipment, an equally low 16% of recommendations addressed agents of harm and only 8% of preventive recommendations addressed the influences of groups and

relationships. Kortenkamp et al. (2017) posited that this overemphasis on blaming hikers and underrepresentation of social influences was detrimental to the development of effective incident preventive programs.

From these previous findings we might conclude that lost events have a number of different causes or contributory factors. We see the various roles of equipment, environment, individual attributes, companion influence and hiker education. We see an ongoing appreciation of the need for preventive education. We see an over representation of secondary data and speculative data that has included the voices of expert opinions and the wider community of wilderness users. What we have not seen much evidence of in previous research is the voice of people who have been lost wilderness tourists. This chapter has sought to address these research deficits by utilising qualitative data drawn from the voice of actual lost wilderness tourists.

The chapter has found that lost events have both internal and external causes. It has shown that causative factors may occur alone or in combination with other causative factors. It has shown that these causative factors may occur spontaneously but are more likely to have their roots in the pre wilderness and pre-event phases. It has also found strong evidence that while the causes of lost tourist events can include individual factors, they are also likely to extend well beyond individual factors and may also have their roots in natural events and the actions or inactions of other stakeholders.

Conclusions

Previous research has identified that lost person events might be triggered by various factors including demographics, experience, inappropriate hiking gear, poor pre trip planning and preparation, poor hydration, injury, fatigue, lack of situational awareness and attitudes and personality traits. This prior research has focused overwhelmingly on hiker centric causes of lost events and lacks sufficient investigation into broader causes of lost wilderness tourist events. Prior research has also focused on quantitative data and data collected from the wider hiking community and has not specifically sought out the voice of lost wilderness tourists.

This chapter examines beliefs about what triggers lost events through the lens of people who had previously been lost wilderness tourists. It has shown that lost events may be caused by singular events or multiple factors. It has shown that these events can occur spontaneously or over time. It has confirmed many of the previous findings about hiker centric causes. It has also shown that lost event causes might be much broader and are likely to include multiple stakeholders, natural environments, human infrastructure and acts of chance.

The findings of this chapter suggest that moving away from the 'blame the hiker' approach towards a more global approach might better inform stakeholders with an interest in incident prevention and trauma reduction. This global approach will allow stakeholders to identify causes regardless of whether they are inside or outside of the control of wilderness tourists. This will in turn allow stakeholders to develop appropriate education and mitigation strategies to reduce the likelihood of lost events occurring.

Stakeholders with an interest in lost tourist prevention and trauma reduction can take either a global or a localised approach to preventive search and rescue. Those who wish to take a global approach can identify and address the external and internal triggers that occur before and after tourists enter wilderness areas. Stakeholders who wish to take a localised approach might wish to examine, identify and address site specific internal, external, pre wilderness, pre-event and spontaneous triggers.

Looking Forward

This chapter concludes part I of the phase based deconstruction. Part II examines what happened after the participants became lost wilderness tourists and is presented in two chapters. Chapter eight will explore the participants lived lost experience. Chapter nine will then examine the rescue process. Part III of the phase based findings will then examine how the participants recovered from their lost wilderness tourist experiences.

CHAPTER EIGHT: THE LIVED LOST EXPERIENCE

Chapter Summary

The lived lost experience was the fourth phase in the lost person journey. This chapter explores the lived lost experiences of the participants. This was the period of time between becoming lost wilderness tourists and reaching places of safety. For some participants these lived lost experiences lasted only a few hours, for others the lived lost experiences lasted for multiple days and included unplanned overnight stays.

The chapter shows that lived lost experiences involved recognising and accepting lost situations, addressing survival needs, planning rescues and addressing personal and interpersonal concerns. This chapter begins by showing how realisation could be immediate or gradual. The chapter then splits into two main findings sections. The first section describes how the participants approached problem solving and addressed physical, cognitive, emotional, and spiritual concerns. The second section explores how the participants engaged in rescue planning and shows how rescues could be initiated and conducted by the participants, by external agents, or by a combination of both lost people and external agents.

The discussion section then examines the interplay between the previous phases, the lost situations, rescue planning, and other influencing factors. It examines trauma, trauma resolution and the effects of certainty, uncertainty, ability, and inability. Throughout this chapter rescue planning and the rest of the lived lost experiences are discussed separately for the sake of conceptual clarity but is important to note that they typically occur concurrently throughout lived lost experiences.

Realisation, Denial, and Acceptance

The lived experiences started with the realisation that the participants were lost. This realisation could be sudden or protracted and could involve both denial and acceptance. Realisation and acceptance varied depending on the trigger, the likelihood of a quick recovery, and the participant's certainty that they were a lost person. Most participants understood that they were lost but thought that they may have an opportunity to become unlost. Attempts to resolve their situations resulted in successful self-rescue for some participants including Jack, David and Liz. Those who failed to self-rescue eventually accepted that they were lost and needed external help.

Two participants who were initially unwilling to accept their situations were Oscar and Max. Oscar fell and hurt his foot but was initially unwilling to accept that he had become stuck.

"So basically, it fell, and it collapsed on my foot. And what I did is, yeah, I just looked around at everyone and just said look I said, we've just, um. I just laughed, and I said, we'll go to the summit, I'll put my boot on." - Oscar

Max also had difficulty accepting that he was lost.

"We continued going up and down for probably two hours, three hours. And I could not believe that we couldn't find our way back down because there was no trail, but it was, we simply just walked up. And well, how can, we can't walk back down?" - Max

Other participants were more willing to accept their predicaments. Carly progressed quickly from panic to acceptance to action.

"I had no idea how long I've been going in the wrong direction for. No idea kind of where I was. And I immediately panicked… gutted, hearts racing. I think I knew pretty quickly that I wasn't going to get unlost. Like it was one of those situations where I was going to give it a red hot go at getting unlost, but pretty much very immediately knew that I was fucked…

…Yeah, I think it was, like it was definitely a big deal. Like I knew that was it. That was the moment. But I also knew that I wasn't going to get myself out of that situation. And I knew there was no point wasting more time. Like I think, once I was like, and when they, when they sent us the GPS data afterwards I was a good seven kilometres from the trail like I was not gonna find that trial. Yeah, I'd well and truly fucked myself." - Carly

A third scenario occurred when a person became unlost but then became re lost. For example, Mary found a track marker on the second day but then became re lost.

"And the next morning I got up and I found a marker. So I set off thinking oh, this is great. You know, I'll be back. I knew I hadn't walked very far… good I'm

on my way back. I can't be very far, I'm right. I still had a tin of sardines. And I wasn't worried about food. I think I still had a muesli bar. I was positive and somehow then I got lost again. And there was one point during that day where I knew whichever way I went it was wrong. I just knew it was wrong." – Mary

The Lived Lost Experience

The lived lost experience involved dealing with the realities of being unexpectedly stuck in a wilderness environment. For the lost participants this lasted from a few hours to three days. The lived lost experience was characterised by addressing fears and concerns, addressing physical needs, addressing interpersonal issues, addressing group dynamics and rescue planning.

Physical Needs

Physical needs included the needs for fatigue management, first aid, water and shelter. For the participants who were lost with others there was also a need to balance individual needs with group needs.

Fatigue Management

Fatigue began to impact some participants through the pre-event phases of their wilderness journeys. Fatigue then became a factor in their lived lost experiences and their rescue planning. Thomas experienced fatigue as exhaustion, cramp, and delirium. This triggered him to abandon self-rescue attempts and to call for help.

"I was a bit delirious cause I'd walked up there so many times … I had severe cramps in my legs … because I used up all me energy, and I'd run out of water, I'd only just filled up the bag to get some water and I was like, just a bit delirious. I was sort of thinking about my foot bleeding, I was like I knew I couldn't walk out and I knew I needed that chopper." - Thomas

Maxs' companion was unable to progress due to fatigue.

"Because Bruce had said, I'll try one more with you, you know, I'll try and come down and find the trail. And my thinking was well if we didn't find it I'd take

him back to that top and I would just keep going. I was physically, I'm fit and healthy but I was totally exhausted … and yeah, but the physical demands." - Max

First Aid

The participants experienced a variety of injuries that ranged from minor to severe. Oscar's injury management was a key part of his lived lost experience. Mark and Thomas's injuries occurred while they were attempting to self-rescue. Thomas and Bruce had injuries that required first aid. Mary had minimal injuries, but she identified that she needed to maintain good health and protect herself from the environment throughout her lived lost experience. Bruce and David experienced hypothermia that required urgent intervention. Mary, Carly and Max recognised heat as a major concern throughout their lived lost experiences. Dealing with these injuries involved applying first aid, phoning for advice and seeking shade, shelter and water.

Basic Survival Needs

Food was mentioned by some participants but was not cited as a survival issue. Water and shelter however were recognised by several participants as critical to the lived lost experiences.

Water

Several participants became concerned about water. Some found water but others feared that their lack of water was going to lead to more serious consequences. Mary found a stable water supply in a creek and stayed near this creek throughout her lost experience. The creek provided hydration, relief from the heat and a morale boost.

"And then anyway, I decided I needed to find water because I probably had about a litre left at that point.

… so I looked to find some water. So I could see some palm trees down below and I went down and there was this most beautiful creek, absolutely beautiful. And you know, I was a bit hot and bothered by then. I was getting tired, because it's very, it was very hot, extremely hot, and not much shade. And I'd still continued walking, so I was tired. And so I went down to the creek and I just lay in it, it was just like, heaven, you know. And then after a bit, you know, dried my clothes, hung, my clothes up filled up my water bottles, five and a half litres. so that was done." - Mary

In contrast Max became increasingly concerned about his lack of water and the impact of dehydration.

> "We were dying of thirst, literally. Sucking bits of water out of curled up bits of bark. Yeah, like that yellow coloury water in bark because we're so thirsty."
> - Max

Shelter

Some participants had planned to stay overnight in the wilderness whereas others had only planned short day trips. The equipment the participants carried, the environments they found themselves in and the length of their lost experiences all impacted their shelter requirements. Shelter was critical for people who experienced extreme heat and extreme cold. Shelter also provided comfort and security for others. Bruce and his companions needed shelter from the hypothermic conditions. Mary and Carly both recognised that they needed to shelter from extreme heat. Carly used her tent to shelter from the environment and the wildlife, and to calm herself down.

> "That day was about 33 degrees. So it was really hot. I'd seen a bull, like I'd come across a bull in my attempts to find myself. So that had spooked me. And so I yeah, I had a red tent at that time, like an MSR red tent. And I set the tent up. I mean, I've been whistling that whole time as well with my whistle. Yeah, I set my tent up and kind of calm myself." - Carly

Overnighting

Some participants also found themselves with unexpected overnight stays. Participants who found themselves in uncomfortable environments found the overnight experience more stressful than participants who were in more comfortable environments. For Dale and Bryan unexpected and unplanned overnight stays meant being wet, cold, and miserable with limited shelter or protection from the elements and wishing for sunrise.

> "So we just had to find a nice quiet place, nice place to try and sleep for the night. And yes, it was interesting four of us trying to share two space blankets. And all the condensation in the trees just falling in our faces…

…then just lie down lay our packs and plastic bags out galore and everything and because it was just condensation out of the trees with a bit of drizzle rain. It was just really uncomfortable. So we just tried to get as much as we could to get protection… So we just did what we could do and stay warm … and then every so often we'd probably sleep for about an hour and get up and shuffle around get up and do an exercise to get warm again to get we'd gonna lay back down so it was a really uncomfortable night." - Dale

Mary was also forced to spend two unplanned nights in the bush. Even though she was unprepared and ill equipped for this she deliberately and intentionally took time to relax, get comfortable and enjoy the experience.

"So that's what I did. So I found a very comfortable rock. I had shorts and a shirt on. I had food. I had water. I got my space blanket out that had been in my pack, probably for 20 years never used, never opened. I thought oh god, I wonder if this is going to be in one piece and it was, it was fine. So I lay on that on the rock thinking fewer bugs. And I had a very good night's sleep. I wasn't scared of being in the bush at all. I slept well." - Mary

For Mary the night time was a highlight of her wilderness tourist experience.

"Absolutely yeah. Well, my highlight was that night…but this night was magical. Absolutely black sky, no moon, stars absolutely everywhere. Sound of the bush was just incredible. It was the frogs in the creek and that was like a didgeridoo and there was some, there was a dingo noise over there, I can, I can recall it absolutely. A dingo call all the sounds of the little you know, flying things.

…And each time I woke up in the night it was like, oh yes, sounds are still there. That's so beautiful, it's like being in an Aboriginal symphony, it was just beautiful. So that was a very, very positive experience for me." - Mary

Problem Solving and Rational Thinking

Throughout their lost experiences the participants needed to engage in decision making and problem solving. Sometimes this was as easy as deciding to implement contingency plans that they had developed before entering their wilderness areas. In the absence of contingency plans however

the participants needed to develop on the spot solutions. Effective problem solving involved making a commitment to rational thinking, avoiding panic, and recognising and addressing stress. Barriers to good problem solving were cognitive impairments, irrational thoughts, fears and some personal concerns. Several participants described feelings of panic when they realised that they had become lost wilderness users.

> "And I had no idea how long I've been going in the wrong direction for I had no idea kind of where I was. And I immediately panicked." - Carly

David made a conscious decision to commit to rational decision-making when his companion became panicky.

> "I can remember distinctly at, at the time when she started to get really panicky, I thought, I'm gonna have to hold it together. Even though I was starting to get worried... And I just made that conscious decision that I would hold it together. Even though I was scared too otherwise you know, it, it turned out you know what." - David

Mary recognised when she was starting to become irrational and made the conscious decision to stop and rest before she became too irrational.

> "I was very frustrated that I couldn't find my way, very. I'd go back, I'd go forward again. And I couldn't believe, and I knew I was probably getting further away each time I walked. So yes, I was getting stressed. And I decided no, you're better just, you know, stop now because you're not thinking straight." - Mary

Thomas also had to deal with irrational thinking because he was becoming delirious and felt that this was clouding his thinking and decision-making abilities.

> "I was just too delirious but that time I didn't really know what I was doing."
> - Thomas

Several participants also found themselves having to dealing with other members of the party panicking. This was a major problem for Dale.

"Two of the guys got, got into a panic state. We had to try and keep them from getting too panicked about the fact that you know, we don't know where we are and everything…yeah, it was, it was really hard to try and keep everybody together. With the panicking ones it was trying to calm them down, so we have to stop let them calm down and then also discuss how we're going to tackle it from that particular point and, and then go from once they we're happy that maybe that's a good way to do it let's, let's move on. But of course then we'd go oh no this is not the way to go and then the panic and just set in again." – Dale

Frustration and Stress

All the participants reported feeling distress, but some were more stressed than others. This appeared to be influenced by individual experience, personal comfort level, the dynamics of the situation, group roles and ability to cope. More experienced people were less concerned about being lost, more comfortable people were less distressed, leaders tended to be more concerned about group wellbeing than personal wellbeing and people who felt that they had some control over their situation tended to be less distressed. Mary, for example generally enjoyed her lived lost experience because she was comfortable and had already planned on overnighting in the bush while she was on holiday.

"Absolutely yeah. Well, my highlight was that night…. It was just beautiful. So that was a very, very positive experience for me." - Mary

Mary did however experience distress when a search helicopter flew over her on the first day without spotting her and left her with a sense of helplessness.

"At one point, a helicopter came over. And I was certain the helicopter had seen me It went round and round. But it never came back. And I'd have to say that was probably the worst moment emotionally for me when it had gone and didn't come back.

…. But I shouted at the helicopter the first day though. Oh, yes, of course I did. I jumped up and down and you know, fuck ya come back and da, da, da, all that sort of stuff. So I let out a lot of whatever my feelings at the time."- Mary

William was trapped but not overly stressed because of his previous lived experiences as an outdoors instructor and adventurer.

> "I was really confident. And at the same time I was saying to myself, no, it's, this isn't the way I came up. The Outward Bound rules are you go back to your last known location. And I tossed up between the two. And I decided to play it safe because I was by myself. And I went back to my last known location, which was the top of the hill. And then I just relaxed and tried to work out where I went wrong, couldn't work it out. Went back down following the track. I didn't panic at all during the whole thing." - William

In contrast Bryan was trapped on the waterfall and was subjected to harsh environmental conditions all night long. He was uncomfortable, felt he had no control of the situation and was very distressed.

Fears and Concerns

Being lost in the wilderness can be scary. Fears that the participants identified included fear of the unknown, fear of physical harm and fear of negative social consequences. Some participants also discussed spiritual concerns and concerns about causing environmental harm.

Fear of the Unknown

The first fear most participants encountered was fear of the unknown. They knew they were lost but did not know what to expect. David described this happening when he and his companion became lost in a heavy blizzard.

> "She was just obviously distressed, but I can't remember what I would have said that. She indicated to me that she was really scared. And I just made that conscious decision that I would hold it together. Even though I was scared too otherwise you know, it, it turned out you know what?" - David

Another fear of the unknown was not knowing how long the lost experience would take or what rescue plans were being made. Bryan described this fear.

"Just scared too because you don't know what's happening. Like if I'd have known then a rescue helicopter was coming at 6.30 in the morning I would have been more relaxed because you know it's gonna happen. But when you don't know, you don't know whether he's up there unconscious or looking for help. You don't know what's happening." - Bryan

Max and his companion were so concerned about not knowing what search and rescue efforts were taking place that they thought they might die before they were found.

"I even had this vision in my head of 20 years later, people finding these two skeletons, you know, up on the top. Yeah, I actually had that vision in my head of what if we die here." - Max

Fear of the Dark

The prospect of nightfall brought another fear of the unknown as the participants faced or contemplated facing unplanned nights in the wilderness. Bruce was scared the night would bring life threatening conditions. William and Dale feared worsening but non life threatening conditions. Thomas and Carly decided that looming nightfall was the trigger to call for rescue because they were concerned that rescue would be difficult or impossible in the dark.

For some of the participants who were forced to overnight, the night bought negative emotional responses accompanied by physical and psychological discomfort. For Bryan spending the night at trapped halfway down a waterfall at night was a scary experience and bought with it intense physical and psychological discomfort. He used meditation to help cope with this.

"Focus on me breathing. I done a lot of meditation… it helped a bit." - Bryan

Fear of Harm

Fear of harm included the fear of pain and suffering, fear of negative interactions with flora and fauna, fear of a worsening situation and fear of death.

Fear of Pain and Suffering

The participants experienced varying amounts of physical and psychological pain and suffering. This included pain from injuries, fatigue, negative interactions with flora and fauna and exposure to harsh environmental conditions. They also feared experiencing more pain and suffering.

Fear of Negative Interactions with Flora and Fauna

Fear of negative interactions with flora and fauna led to increased anxiety. Several participants expressed concerns about negative interactions with animals such as snakes, spiders, and cattle. Carly had been spooked by a bull.

"I'd seen a bull, like I ran across a bull in my attempts to find myself. So that had spooked me." – Carly

And Mark was worried about snakes.

"I walked along some creeks. So I walked on this creek, it was a lot easier than going through the thick bush. Because I was worried about snakes there as well." - Mark

Vegetation could cause injury through cuts, scratches and abrasions and could become a visual screen that impeded navigation. Being unable to see where they were caused anxiety in participants as did the fear of further harm from thorny and abrasive vegetation. This fear was especially evident in the participants who had already become lost, injured or entangled in rainforest environments. Thomas stated that he was scared of bleeding to death through his cuts and scratches. Mark said the thorny wait a while vines were horrible and Max described the hostility of the vegetation that was impenetrable.

There appeared to be a general mismatch between the fear of harm and the actual risk of harm associated with flora and fauna. Participants were much more scared of negative interactions with snakes, spiders and feral animals than they were about negative interactions with plants. The reality however was that cuts, scratches and abrasion from vegetation were common and, in some cases, quite severe. This mismatch between fear and reality caused some participants to understate the risk of harm by vegetation and overstate the risk of animal related harm. Oscar described the injuries as being 'not as serious as a snake bite' and therefore not worthy of using a PLB to call for help.

"I didn't think it was serious. I didn't like, I didn't think it was a snake bite serious. Because I guess when you're not in that, when you're in that situation, I didn't know like, what to think, you know, I couldn't walk. But it's like, I'm not dying as well. It's like when do you push it (the PLB) you know what I mean."

- Oscar

Fear of Worsening Situation

Most participants reported fearing worsening problems. This fear increased anxiety when the participants become increasingly concerned about their situations, but it also motivated some to seek solutions, shelter, or rescue. Dale, Max, Carly and Bruce all experienced extreme environmental conditions. They were concerned that these conditions could worsen and lead to serious hypothermia, heatstroke or death. This fear motivated Dale and his party to shelter in place, Bruce and his party to self-rescue to reach a rescue hut and Carly to activate her personal locator beacon and call for help.

An associated fear was the fear of running out of resources. The most common resource related fear was the fear of running out of water as previously discussed. Other fears that related to resource depletion were the fear of running out of food and the fear of running out of phone capability. Max and his companion were afraid they might die of thirst. Mary and Thomas were both concerned that their phone batteries would run out.

"Anyway, so I was going with a phone that I was desperately trying to, I had a power pack, but only a small one. And I'd already used that up to charge my phone. And so the phone was losing its charge." - Mary

Fear of Death

Possibly the biggest and most common fear among the participants was the fear of death. A general fear of death was verbalised by most participants. Some participants however were more specific about how they thought they might die. Bruce was concerned that he or members of his party could be killed by hypothermia. Oscar was concerned that his injuries might cause a fatal blood clot. Max and his companion feared that they could be killed by a combination of thirst and heat exhaustion.

"We actually verbalised to each other. We might friggin die here." – Max

129

Death Planning – Mary

All of the participants were concerned about whether or not they would survive their experiences. Mary addressed this in a unique and pragmatic way. During her interview Mary told me that she was not afraid of dying but she did not wish to suffer through a painful death. Her fear of pain and suffering was so great that it motivated her to seek out painless ways to euthanise herself if she felt this was the only option.

Mary was an older woman in her 70's and a strong proponent of voluntary euthanasia. She felt that dying a painless death in the bush would be preferable to dying in pain in the bush. She therefore spent a lot of her three day lost person experience looking for ways to end her life painlessly if she thought the time had come for her to pass away.

> "I thought I could die out here, that didn't particularly worry me dying, because, you know, that's going to happen to all of us. But the manner of my death worried me. And I did not want to be out there for a long time. Kind of wasting away, you know, and being in pain…
>
> … well if it was painless and quick no problem, no problem at all. That didn't scare me. The bush didn't scare me. Being in pain scares me. Like, you know, at 71 you're thinking about, you know, assisted dying and all that stuff that's going on around us the legislative stuff. So it's very familiar territory…
>
> …So, then it's like moving into the problem solving approach, you know, well, okay. If that's the case, I need to know how I can finish myself off quickly and without pain. And I'm a very practical person, you know, and I couldn't, I couldn't find anything. So you know, I thought banging my head on a rock, there were plenty of rocks, but then I thought I'll probably mess it up, you know, and just have a hole in the head." - Mary

At the time of her interview this was something Mary still strongly believed was a calm and rational thinking process even from a post event hindsight perspective.

> "I think all of that was rational whether or not thinking how to die is rational I don't know. Most people that I've mentioned that to think it's a bit weird I think. I don't I'm rational now and I don't think it's strange." - Mary

Several participants were concerned about the social consequence of their lost experiences. These concerns could be internal and related to themselves or other group members or they could be external and related to members not in the group. Internal social fears included the fear of embarrassment, fear of failure and fear of harm to others. External social fears included the fear of public shame, concerns about loved ones, fear of prosecution and concerns about financial costs.

Fear of Embarrassment

Several participants felt embarrassed about their situations. William and Carly felt embarrassed but elected to accept their situations.

"Oh, yeah, I mean, I was sad. I think I was just so more like, oh, like just the adrenaline was just pumping. So, I probably, yeah, it was just adrenaline. I don't think I was like, I didn't really cry ever, I'm not a panic crier. And I think because I felt safe once I pressed that button. So I think there was a lot of like, fuck, this is so awful. How embarrassing, I can't believe that this has happened. Like what an idiot. But also just like, okay, now you just have to wait. And what happens at this point is outside of your control." - Carly

Liz believed that for her father there was also a fear that he would embarrass himself and lose face in front of his hiking party.

"But he was also annoyed at the situation. Because he got us there. And yeah, I think was the first time he really thought that I'm gonna kill my entire family … Yeah, it was embarrassing more than anything, very embarrassing." – Liz

Fear of Failure

Closely linked to the fear of embarrassment was the fear of failure. Participants were concerned about their failings as individuals and as leaders. William felt that he had failed as a climber when he couldn't descend from his mountain top.

"Like, you know, I've got the experience and experience got me into trouble. My overconfidence, which is why I got in shit too because I think a lot of

people get into trouble from overconfidence, and they are experienced. They can

do a lot of things but it's, you can still have an, have an accident. Get lost."

- William

Fear of Harm to Other Group Members

Bruce was concerned that he had failed as a leader, that his party had become lost because of his poor leadership and that his failings as a leader had got himself and his companions into trouble.

"The hard thing was I had to keep, keep in balance between looking after

the group and being responsible because I'm just thinking shit, like, I've got, I'm the

one who's gotten us into this situation because I've organised the hike. I'm the one

who's done this the most, I'm the most experienced walker in the entire group. You

know, let's all go to Tassie, it's gonna be great, you know." - Bruce

Max was likewise concerned about harm befalling his hiking companion due to their ongoing lost situation.

"My head's starting to go holy crap. Because we were exhausted and that

it's, it's, wouldn't be more than probably 150 meters in elevation between every

time we come down and have to go back up. But in the heat, 150 meters up and

down, up and down and Bruce was cramping. We've run out of water. And he

started to get a little panicky. So I was trying on the outside to be really calm, but

inside I'm thinking how the, can we not find this trail … I was feeling a bit scared at

this stage." - Max

Beyond the fear of physical harm Oscar was also concerned about the members of his party missing out on their much-anticipated trip up the mountain.

"Because I knew the trip was over straightaway. And I just said, and before

I said that, I said, look, I said maybe we'll come back in three weeks to do it again."

– Oscar

Public Shame

Several participants expressed concern that they would be shamed and ridiculed after their lost event. William felt that if he was to call for help he would face the ridicule of his rescuers.

"I knew it'd be a miserable night. But the worst part would be embarrassment the next morning."- William

Mark shared a similar concern.

"And it was it was kind of scary, because the biggest fear I had was going missing. And having people, just appearing on six o'clock news and the humiliation of being on the six o'clock news and, you know, being the missing bushwalker and that was what really kept me going." - Mark

The actual response people received post event varied. Bryan felt that his companion stoked public shame on a local online hiking page.

"I really, really appreciate what happened during the night but next day I felt he shit all over me to be honest. He does a lot of things for his hiking group and he videos everything, videos, normally himself coaching somebody else. He doesn't do selfies he does video selfies he talks to what he's doing. He does a lot of streaming stuff. He videoed a lot during this whole thing. Before things were going wrong, but also when he came back down in the morning. He did a video talking about what he's done, what he's doing. He videoed me being taken up in the helicopter. He did more videos after I was gone. A lot of what he was saying was basically just putting me down to be honest, sort of thing. He was saying he takes responsibility but I know they just felt that they made me feel shit. He didn't need to put that up." - Bryan

Most people however received welcoming responses from rescuers and Mary became a minor celebrity.

"But of course people were also recognising me and they were saying, I could see them looking at me and then they'd say, oh, oh, are you that, that, that woman you know, and I didn't find it intrusive. So and in some ways, I think it was probably quite helpful. I did actually meet a lot of people for very short periods and I think it was helpful yeah, to say a few words about it. And that went on for even in the plane." - Mary

Concern for Affected Others

Most participants reported being concerned about the impact their lost experiences would have on friends and family. Mary was aware that the alarm would be raised when her friends found her abandoned campsite but felt guilty about the impact that her lost experience had on them.

"It was really pretty traumatic for them." - Mary

Oscar made his first contact to his mother but was concerned about upsetting her and making her worry unnecessarily.

"And I just said, look hey mum, I said, I really need you not to stress here. Like, that's the first thing I say, and she's gonna know, like, straightaway, there's something wrong." - Oscar

Dealing with this guilt played a significant part in the post rescue recovery and is addressed in more depth in chapter ten.

Fear of Cost

Several participants were concerned about legal and financial costs associated with their lost experience. This included concerns about wasting taxpayer money, fear of being issued heavy fines and the fear of being charged for the cost of rescue operations. These fears were also largely unfounded because none of the participants in the study were asked to pay rescue costs or fines as a result of their lost experiences.

Rescue costs

Several participants were concerned that they would be required to pay rescue costs. This fear of cost was discussed by Carly.

"It was funny because dad has always drilled into me make sure when you press that button, it's a legitimate emergency or you're going to be paying the $10,000 for that helicopter." - Carly

Oscar was concerned about wasting taxpayer money.

"You know I just felt at the time, I just didn't think my injury was that bad.
You know, like, I felt I felt horrible. I felt like I just wasted the government's money
to be honest. Like, I felt, I felt really bad, I was crying." - Oscar

Fear of Prosecution

Another fear was the fear of prosecution. William had knowingly and willingly climbed in an area where unguided climbing was strictly forbidden by law. His illegal trip was triggered by the unexpected cancellation of his guide, his sense of self belief, and fact that the climb was to be the highlight of his offshore holiday. While ascending William passed several signs warning against unguided climbing. He reached the summit of the mountain and became stuck when thick fog descended and trapped him.

"It's illegal to climb up there without a guide. There are signs everywhere.
saying it's illegal, do not pass this point without a guide and all that sort of stuff...
... And I kept telling myself, I'm good, I can rock climb. you know, I've never
got into trouble, I can keep going. And I just had to say to myself no, this is
dangerous, go back even if you've got to embarrass yourself and wait for rescue. I'll
go back and wait." - William

This left William to decide between attempting to self-rescue or declaring his illegal activity and facing what he thought could be harsh legal consequences, ridicule, embarrassment and a fine.

"The fifth time if I couldn't find it the fifth time. I was probably just gonna
wait there for rescue. And cop a really hefty fine and get ridiculed and probably
kicked off the island. But um, that was better than trying to get down past the cliff
because if you had an accident on the cliffs they'd never find you anyway."
- William

Spiritual concerns

Most of the participants thought that they could die during their lost experiences. These mortal fears bought spiritual concerns for many. This included prayers to higher beings, affirmation of spiritual beliefs, and concerns about upsetting ancestral spirits. Thomas is a committed Christian and felt the need to both call upon God for help and to ask both his mother and his friend to pray for him.

"And then I rang my friend and I said pray for me I don't know where I am."

- Thomas

Thomas also felt that God protected him from a falling branch by warning him to move.

"And then I just felt God spoke and said get up move now but I didn't want to. I was like, oh I'll be right here but okay. So I got moved only about four metres away. A branch fell down where I was sitting." - Thomas

While Thomas found comfort in God Mary briefly reconsidered her spiritual beliefs before reaffirming her position as an atheist.

"No, I didn't say any prayers…I'm not into the spiritual thing. And I'm not a religious person. And I must say I did have thoughts while I was out there, Mary, you're not going to turn to God at this point. That would be completely what's the word, not surprising, but kind of unethical. You know, I decided God doesn't exist or long time ago. You can't possibly expect God to, ask, ask for help now, so I didn't, I didn't at all feel any change of you know, belief." - Mary

Max's hiking companion had a strong indigenous belief system and became concerned about upsetting ancestral spirits. He felt that he and Max had walked into a forbidden area and were being punished by ancestral spirits.

"Bruce has a long history of indigenous involvement. His wife is an indigenous lady. And he started saying we shouldn't have come here. We're not supposed to be at this place. And that then freaked himself. So he really had this sense of oh oh, this is, this is not good." - Max

Concern for Environment

Whilst Mary confirmed her atheist status, she did describe her lost experience as positive, magical, and spiritual.

"But that night was absolutely magical…absolutely yeah. Well, my highlight was that night…but this night was magical. Absolutely black sky, no moon, stars

absolutely everywhere. Sound of the bush was just incredible. It was the frogs in

the creek and that was like a didgeridoo and there was some, there was a dingo

noise over there, I can, I can recall it absolutely. A dingo call all the sounds of the

little you know, flying things.

…That's what spiritual is, but it was the bush and it was me and I tell you I

felt completely enveloped and comfortable. And each time I woke up in the night it

was like, oh yes, sounds are still there. That's so beautiful, it's like being in an

Aboriginal symphony, it was just beautiful. So that was a very, very positive

experience for me." - Mary

She also felt distressed at the prospect of causing harm to this magical environment by
discarding an empty sardine tin.

Rescue Planning

A key part of the lived lost experience was working out how to return from lost locations to
places of safety. Most participants began by planning for self-rescue. Those who were unsuccessful at
self-rescue then planned for an external rescue.

Planning for self-rescue differed between geographically disorientated participants and
participants who had been stuck. For geographically disorientated participants planning a self-rescue
was an organic process that occurred as they realised they were lost and attempted to become unlost
by reorienting themselves. This typically involved track sampling, looking for known landmarks or
attempting to reconcile their current location with their understanding of where they wanted to be.
The participants who were stuck also had additional challenges to overcome including injuries, harsh
terrain and extreme weather.

Self-Rescue

Self-rescues occurred when participants took themselves to places of safety. Attempting to
self-rescue was the first reaction for most participants because this was a logical response to becoming
lost. Some participants also attempted self-rescues because they were reluctant to accept the need
for external help or because they did not appreciate their situation.

"I didn't think it was serious. I didn't like, I didn't think it was a snake bite

serious. Because I guess when you're not in that, when you're in that situation, I

didn't know like, what to think, you know, I couldn't walk. But it's like, I'm not dying as well. It's like when do you push it (the PLB) you know what I mean."

- Oscar

For Bruce and David self-rescue was also the only realistic option because external rescue assistance was unlikely due to the blizzards they encountered.

"There was no way we were getting any sort of rescue that evening. Because the wind was so strong and snowing quite heavily … We did have a PLB. We always rent one (but) who is going to rescue us? Like we're above 900 metres or a kilometre or something there and ... they wouldn't have flown a helicopter in that weather it was awful Yeah. No, we were very clear. Karen was a Royal Flying Doctor Service, yeah, Karen was an RFDS Nurse. So yeah, so she was like, they're not rescuing us in a helicopter. So we knew there's no way you can fly a helicopter in that weather. So and yeah, if they were going to walk up to get us well the walkers were going to have to walk all the way up the mountain, and, and carry some sort of rescue gear as well and be in just as much risk as what we were. So we were kind of stuck, really. And that was probably the biggest fear. That was the real holy shit moment in that, that afternoon. That first afternoon was because I knew there was no rescue." - Bruce

External Rescues and Rescue Attempts

External rescues were rescues that were undertaken by agents who were not part of the lost person events. These external rescues could be initiated by the lost participants, by external third parties or by both the lost participants and external parties. They could occur with and without participants' knowledge. Some external rescue effort occurred concurrently with self-rescue attempts, and some occurred after self-rescue efforts had been exhausted and discontinued.

Self-initiated External Rescues

Self-initiated external rescue efforts involved the participants recognising the need for help, identifying how to call for help, and calling for help. The decision to initiate an external rescue was impacted by the likelihood of an external rescue effort, the certainty that the participants could not

self-rescue, the influence of external agents, communication tools, personal attitudes and group dynamics.

Barriers to calling for help existed because of uncertainties, personal attitudes, and communication difficulties. Most participants were initially reluctant to call for help because they had difficulty accepting their situations, they had concerns about raising the alarm or they had difficulty calling for help. Some participants were unsure when to call for help, who to call for help or how to call for help. Some were unsure whether they should call for help and some were reluctant to call for help for fear of cost or embarrassment.

When to Call

Determining when to call for help was a common problem. Oscar, for example did not concede that he needed an external rescue until he phoned emergency services for advice and was told to wait where he was while an external rescue was organised.

> "What I did is I literally stood up and then fell back down, and then my foot just stayed in the water. And that's where I stayed for two and a half hours, I couldn't move. And it was very, at that point I knew that there was something wrong and then I took my foot out of the water and as you can see this massive lump just started. And I looked at everyone and I then I just said look we've gotta call, we've got to call an ambulance because I said what happens if a blood clots here? You know, like, what happens if there's a blood clot and I, I don't want to die you know." - Oscar

Thomas took several hours attempting to self-rescue before calling for help. He became lost, attempted to self-rescue, became injured, became stuck, developed thirst, fatigue and cramp and then began to become delirious before he established that self-rescue was no longer possible. He then made the decision to call for help.

> "It was like oh, I just thought I can't put me singlet on because it's sweaty … I just left me croc on and everything and it was just starting to fill up with blood and all congealed I was like oh no, this ain't no good so I'll just ring 000 because I thought I can't walk out of here like this. I'll be bleeding to death." - Thomas

In contrast Carly's decision to call for assistance was immediate and involved implementing a pre established plan that she had developed before her wilderness journey. Carly realised she was lost, established that self-rescue was not viable, assessed her situation and established the need to call for help. She spent around half an hour attempting to recover her bearings, realised it would getting dark soon and made the decision to call for help by activating her PLB distress beacon. This initiated an external rescue.

"Once I made the decision, it was an easy decision. I knew there was nobody around. I knew I had limited water left, and it was really hot. And I knew if I didn't press the button, then I was gonna have to press it in the morning. And I mean, I just didn't, I was like, I can't get the GPS to work. I could possibly spend some more time doing it, but I'm just going to get more dehydrated and more stressed… and I made the decision that if I was going to press the button that day, I had to do it then because it was going to get too late in the day for kind of anyone to come out." - Carly

How to Call

People who did decide to connect with external rescue agents were often confused over who to connect with and how to connect with them. Participants sought to contact third parties by shouting, by physically sending for help, by making phone calls, by using phone apps, and by using satellite based personal locator beacons (PLB's). Both Thomas and Oscar also made calls to their mothers during their rescue planning to seek guidance and reassurance.

The communication methods that the participants employed had varying amounts of success and came with a variety of challenges. The PLB worked well as did physically sending for help. In contrast yelling for help was a universal failure and phone calls had limited success. Those who did call for help via phone called 000 but were unsure which service to ask for and Thomas was surprised to find himself talking with police.

"I rang 000. They asked who I want and I can't even remember. I got the police, and I thought what have I got the police for?" - Thomas

Personal Locator Beacons and Mobile Phones

The main communication tools that participants carried were personal locator beacons (PLBs) and mobile phones. Several participants owned PLB devices but only one rescue was activated by

using one. This indicated a reluctance to use them. Bryan did not to take his PLB on his trip because it was only a small trip. Oscar did not use his PLB because he did not think his event was serious enough. Oscar was later advised by his rescuers that he should have used the PLB. Carly used her PLB and it worked well.

Several participants chose mobile phones as their primary means of communication but experienced difficulties. Max forgot to take his phone with him or to check if his companion had a phone. Oscar and Thomas had poor phone coverage. Thomas and Mary were concerned about failing phone batteries. Mary also had no phone coverage and erroneously believed that she could use her emergency plus app without phone coverage.

"I thought I'll use the emergency plus app, I'll call for help. It's sensible at this stage. And I hadn't understood, and I now know, and I've since discovered that a lot of people in our club don't know that you can't use that app to call for help if there's no reception. And you can, it doesn't matter, if there is reception, it doesn't matter which provider you've got it will apparently ping, ping, ping to phones, Telstra or whatever.

…It's not a problem with the app, it's a problem with the way it's advertised. And when I came back, and I had occasion to go back onto that app and to see well what does it actually say? Because I thought it was my phone that was the problem, not the app. It's a bit of gobbledygook actually. It does say that you can't get it without reception.

… And I've heard first hand and second hand from a lot of friends in the club now, when I told them, I tried to use the app. And I told them why it wouldn't work and they said, oh, no, we thought it diverted to satellite. It cannot divert."

- Mary

Feelings after Calling for Help

The decision to call for help bought mixed emotions for the participants. It bought a sense of comfort and relief, but it also bought sadness and a sense of embarrassment. After using her PLB Carly felt happy that help was on its way but also sad that her trip was over and embarrassed about getting herself into the situation where she required help.

"Oh, yeah, I mean, I was sad. I think I was just so more like, oh, like just the adrenaline was just pumping. So I probably, yeah, it was just adrenaline. I don't

think I was like, I didn't really cry. I'm not a crier. And I think because I felt safe once I pressed that button. So I think there was a lot of like, fuck, this is so awful. How embarrassing. I can't believe that this has happened. Like what an idiot. But also just like, okay, now you just have to wait. And what happens at this point is outside of your control." - Carly

For Bryan the decision to send for help was made out of necessity but he was frustrated at the situation he was in. He was also concerned about not knowing what was happening with the rescue effort because of the lack of communication between himself and his companion.

"He said he was going to try and pull me up but he didn't actually try that's why I didn't know that he, was he hurt or has he gone to get help… What the fuck am I doing here." - Byran

Externally Initiated Rescues

Externally initiated rescues occurred when people outside the lost events took action. This could occur in response to contact with the lost people, or it could occur when others realised that the participants were missing or overdue.

For Oscar an external rescue was initiated after he phoned emergency services for advice, and he was told to stay where he was and wait for a rescue party.

"And we called the ambulance and we just got advice, I was asking for advice. I'm like, okay, and I prepped, I prepped myself mentally, we needed to, I needed to hop out of there. I knew that that was going to happen. And I knew that I was prepping myself for probably two hours to take some Panadol and get up and just get out of there. You know what I mean? That's it. That's what I was thinking… And straightaway they just said where are you going? And we said, oh, we're here. And then they said, don't move. We're gonna send a team in." - Oscar

For most participants externally initiated rescues were triggered by friends and family who were concerned that they were late or overdue. This pre planned response was typically arranged in the pre wilderness phase. These participants were aware that search and rescue operations were likely to have commenced and that loved ones would likely be concerned about their unplanned absences.

Mary had become lost after taking an unplanned solo hike the day before her friends were expected to meet with her. Mary correctly assumed that her friends would raise the alarm when they arrived and found her empty campsite. This gave her comfort and reassurance that even though she could not raise the alarm a rescue party would come looking for her.

"It's going through my head that I wonder, now my friends will probably have arrived. We didn't have a fixed time they were coming. At some stage they will realise my tent was still there. They knew where my tent was going to be. I had my pack with me. At some stage, they'll realise something's wrong. And I didn't know how long that would take. But I thought, oh well, you know, they'll, they'll raise the alarm at some stage." - Mary

Max also expected that a search party would be raised after he was reported missing. Max and his friend had however changed plans and had gone to a different area to where they had originally planned and had not told anyone of the change of plans. This resulted in the search party being sent to the wrong place.

"And Denise said, no no they were going to do, Whiterock (track) and Emory said. Yeah. Yeah, that's right. So with that, she rang another friend of mine, who's done a number of walks with us. And she said do you know where the Whiterock walk starts. Yep, yep Dave said, I'll go, I'll go and find the car and you know. So he took someone else with him and they went to the Whiterock where you park the car. And of course, the car wasn't there." - Max

Sending the search party to the wrong place prolonged the search and rescue operation. This increased the stress for Max and his companion who became worried that they may not be found in time to survive. It also meant that they felt bad for the trauma that they inflicted on their loved ones.

"We actually verbalised to each other. We might friggin die here. Because no one's gonna find our car for a few days … And of course at the whole time we were a bit scared about what we're putting our families through." - Max

Dale and other members of his hiking club became trapped at the top of a mountain and unable to self-rescue. They decided to overnight and try again the next day. The following morning

they successfully self-rescued and met an external rescue party as they reached their trail head. This external rescue had been triggered by the wife of a member of Dale's Hiking party.

> "And so the next morning, we started hearing helicopters. We thought yep, one of our, one of our wives have gone and reported us missing and so we saw these helicopters." - Dale

The helicopter was part of a much bigger external rescue effort and Dale and his team met up with ground rescuers at the trail head.

> "We actually finished up exactly where the search party was actually stationed. Because it was where my car was and we had we come straight back out at my car…and I just came up this little hill and there's my car parked there, and SES and everyone's standing around. And they said are you the guys we're looking for and I said well there's nobody else up the mountain so it must be us." -Dale

Chapter Summary

This chapter has identified that the lived lost experience involved addressing survival needs, addressing personal issues, addressing interpersonal issues, rescue planning, and, for some, addressing higher-level concerns. These things all occurred concurrently. Rescue planning involved evaluating self-rescue and external rescue options, developing rescue plans and initiating these plans. Physical challenges included injuries, basic survival needs and being trapped. Mental challenges included recognising and addressing fears, addressing individual concerns, dealing with group dynamics and for one participant ensuring she enjoyed her time in the bush. The ways the participants approached these issues were influenced by their individual circumstances, their environment, their personalities, their peer influences, and their available resources. The individual approaches could also increase or decrease the trauma associated with their lost events.

The Lived Lost Experiences

The lived lost experience included the physical and mental challenges associated with being a lost person in the Australian wilderness. Physical challenges included basic survival needs and, for some, the need to attend to injuries and wounds. Mental challenges included staying calm enough to

maintain rational thinking, coping with stress, addressing fears, and dealing with group dynamics. Some participants also felt the need to address higher level concerns such as spiritual concerns, conservation values and a desire to enjoy their time in the wilderness. This experience was influenced by the previous phases that led up to the lost experience, by the planned wilderness experience and by the people involved.

The Role of the Previous Phases

The lived lost experience phase preceded the rescue and recovery phases and followed on from the pre wilderness, pre-event and trigger phases. Each of the three earlier phases could have flow on influences on lived lost experiences.

Pre Wilderness

During the pre wilderness phase the participants collected resources, planned wilderness activities, developed skills, collected knowledge, arranged wilderness groups and developed 'what if' plans. Those participants who did this well fared better through their lived lost experiences than those who did not.

Pre-event

The pre-event phase occurred once the participants entered their chosen wilderness environment. During this phase the participants encountered their chosen environments and undertook, or attempted to undertake, their chosen wilderness activities. The match or mismatch between pre wilderness expectations and lived encountered environments could have positive or negative impacts on lived lost experiences.

Trigger

Lost event triggers influenced lived lost experiences. Those who became stuck had to contend with injuries, poor weather, and impassable terrain. Those participants who were disorientated had to contend with the distress of being unable to reorient to places of safety. Those who were both disorientated and stuck had to deal with injuries or impenetrable terrain as well as being disorientated.

The Role of the Planned Experience

Planned Activities

Several participants had planned on extended time in the wilderness that included overnighting whereas others planned on short hikes. Some participants had been very committed to pre wilderness planning whereas others took more laissez faire, spur of the moment approaches. Those participants who had planned on extended stays tended to be better resourced and better prepared mentally. Likewise, those who had been committed to pre-event planning were better prepared when they became lost. In contrast those who were ill prepared for their wilderness experiences and their subsequent lost experiences fared more poorly.

The participants who had planned on specialist activities such as rock climbing and mountaineering that required specialised equipment or skill added an extra layer of complexity. For some participants specialised activities meant that they had done extra planning and preparation and carried specialist equipment. For others the specialist activity caused or contributed to their lost experiences. For example, Bruce and David were both undertaking alpine activities and were prepared for cold climate conditions. In contrast William's commitment to climbing led him to make the risky decision to climb without a guide, Bryan became stuck because he attempted a climbing activity that was beyond his skillset and Oscar's interest in wilderness photography led him to explore a largely untouched wilderness area and cross an unstable log that crushed his foot. Likewise, several participants who sought to climb peaks found themselves contending with poor visibility due to meteorological conditions.

The Role of the Environment

Wilderness tourists enter wilderness areas to interact with their chosen wilderness environments. These environments and the participants' abilities to interact with these environments impacted the participants' lived lost experiences. Those who were capable and comfortable interacting with the environment had much less traumatic lived lost experiences than those who were not as capable. Examples of environmental trauma included Max who thought he was going to die from the heat, Bruce who was overcome by hypothermia, Bryan who was stuck overnight half way up a waterfall and the multiple participants who experienced reduced visibility due to low cloud, sleet and snow. Not all participants found the environment to be a cause of trauma throughout their lived experiences, however. For example, Mary made a conscious decision to enjoy being in the bush and Oscar used the cold mountain stream to reduce the pain from his injured foot.

The Role of Resources

All participants carried some resources with them. These resources and the ability of the participants to maximise their utility could have positive or negative influences on lived lost experiences. For example, several participants experienced extreme weather and those who were better prepared for extreme weather fared better than those who had not prepared for extreme weather. Likewise, those who had effective communication devices were able to quickly call for help when they needed it whereas those who did not have appropriate communication devices had their lost experiences prolonged. Carly used her PLB to call for help and this effectively ended her lost experience. In contrast Max, Thomas, Oscar and Mary had limited phone coverage and this restricted their ability to call for help thus prolonging their lost experiences and increasing their anxiety.

The Role of Personalities

Some people were alone throughout their lost experiences and others had companions. Individual personalities, companions, group dynamics and outside influencers all impacted lived lost experiences.

Individual Attributes

Personal attributes including personality, attitudes, experience, knowledge, and locus of control all influenced how the participants approached their lived lost experiences. Some participants had more wilderness experience than others. Some took charge of their situations. Some took to leadership, and some let their experiences happen. Some participants took a pragmatic, problem solving approach to their lost experiences and others became distressed and panicky.

Thomas described himself as "freaking out" and Carly was spooked by a bull that she saw. In contrast Jack applied a calm rational approach to becoming unlost, William used logic to try to find a way down from the mountain top and David, Dale and Bruce all made conscious decisions to be calm and rational leaders. A third approach was displayed by Liz who neither panicked nor took charge and was simply happy to follow her father's lead regardless of the consequences.

The Role of Others

Other people influenced the lived experience in two ways. They could be part of the lost group or they could influence the lost person's lived experience from outside the group. These influences could be positive or negative. Some companions were the reasons why people became disorientated or stuck. Some companions panicked and some had medical issues that needed to be tended to. Non-

companions could influence the participants knowledge, skills, attitudes, and preplanning but could also cause increased anxiety.

For the participants who were not alone, group dynamics were part of their lived experience. Bruce was encouraged through peer influence to make the positive, proactive decision to push through the storm by one of his companions and this reduced the trauma of their lived lost experience. For Max his companion's fatigue prolonged their lived lost experience because he was unable to continue attempting to self-rescue. Some participants also had to contend with their companions' panic and fear as part of their lived lost experience. For Dale this meant regularly stopping and calming his companion down before they could continue with trail sampling self-rescue attempts.

People outside of the lost experience also had the role of influencers. Carly attributed her wilderness skills and knowledge to her father's teachings. William attributed his knowledge to his Outward Bound education and Mary attributed her lack of navigation skills to former dependence on her ex-partner. The influence of people outside the lost experience could also be less direct. Max changed his plans because he felt pressured to get back to attend a school working bee. The participants who were aware that their loved ones knew they were lost also correctly surmised that these loved ones were becoming distressed, and this increased the participants own trauma throughout their lived lost experiences.

Rescue Planning

All the participants made conscious efforts to plan for rescues once they realised they were lost. Most participants began by planning for self-rescue and some went on to develop plans for external rescues. Rescue planning was influenced by the lost situation, the type of rescue, the environment, the available resources, individual attributes, and the influence of others, certainty, uncertainty, ability and inability. The influencing factors often had a synergistic relationship on one another.

Lost Situation

Chapter four established that a lost wilderness tourist was someone who was unable to reach a place of safety because they were disorientated or stuck. It also established that this lost situation could be temporary, or it may be unable to be resolved without external assistance. Participants who were temporarily stuck or disorientated and who realised this early on in their lost experiences were often able to plan and effect self-rescues. Conversely participants who were more seriously lost or took longer to realise their predicaments were less likely to plan or effect self-rescues. An example of

early intervention was Jack who realised he was lost and quickly backtracked and reorientated. In contrast Thomas took some time to realise he was lost and then became lost, stuck, and injured.

Rescue Type

Each participant developed a rescue plan. Some participants planned self-rescues, some actively initiated external rescues, and some planned for rescues to be externally initiated. These rescues could be pre planned or spontaneous. Some rescues were also significantly easier than others and this is discussed in the next chapter.

Self-Rescue

Most participants initially considered self-rescue but some quickly realised they were too lost or stuck to be able to reasonably attempt to self-rescue. Self-rescue attempts involved assessing their situation, determining that they believed self-rescue was viable and attempting to self-rescue by reorientating to known locations, by self-extracting from stuck locations, by managing injuries or by a combination of these things.

Self-rescue plans were based on pre wilderness planning, individual circumstances, skills, resources, and where applicable, group dynamics. Participants with a good understanding of their planned routes and activities, good background research and a good understanding of their individual and collective skills and resources were more confident in assessing their ability to evaluate the viability of a self-rescue. Those who had poorer understanding took more spontaneous and haphazard approaches to their self-rescue attempts.

The decision to plan a self-rescue was mostly based on a critical appraisal of how disoriented or stuck they were and what resources they had but there were two outliers. Mark was lost in thick vegetation but committed to self-rescue and did not want to be externally rescued because he feared being on the 6 o'clock news. Bruce felt that he had no option but to self-rescue because of the inclement weather.

External Rescue

External rescues involved rescue parties who were external to the lost events. These external rescues could happen independently of self-rescue attempts, concurrently with self-rescue attempts or as the sole rescue efforts. Some participants initiated external rescues themselves. Other participants correctly assumed that external rescues would be initiated when friends and family reported them missing or overdue.

Participants who self-initiated external rescues called for help via mobile phones, through satellite devices, or by physically sending for help. Barriers to calling for help included technological limitations, climatic conditions, uncertainty over how to contact rescuers, fears of social or financial costs and poor contingency planning.

All the participants who anticipated external rescues actively planned for these through their lived lost experience. Participants with better planning, skills and resources took a more deliberate approach to external rescue planning and those who were less prepared took a more spontaneous or haphazard approach. For example, Carly knew she was lost, activated her PLB and was rescued quickly. In contrast Mary and Thomas both had poor telephone communications and had more uncertain, prolonged and traumatic lived lost experiences.

External rescues created a new trauma dynamic for the lost parties because they often involved contact with loved ones who became concerned about the wellbeing of the participants. The lost people also became aware that they would be causing distress to their loved ones and this added to their own trauma as lost people.

Natural Environment

The natural environment included meteorological conditions, vegetation, topography and terrain. This was a key component in several lived lost experiences. For some participants the environment triggered their lost event, for some it influenced their lived lost experience and for some it influenced their rescue planning.

Bruce was unable to plan for an external rescue because the storm he was in meant that there was no chance of a helicopter or ground rescue. Max couldn't self-rescue because his companion was experiencing heat fatigue. William, Dale and David could not self-rescue when clouds created poor visibility but self-rescued easily once the cloud cleared. Waterfall terrain meant that self-rescue was not viable for Bryan and harsh vegetation and terrain mean that Thomas' only option was external rescue.

Resources

Resources influenced rescue planning. Those participants who had good resources, a good understanding of their resources and appropriate skills had more rescue options at their disposal and this decreased their trauma. Conversely those who had poor resources or poor understanding of their resources and abilities had less rescue options and this had a negative influence and increased stress. Carly had a PLB so was able to easily initiate an external rescue. In contrast Mary erroneously believed she had phone coverage but did not. This meant Mary could not initiate an external rescue.

Once the participant chose to plan for an external rescue, they then had to plan for contacting external rescuers and receiving their assistance. This often meant the use of signalling devices such as a flint and steel (Thomas), a tent (Carly) and a survival blanket (Mary). Those who did not have, or were not aware of their signalling resources, experienced increased trauma due to concern that they would not be found. Max was concerned that they would die in situ before they were found, and Mary described the low point in her lost experience as being when a helicopter flew over her without spotting her.

Individual Attributes

Personal skills and individual attributes and personal pride limited rescue planning options. Bryan lacked the requisite technical skills to self-rescue and Mary had insufficient navigation skills to self-rescue. William was overly confident in his personal skills and believed that he could self-rescue even though he couldn't. Likewise, Mark was more afraid of being seen on the six o'clock news than he was concerned about his ongoing lost ordeal, so he insisted on self-rescue. In contrast Carly was well trained in wilderness search and rescue and knew to use her PLB.

Group Dynamics

Rescue planning and rescue planning options were also influenced by group dynamics. This influence could be a positive or negative. Some participants were motivated to get their companions to safety. Other participants were lost or unable to proceed because of their companions. Bruce felt a duty of care to his companions, and this motivated his ongoing self-rescue efforts and Bryan was able to physically send his companion to get help. Liz was lost because her father refused to admit his shortcomings and Max was stuck because his companion had succumbed to fatigue.

Lost Event Trauma

The lived lost experience involved physical, psychological, emotional, spiritual, and interpersonal challenges. Stressors included fear, uncertainty, and lack of ability. Some participants addressed these challenges and stressors more successfully than others.

Fears and Concerns

Lived lost wilderness experience concerns include fears about personal wellbeing, concerns about the wellbeing of other people, spiritual concerns and for one participant, concerns about her

natural environment. These fears, concerns and their associated anxiety were increased by uncertainty, and lack of ability. The same fears, concerns and anxieties were reduced when participants felt more certain about what was coming and felt more able to cope with what they expected to happen.

Concerns for personal wellbeing included concerns about basic needs such as water and shelter as well as concerns about injury, fatigue and exposure. Concern for others included concerns for the wellbeing of wilderness companions and concerns for the wellbeing of affected friends, family and colleagues who were not members of the lost parties. These fears and concerns are presented in Table 13 in 6 categories. These categories are fear of the unknown, fear of harm, fear of negative social consequences, fear of costs and spiritual concerns.

Table 13
Summary of Fears and Concerns.

Fear of the Unknown	General fear of the unknown Fear of not being found Fear of the dark
Fear of Harm	Fear of pain and suffering Fear of negative interactions with flora and fauna Fear of worsening situation Fear of death
Fear of Internal Social Consequences	Fear of embarrassment Fear of failure Fear of harm to others
Fear of External Social Consequences	Fear of public shame Concern for affected others
Fear of Cost	Fear of prosecution Fear of rescue costs
Spiritual Concerns	Fear of upsetting spirits Fear of harming the natural environment

The Amplifying Effects of Uncertainty and Inability

Uncertainty and inability played dual roles in lived lost wilderness experience trauma. They could cause distress in their own right and they could also amplify pre-existing physical, psychological, emotional, or spiritual distress. The ability to identify, address and resolve these uncertainties and inabilities could also reduce distress and trauma associated with the lived lost experience.

Uncertainty

Uncertainty was a major cause of distress. This included uncertainty about whether to plan for a rescue, uncertainty about what type of rescue to plan for, uncertainty about how to undertake

rescue planning, uncertainty about how to initiate a rescue and uncertainty about what rescue efforts may or may not be underway. This uncertainty increased anxiety and led to some participants and their companions becoming panicky, distressed, and irrational. In contrast those participants who knew what to do when they realised that they were lost or stuck experienced less distress as they went about planning for and effecting rescues.

Other uncertainties included uncertainty about how long the participants would be lost, uncertainty about how to address shelter, hydration, and safety needs, uncertainty about how other people were coping and uncertainty about whether their lost experiences would lead to public shame, humiliation, and monetary fines. Participants who were uncertain about outcomes tended to be more stressed than those who could predict outcomes. Conversely participants who could predict outcomes tended to be less stressed. An extreme example of uncertainty was Max who was uncertain about his ability to survive in the tropical conditions or if a search and rescue effort would be initiated and sent to the correct location. In contrast Carly was very certain about the rescue that would come after she activated her PLB and felt a wave of relief after she called for help.

Inability

Another major amplifier of distress in the rescue planning process was inability. For some participants who thought they would self-rescue, distress came when they realised that they were unable to self-rescue. For some who decided that self-rescue was not a viable option further distress came when they realised that they were unable to call for help or initiate a rescue plan. An extreme example of this was Mary who became lost, failed to self-rescue, realised that her mobile phone had no coverage, was uncertain about what rescue efforts were being made and then failed to signal a search helicopter. In contrast distress was reduced when people were able to confidently call for help and plan for and initiate rescues. An example of stress reduction through ability occurred when Carly initiated her rescue by first utilising a PLB and then putting her tent on high ground so it could be more easily spotted by the search plane.

Inability to cope physically, mentally, or emotionally was also a significant amplifier of distress throughout the lived lost experience. Some participants felt that they were unable to address basic needs for shelter and hydration. Other participants felt that they were unable to cope with their lost situations, their environments, their health issues, or their group dynamics. Examples of this inability to cope included Oscar's inability to treat his injured foot, Max's partner's inability to cope with heat fatigue and Dale and Bruce's inability to cope with extreme cold. Perhaps the most extreme example of this inability to cope however was Bryan's inability to cope physically or mentally with a harrowing night stuck halfway down a waterfall where he became overwhelmed by his predicament. In contrast

an extreme example of lowering stress by addressing potential inabilities was evidenced by Mary who found shelter, secured a water supply and then set about enjoying her time in the bush.

Addressing and Resolving Trauma

The ease or difficulty of coping with lived lost experiences depended on the participants individual lost situations, their pre-event phases, their planned experiences, their environments, their resources, their personal traits and group dynamics. Participants who were able to recognise and address their fears and concerns also found the lived lost experiences less traumatic than those who were overwhelmed or unable to match their resources with their needs.

Addressing and progressing from initial distress to more comfortable lived lost experiences followed a trajectory that was somewhat reflective of Maslow's hierarchy of human needs (Maslow, 1943). Some participants were able to adequately address their physiological needs and progress to higher level concerns, but some were not. Some were concerned about their lost wilderness party's safety needs. Most had love and belonging concerns. Several quoted self-esteem concerns and one participant even cited her commitment to enjoying the experience in a way that might reflect Maslow's self-actualisation level. Also, and perhaps unsurprisingly, those participants who did manage to effectively address and resolve lower level concerns reduced their trauma and distress as they moved toward self-actualisation.

Figure 8

Maslow's Hierarchy of Needs.

Source https://www.simplypsychology.org/maslow.html (Mcleod, 2024).

Physiological and Safety needs

All the participants had strong wills to survive but most of them expressed mortal fears. Several participants discussed concerns about meeting basic needs such as the needs for water and shelter. Several participants also expressed concerns about physical discomfort due to injury, exposure to the elements or negative interactions with flora and fauna. Previous wilderness tourism research shows that many of these fears were justified because not all wilderness tourists survive their lost experiences unscathed and many lost wilderness tourists lose their lives each year (see Schwartz, 2022).

Specific physiological safety concerns included Max's belief that he might die from dehydration, Bruce's concern that the hypothermia could kill him, Oscar's concern about his foot injury and Bryan's inability to escape the pain and discomfort of being trapped halfway up a waterfall. The participants who were unable to address physiological and safety concerns had especially traumatic lived lost experiences whereas those participants who could resolve their physiological and safety needs had less traumatic lived lost experiences.

Love and Belonging

Group dynamics were shown to increase or decrease distress among the participants. Examples of negative lost party influencers were Liz's belief that her father had a poor leadership style, members of Dale's party getting panicky and Max getting stressed about his friend's deteriorating health. Examples of positive influences were when Bryan sent his companion to get help and when Oscar relied on his friends for moral support. Another positive influence occurred when participants identified the need to take leadership roles and this sense of responsibility helped them to remain rational for the benefit of their group.

Relationships outside of the lived lost experience could also affect the lost wilderness tourists. Both William and Carly used knowledge, skills and attitudes that they had learned from people outside of their lost experiences. A more direct positive influence also occurred when participants reached out to others for comfort and advice. Examples of this included Oscar and Thomas both phoning their mothers for reassurance, Carly calling for help using a PLB and Oscar telephoning emergency services for medical advice. Several participants however were concerned about upsetting loved ones when they were reported lost. This concern added additional stress to their lived lost experiences. Recognising and addressing this vicarious relationship trauma became a significant theme for the recovery process as will be discussed in upcoming chapters.

Spiritual concerns also became part of the lived lost experience as the participants contemplated their own mortality, revaluated religious beliefs and addressed their relationships with higher spiritual powers. For one participant addressing spiritual issues also involved making an effort to enjoy the wilderness at a deeper level while also seriously considering euthanasia.

Esteem

Self-esteem played positive and negative roles in the lived lost experiences. All the participants had previous wilderness experience and they all felt comfortable and confident embarking on their wilderness tourist experiences. For some participants their egos prolonged their lost experiences and increased trauma and stress. Mark refused to call for help because he did not want to be publicly embarrassed by featuring on the TV news. Similarly, William did not want to suffer the blow to his self-esteem or the potential legal costs associated with needing to be rescued. In contrast Carly and Thomas realised they needed help, kept their egos in check and called for help thus reducing the length of time that they were lost.

Self Actualisation

The participants in this study all entered wilderness areas in the pursuit of leisure and pleasure. Most participants became overwhelmed by lower level needs and did not seek self actualisation during their lived lost experiences (Maslow, 1943). Self actualisation did however become a significant part of the recovery for most participants and is addressed in the recovery chapter of this thesis.

Conclusions

The lived lost experiences for the participants in this study began when their lost events were triggered and ended when they reached places of safety. These lived lost experiences involved rescue planning, survival, and, for some, addressing higher level concerns such as interpersonal relationship issues, spiritual concerns, and a desire to enjoy their environments. All the participants experienced some physical, psychological, or emotional distress. Those participants who were able to identify, address and resolve the causes of trauma and distress were able to progress to higher level concerns. Those who were unable to identify, address and / or resolve these stressors remained in distress until they either self-rescued or were rescued by external agents. The findings of this chapter therefore suggest that lost people will cope better when they have the knowledge, skills, abilities, resources, companions, and outside influencers to confidently cope with any eventuality and to make their lived

lost experiences as comfortable as possible. This can be achieved by ensuring that wilderness tourists have adequate preparation, training, resources, interpersonal relationships and contingency plans before they enter wilderness areas.

CHAPTER NINE: RESCUE

The rescue phase of the lived lost person journey was when the lost parties made their way to places of safety. The participants' rescues all went through initiation, execution, extraction, and conclusion stages. They were not usually simple linear events though. Most rescues involved multiple actors, chaos and uncertainty. This chapter therefore explores what rescues are, what their components are, who the actors are and what thoughts, feelings and actions accompanied the participants' rescue experiences. It shows how rescues are initiated, how rescues are conducted and who rescues involve.

Initiating Rescues

All the participants in this study survived their lost experiences and eventually found themselves in places of safe refuge. Participants made their way to safety by self-rescue, through external rescues, or through a hybrid of self and external rescue. Some of these rescue efforts were initiated by the lost parties, some were initiated externally by people who became aware, some were initiated by both internal and external actors. For some participants rescue was an organic extension of their lived lost experience. For some participants rescue involved deliberate actions and for others it was much more passive.

Rescue options were often influenced by the participants' lost situations. All of the geographically disorientated participants attempted to self-rescue and several were successful. In contrast not all of the stuck participants who were able to, attempted self-rescue. People who could not self-rescue either self-initiated external rescues or hoped that an external rescue would be initiated for them by people outside of their lost parties.

Self-initiated Rescues

Some rescue efforts that were initiated by the lost people. This could occur organically before the participants realised they were lost or it could be more deliberate if they fully understood their lost situation. For those who became aware of their ongoing lost situation there was an accompanying awareness of the need to develop and intentionally initiate rescue plans. This could involve more concerted efforts to self-rescue or efforts to arrange an external rescue.

Calling for Help

Self-initiating rescues typically involved making some attempt to communicate with people or agents who were external to the lost event and asking for advice or assistance. The means by which lost people called for help was influenced by their available tools, their understanding of their available tools, their environments, their understanding of their environments, their expectations of success, their personal attitudes, their willingness to call for help and group dynamics. Calling for help took a variety of forms including using whistles, physically calling out, sending for help, using mobile phones and using personal locator beacons. Some of these methods were more successful than others and each had limitations.

Physically Calling for Help

Physical attempts to call for help included yelling, blowing whistles, and sending a companion for help. Audible attempts to get attention were unsuccessful for all the participants who tried it. Carly had used her whistle in the hope that she might be heard by a passing stranger while she attempted to locate her trail.

> "I've been whistling that whole time as well with my whistle." - Carly

David could see a ski lift tower from his lost position and Max could also see a Gondola from his lost location. Both David and Max attempted to yell out in the chance that they might be heard but neither were successful with this technique.

> "And you can see the sky rail gondolas going past and they're probably only
> 200 meters away. And we were yelling out, 'help', you know, no one could hear us
> though." - Max

Physically Sending for Help

Bryan became trapped after unsuccessfully attempting to climb a 100m plus waterfall. His companion was however a more skilled climber. Bryan's companion successfully scaled the waterfall's rock face and drove to a nearby town where he contacted emergency services and initiated the rescue.

> "He did a drive into the police station, no, ambulance station and he said
> they were really, really good. They contacted the rescue helicopter but they were

told that they probably wouldn't be able to do anything, definitely wouldn't overnight, be the next morning, probably be too cloudy or something." - Bryan

Mobile Phones

Most participants thought about using mobile phones but had limitations that were not always well understood. They were useful for contacting people outside of the lost experience and some participants had installed rescue apps. Limitations included that they required a stable network, that they needed a charged battery, and that they had to be carried. Thomas and Oscar successfully called for help with their mobile phones. Max and Mary also attempted to use mobile phones but were unsuccessful.

Mary

Mary's home was in a modern city in Southeast Queensland, Australia. She went missing in a remote part of Australia's Northern territory approximately 3,500km away from her home. Mary had downloaded a rescue app to her phone in case she needed it. She had not however properly considered whether the wilderness area she was visiting had good mobile phone coverage.

> "There was no reception. No telephone reception for me. Currently there
> is Telstra, but it's very difficult. Now I know from the ranger there, Sam, who was
> part of the rescue that 90% of Litchfield doesn't have telephone reception. And
> they've been trying to get a new tower for ages." - Mary

She had also mistakenly believed that the mobile phone rescue app could work without mobile phone coverage when it couldn't.

> "I thought I'll use the emergency plus app, I'll call for help. It's sensible at
> this stage. And I hadn't understood. And I now know, and I've since discovered that
> a lot of people in our club don't know that you can't use that app to call for help if
> there's no reception. And you can, it doesn't matter, if there is reception, it doesn't
> matter which provider you've got it will apparently ping, ping, ping till it finds
> Telstra or whatever." - Mary

Mary believes this is a fault with the way the app is marketed.

"It's a problem with the way it's advertised. And when I came back and I had occasion to go back onto that app and to see well what does it actually say? Because I thought it was my phone that was the problem not the app. It's a bit of gobbledygook actually, it does say that you can't get it without reception."

…And I've heard first hand and second hand from a lot of friends in the club now, when I told them, I tried to use the app. And I told them why it wouldn't work. And they said, oh, no, we thought it diverted to satellite. It cannot divert." - Mary

Max

Max also thought to use a mobile phone. He wanted to call his wife to tell her that he was running late. He had however left his phone behind because the battery was flat, he was only doing a short walk, and he expected to be within visual sight range of an urban area. Max knew he did not have his phone so asked to use his companion's. He then discovered that his companion had left his phone behind as well. This meant that neither Max nor his companion could phone for help.

"And at the top, I realised I was going to be a little longer than I thought and I thought I'll just ring Emory to let her know we were going to be a little later… So I thought I didn't bring my phone because it was so flat. I just thought, oh, he will have his. And I said, can I just use your phone. Nope, we, we're always so good. This one day we did everything wrong. So I tried to call Emory of course my friend didn't have his phone. I went your joking? I didn't bring mine What? You know, anyway, there was no drama at that stage." - Max

Personal Locator Beacons

Personal locator beacons (PLB's) are one way, demand activated satellite communication devices that are used to trigger emergency services responses. When PLB users realise they are in trouble they can manually activate their device to send a signal to a series of satellites. The satellites then transmit a distress signal to relevant search and rescue agencies across the globe.

The PLB signal carries basic information which can be used to determine the user's name and location details. This information is processed through the global search and rescue network and sent to appropriate search and rescue agencies. Local agents can then determine what response they deem appropriate. This response often involves sending search and rescue teams to the location where the PLB has been activated that the locator beacon is responding to. Search and rescue personnel can

then rescue the lost party. Several lost participants in this study owned PLB's, three participants were carrying PLB's when they became lost but only one participant activated their PLB.

Activating a PLB

Carly was the only participant who activated her PLB. Carly was well educated about rescue protocols. She was certain that she could not reorient and become unlost. She was also distressed, experiencing harsh environmental conditions, and losing daylight. She therefore had little hesitation in activating her PLB.

> "Yeah, I think it was, like it was definitely a big deal. Like I knew that was it. That was the moment. But I also knew that I wasn't going to get myself out of that situation. And I knew there was no point wasting more time … and I made the decision that if I was going to press the button that day, I had to do it then because it was going to get too late in the day for kind of anyone to come out."
>
> - Carly

After Carly triggered her PLB she set about planning for rescuers to find her.

> "Once I made the decision, it was an easy decision. And I think I ran through everything I knew like I was at high ground, I couldn't see anything. I knew there was nobody around. I knew I had limited water left, and it was really hot. And I knew if I didn't press the button, then I was gonna have to press it in the morning. And I mean, I just didn't, I was like, I can't get the GPS to work. I could possibly spend some more time doing it, but I'm just going to get more dehydrated and more stressed." - Carly

Carly experienced a range of emotions including helplessness and embarrassment after activating her PLB.

> "Oh, yeah, I mean, I was sad. I think I was just so more like, oh, like just the adrenaline was just pumping. So I probably, yeah, it was just adrenaline. I don't think I was like, I didn't really cry ever, I'm not a panic crier. And I think because I felt safe once I pressed that button. So I think there was a lot of like, fuck, this is so awful. How embarrassing. I can't believe that this has happened. Like what an idiot.

But also just like, okay, now you just have to wait. And what happens at this point

is outside of your control." - Carly

Not activating a PLB

People chose not to activate PLBs for a variety of reasons. Bryan did not take his PLB with him into the wilderness because he thought his journey was too small to need one. Oscar had a PLB but chose not to use it because he didn't think his situation was serious enough to warrant using it. Bruce did not to activate his PLB because he didn't believe it would be possible for a rescue party to reach them due to harsh environmental conditions. This was very frightening for Bruce and his companions.

"So we were kind of stuck, really. And that was probably the biggest fear. That was the real holy shit moment in that, that afternoon. That first afternoon was, because I knew there was no rescue, I knew we couldn't turn around. But I also don't know how far we've gotta go to the hut. So yeah." - Bruce

Externally Initiated Rescues

Externally initiated rescues occurred when people outside of the lost parties began search and rescue efforts. The participants who experienced externally initiated rescues had them triggered after friends and family realised they were overdue and reported this to relevant authorities. These externally initiated rescue efforts happened independently to self-initiated rescue efforts but the two often occurred simultaneously. Most participants hoped that external rescues efforts were being made but no participants were certain what was actually being done.

Dale

For Dale and his companions an externally initiated rescue was triggered when his companion's wife reported them overdue.

"We thought yeah, one of our, one of our wives have gone and reported us missing." - Dale

Max

When Max was late from his hike his wife was contacted by his hiking companion's wife. This triggered a search by friends and family. When Max and his companion couldn't be located the search expanded to include more friends and family as well as police officers.

> "My wife by nine o'clock had rung my friend's wife to say has he been in touch because Max left his phone here, no he left his phone here too. It's just that he is going to be back by eight to go to the working bee... So with that, she rang another friend of mine, who's done a number of walks with us… they said, I'll go, I'll go and find the car." - Max

Mary

Mary arrived at her wilderness area a few days before her hiking companions had planned to arrive. She set up a small one-person camp at a designated wilderness camping area, relaxed, swam, read and undertook two short day hikes. It was on the second of these day hikes that she became lost. When her friends arrived at the camping area they found her empty campsite. This caused them to raise the alarm and trigger an externally initiated search. Mary had anticipated that this would happen.

> "Going through my head that I wonder, now my friends will probably have arrived, we didn't have a fixed time they were coming. At some stage they'll realise my tent was still there. They knew where my tent was going to be. I had my pack with me. At some stage, they'll realise something's wrong. And I didn't know how long that would take. But I thought oh, well, you know, they're, they'll raise the alarm at some stage." - Mary

Conducting Rescues

Once their rescues were initiated the lost parties needed to get to places of safe refuge to become unlost. These places of safe refuge included tracks, shelters, known locations, carparks, campsites, emergency staging areas, and other locations inside or outside of the wilderness. Getting to places of safe refuge involved identifying such areas, establishing how to get to those places and then physical reaching them. These rescues could be self-rescues, external rescues or hybrid combinations of both internal and external efforts. These rescues ranged from organic and simple to complex and well thought out.

Self-Rescue

Self-rescues occurred when the participants reached places of safe refuge without outside help. The characteristics of self-rescue attempts depended on the nature of the lost events, how lost the participants were and how they thought they might be able to become unlost. For people who were disoriented self-rescue typically involved attempting to reorientate to known locations. For people who were stuck self-rescue typically involved attempting to address and overcome whatever made them stuck.

Initiating a self-rescue attempt was typically organic. Participants went from having vague realisations that something was wrong and making initial attempts to become unlost and then on to develop a greater awareness of their lost situations. For some participants early attempts to become unlost were successful. For most of the participants however there was a prolonged period of time between the lost event trigger and the rescue effort. Common self-rescue techniques included backtracking, trail sampling, seeking shelter, pushing through obstacles, and waiting for conditions to change.

Reorientation

Reorientation involved attempting to self-rescue by reorientating to a known location. Most disoriented participants initially attempted to do this. Two participants successfully self-rescued by reorientating to marked tracks. Jack reorientated by methodically back tracking and trail sampling.

"I was coming down the rainforest side, the steeper trail and just ended up following a false trail or wash and got to the end of the false trail, realised that it wasn't actually on the trail. There's markers and tree markers in that section, couldn't see any. So I immediately stopped, worked out I wasn't actually on the trail at all, took a look around, just worked out, saw what I thought was a trail and followed this path, first of all took note of where I was so I knew if I got lost again I could always get back to there and try a different direction. And then just slowly backtracked my way back to where I could see what looked like a trail, and also sort of looked around until I could find some track markers on the trees. So basically yeah, realised I'd ended up in the wrong place, stopped, looked around and took my time to find my way back to where the trail was." - Jack

Liz believed her lost party reorientated to their intended track because of pure luck. She also believed that this lucky break happened despite her father's refusal to accept responsibility for what she thought was poor planning and bad leadership.

"But the thing is, he knew probably that if you didn't find the trail you had to get back to the point that would lead you back to camp. And if you're on the wrong side of the mountain then you're never going to get there. You'd have to walk around or scale another mountain again to get there. So he, I think it twigged then. If we had of had a compass we would have realised what was going on. If we'd have had a better map we would have realised what was going on. But because we didn't have those two things we didn't have enough ….

… that's just it, I think he was so confident of okay we're in the north, we're walking south. And we're going to reach the pinnacle then we're going to find the trail out and that's going to be slightly to the side of a ridge and that's what we're looking for. But the trail markings weren't there, it was snow covered. That were footprints everywhere. There was nothing leading up to the trail because everyone's like, you know, leaving them everywhere. It was just obscured…

…And finally found, it must have been my brother or someone found a marker on a rock somewhere by chance on the other side." - Liz

Trail Sampling

A common way to attempt to reorientate was trail sampling. This involved establishing temporary bases at easily identifiable locations such as mountain peaks and then attempting to reorientate by moving out and back from those locations. Lost parties who managed to reorientate or become unstuck through trail sampling, successfully self-rescued. Lost parties who did not reorientate or become unstuck through trail sampling could easily return to their known locations and try again or wait for external rescuers. Trail sampling used prominent topographical, geographical, environmental or human made features such as mountain tops as base locations.

Max described this process.

"Got to the very top. And you can tell you're at the top because it's only about the size of a small house. Then, so we thought okay, so we just gone there. So let's just bear off a couple of degrees. And we beared of a couple of degrees and

we thought we'll go down… so we beared off a few degrees and we went down again. Still wait a while forest, what the hell. So we went back up again, beared off a bit more went down again, wait a while. So we thought okay, we must have been a bit this way. So we tried a third time and we came to the real cliff face." - Max

William also described this process and how he had learned trail sampling from his previous instruction in outdoor education.

"I wasn't going to leave my area of comfort. So I knew where I was on the well-marked track. And then this other track going off, I kept following going off at slightly different angles, looking for where the track went. And thinking if I keep going down I've missed a track but the track zigzags. I'll hit a zig or a zag. And that's why I kept going down until it got too steep (and then go back up)." - William

Sheltering in Place

Sheltering in place and waiting for conditions to change proved to be an effective self-rescue technique for William and Dale.

"The visibility was about two metres in front of us and we had no idea exactly where we were. The GPS at that stage was, it was so damp that we didn't want to pull it out and get it wet and really cause us great problems. But we, we had a fair idea where we were but we just decided that because of the way the weather was we would just hold out till it cleared and then hang around where we were and not try and get out." - Dale

For William the break in the clouds allowed him to reorientate and find his way back to the marked trail that he was looking for.

"I got the break in the clouds. And three or four hours later after I'd been trying to get down. And I got the break in the clouds, climbed a tree and looked out and thought shit the islands off to the right. Not straight ahead. And that's when I realised that the clouds had confused me." - William

Dale and his companions had been hiking off track so there was no marked trail to follow. However, when the cloud lifted, they could ascertain their position and navigate back to their car.

> "In the morning it was foggy. And, but it was enough, enough visibility we actually starting to see where we were and we noticed a couple of trees that we had actually gone past when it was clear so we just went okay this seems to be the direction we're going. Got the GPS, pulled the map out marked where we were and said yeah we've definitely got to go this direction. Got the compass out and said if we just head in this general direction we should, this is where the cars parked, we should just work our way down the mountains in that direction so that's what we did, and once we jumped, got into a creek, we got through a cliff break through the creek gully and then we just followed the creek down. The creek just, I said to them this creek is going to lead us back to where the cars parked because it's going to meet up with other creeks and we're parked right beside the main creek so we just sort of just went okay we just follow it down." - Dale

Pushing Through

Some disorientated participants who experienced reduced visibility still had some idea where they were and decided to try to push through their adverse conditions and navigate to places of safety. This included participants who had been trapped by sleet and snow and participants who had been trapped by thick vegetation. This produced varying levels of success.

Sleet and Snow

Bruce and David had their visibility severely restricted due to snow blizzards. They both experienced near white out conditions that made navigation difficult. David described how this caused him to become lost.

> "Visibility was next to zero. So, we headed off as high as we could. And we just sort of traversed and then we traversed for a while. And we kept on traversing. It closed in and opened up again and closed again, opened up again, started to snow a little bit. Oh, maybe 10 metres visibility maximum. Not complete white out…and after about half an hour, I thought, it might have even been shorter than that. I was starting to think something's not right here." - David

Both Bruce and David had some idea where they were and where they wanted to go but couldn't navigate confidently because of their restricted visibility. Bruce and his party had a good idea where they were, but they were trapped in a blizzard, they were uncertain where they were on the trail, and they were uncertain how long it would take to reach safety.

"We were about halfway up the mountain when it started sleeting, we thought oh the weather will be fine, like it'd be okay, like we're all geared up for it. And the, the further we got up, the harder the wind got, the icier things got, the snow started, or the sleet turned into little cubes of ice. We had trail markers, we weren't necessarily lost. But we also didn't know just how far." - Bruce

Once David realised that he was lost he tried to navigate by memory.

"I'd never been in that area but I sort of knew the areas that I was aiming for." - David

He also had a break in the weather that allowed him to see chairlift gantries in the distance.

"I could see on the ridge these gantries in the distance, probably a couple of kilometres away. And I said, I pointed it out to her. And from that point on, I knew we were okay... Um, I think she was pretty relieved. So we headed towards those gantries. And as we headed that way, they disappeared and reappeared so many times because of the way they're closing in and closing out again." - David

Reaching these gantries and meeting with the ski staff completed their self-rescue.

"Got across another little flat little valley section. And a little pommer appeared - that's a J bar lift. Yeah. So we headed to that. And we looked up to the lift attendant at the bottom of the lift and said where are we because it didn't, it didn't fit with any of my recollections of Smiggens hole (ski field). I hadn't been to Smiggens for a while but... He said welcome to Guthega." - David

Bruce and his companions experienced snow and sleet while traversing an established hiking trail. They decided that there was no chance of an external rescue and that they were faced with the

options of pitching their tents and attempting to shelter in place or attempting to progress through the storm to reach the shelter of an emergency hut.

"At that point I was stressed about getting everyone to shelter and making it. I knew kitchen hut was there because I'd stopped in kitchen hut and had morning tea once." - Bruce

Reaching the hut was difficult because of extreme weather, hypothermia and exposure.

"I know Tanya was cold. Karen was quite cold, but she had, she had a bit of body mass on her so she was okay. I'm really skinny, like, I get cold in a heartbeat…So there were a couple of us that were really cold, but I don't know for sure. Whether they were losing any cognitive ability, maybe, I was certainly starting to head that way.

…The next section. It was, it was basically just more of the same for the next half hour, 40 minutes, and I was starting to shake uncontrollably, or I was well and truly shaking uncontrollably and not happy, from hypothermia that is." - Bruce

After enduring the cold and the extreme conditions, the cloud cleared and Bruce saw the hut.

"I just, there is a bit of a blow through with the wind and the air kind of cleared just a little bit. I could see the shadow of this little hut." - Bruce

Bruce then felt that he had to choose between his personal needs and the needs of the rest of the group. He chose to self-rescue because of his own deteriorating condition and to then wait for the rest of the group at the shelter.

"And from that point on, I was like, no it's just personal safety now. I've just gotta go because otherwise I'll be the casualty." - Bruce

The rest of the party made it to the hut and they also effectively self-rescued.

"They'd all come in and they were all shivering and dropping snow everywhere." - Bruce

The party then waited for the storm to pass before continuing their planned hike.

Fog, Mist and Changing Conditions

Several participants became lost because changing climatic conditions resulted in thick, cloud, sleet or snow that reduced their visibility. Becoming trapped by thick fog like cloud was common at the top of mountains and peaks as Dale described.

"We knew we were pretty well in the shit then because we, because we had no idea exactly where we were, because we couldn't see anything around. It was just totally white out. And hard to see, couldn't see, couldn't even see the track, or a trail or anything to say that we're on anything, we were just sort of, just willy nilly following all these different, because there's just a network of tracks out there anyway which doesn't help." - Dale

Visibility, Vegetation and Terrain

Visibility was also a problem for people who were trapped in thick vegetation and challenging terrain. These participants were unable to see their intended destinations or locate the trails that would lead them to safety because of reduced visibility.

Max

Max and a friend were exploring a peak with that did not have established trails. After they reached the peak, they were unable to find a path back to their car. They did however know roughly where they were, and they could see gantry towers in the distance that they could orientate to.

"And you can see the sky rail gondolas going past and they're probably only 200 meters away." - Max

Through a combination of trail sampling, landmark references, and their intuitive understanding of the area they effected a self-rescue.

"So I knew where I was, and I can tell what direction we're heading. And you could see that we were going down. You periodically would see the towers of sky rail. So we knew we're on the right direction and we're going down the whole time. So where else could we be?" - Max

They did however remain sceptical about their chances of success until they heard the voices of searchers who were looking for them.

"And anyway, when we got to the bottom…We kept telling ourselves, telling each other actually, that we could, this is the right trail. But neither of us really believed it, until we actually got to the, near the entrance where the car was parked, when we could hear voices." - Max

Liaising with the searchers effected their successful self-rescue.

Mark

Mark become disoriented while attempting to take a short cut on a well-known walking trail. He found himself in very rugged bushland, had some idea where he was and was committed to not calling for help for fear of embarrassment. After determining where he thought he was Mark made his way up the hill in the direction of where he thought he wanted to go.

"If I just kept going down. I knew that was down and that ended up somewhere in Brinsmead I think, or if I went that way I would end up on Lake Morris Road, which is where I wanted to go anyway to meet up with the cascades… Yeah, I thought well, it just seems easier because going down was thick bush land. And then going up. I remember I walked along some creeks. So I walked on this creek, it was a lot easier than going through the thick bush." - Mark

Mark used a combination of walking uphill, travelling along the path of least resistance, and confirming his progress with his GPS to navigate to where he thought a road would be.

"It always seemed to be more difficult going down. And I knew there was a perfectly good road, Lake Morris Road… Well, once I got onto my GPS but I wasn't entirely sure I was going the right way until I actually walked significant periods of

time. And I looked and I was obviously getting closer. Yeah. It was an upward direction. And eventually, yeah, it was obvious that I was going in the right direction to get to Lake Morris Road. But, boy, it was a long way." - Mark

Mark knew that he had successfully self-rescued once he realised that the road was nearby, and he was going to make it out.

"Yeah, it ended when I realised I was just a few hundred metres from Lake Morris Road, and I was gonna make it unless I got bitten by a snake… Because I looked at my GPS." - Mark

External Rescue

External rescues involved rescue agents who were external to the lost event. These external rescues could be triggered by lost people, by concerned others or both. Some lost people initiated external rescues after they exhausted their self-rescue options or decided self-rescue was not a viable option. Some external rescues were initiated by concerned friends and family.

Locating the Rescue Party

Before external rescues could occur, the rescue parties needed to locate their lost parties. Some participants knew their precise locations and were able to pass this information to their rescuers. Some participants were able to pass on rough location information. Some participants did not know where they were or were unable to communicate any location information to external rescuers.

External Rescue from Known Locations

Several participants were able to give their precise locations to rescue agencies. This included Bryan who had sent his companion to fetch help, Carly who used her PLB device and Oscar who used his mobile phone to call for help. In each if these cases rescuers knew exactly where to go and there was no search component to their rescue operation.

Carly triggered a personal locator beacon when she ascertained she was lost. This device sent out her precise location information to a series of satellites. Her location data was then passed on to relevant emergency services and rescue agencies. Carly knew this system well and was confident that her location was known by external search and rescue agents.

"Dad had shown me how to use it. And I knew it was registered to me, I knew who it was going to alert, I knew that it was going to alert someone who was going to call Dad and Dad was going to confirm that I was out. And that yeah, that was gonna happen. Um, so I knew that the police plane would come and identify where I was." - Carly

After Carly triggered her PLB she experienced a range of emotions including helplessness and embarrassment.

"Oh, yeah, I mean, I was sad. I think I was just so more like, oh, like just the adrenaline was just pumping. So I probably, yeah, it was just adrenaline. I don't think I was like, I didn't really cry ever, I'm not a panic crier. And I think because I felt safe once I pressed that button. So I think there was a lot of like, fuck, this is so awful. How embarrassing. I can't believe that this has happened. Like what an idiot. But also just like, okay, now you just have to wait. And what happens at this point is outside of your control." - Carly

Then she set about making sure that she was visible to the search and rescue plane.

"So I set my tent up because I wanted to be visible for the plane when it came and I knew that my tent was going to be visible. And I laid out some other things. I had like a bright orange garbage bag that was my liner. So I'd gone and put that out over a tree again. So I kind of set myself up to be as visible as I was gonna possibly be for them to see me. And then yeah, I just waited." – Carly

Approximately half an hour later she heard and then saw a spotter plane. She was sure that the plane's crew had seen her.

"I knew that the police plane would come and identify where I was. So that happened within about half an hour, they started flying over … yeah. Big black thing flying around. I knew that they had sighted me because they were kind of flying right over the top of me. Yeah, I went out and waved and things and was kind of like great, somebody is coming …I think I was very confident of that as they were

circling, they were low enough. Yeah, maybe it was just a confidence thing, like I just kind of, I knew I'd be visible, I was visible." - Carly

The plane flew off and Carly correctly assumed that rescue plans would be made.

"So it flew off. And that's when I probably started getting like, I was really excited. Like, I like knew something was happening. I knew that I'd been seen. I knew that they were coming. But also that was kind of like, fuck, fuck, fuck, fuck. I don't know, like it was like, really like, Oh, yeah." - Carly

Carly then prepared for a helicopter to come and rescue her.

"I also knew that for the chopper to land I was going to have to be, there was going to have to be somewhere for the chopper to land as well because it's really uneven country…but I was also near a flat space for the chopper. So I had thought about that as well." – Carly

Figure 9

The Helicopter that arrived to rescue Carly.

Source: Participant supplied (Carly)

A helicopter with two nurses on board landed approximately half an hour after the spotter plane flew off.

"And then the chopper came maybe like half an hour after that. And there were two nurses and the pilot." - Carly

External Rescue from Uncertain Locations

Some participants only managed to partially communicate their locations to rescuers. Thomas used his phone to call for help, but a miscommunication occurred because the telephone coverage was intermittent, and the rescue planners had poor local knowledge.

"I rang 000, they asked who I want, I can't even remember, I got the police, I thought what have I got the police for. I can't remember even what I said to them, I must have been talking rubbish. I said I'm lost, I'm lost. I said White Rock Peak but I don't think anyone knew what White Rock Peak was and I said Cairns Queensland, I told them Mt Sheridan but they sort of didn't really know where that was but then, but the signal was like dropping in and out with the silly Optus phone so they're hearing intermittent as I speak and they're hearing only bits and I said I can see Yarrabah but I'm opposite Yarrabah so they was thinking like when I was talking I must have just said Yarrabah and missed a bit." - Thomas

This miscommunication meant that rescue crews were sent to the wrong location. This in turn prolonged the rescue operation and caused considerable distress to Thomas. Eventually the rescue helicopter crew established communication directly with Thomas via telephone and Thomas directed them closer to his location. When the chopper was close to Thomas he signalled to them using a flint and steel to create visible sparks. This allowed Thomas and the rescue party to make contact with one another.

"Yeah, so they ring me … I said I can see Yarrabah Mountain but all they got was Yarrabah because it was intermittent and then I was like, you know. Probably five minutes had gone past and I'm getting worried, chopper should be here by now. Just straight go and they're there and I thought. And I could hear a chopper and I go where's that I can hear it. I look over to Yarrabah, I was looking at Yarrabah mountain, I can see the chopper and I go, them clowns are looking for me then I

thought, that's right my phone intermits when its weak, you know on one bar it sort of goes in little breaks. You're better off just texting, you can't really get a proper conversation I go something Yarrabah and then something, something, so that's what they actually said they heard later on. I just thought, that's what I sort of figured out in me mind, I rang them again I said look, I can see the chopper but I said I'm not at Yarrabah I said you got your light on, looks like a headlight on chopper, I said your shining at me now which is pointing exactly west. I said I'm completely opposite you you're looking right at me so come west and I said that's where I am. I said I'm west of that Yarrabah Mountain which is White Rock Peak I called it but they just call it Lambs Range, they didn't even know where that was. I don't know who they were, the other guy was in training. So, they started coming because I said, I said your shining your light on the chopper straight towards me. It was dark, was around like it was either 630 or just getting to 645 so I could see the light shine as I said yeah I'm west of that, I said you're heading straight towards me. And then I said you'll see my spark, I've got one of those Bear Grylls flint things and I just kept sparking. So they saw me way out there and they said they saw the spark." - Thomas

External Rescue from Unknown Locations

Not all lost people knew where they were or could communicate their lost locations. For these participants external rescuers needed to undertake more extensive search actions. Two examples of this were Max and Mary. Max had made a last minute change of plans and had gone to a different location to where he said he was going. Mary had gone missing on an unplanned short walk from her campsite. This resulted in long and protracted search operations for both Max and Mary that increased the trauma of their lived lost experiences.

A search for Mary was triggered when her friends arrived and found that her camp site had been left abandoned. Her friends contacted emergency services. Emergency services then established a field search base near her abandoned campsite and launched a major search effort that involved both ground and aerial searchers. On the first day that Mary was lost a search helicopter flew close to her and she thought they had spotted her.

"Well, because they were so close to me, and they circled for a long time, they were way on the horizon where the trees were, I was in a spot intentionally that was very clear. Trees were quite a way off on the horizon. And I thought it had

good visibility. And because it kept getting closer to me, and, and I could see the guy in camouflage, you know, leaning out of the window. And I was expecting to see a thumbs up, you know, saying yes, we've seen you and I never did see that."

- Mary

The helicopter crew had not however spotted her and flew off without landing. When the helicopter flew off without landing, this caused her significant distress.

"But I shouted at the helicopter the first day though. Oh, yes, of course I did. I jumped up and down and you know, fuck ya and come back all that sort of stuff." - Mary

Mary struggled to accept that she had not been spotted and she justified why the helicopter had flown away by telling herself they had gone to get another lost person.

"I see the helicopter. Thank God for that. I'm, I'm found. I really thought they'd seen me and that they were just and as they didn't come back, but they'd actually come back on the kind of tree horizon. I thought, oh, they've gone over there. They've got someone else they're rescuing first, and then they'll come back for me. So that whole episode probably went on for quite a while of me thinking, yeah, they've got to come back. They've certainly seen me…

… Well, it's trying to rationalise it some way. Yes, I do. Someone that maybe was in a worse situation, you know, they'd have been able to see me standing there, you know, fit and able and everything. And maybe someone else was out there injured. But they didn't come back." - Mary

She eventually accepted that the helicopter would not be coming back. She then became concerned that she might not ever be found.

"But they didn't come back. And, yeah, so towards the end of that day. I've then also thought maybe they won't ever come back. You know, they've, they're searching on some kind of a grid theory. I didn't know anything about frankly."

- Mary

Mary accepted that she might die in the bush where she was lost. She was not concerned about dying in the bush but was concerned that she might die a painful death and did not want to experience that.

"Actually. I thought I could die out here, that didn't particularly worry me dying, because, you know, that's going to happen to all of us. But the manner of my death worried me. And I did not want to be out there for a long time. Kind of wasting away, you know, and being in pain." - Mary

She briefly reconsidered and reaffirmed her atheistic beliefs.

"Mary, you're not going to turn to God at this point. That would be completely what's the word? Not surprising, but kind of unethical. You know, I decided God doesn't exist a long time ago. You can't possibly expect God to ask, ask for help now so I didn't, I didn't at all feel any change of you know, belief." - Mary

She then set about trying to figure out how to euthanise herself to avoid a painful death. Thoughts of euthanasia then become a significant part of her lived experience.

"The bush didn't scare me. Being in pain scares me. Like, you know, at 71 you're thinking about, you know, assisted dying and all that stuff that's going on around us the legislative stuff. So it's very familiar territory, and I've got my living well, I've got all of those things in place. But nothing for dying in the bush…

… And then the next morning, I had decided, well I'm not going to. I'm not going to move very far. I'm getting tired. I won't be able to find my way now, I knew that. So I better just, all I can do is stay and wait and work out my, my dying plan but I wasn't getting very far with that." - Mary

Mary was spotted and rescued on the third day of her lived lost experience. She had laid her reflective space blanket on a rock. A search helicopter saw the space blanket, saw her and then landed and rescued her.

"I put my space blanket over a rock. You know, spread it out a bit further away from me. And I also took out my binoculars the second day and tried as I

179

thought to catch the light. You know, I thought it might reflect to them. I know it's not very accurate, but, and I was told then subsequently that the first thing they saw was actually the space blanket…

… And when I heard the helicopter I was overjoyed. I'm going tingly now thinking about it, actually…

… And it did a bit of circling around. But then I thought no, they've seen me now, still never got a thumbs up, I thought I'd get that. And then they, then they cut right across this big open area. And I thought yes, they're definitely coming to me. And then they did and they came and they hovered just by a rock." - Mary

The Extraction

The participants in this study experienced both ground based and aerial rescues. Ground based rescues involved walking to safety either alone or with the support of search and rescue operators. Aerial rescues involved being picked up and taken to places of safety by helicopter.

Ground Rescues

All the participants who self-rescued walked to safety. Those participants who did not self-rescue were either met by ground searchers on their self-rescue attempt or were helicoptered out from their lost person position. Ground rescues also occurred when the participants were met en route by search and rescue agents who accompanied to places of safe refuge. Dale described meeting rescuers en route.

"And everyone's standing around. And they said, are you the guys we're looking for and I said well there's nobody else up the mountain so it must be us."
- Dale

They were then given medical checks by first aiders and debriefed with the search and rescue crews.

"It was basically just asked us yeah, are we all right? Is there any problems? We got, did anyone sustain any injuries or anything like that. We said this is our group and they said yeah that's what we were reported about the size of the group and yeah all accounted for and because they were just about to leave on the thing

they had all this all this food and everything and they said let's go back to the local school and let's go and demolish all the food and have a debrief." - Dale

Ground Rescue Trauma

Several of the participants who experienced ground rescues reported physical or psychological trauma. This included cuts, scratches, fatigue, hypothermia, anxiety, and concerns about infection. Max And Mark both reported a lot of cuts and scratches.

"And I mean, I was scratched to bits… I was worried about infection. Very concerned about that, especially things like melioidosis." - Mark

William and David also both experienced longer term anxiety.

"Yeah I say Post Traumatic Stress Disorder, even though it's just a mild thing, but it's a strong message in your mind." - William

None of the self-rescue participants sought immediate first aid or had formal debriefs with emergency services personnel. For some this was because they did not believe that their injuries were serious enough to warrant additional attention. Others did not report their incidents or seek medical attention because they were embarrassed or because they simply wanted to go home and recover.

"And it was it was kind of scary, because the biggest fear I had was going missing. And having people, just appearing on six o'clock news and the humiliation of being on the six o'clock news and, you know, being the missing bushwalker…I was just thinking, yeah, I just wanted to get home and have something to eat but I was relieved that it was over." - Mark

For William there was also the additional fear of legal consequences.

"And cop a really hefty fine, be totally ridiculed and probably kicked off the island … it's illegal to climb up without a guide. There are signs everywhere saying it's illegal do not pass this point without a guide and all that sort of stuff."
- William

Helicopter Rescues

The participants who did not experience ground rescues were rescued by helicopter. Helicopter rescues involved locating the lost parties, making contact with them, addressing immediate first aid needs, preparing them for their flights, loading them into choppers and transporting them to places of safety. For some this was a fairly simple process, for others it was lengthy and traumatic.

Carly

For Carly her helicopter rescue was easy because she was in an easy to reach location. Carly also had a background in amateur aviation and a good understanding of the rescue process. After she activated her PLB she knew what to expect and she was mentally and physically well prepared. Carly activated her PLB and was found by a spotter plane. The spotter plane found her and then flew off and she got excited about being rescued.

> "I know aeroplanes. Um, so I think I was very confident… And that's when I probably started getting like, I was really excited. Like, I like knew something was happening. I knew that I'd been seen. I knew that they were coming. But also that was kind of like, fuck, fuck, fuck, fuck." – Carly

About half an hour after the spotter plane left a rescue helicopter arrived. Once the chopper landed, she was given a check up by the nurses who were onboard, loaded her gear and was flown to a nearby town. She was surprised to be met by nurses but was grateful for their assistance and compassion. She enjoyed the helicopter ride and felt the pressure release once she was safely inside the helicopter and able to contact loved ones.

> "And then the chopper came maybe like half an hour after that. And there were two nurses and the pilot… I didn't expect it to be nurses. I think I thought it was going to be like a police officer or somebody, like an SES or something. So I definitely didn't expect it to be the nurses. I think that was probably really comforting to me, but if I had hurt myself, if it was like that they were there. And again, just having that care. You know, kind of when I was like, that was the point where I started like having tears and I think one of them when I got in the aeroplane, so it was when I was in the helicopter that I think the tears kind of started going." - Carly

Mary

Mary also had a relatively easy helicopter rescue. Her rescue involved being picked up by a helicopter and being transported to a staging area near where she had gone missing from.

"Yeah, he jumped out of the helicopter and he came around behind me and then he just said up there. So I was quite close to the rail, you know, at the bottom of the helicopter. So I think this is what I remember, you know, a rail at the bottom of the, the thing it stands on…he said, step up, step up. And then an arm came out of the helicopter. So I stepped up and went, I kind of fell into the helicopter in the backseat. And it took me a little while to actually really kind of relax into the seat. They took off very, very quickly… I didn't have any, any tears at all. I was so happy over the moon. And, and they took me to a place where they'd made a temporary headquarters near the falls campground." - Mary

Bryan

Bryan spent a harrowing night stuck halfway down a waterfall. He failed in his attempts to self-rescue and he was eventually winched off of his position by a rescue helicopter. He described the winch rescue as scary.

"All of a sudden just as the sun came out we heard a noise and there was a helicopter so we were pretty shocked, both were shocked that the helicopter had come… The wind it was creating was almost as scary as the previous night out. I thought I was going to get blown off the rocks." - Bryan

He experienced a range of emotions associated with the helicopter rescue including relief, fear, guilt, and embarrassment.

"It's over, the worst is over anyway. But was also the embarrassment is really kicking in now, embarrassment. Really kicking in that we're being taken away in the helicopter…Yeah there's guilt… This is a free service…relief and embarrassment." - Bryan

Once he was inside the helicopter Bryan was given a basic health check, cleared and then transported to a nearby city airport where he was collected by loved ones. He enjoyed the helicopter ride and felt guilty about enjoying it.

"I was looking at it a little bit. The view was amazing, but I just felt very guilty about doing it. I don't deserve to be having this amazing helicopter ride with this view. But I was actually feeling guilty about looking at the window. The thing is they probably thinking who's this guy who's enjoying this helicopter ride." – Bryan

Oscar

Oscar also found his helicopter rescue scary. Oscar had fallen and injured his foot after a log cracked. He had a PLB but did not activate it because he did not think that it was a serious enough situation. He telephoned emergency services to ask for advice. He was advised to stay where he was and a rescue party would be sent to him. He then spent a few hours sitting in a creek waiting to be rescued.

"So we called the ambulance. And straightaway, they just said where are you and we said, oh, we're here. And then they said, don't move we're gonna send a team in." - Oscar

Unbeknown to Oscar emergency services had arranged for both an ambulance ground crew and a helicopter rescue crew to be sent to his location. He learned this when the helicopter and the ambulance crew had both arrived on scene at approximately the same time.

"I looked at Luke and I just said, look, man, I said, we've been on this mountain, you know, five times, you know, I said, when the hell have you ever heard a chopper so close to this, like where we are right now? And he goes never. And I said, Yeah, we've never heard that before. Like not in this, because it's in a certain section of the mountain." - Oscar

Having a ground team and a helicopter team arrive on scene led to a confusing situation where neither Oscar, his companions, nor his rescuers were sure of who was in charge and what role each party should play. The situation also increased Oscar's anxiety as he thought it might indicate that his situation was worse than he thought.

"They just said they were sending an ambulance in and then the chopper came in and it was just, it was scary, man. Like it was this. It was just this moment of it was it was, you know…Luke went down to the creek and he was actually telling the chopper above him like the chopper was flying above. And he was going go up there to there. And that's when it like, that's when everything kicked in. Sorry I'm gonna swear it was just like, holy fuck, like, this is fucking real. This is, this is happening right now. Like, I can't believe what's happening. And then I just started bursting out in tears, man. I started crying and then before I knew it, the lady she was getting hoisted down on the chopper." - Oscar

Eventually the helicopter crew took the lead role and administered first aid and pain relief and a comforting hug.

"And I think the paramedics, I can't remember what happened but the paramedics turned up just before the chopper. Yeah, just before the chopper. They walked in and they were trying to give me the green whistle and the lady came down in the chopper and she fell and tripped in the creek and landed in the water. Like, like she fell down and like she got water, but they're strong man, like, she got back up. And then she walked over and gave me a hug. Because I was crying man, I was really worried…

…And she came down, and the ambulance officer walked over and said, have you had the green whistle? And the lady from the helicopter I remember saying, you need to help us when he's not, I don't want him taking any of that. We've got morphine up there. There's a doctor up on there on the chopper. You're helping me hoist him up. We're going up in 10 minutes, and then you guys are going back to the car." - Oscar

Oscar was winched into the helicopter. He found this to be very frightening as the helicopter hovered above their position, broke vegetation and then winched him up. Throughout his winch rescue he was scared but he was also impressed be the calmness and professionalism of the rescuer.

"But the problem was, we were in a creek. And the scary thing is as the chopper came further down, this tree started to snap, the branches started to snap

185

in it and the creek didn't turn into a creek anymore. It just turned it into like leaves. Like it was wild down there, man. It was just like, everything was just breaking and it was like, oh my God.

And anyway, we were sitting there and we started to get hoisted up. And as we're going up my arm, she's like, I got to say like, she was such an amazing person. She basically like she was so calm, and I was just sitting there, and I remember just holding like, if the thing breaks, I know that I can hold myself like I was just like, I was freaked out man. Um, and then I remember she was going to the guy go back and forwards like, she's like okay, just a bit back and then like another tree would come up and my foot would be like in between a stick and it would be like getting stuck and she just grab it and move it out of the way. And she'd be like all go back just a little bit more like she was so calm.

…And I just I was crying. But um, anyway, we started hitting trees on the way up, and we just started smacking into trees. And man, it was just like, it was it was starting to get scary. And then like, before I knew it, we were 20 metres we were 30 metres we were 40 metres. And then we started 50 metres and we started to see the top of the tree line. You know, like it was, oh, I can't remember how high we were. But I know we're high. And then the tree line. And then we got above that and we started and the thing just started turning. You just start turning a lot. And I remember just sitting there holding it going and looking down and just going like what is going on.

…Yeah, and I think I wasn't. I was really out of it. Oh, I was, I was freaking out like it was, everything was just happening so much and I remember that. Anyway, we started spinning and before I knew it, the guy, my elbow was touching the plate of the chopper. And the guy was pulling me in and the lady's like hanging out like you could see that she just loves it. You know she lives for it." - Oscar

After he was winched out Oscar was flown to a nearby landing site where he was prepped for flight to hospital. He was then flown to a hospital in a nearby city and taken to the emergency department. He enjoyed the flight but felt guilty about the expense of the rescue.

"You know, I just felt at the time. I just didn't think my injury was that bad you know, like, I felt, I felt horrible. I felt like I just wasted the government's money to be honest. Like, I felt, I felt really bad. And I just, I was crying." - Oscar

The chopper crew tried to reassure him that he did the right thing and that he should not feel guilty.

"And she said, we know. And she said, you know that there was no way of you getting out of that spot. She said, I'm sorry, mate it was bad luck. She said there was no way getting out of that spot. Because you know how rugged it is to get out of there. She said, you've broken your leg. She said you could have hurt yourself. You could have fell on a stick, you know, like, and she said, she said, it's the guys, the helicopter pilots last day, he's retiring today. And she said you've actually given him a technical job." - Oscar

Thomas

A third person who was winched to safety was Thomas. Thomas had become disorientated while exploring a roughly marked trail. He then became stuck in rough terrain and phoned emergency services for help. His first concern was who would pay the rescue fees.

"The police said we'll send the chopper and I said who's paying for that. Because I was freaking out. I thought I'm going to pay like 10 grand or something to get out of here. I was thinking oh, I really needed it. I thought where am I gonna get that. I'm going to have to sell me car. That's what I was thinking I'll just sell my car. They said no we will pay for it because we're ringing for you and I go oh thanks a million man." - Thomas

Thomas was also concerned about the chopper operation because the chopper was initially sent to the wrong location due to communication difficulties, poor phone reception and the rescue helicopter crew's lack of local knowledge. Once it was traveling in his general direction he directed the helicopter to his location by using a combination of phone communication and ferro rod sparks. When the helicopter reached Thomas he then became worried that it might run out of fuel before he could be rescued.

"I was so delirious I was panicking cause I was thinking they're gonna run out of fuel and have to go back, because 10 minutes a lot of like running of the

machine. I thought that'd be guzzling the gas 10 minutes and you'd have to just about go back and refuel." - Thomas

He rationalised what he believed was a long time delay by convincing himself that the helicopter was clearing debris before extracting him.

"And then five minutes after that I clicked and went oh yeah. Because it's category three cyclone wind underneath that helicopter blade, you're going to break the debris down, make sure it doesn't kill you. I didn't realise it was that strong. Because when after five minutes, and it clicked in me brain I thought oh yeah now I can work it out. But I was just delirious." - Thomas

Thomas then became concerned about how he would be rescued by the helicopter. He wrongly believed that they would need nearly 600m of cable to winch him out of his location.

"I looked and I go that's like four, five telegraph poles high to get out of the canopy. So I was freaking out. I hope they've got a long cable because I thought you'd least need 600 metres." - Thomas

The chopper lowered a rescue operator by winch. Thomas went to the rescuer and was winched into the chopper. He was bitten by an insect as he made his way to the rescuer.

"And then when he put all the stuff on me, he put this harness on me. I got bit by a fire ant and I ripped off my shirt and he goes what's wrong. I go fire ant, fire ant and then I just took me shirt off, put it in my pocket and then put the harness on and then he gave me goggles he says okay and I'm still panicking and saying oh have you counterbalanced for me weight? You're not gonna take me up and have the chopper fall down. Because I thought it was only a small chopper…I was a bit delirious but it was a huge chopper and I was just thinking like a cattle mustering chopper because it didn't look that big from where I was…
…so he sort of calmed me down and I go oh lets go and he goes oh you need these goggles in case branches hit you… So he went up reasonably slowly and got all up alongside and I went oh this is a monster chopper then and he swung me over and I thought. He's oh yeah you can fit 10 people in this chopper." - Thomas

Once he was safely inside the chopper Thomas was transported to a nearby hospital for treatment.

Discussion

Summary

The rescue phase is the fifth phase of the lost person journey. This is when lost people become unlost by reaching places of safe refuge. Rescues may be self-initiated or externally initiated and may involve self-rescue, external rescue, or a combination of both. Likewise, rescues can be undertaken by lost participants, by external parties or by both. Thus, rescues included self-rescues, external rescues, and hybrid rescues.

Internally Initiated Rescues

Internally initiated rescues occurred when lost parties took action to begin rescue efforts. This normally began as a natural extension of becoming lost and attempting to become unstuck or to reorientate to known locations. Participants who were unsuccessful in their early self-rescue attempts made more concentrated efforts to self-rescue or to initiate external rescues. Some tried yelling in the general direction that they thought they might find help, some used mobile phones, one sent a companion for help, and one activated a personal locator beacon (PLB). Yelling for help was universally unsuccessful, using mobile phones produced mixed results, sending a companion for help was successful but physically demanding, using a PLB was easy, successful and installed confidence in the lost participant.

Externally Initiated Rescues

Externally initiated rescues occurred when third parties, outside lost events, initiated rescue efforts. This typically occurred when friends or family reported lost parties missing or overdue. Examples of this included wives reporting their husbands overdue and hiking colleagues reporting an empty campsite. The lost participants generally expected externally initiated rescues but could not be certain what was happening until they made contact with external rescuers.

Self-Rescues

Self-rescues occurred when lost participants successfully re orientated or reached places of safety. Reorientation included returning to marked tracks and reorientating to other known locations such as roadways. Reorientation was achieved through trail sampling, waiting for improved conditions, pushing through tough conditions or by experiencing good luck.

Places of safety included intended destinations and secondary destinations such as tracks, roads and an emergency shelter hut. After participants self rescued to places of safety, they were then able to proceed as planned or return to their homes unaided once conditions allowed.

External Rescues

External rescues involved third party search and rescue agents. This included friends, family, and emergency services personnel. External rescues often had a search element because rescuers needed to connect with lost parties before they could take them to safety.

Search complexity was influenced by whether the lost party knew their lost location, how well they could communicate their lost location to rescuers and how well they could signal searchers. Connecting with rescuers was easier when the lost participants signalled searchers using flints, reflective sheets, or a bright red tent.

After searchers located the lost parties, they needed to connect with them, assess them and extract them to places of safety. This involved assessing their wellbeing, addressing any immediate first aid needs and extracting them by ground or by helicopters. Helicopter rescues involved ground loading or winch extraction. Rescues bought a range of emotions including fear, relief, and guilt.

Hybrid Rescues

Self-rescue efforts and external rescue efforts sometimes occurred concurrently. These hybrid rescues could be initiated with or without the lost parties' knowledge. In this study there were examples of lost people self-initiating self-rescues and of lost people self-initiating external rescues. There were also examples of externally initiated external rescues. In my personal experience as a search and rescue volunteer I have also been involved in externally initiated self-rescues where we have guided lost people to safety and while this did not occur in the study it is also worthy of future research.

Stressors, Enablers and Reducers

The rescue phase was the end of the acute lived lost experience. It was when the wilderness tourists became unlost by reaching places of safety. This phase could be emotionally, physically, and

mentally stressful. Stressors included those from the previous phases as well as new stressors that were unique to the rescue phase.

Pre Existing Stressors

The previous chapters have identified four phases to the lost wilderness tourist experience. These are pre wilderness, pre-event, trigger and lived lost experience. Each phase has a cumulative effect on the next and the rescue phase was therefore influenced by the previous four phases. Participants who had planned and prepared well through the pre wilderness phase often fared better than those who had not. Individual characteristics, other people, the planned journey, the environment, and resources all influenced the pre wilderness phase. Lost event triggers often influenced rescues. Likewise, the lived lost experience segued into the rescue phase so it was natural that the stressors from the lived lost experience continued into the rescue phase.

Rescue Phase Influencers

The rescue phase also introduced new physical, psychological, and emotional stressors. These stressors occurred while the participants were attempting self-rescue, while they were attempting to communicate with rescuers, while they were being rescued, and while they were traveling to places of safety. The five main influencers on rescue phase stress were the lost people, the environment, resources, other people, and the rescue itself. These stressors could influence the rescue phase trauma either individually or in conjunction with one another.

The Individuals

Lost individuals are central to rescue efforts. The lost individuals were the focal point of this study. Their plans, attitudes, knowledge, skills, abilities, and the cumulative effect of their lived lost experiences impacted the rescue phase. Participants who had pre planned rescue contingencies could enact these plans to effect rescues. Participants who attempted tasks beyond their skillsets still had to overcome their skill deficits or wait for external rescues. Participants who experienced physical trauma such as cuts, scratches, heatstroke, and hypothermia had their rescue options influenced by their ability to manage this trauma. Participants who had experienced psychological trauma still had to contend with ongoing fears throughout their rescue experiences.

The Environments

The environment can influence the ease or difficulty of rescues. Some participants had become disorientated or stuck due to environmental conditions. These participants needed to

overcome those conditions to self-rescue or to be rescued. Participants who were trapped in low visibility self-rescued when mist or cloud lifted. For participants who were trapped in harsh conditions external rescue options were limited due to the lack of access. For participants who were stuck in inhospitable environments such as creeks and waterfalls these environments dictated the need for technical rescues involving helicopters and winches.

Resources

Resources can influence how rescues and rescue related communications are conducted. The lost participants and their companions took various resources with them into the wilderness. These resources and the participants' abilities to utilise them were critical to wilderness experiences, to rescue planning and to rescue efforts. Participants who sheltered in place or pushed through harsh conditions relied on their carried resources to overcome or live through adversities such as cold, heat, steep terrain, and thick vegetation. Participants also relied on the communication tools that they carried to connect with rescuers. Participants who prepared well for their encountered environments fared better than those who were not well prepared. Likewise, those who understood how to communicate with rescuers found it easier to call for help and to signal searchers.

Other People

Other people can influence rescues and rescue planning. The rescue phase was influenced by companions, by outside influencers and by search and rescue agents. Group dynamics could create opportunities, problems or limitations that affected rescue options. Companions could also influence decision making and could keep the participants focused on the physical and mental wellbeing of others. Outside influencers could positively influence the participants' thoughts and actions but could also be a cause of distress for those who were concerned about loved ones.

The New Actors

A unique aspect of the rescue phase was the introduction of external rescue agents including friends, family, police, search and rescue volunteers, ambulance staff and aerial crews. These external actors helped locate, contact, and extract lost participants. Their introduction, or perceived introduction could impact lost party thoughts, behaviours, and actions as they planned and conducted their rescues.

Liaising and working with external actors was essential for those who required external rescues and the presence of external rescuers has been shown to have a calming effect on lost people

(Mortimer & Mortimer, 2023). Rescue agents could however cause distress when they failed to locate the lost people due to miscommunication, lack of local knowledge and lack of requisite search skills. Two participants reported seeing aerial searchers who went past them.

The Rescue

Lost participants either self-rescued, were rescued by experienced external rescue agents or experienced a combination of self-rescue and external rescue. These rescues could be physically, psychologically, and emotionally demanding and they were much easier for some participants than for others. For some participants self-rescue simply involved backtracking and reorientating. For some, self-rescue involved traversing harsh terrain, contending with thick vegetation, and getting cut and scratched. For others self-rescue attempts were both traumatic and unsuccessful.

External rescues involved third party agents with new resources and assets such as helicopters. These rescue assets were instrumental in the rescue operations but could also cause trauma and anxiety to the lost parties. Most participants who were winched into the helicopters were anxious about the winch extraction. One participant experienced minor scratches as he was lifted through the tree canopy. Other participants experienced slips and trips liaising with helicopter crew members. Once the participants were aboard the helicopters and realised that they were safe there were feelings of relief and there were opportunities to connect with loved ones but there were also feelings of guilt and concerns about cost.

Conclusions

This chapter has explored the rescue phase of the lost wilderness experience. It has shown that rescues may be self-initiated, externally initiated or both. It has also shown that the participants self-rescued, were externally rescued or experienced elements of both self-rescue and external rescue. The rescue phase had numerous stressors that continued from previous stages as well as new phase specific stressors.

Rescue phase stressors included the individuals, the environment, other people, resources, and the rescue operation. These elements and the ability of the lost people to understand and utilise them could increase or decrease stress and trauma. Participants who were sufficiently prepared, had task clarity and were suitably skilled, experienced less distress than their unprepared, uncertain and under skilled peers. The next chapter will examine how the participants experienced and recovered from the physical, mental, and emotional distress after they were safely rescued from their lost wilderness experience. This will be followed by a discussion chapter that links the phase based findings with contemporary literature and advances PSAR theory.

CHAPTER TEN: RECOVERY & LESSONS LEARNED

Introduction

The previous chapters have established that lost wilderness tourists experienced physical, mental, emotional, and spiritual trauma throughout their lived lost events. They have identified that trauma is influenced by the lost individual, their environment, their resources, their intentions, and other people. They have also identified that trauma is increased or decreased by modifiers such as certainty and ability.

The sixth phase of the lost person experience that was identified through data analysis was the recovery phase. This phase is similar to the long-term (recovery) phase identified by Faulkner (2001) and the recovery phase identified by the PPRR model.

This final chapter of research findings therefore explores how the participants recovered physically, mentally, emotionally, and spiritually. It establishes that trauma and recovery are unique to each lost event, that trauma and recovery occur over extended time frames, and that trauma and recovery are constructed by multiple stakeholders.

The chapter begins by examining the various stakeholder roles. The chapter then examines what trauma is, how it is constructed and when it occurs. This is followed by a discussion about what recovery is and how it occurs. This recovery section shows how recovery can begin before leaving wilderness areas and can be ongoing long after the lost event has concluded. Part four then examines the interplay between trauma, recovery, the lost participants, and other event stakeholders over time.

Throughout this chapter several themes occur that might link both to contemporary research and expand our understanding of lost wilderness tourist events. These include the presence of multiple stakeholders, the expanding spheres of influence and the multiple temporal boundaries that occur throughout the trauma and recovery journeys. A brief discussion at the end of this chapter shows how these findings connect with current literature around preventive search and rescue (Kortenkamp et al., 2017), trauma (Berger et al., 2012; Hutson, Hall, & Pack, 2015), and disaster and crisis management (Boon et al., 2012; Cronstedt, 2002; Faulkner, 2001). These themes are expanded upon and explored in more depth in the next chapter of this thesis.

The Stakeholders

Consistent with previous research (Schwartz, 2022a, 2022b; Whitehead, 2015) this study has shown that lost event stakeholders include members of the lost party and members of affected communities. Lost wilderness tourists are the primary focus of this study and have provided the vignettes that have been used throughout the thesis. Some participants also had wilderness companions who influenced lost events, lived lost experiences, trauma, rescues, and recoveries. Other affected stakeholders also included responders, friends and family, and broader community stakeholders who were impacted by lost events even though they were not part of the lost parties. Professional and quasi professional responders included first responders and secondary carers who worked in a formal capacity to search for, locate, rescue, and treat the lost participants. Friends and family members who were not part of the lost events could influence thoughts, behaviours and decision making. Likewise online and offline communities could have both positive and negative effects on rescue and recovery.

Trauma

The participants all experienced physical, emotional, and psychological trauma. This trauma typically began in the pre-event or trigger phases and continued through the lived lost experience, rescue, and recovery phases. Recovery involved addressing this trauma.

Pre Rescue and Through Rescue Trauma

Pre rescue trauma included trauma that occurred before the lost experience and trauma that occurred throughout the lost experience. Through rescue trauma include physical, mental, and emotional challenges that were associated with reaching places of safety.

Self-Rescue Trauma

Participants who self rescued could experience rescue trauma. Mark became concerned about infections and also became worried that he might appear on the 6 o'clock news as another lost hiker.

> "I was scratched to bits. And it was it was kind of scary, because the biggest fear I had was going missing. And having people, just appearing on six o'clock news and the humiliation of being on the six o'clock news." - Mark

Bruce and his companions all became extremely cold and some experienced hypothermia.

"I got to the point where I'm like, like my hands are getting cold already and I'm really starting to shiver… I just thought that it'd be okay. I'll just drink some water and have a muesli bar or something, I'll be right and I, I'll just push up. And the further we got up the colder I got and I was already felt like I was past the point of no return before you know … Yeah, it wasn't, it wasn't a good position to be in."
- Bruce

Bruce also felt guilty about putting his friends in harm's way.

"The hard thing was I had to keep in, keep a balance between looking after the group and being responsible because I'm just thinking shit, like, I've got, I'm the one who's gotten us into this situation, because I've organised the hike." - Bruce

External Rescue Trauma

Participants who were rescued by external agents could experience confusion over the roles and functions of rescue assets, communication difficulties, and traumatic rescue procedures.

Roles and functions

Oscar was expecting a ground based rescue and was confused when a rescue helicopter crew arrived.

"And I said to Luke, I said, what do you reckon the chances are that they're here for us. Because we didn't know, we didn't know what was going on." - Oscar

Oscar was further confused because the helicopter arrived at around the same time as ground-based paramedics.

"I think the paramedics, I can't remember what happened but the paramedics turned up just before the chopper, yeah, just before the chopper."- Oscar

Thomas was confused about the rescue helicopter operation and concerned about the cost of the rescue.

"And I said who's paying for that because I was freaking out. I was thinking I'm gonna have to pay ten grand or something. Because I was thinking I really needed it. I was thinking where am I gonna get that. That' what I was thinking I'll just sell my car. He goes oh no we'll pay for it because we're ringing for you. And I go oh thanks a million man." - Thomas

Communication Difficulties

Poor understanding of how to communicate with helicopter rescue crews reduced confidence and increased stress and confusion.

"Luke went down to the creek and he was actually telling the chopper above him. Like the chopper was flying above. And he was going go up there to there." - Oscar

Mary saw a helicopter on the first day she was lost but was unable to signal to it. The crew did not see Mary, the helicopter flew off and Mary wondered if she would ever be found.

"It didn't see me…. So quite stressed... That, you know, the helicopter came and didn't come back… But I shouted at the helicopter the first day though. Oh, yes, of course I did. You know, fuck you and come back all that sort of stuff. So I let out a lot of whatever, my feelings at the time." - Mary

The next day Mary used a reflective space blanket and binoculars as signalling devices.

"You know, I thought it might reflect to them. I know it's not very accurate, but, and I was told then subsequently that the first thing they saw was actually the space blanket." - Mary

Thomas's phone reception was intermittent and he accidently directed the chopper away from him.

"Then I thought that's rights my phone intermits when it's weak, you know, one bar. It sort of just goes in little breaks. You're better off just texting." - Thomas

Thomas then became concerned that the helicopter might run out of fuel.

"That's what I was worried about that, that would run out of fuel, nearly come to me then turn around and go back to get fuel and I'd be just be waving like see ya." - Thomas

Stressful Helicopter Rescues

The arrival of rescue helicopters could be scary and anxiety inducing.

For Oscar the arrival of a helicopter led to him realising that he was in serious trouble.

"And that's when it like, that's when everything kicked in…it was just like, holy fuck, like, this is fucking real. This is, this is happening right now. Like, I can't believe what's happening. And then I just started bursting out in tears, man … Because I was crying man, I was really worried." - Oscar

For Bryan the arrival of the helicopter was also scary because of the intense downdrafts.

"The wind it was creating was almost as scary as the previous night. I thought I was going to get blown off the rocks." – Bryan

Winch Rescues

Some participants experienced stressful winch rescues. Oscar became concerned about his physical safety while he was being winched into the helicopter.

"We started hitting trees on the way up, and we just started smacking into trees… And then we got above that and we started, and the thing just started turning. You just start turning a lot. And I remember just sitting there holding it going and looking down and just going like what is going on…Oh, I was, I was freaking out. Like it was, everything was just happening so much. And I remember that, anyway, we started spinning and before I knew it, my elbow was touching the plate of the chopper." - Oscar

Thomas was concerned about the helicopter's capabilities.

> "So I was freaking out. I hope they've got a long cable and I thought you'd
> at least need 600 metres in my mind. I thought if that's four telegraph poles high
> you'd have to need 600 metres or something to get down because you're above in
> the chopper and you got a canopy which is like four telegraph poles high. I thought
> you're going to be like needing around 600. That's what I was thinking in my mind…
> But I'm glad that cable was that long because I just thought the cable wouldn't
> reach." – Thomas

Ground Based Helicopter Rescues

Ground based helicopter extractions were relatively simple. They could still be overwhelming though as Carly discovered when she sprained her ankle walking to the helicopter.

> "I had tripped and kind of just slightly sprained my ankle, which probably in
> my head was a lot worse than it actually was. Um, I was like hobbling. I do
> remember that. And so the two nurses helped me." - Carly

Flight Trauma

A unique aspect of helicopter rescue was that there was a period of time when the participants were being transported from their lost locations to places of safety. During their flights the participants experienced a range of emotions including relief, shock, guilt, embarrassment, and pleasure.

Oscar, Bryan, and Thomas all described feeling guilty about tying up rescue resources.

> "At the time I just didn't think my injury was that bad. You know, like, I felt,
> I felt horrible. I felt like I just wasted the government's money to be honest. Like, I
> felt, I felt really bad. And I just, I was crying." - Oscar

Carly described feeling both embarrassed and grateful.

> "I was totally embarrassed, and they were so lovely…they were so good
> and nice. And yeah, like it was, was really, really, good." - Carly

Bryan also felt guilty about enjoying the flight.

199

"I was looking at it a little bit, at the view which is amazing, but I felt very guilty about doing it. I thought to myself I don't deserve to be having this amazing helicopter ride with this awesome view. I was actually feeling very guilty about looking out the window. I think they were probably think who's this guy who's enjoying this helicopter ride." - Bryan

After rescues were completed, the participants were then faced with the task of recovery from their lost experiences. This was more challenging for some than it was for others.

Post Rescue Trauma

The acute phase of the lost experiences ended when the participants reached their places of safety. Most of the participants however experienced ongoing emotional, psychological, and physical trauma. Some of this trauma was a continuation of pre rescue trauma and some of it developed as the participants reflected on their lost experiences. Common post rescue trauma included ongoing medical problems, damaged relationships, embarrassment, self-blame, and guilt. This could be short term, long term, or ongoing. This trauma was reflective of survivor guilt which has been studied extensively by psychologists and which can be described as "an associated descriptive feature of posttraumatic stress disorder (PTSD), described as a persistent negative trauma-related emotion." (Hutson et al., 2015, p. 23).

Guilt, Embarrassment and Self-blame

Some participants experienced feelings of guilt, embarrassment, and self-blame. Bryan was embarrassed because he felt that being rescued showed incompetency. Likewise, Carly was embarrassed because she felt that calling for help showed that she was unable to navigate her intended hiking route.

"So there was, there was definitely a like, you fucked up, you're a failure. Yeah, I mean, I mean, I still carry that to this day… So yeah, I mean. Immediately afterwards, I think. Again, I was super embarrassed. I didn't want anybody to know. I knew who knew, and I didn't want anybody else knowing… And that was kind of how I dealt with it immediately, was just that embarrassment." - Carly

Both Carly and Bryan actively avoided people by keeping low public profiles while they came to terms with their lost events.

"So it was very much like I didn't want people to know, I was a failure. So it wasn't, I didn't put anything on social media." - Carly

Interpersonal Guilt

Carly typified the participants who were concerned about how traumatic their lost events might have been for loved ones. This guilt was often reinforced when they spoke to those same loved ones.

"So it was when I was in the helicopter that I think the tears kind of started going. And I think it was because. So, this I can't remember. I think someone had been speaking to Dad. So at that point there had been communication between them and Dad…

But when I was in the plane I got service through so I was able to text Dad and tell him I was well, I'm in the plane now, I'll call you as soon as I'm able. I think at that point I kind of realised how traumatic it was going to be for them not knowing why I had pushed the button and not knowing if I was okay. So that was the moment that that kind of hit home that all these people who were coming to rescue me didn't know what state I was gonna be in.

And feeling incredibly lucky that I was able to just walk away from the experience and feeling incredibly indebted, I guess, to all these people who had this emotional trauma. My family and, like, I had friends who at the time were living in Hermannsburg, so about an hour and a half out of Alice. As they drove, they were on the road driving to Alice Springs to meet me, whilst all this was happening. So Dad got the call, he called my friends, because they'd dropped me at the trailhead. He called them and they immediately, as soon as they knew I pushed a button they got in the car, and were driving to Alice Springs to meet me in Alice Springs as well. They told me afterwards that Dad was just in tears on the phone to them, he wasn't able to talk to them, Mum essentially had to kind of take the phone off him and talk to them to work out the plan for what was going to happen when I got back to Alice Springs.

And so that's a lot, that's a lot for them. They'd never met my parents, you know, they were good friends of mine and close friends of mine. But that's a lot for people to you know. It was dusk. To drive at dusk in Northern Territory to come and get me and not knowing what they were coming into if I was going to be in hospital, you know, like what? So yeah, I think that moment in that helicopter, I felt really stupid that I was okay enough to walk away and have put everyone through that."

- Carly

Damaged Relationships

Bryan's embarrassment was worsened when his hiking companion engaged in prolonged online conversations about their lost experience on a local hiking page. Bryan felt that his companion's posts were unfriendly and unnecessary and cast Bryan as incompetent whilst casting his companion as a hero.

"He does a lot of things for this hiking group, and he videos everything, more himself than anyone else. He doesn't do selfies he does video selfies. He talks to what he's doing. He does all that sort of stuff but he videoed a lot during this whole thing before things were going wrong. But also when he came back there in the morning he did a video where he will talk about what he's done, what he's doing. He videoed me being taken up in the helicopter. He did more videos after I was gone.

A lot of what he was saying was basically just putting me down to be honest. That sort of thing he was saying he takes responsibility but I know I just felt, just made me feel like shit. He didn't need to put that up, the videos of it. I did put up my own thing, explained what I was going through and the feelings and I did actually thank him because obviously he was amazing through the night and his experience got me through. …I've been hiding a bit since it happened. I've been hiding from certain people." - Bryan

Max and his hiking companion also had their hiking relationship damaged by their lost experience. Max and his friend continue to hike regularly but their lost event had a lasting impact on their hiking relationship. Max's companion was concerned that they should not have been in the area because it was culturally taboo and he was very reluctant to revisit the site after the event.

"I guess for Bruce in this situation. This was, this is a message here for us that we're not supposed to be here. That frightened him because that sort of stuff is beyond his control. Your survival skills and navigation and bush, you know your bush skills. He's in charge still, you know, whereas when he had that sense of like, we're not supposed to be here. That's fearful man. Because if I'm not in charge, what, what? You know." - Max

Anxiety about getting lost also continued to return whenever Max and his friend came a little unstuck on subsequent hiking trips.

"But at one stage (on a later hiking trip) it was taking longer than we thought it would have taken and Bruce did go very quickly into oh we should just go back, we should just go back…and the realization of we've been lost before when we thought we were fine. And what if we're lost again? Yeah, so that's still there in the back of his mind. And that time definitely, I wasn't stressed. But I was aware that he was you know, that. Yep. And then that then eroded your own confidence."
- Max

Secondary Care and Trauma

Physical trauma ranged from minor cuts and scratches to more serious injuries and infections. Participants self-managed minor physical trauma. Participants with more serious injuries received further medical advice and guidance. Most of the participants had positive interactions with secondary medical personnel. Oscar however had very negative interactions with medical professionals and this led to ongoing physical and psychological trauma. After Oscar was rescued, he was taken to hospital. At hospital he was misdiagnosed and he was subsequently discharged from hospital with a serious injury, inadequate treatment, and severe pain.

"I feel like the hospital could have been a lot more accommodating instead of kicking me out…And I'm like, this is what sucks, like I got into the hospital and the lady was just like, oh, that. That's what she said. And they were doing an x ray on my leg. And she was actually grabbing where the branch fell. Yeah man, they were so like. If anything they had no understanding of what was happening. And this is, this is a sad thing. They did that and then a guy walked out and I'm sitting in a wheelchair and I couldn't walk. And the guy just said to me, he goes, look mate,

we've done tests. That's it, like he said, there's nothing wrong with you. Um, he said, you can literally walk on your foot right now. And I said, I said, mate, I said, I've just been airlifted. I said, I can't walk. And he said, no, no, no. He said, look there's no bruising, it's just bruising in your leg there's nothing wrong with you, there's nothing broken. And I said can I get crutches and he goes, you don't need crutches. He said, you should be able to get up and I said, look, man, I said, I can't walk. Like I'm struggling." - Oscar

After his misdiagnosis Oscar attempted the 1600km road trip home but the pain stopped his progress. He then visited another hospital where he was once again misdiagnosed.

"But I was in a lot of pain…and I said, man, this this does not feel good… and Luke just said look, I've got to head home, you know. And I said okay, so he headed home and he said 'are you going to be okay to drive?' and I said yeah, I'll be alright.

You know like, I'll just um, so I drove from Innisfail to Townsville… by the time I got into Townsville I called my mum and I was just in tears. I was just like, Mum there's something not right. And I remember my mum, I was like, almost like at pass out level. I couldn't even remember where the ID was because it was in front of me. And I was just in so much agony. And I looked and I just said, there's something not right here, you know... So my sister's friend has quickly rang me up, and he's just like, I'll take you to the hospital, you know, so he picked me up and I've sat in the hospital for four hours. They've done a test, nothing wrong. Um, and this is the crazy thing, there was nothing wrong." - Oscar

It wasn't until Oscar visited a third hospital that he received a correct diagnosis and a treatment plan.

"Anyway, we got into Toowoomba. And I said to Mum I said there's something wrong. I said there's seriously something wrong. I am in a lot of pain. I said I am taking Panadol. It is not doing anything. And then I went in and there was this American guy and he just said, he said, I'm sorry mate but you've got serious ligament damage. So basically, I had to, he said, um, yeah, it sucked, man. Like it was like this thing. And then it was just like, okay, what's going on here, so he gave me a thing to wear, which is amazing." – Oscar

This thesis focuses on the lived experiences of lost participants. Other stakeholders are impacted by lost person events and can experience vicarious trauma as evidenced by the literature (see for example Berger et al. (2012). This trauma for others is, however, largely beyond the scope of this thesis and will only be discussed in passing but could be an excellent future research topic.

Recovery

Introduction

The PPRR model (Cronstedt, 2002) refers to recovery as returning to a normal level of functioning. Likewise, Boon et al. (2012) describe recovery as being about returning to a pre-event state of functioning and suggest that it may also be an opportunity for resilience building. More recently there has been a shift to incorporate build back better principles in to PPRR style recovery (Kennedy, Ashmore, Babister & Kelman, 2008).

The third part of this chapter therefore examines how recovery occurred, when recovery occurred and what recovery involved for the participants. It shows that recovery involved overcoming trauma, addressing physical, mental, emotional and relationship challenges, returning to normal life and becoming stronger. It shows that this recovery can involve multiple events and multiple parties. The section also shows that recovery could begin while the participants were still lost, could evolve through rescues, continue long after the event had happened and could have positive contributions to personal growth

Pre Rescue Recovery

For many participants recovery began while they were still lost. This pre rescue recovery has been covered in depth in the previous chapters. It typically involved recognising and addressing the shock of being lost, dealing with any immediate needs, and developing and implementing a rescue plan. This pre rescue recovery often began the pathway to ongoing recovery and could be self-led or could involve other stakeholders.

Rescue Recovery

The rescue phase was the end of the lived lost experience. During this phase the participants become increasingly focused on recovery. Through rescue, recovery involved realising that the acute lost event had ended, assessing and addressing immediate needs and developing longer term recovery plans. This was true regardless of whether the participants self-rescued or were rescued by external agents.

Self-Rescue

Known Locations

Participants who self-rescued did so by making their way to roadways, trailheads, tracks, and rescue shelters. After they reached these places of safety they self-assessed and either continued on their journeys or returned home. Mark became badly cut crashing through dense vegetation when he self-rescued to a roadway. He just wanted to go home, rest and treat his injuries.

"Oh, thank God…I was relieved. But I was also, I was sore, I was buggered. And I knew I had a fairly long walk to go to get back but I knew it was downhill… I was just thinking, yeah, just wanted to get home and have something to eat. But I was relieved that it was over." - Mark

Liz self-rescued by locating a track and following it back to her base camp. By the time her group located the track they were tired, hungry, thirsty, and dealing with unpleasant group dynamics. Her recovery began by locating a stable water source along the track and by eating sweets. The relief at finding the track also helped to address her initial psychological stress.

"I think my brother and I just knew we had to go from A to B. And we just had to make sure Mum got there. I mean, you just kept going. That was the expectation. And so we knew where we had to get to, we knew we could get to water now because you're walking I think along near or parallel to a creek, so that wasn't an issue anymore. We obviously had lollies something and, and that was it I think." - Liz

Not all the participants self-rescued to places of extraction. Bruce and his party experienced a life-threatening blizzard during the first day of their planned multi day hike. They self-rescued by reaching an emergency shelter hut en route. When they saw the hut they believed they would survive. They were then faced with the prospects of balancing group vs individual needs, recovering from hypothermia, and reassessing their plans. Thus, they began their physical and psychological recovery.

"The next section. It was, it was basically just more of the same for sort of the next half hour, 40 minutes. I was starting to shake uncontrollably, or I was well and truly shaking uncontrollably and not happy, from hypothermia that is. And there is a bit of a blow through the wind and the air kind of cleared just a little bit I could see the shadow of this little hut. And it was still a long way away. Still a good 700, 800 metres away, but I can see it. And by that point, I'd yelled out to everyone, but no one can hear me because the wind was so freakin strong. Like you just couldn't hear each other unless you're sort of only two or three metres away but because we were like hoods on and stuff as well, beanies. Communication is terrible. But I knew there was a couple of them in front of me and the other four or five that were behind me still. And I got their attention and was going it's there, you know, keep coming and, and, one of them gave me a wave to go yeah okay kind of thing. And from that point on, I was like, it's just personal safety now. I've gotta go because otherwise I'll be the casualty…yeah, they'd all come in and they were all shivering and dropping snow everywhere." - Bruce

External Rescues

The participants who experienced external rescues were met by either helicopter crews or by ground searchers. The appearance of these rescuers signalled that the lost experience was coming to an end and that the lost person was going to be transported to a place of safety. This bolstered physical and psychological recovery.

"Its over, the worst is over." - Bryan

Ground Based Rescues

For participants who were met by ground rescue crews hearing the voices of search and rescue teams signalled that they would be rescued. This was usually accompanied with a sense of relief.

> "And wasn't till we could hear the voices at the bottom that we actually believed we were safe." - Max

Participants connected with these ground based rescuers and were taken back to temporary search and rescue bases. At these temporary bases they were assessed, debriefed, and had their immediate first aid, food and water needs addressed. Some participants were also reunited with loved ones at these temporary search bases. The search base for Dale and his companions had been established at a nearby school.

> "When I came out and all four of us came out we said this is our group and they said that's about the size of the group. And we were all accounted for. And then because they were just about to leave they had all this food and they said let's go back to the local school, let's go and demolish all the food and have a debrief… It was basically just asked us are we all right. Is there any problems, we didn't really sustain any injuries or anything like that. Because we said we were all fine they just said okay that's fair enough…So when we got, when we arrived back, and we were actually there when they debriefed everybody about what we've done." - Dale

Aerial Rescues

Aerial rescues involved planes, helicopters, or both. Liz had a spotter plane find her before a rescue helicopter was sent to rescue her. Bryan had a helicopter sent straight to his known location. Oscar, Carly, and Mary all had helicopters come to locate and rescue them. The arrival of these aerial assets was often emotionally charged. Mary described the overwhelming feeling of relief that this brought.

> "Anyway, so um, so that was it. And when I heard the helicopter I was overjoyed. I'm going tingly now thinking about it, actually…And it did a bit of circling around. But then I thought no, they've seen me now. Still never got a thumbs up, I thought I'd get that. And then they, then they cut right across this big open area.

And I thought yes they're definitely coming to me. And then they did and they came and they hovered just by a rock." - Mary

Rescue helicopters could also be scary and some participants expressed being fearful about being winched into helicopters and shock at the realisation of their predicaments. This fear and shock could be reduced by the words, actions and professionalism of the helicopter rescue crews. Oscar described this influence.

"And as we're going up she's like, I got to say like, she was such an amazing person. She basically, like she was so calm, and I was just sitting there and I remember just holding, like, if the thing breaks, I know that I can hold myself like, I was just like, I was freaked out man." - Oscar

Loading Up

Once the helicopters landed, the participants liaised with rescue crews, received primary welfare assessments, and were prepared for extraction.

"Yeah, so the chopper came, the nurses came over to make sure I was okay. It landed. It was probably about 30 to 50 meters from where my tent was, which is what I kind of expected. And then yeah, the nurse helped me pack up my stuff." - Carly

Some participants required first aid before being airlifted.

"She put the thing underneath my leg and I got took out like that, like going up like in an L shape... I went up like that. So my body went up in an L shape and my leg like, I don't know if you can see my leg was like that. And they puffed it up around like a bag. They inflated it and they did that. She gave me a helmet and earplugs and glasses, and she winched me up." - Oscar

Participants were then either winched into the rescue helicopters or were loaded on the ground. Mary was loaded on the ground.

"And, and then one of them jumped out behind me. And I thought, oh, he's gonna push me towards the helicopter…Yeah, he jumped out of the helicopter and he came around behind me. And, and then he just said,…he said, step up, step up. And then an arm came out of the helicopter. So I stepped up and whence it kind of fell into the helicopter in the backseat. And it took me a little while to actually really kind of relax into the seat. They took off very, very quickly." - Mary

Oscar was winched into an airborne helicopter.

"Um, and then I remember she was going to the guy go back and forwards like, she's like okay, just a bit back and then like another tree would come up and my foot would be like in between a stick and it would be like getting stuck and she'd just grab it and move it out of the way. And she'd be like all oh go back just a little bit more like she was so calm…And the guy was pulling me in and the lady's like hanging out like you could see that she just loves it. You know she lives for it."
- Oscar

In Helicopter Debriefing

Once the participants were in helicopters they were debriefed about their experiences and further assessed by medical staff. For Bryan there was a simple verbal assessment and a determination that he was medically ok.

"They questioned do I have any injuries and stuff and they asked do I want to go to hospital. I said no I'm ok. They asked do you have someone to contact so I did. But I didn't think that I needed to go hospital so I contacted someone to pick me up and they took me back to general aviation."- Bryan

During the helicopter flights the participants experienced a range of emotions including relief, shock, guilt, pleasure, and concerns about the cost of the rescue. Some participants found this overwhelming. Most participants reported enjoying their chopper rides.

"It was a beautiful helicopter flight…This was beautiful landscape, open space one of the most beautiful landscapes in Australia, yeah, yeah. Yes, sure. Yeah.

Yeah, just, I mean I'm yeah, I've done some pretty spectacular flying and it was top notch." – Carly

The pleasure of the helicopter was often accompanied by feelings of guilt. Making first contact with loved ones during their rescue flights could further contribute to feelings of guilt.

"But when I was in the plane I got service through so I was able to text Dad and tell him I was well, I'm in the plane now, I'll call you as soon as I'm able. I think at that point I kind of realised how traumatic it was going to be for them not knowing why I had pushed the button and not knowing if I was okay. So that was the moment that that kind of hit home that all these people who were coming to rescue me didn't know what state I was gonna be in. And feeling incredibly lucky that I was able to just walk away from the experience and feeling incredibly indebted, I guess, to all these people who had this emotional trauma." - Carly

Appropriate and caring debriefing by the helicopter crews helped reduce this additional guilt and distress. For Oscar the debriefing included reassurance that a helicopter extraction was the appropriate course of action.

"But basically after that we landed and they said like, you know, they said. Because I was crying and she said look, she said we've all done Bartle frere on this chopper. And she said we know, and she said, you know that there was no way of you getting out of that spot. She said I'm sorry, mate. It was bad luck. She said there was no way getting out of that spot because you know how rugged it is to get out of that. She said, you've broken your leg. She said you could have hurt yourself. You could have fell on a stick, you know, like, and she said, she said, it's the helicopter pilots last day, he's retiring today. And she said you've actually given him a technical job. And he, and he looked around and he said, thank you." - Oscar

Post Rescue Recovery

Once the participants reached their respective places of safety the acute phases of their lost experiences ended. For some participants such as Jack and Dale this was also the end of their recovery

process. Other participants however had further recovery needs. These recovery needs could be immediate, short term or ongoing.

Immediate Recovery

Immediate recovery needs were addressed at primary places of refuge where the participants were safe from immediate hazards. These primary places of safe refuge included rescue huts, trail heads, roadways, helicopters, and temporary emergency operations centres. Participants who self-rescued reached these places of safe refuge unaided. Participants who were rescued by external rescuers were transported to these places of safety by helicopter or by ground based rescuers. Once the participants reached their respective places of safety they undertook welfare checks and tended to any immediate welfare needs.

> "Yeah, it was adrenalin going down the creek. And then once I saw my car, then I was just happy. And then the adrenalin just faded and I then realised just how hungry I was." - Dale

Participants who self-rescued either returned to secondary locations or continued their wilderness journeys. Participants who were externally rescued were given welfare checks, debriefed, had any immediate medical needs addressed and were either released or sent on to secondary locations for further treatment.

Self-Rescue Recovery on Route

Bruce and his companions self-rescued to a rescue shelter. Their recovery from hypothermia involved getting to shelter, reheating themselves, waiting for symptoms to subside, and then resting. They did this without external medical care.

> "Got my pack off. And I was just wildly shaky. I've been hypothermic before but not stage two or stage three hypothermia or whatever it was. My lips were blue, I was slurring my speech. I was in real shit…hypothermia is frightening when you get it because it just takes over everything. Yeah, it just takes over your thoughts. It takes over your logic, it takes over your survival needs, like, just everything…we stayed in the hut for the next, next, nearly 48 hours, 30 or 36 hours…the next 24 hours was really tough…We realised that look, we'll just wait

out the night and then see how it was in the morning, hopefully it's cleared over in

the morning. And I slept." - Bruce

After addressing their hypothermia and fatigue the group decided to proceed with their planned hike.

"Because we toyed with the group about either turning around and just

abandoning the hike or continuing on…And yeah, about three o'clock, four o'clock

that afternoon, the weather kind of cleared and we're thinking, oh let's just make

a go for it. So, so we did." - Bruce

When they reached the next hut on their journey the group completed their recovery by having a fun night together laughing, eating, and drinking.

"So we actually had a pretty magical night down there with lots of laughs

and lots of food eaten and all that sort of thing…Yeah, we brought port, I usually

bring a soft bottle with some port in it and a soft bottle with Bailey's in it. Which,

you know, was regretting carrying up in the blizzard while I was shaking…the first

night we didn't touch it, the second night we certainly did. It was drinks all round."

- Bruce

Externally Led Recovery

The participants who were rescued by helicopter were transported to primary places of safety by their rescuers and were assessed further. They were then either released from those locations or transported to secondary locations. Bryan and Carly were transported to rescue helicopter hangers where they were medically assessed and then collected by friends.

"And the nurse was like are you sure you don't want to come and get

checked into the hospital just in case. And I was like, no, I just want to go and have

a shower. And like, you know, have, like I wanted to be alone as well, like I just

wanted to be clean and alone and put on some fresh clothes." - Carly

Oscar was transported by helicopter to a staging area before he was flown to hospital for further care.

"So we flew all the way. So, we flew like probably 900 metres. We flew to Golden Hole… they wanted to see what was wrong because the bruise was bad. And so anyway, they flew me. And I remember landing in Cairns, and I got wheeled out with a wheelchair and everyone, all these tourists just looking at me." - Oscar

Oscar had also left his hiking equipment at the location where he was rescued from. His friend collected this for him.

"So Luke had to drop his pack at Josephine falls and then go back in and do another K and a half and then pick my pack up. And then he drove to Cairns to Jonathan's house to pick me up." – Oscar

Mary was transported to a temporary search headquarters where she was given welfare checks. She was then transported to a nearby police station where she debriefed with police.

"And, and they took me to a place where they've made a temporary headquarters near the falls campground… They have St. Johns ambulance as their paramedical ambulance service. There's this guy called Duncan, who did all my things, you know, and the glucose and the heart and everything was fine…

Someone said, oh, well, we'll have to get you in the car now. And there's a heap of media there. And said I'll protect you. But then as I was about to get into the car Duncan said, I think, he's the paramedic. He said, thank them. And I'm so glad he did. Because that's when, you know, I kind of turned around because I saw the footage of that. Yeah, because they did something for channel nine later as well.

I'm so glad he told me that because otherwise, and then I went, so this one (photo) was taken outside a police station. Because they took me back there when my tent was they had it in lockup. I was there for about an hour in the police station." - Mary

Medical Facilities

All the participants whose rescues involved external rescuers had medical assessments. Some were released from their primary places of safety, others had medical concerns that required further attention. Thomas and Oscar were both taken directly to hospital by their rescuers. At hospital Thomas had his injured foot treated and was sent home with a course of antibiotics.

"But he's sort of got me foot, its like these little scourers and they scrub it

till its all like mince meat and then they just sort of put the stitches in. I watched

him stitch it up." - Thomas

Oscar was also taken to hospital but received what he considered was poor medical care. He was misdiagnosed, released from hospital, picked up by a friend and continued to suffer from potentially avoidable pain.

"And the guy just said to me, he goes, look, mate, we've done tests. That's

it, like he said, there's nothing wrong with you. Um, he said, you can literally walk

on your foot right now… And I said, can I get crutches and he goes, you don't need

crutches. He said, you should be able to get up and I said, look, man, I said, I can't

walk. Like I'm struggling." - Oscar

Secondary Places of Refuge

The participants attended to their immediate needs at their primary places of refuge. They then travelled to secondary places of refuge such as homes, hotels, and private accommodation. From these secondary places of refuge the participants began to attend to less urgent short term and ongoing physical, psychological and emotional recovery needs.

Recovering at Home

Some participants were close enough to return to their homes to recover. This included Dale, Jack, Thomas, Bryan, and Mark. Mark described being fatigued from his experience and wanting time alone to rest, recoup and recover.

"I was just thinking, yeah, just wanted to get home and have something to

eat. But I was relieved that it was over." - Mark

Recovering in Local Accommodation

Some participants were a long way from home and had to recover in local accommodation. William had been staying on a remote island so he returned to accommodation that he had prearranged for his trip. Mary had planned on a multi-day hiking trip but decided that it would be best for her physical and mental health not to do this. Mary cancelled her planned hike and instead

travelled to the nearby city of Darwin and found local accommodation. She was taken to Darwin by the paramedic who had assessed her and this started what she saw as a time of care by others.

> "I decided I wouldn't go on the five day walk…And the paramedic said no, don't do it. And I didn't really want to do it anyway, too much really. So the guys in the police station, we started kind of googling for a hotel. So I went to a hotel in Darwin and the paramedic Duncan lived in Darwin. So he drove me up there, which again, was another really great thing for me to have someone I knew with me just chatting about bits and pieces, you know about his life and the rest of it. So they were fantastic people. I felt very well cared for." - Mary

Mary then went on to stay with friends of friends. This also helped her recovery before she returned to her home in South East Queensland.

> "And I stayed with these friends of friends after the hotel, one of them happened to be a chaplain, a very modern kind of chaplain, she'd worked for the police as a chaplain. And they were the best people in the world for me to stay with." - Mary

Carly stayed in local accommodation after she was released from hospital. Carly had been lost in the central desert of Australia. The helicopter that rescued her took her back to Alice Springs. By the time she landed her friends and family had arranged accommodation for her. This gave her a physical place to stay and it also helped her mental recovery.

> "They were so lovely, you know, afterwards, when we landed in Alice Springs, one of the nurses drove me to accommodation, like that's how lovely she was, like, they were so good and nice. And yeah, like it was, was really, really good…The nurses already knew all of this. They knew the address of where they were taking me and everything like that. Everyone had organised this without me having to do anything. And so this really beautiful nurse… Yes, so yeah, the nurse very generously took me to this house in Alice Springs where I waited for my friends to come and pick me up and drive me an hour and a half back to Hermannsburg, to hang out with them. And, again, Dad did all of the admin behind the scenes from that point." - Carly

Oscar also stayed locally before traveling home. He stayed with friends after he was released from hospital. This was challenging because he was trying to juggle the ongoing pain from his foot and the realities of attempting to recuperate while living with a working musician with a young family.

"And I remember my best friend. He was doing a gig at the time. He was going to set up for a gig … He's an amazing drummer, a really amazing friend and he's just like, hey bro I'll pick you up in like 20 minutes. And he picked me up and then I went to his gig while he set it up and he went and bought me a pair of thongs because I had no shoes. And I had crutches and I just crutched in. And I sat there while he set it up and I was in a lot of pain, like I was, I was talking to him, but I was like, oh. Anyway we went back to his house and his kids were there and they were running around and they were like, they were bumping into my foot. And I was just like, and it was like, holy fuck, like this, like this…

Like they didn't bump into my foot but I was like, moving my foot back because we were sitting there watching music. I was in fucking agony, I was so sore. And I just wanted to, I just wanted to cry man, like I was I was just trying to have a smiley face." - Oscar

After a few days Oscar attempted to drive the 1600 km journey back home. This proved to be too painful, so he stayed en route with a friend of his sisters.

"But I was in a lot of pain…and I said, man, this, this does not feel good… and Luke just said look, I've got to head home, you know. And I said okay, so he headed home and he said 'Are you going to be okay to drive?' and I said yeah, I'll be alright.

You know like, I'll just um, so I drove from Innisfail to Townsville… by the time I got into Townsville I called my mum and I was just in tears. I was just like, Mum, there's something not right. And I remember my mum, I was like, almost like at pass out level.. And I was just in so much agony. And I looked and I just said, there's something not right here, you know... So my sister's friend has quickly rang me up, and he's just like, I'll take you to the hospital, you know, so he picked me up and I've sat in the hospital for four hours. They've done a test, nothing wrong. Um, and this is the crazy thing, there was nothing wrong." - Oscar

Eventually Oscar's sister flew to Townsville and drove him 1300km back to his home town while he attempted to get comfortable in the back of his van.

"So my sister bought a ticket. She flew up. I had a mattress in the back, I pumped an air bed up. I don't really care what the cops say. I had to sit in the driver's side because it was so painful. So I sat with my foot up against the glass the whole time. But, man in reality I slept in the back of the mattress in my van. I didn't have a seatbelt on. I just slept in the back." - Oscar

Balancing Time Alone with Social Time

Some participants enjoyed having a balance between time alone and social time. The company of others provided the security of companionship but they also wanted time alone to process their experiences, to heal physically and mentally and to make sense of the experience. Carly enjoyed having her friends' company but she enjoyed spending time alone watching TV and unwinding.

"So I ended up just hanging out in Hermannsburg which was possibly a really nice way to do it. I wasn't kind of thrown back into society. I didn't have to go back to normal life. I just like hung out in this community. Eating apple strudel and like, if you've ever been to Hermannsburg they've got a beautiful bakery. So, you know, I just kind of hung out in the desert, which is where I wanted to be. And, you know, sat on my friend's couch. They were their teachers, and I just watched, like, you know, Foxtel for a week on their couch, kind of recovering, until they could drive me back to Alice Springs." - Carly

Likewise, Mary appreciated the company of her hosts but also appreciated that they understood she needed alone time.

"And I could just go off and walk along the beach and have a cup of coffee and nothing expected of me. But we did the tourist stuff as well. And we had a good few drinks. And I think it was, I was very, very lucky. And they were, they were really conscious of how they might help. In a very nice way, you know, just understanding why." - Mary

Longer Term Recovery Post Event

All the participants experienced some trauma from their lost wilderness experiences. Some experienced ongoing physical trauma, some experienced relationship trauma and most experienced ongoing psychological trauma. Most participants also experienced positive outcomes such as personal growth, behaviour change and a desire to upskill as part of their recovery processes.

Physical Healing

Most participants had cuts, scratches, and scrapes and fatigue. Some also had infections, and soft tissue injuries. Most of these physical injuries were addressed through rest, attention to welfare needs and basic medical attention. For Oscar and Thomas, however there was also a need for ongoing recovery from their soft tissue injuries. For Thomas this involved waiting for his injury to heal, treatment, taking antibiotics and waiting for stitches to be removed. For Oscar ongoing treatment was more difficult because of continual misdiagnosis, a journey of over 1600km and government restrictions relating to the Covid -19 pandemic.

> "Um, and then I had to go to physios. But at the time, Covid-19 was breaking out. So it was like, I didn't attend any of the physio shit." - Oscar

Psychological Healing

Most of the participants reported ongoing psychological distress from their lost experiences. This distress usually related to unresolved fears, self-doubt, concerns about interpersonal relationships and concerns about future wilderness experiences. Recovery from this psychological recovery could be much more long term than physical recovery. Psychological healing typically involved a combination of debriefing, addressing anxieties, reassessing personal relationships, personal growth, and upskilling. This is consistent with findings of previous post trauma recovery work such as that of Herman (1998).

Debriefing

Previous research into disaster recovery has found that debriefing is a useful tool for individuals who have been through traumatic experiences (King & Gurtner, 2021). This was also the case with the lost participants in this study. Debriefing included self-reflection, debriefing with other stakeholders, debriefing with strangers and in some cases returning to the locations where lost events occurred. Some debriefing occurred shortly after the event and some took place over extended time frames.

Mary experienced immediate, short term, and ongoing debriefing as an integral part of her recovery process. After Mary was cleared from the primary search base she was taken to the local police station where she spent time debriefing with police and with other search and rescue personnel. She felt this initial debrief had a positive impact on her mental health and she believed that it also helped others who had been involved in her search and rescue operation.

"I had time on my hands and I had, I had occasion to have quite a lot of time face to face with two of the police people involved in the rescue. Where they showed me a lot of their material, I went to the police station at Palmerston…

… and, and they showed me all the, they had the computer screen thing on the wall, it was a big meeting room, and they showed me all the tracks for the helicopter both days, and went through the grids they use and the kind of data they use for decision making about where to go and when, etc…yeah, I thought it all sounded pretty sensible"

And after about two hours, I was saying, I think I'm not taking in anything anymore. Well they continued to talk for another hour. I mean, I was so pleased to meet them. And they obviously had a need to, to talk about it as well, you know, they've been intimately involved in the whole thing. And I found that with other people. So, I was lucky, I had lots of chance to talk to various police and rescue people. And the media that was happening the whole week. So yeah, I think that helped me a lot." – Mary

Later, when Mary was recovering locally she found that talking with random strangers about her experiences also helped her recover.

"I was in Darwin and I was in a hotel. I decided I'd go on, you know, the big red bus kind of thing where you hop on, hop off. So I thought that's ideal for the state I'm in, I can hop on, hop off anywhere and sit on a bus and let my thoughts just roam. And so I did that for that day and a half of the next day. And I made sure I ate very well at night and just in, in the hotel that had a pub.

But of course people were also recognising me. And they were saying, I could see them looking at me and then they'd say, oh, oh, are you that, that, that woman you know, and, and I didn't find it intrusive. So, and in some ways, I think it

was probably quite helpful. I did actually meet a lot of people for very short periods and I think it was helpful yeah, to say a few words about it." - Mary

When Mary went missing several of her intended hiking companions joined the search party. Mary felt an ongoing guilt about the impact her lost experience had on these hiking buddies. She found that discussing her experience and debriefing with them was also mutually beneficial.

"I know, it's not really stupidity. But I put a lot of people to a lot of bother, not deliberately and not intentionally… I mean, they were very worried. And they went out that first night, several of them and walked through the night…it was really pretty traumatic for them. And there were six of them in that National Park. And they had to leave the next day in order to get on the walk. And there was a bit of a difference of opinion in that group about whether they should stay or whether they should go. And I think for a couple of them. That was a very difficult decision to make." - Mary

Mary was still finding opportunities to debrief others at the time I interviewed her.

"And actually, the other side of that is that as I have contacted some of my co hikers whom I haven't seen most of them actually since it happened. I have found that they do the same thing. I think I'm making a 10 minute phone call and in fact, they want to talk and talk and talk. So I think that's probably one of the big learnings for me is there is a need for people to talk about it."- Mary

Mary compared her desire to debrief and educate others as being akin to the main character in Samuel Coleridge's' poem 'The Rime of the Ancient Mariner'.

"I had occasion recently to, to look up the words of the Coleridge poem, The Ancient Mariner, because I feared I was taking my skinny fingers and putting them on people's hands. Do you know that poem at all? … So this is the guy that shoots the albatross and ever, ever after is impelled to tell people the tale. And I certainly found that even now, but a bit less so that once I start telling the tale."
- Mary

Returning to Site for Resolution

Several participants felt the urge to return to the locations where they had been lost in order to seek closure. Others found this closure through map study or by seeking out similar environments. Mary spent considerable time looking at maps and debriefing with police. Thomas returned to a different location in the same rainforest. Bryan revisited another waterfall to gain a sense of closure.

"I went out with another friend to waterfalls this weekend off the coast. I needed to get out and do something. It was good yeah, it was sort of emotion feeling about being at the bottom of a big waterfall, but I felt safe."- Bryan

Max and Carly both revisited the locations where they were lost. Carly wanted to return to where she had got lost in order to gain a sense of understanding about what happened. She believes that she found the exact location where she took a wrong turn, and she believes that she understands what happened.

"I did go back and do the Larapinta again by myself. Yeah, cause I really wanted to do it. Like it was really important that I. Yeah, so I knew, I saw exactly the moment, I saw exactly what happened. It was that sliding doors moment. So I knew the day, I knew where it was going to be kind of approximately. I knew where I stopped for lunch, and I knew where I meant to end up that day. And like now looking back, I'm like how the fuck did I follow the wrong creek there. But I was obviously just having a great time trotting along. There were markers. Yeah, I just missed the marker. Yeah, yeah, I just missed the marker like, there's so many dry creek beds that are kind of going every which direction along that trail and I'd obviously been looking at something and missed it and just kept walking." - Carly

Max also wanted to return to his lost location to seek resolution. He did however have a very difficult time convincing his companion that this was a good idea.

"I wanted to get back because I didn't want it to be you know, in my psyche. Because I'd never ever had a worrisome experience. I've been sort of lost before when I was in pouring rain about 40 years ago but I wasn't worried. But this one it

did get inside my head so I just kept saying to Bruce you want to next week? No way, no way." - Max

When Max did convince his companion to revisit the site his companion was very uneasy about this.

"So it took about a year and I finally convinced him. We did all the right things you know, we took the flagging tape and when we got to the end of where the trail ends on the ridge we then did flagging tape every 20 meters - nice big pink like bright fluoro pink tape. And we got to the top, it wasn't hard you know and we found his hat that was still there you know we took a selfie of ourselves that we made it back to the top." - Max

His companion's unease was made worse when they once again found themselves temporarily disorientated on the return visit.

"And we turned to go down and we couldn't find the flagging tape and within about probably two minutes you know we think, I can't see the tape, is it there, you know and we went down a little bit and went through all the shit. We couldn't find the tape, went back to the top and he melted. Bruce was just like, I told you we weren't supposed to be here you know so he was quite anxious about it all." - Max

Addressing Fears

All the participants had traumatic experiences. They had all been scared and most of them had feared for their lives. This mortal fear caused psychological distress. This distress was described by one participant as post-traumatic stress disorder, or PTSD.

"It actually made me more nervous for the future to know how easy I can get into a serious situation…I say Post Traumatic Stress Disorder, even though it's just a mild thing, but it's a strong message in your mind." - William

David also described feelings of anxiety as he recalled his story[12].

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[12] Participants were offered access to counselling services as part of the ethics procedures.

"It's just I've recounted the story a few times to friends and stuff like that.
And it's a bit like, yeah, it's not distressing but I can feel a little bit of anxiety building
up in me." - David

Choosing to Die – Reflecting on a Unique Coping Strategy

Mary adopted a unique coping strategy. Mary is a committed voluntary euthanasia advocate. She was willing to accept that she might die while she was lost and she was not too concerned about dying unless it was going to be painful. She addressed her fear of pain and suffering by seeking ways to die painlessly. Mary's research interview was several months after her lost experience and even after considerable reflection she was still adamant that this was a sound and rational decision. In her mind it was the right decision, and this approach gave her psychological comfort during her lived lost experience.

"I think all of that was rational. Whether or not thinking how to die is
rational I don't know. Most people that I've mentioned that to think it's a bit weird
I think, I don't. I'm rational now. And I don't think it's strange for me." - Mary

Reassessing Relationships

Friends and family often helped with recovery but they could also be affected by the participants' lost events. Part of the debriefing process therefore including reassessing relationships. For some participants pre existing relationships were affirmed, for some participants pre existing relationships were strengthened and for other participants pre existing relationships were challenged. Liz for example felt that her father was responsible for her lost situation and her lost event reaffirmed her negative opinion about him.

"And my dad was leading his walk… But the thing is, he was the only one
doing the planning. He was the only one who had this knowledge…I don't know, I
think overall, he just, he just couldn't slow his pace down. And he was just so pissed
off at the situation. I was like, well, it's not our fault." - Liz

In contrast Carly was guided by her father's advice. While she was lost Carly felt that her father's teachings had reduced her trauma. Her close relationship with her dad was consequently strengthened by her lost experience.

"I'll give you some background, which is that my dad is a kiwi as well. Big tramper so definitely going bush was part of the mythology of me growing up… And like, I'm so grateful. I'm so grateful to my dad. He's 100%. I mean, he's done that more than once. But, you know. And it's funny, because after that experience, he didn't want me going hiking solo. Solo hiking, and so he got back into hiking, so he could come hiking with me." - Carly

Re-evaluating relationships also included re-evaluating friendships and friendship boundaries. Max had been lost with a long time hiking companion. Max and his friend remained close friends after their lost experience. His friend did however lose trust in their ability to navigate through more challenging terrain.

"But at one stage (on a later hiking trip) it was taking longer than we thought it would have taken and Bruce did go very quickly into oh we should just go back, we should just go back… But when it's me and the association of being lost the other time. He got unsettled, yeah and again, even when we finally hit the T junction of an obvious trail and we saw flagging type. He was still like, you know, hang on, you know. I said just hang on, because we don't always get signal when the up in the hills. So, I pulled up Google Earth and found where we were. And I said we're here, look, you can see we're heading in this direction, because my phones now got everything put on. Yeah. So I said, this trail is heading towards that big road around all this pine plantation, we're heading in the right direction. It's probably a half a mile walk. But you know, we'll be fine. I don't want to go back down that way we came up that's too hard you know, but yeah, he was unsettled again…, but he quickly went to that time and the realisation of we've been lost before when we thought we were fine. And what if we're lost again? Yeah, so that's still there in the back of his mind. And that time definitely, I wasn't stressed. But I was aware that he was you know, that. Yep. And then that then eroded your own confidence."
        - Max

In contrast, Bryan's experience ended a budding friendship between himself and his companion. Bryan felt that it was not a positive or happy interpersonal relationship because of the way his companion acted after their lost event.

"A lot of what he was saying was basically just putting me down to be honest, that sort of thing. He was saying he takes responsibility but, I know I just felt, just made me feel like shit. He didn't need to put that up, the videos of it. I did put up my own thing, explained what I was going through and the feelings and I did actually thank him because obviously he was amazing through the night and his experience got me through. I just didn't think he needed to put up that video on Facebook the next day. It didn't help him either because he got lots and lots of comments having a go at me or having a go at him. So the fact that it was just as much aimed at me as it was at him I didn't see the point." - Bryan

Positive Outcomes

The experiences of the lost participants were often traumatic, but they were not completely negative. Most of the participants found some positive outcomes from their lost experiences. Beneficial outcomes included pleasant memories, resilience building, personal growth, and a desire to teach others.

Pleasant Memories

Some participants had very fond memories of their lost experiences and lost environments. Mary went so far as to describe her lost experience as overwhelmingly positive.

"That's what spiritual is, but it was the bush and it was me and I tell you I felt completely enveloped and comfortable. And certainly not scared. It was like each time I woke up in the night it was like, oh, yes, sounds are still there. That's a beautiful, it's like being in an Aboriginal Symphony. It was just beautiful. So that was a very, very positive experience for me." - Mary

Mary's time alone in the wilderness reaffirmed to her that the bush was a pleasant and wonderful place where she was comfortable.

"Some of the people I've spoken to they say they would have been terrified of just being in the bush or didn't you think about crocodiles and snakes and blah, blah, blah. And I simply never think about that, which might be a bad thing too. But

if I was scared, it would have been a different story entirely. And I'm not a scared person generally…but this night was magical. Absolutely black sky, no moon, stars absolutely everywhere. Sound of the bush was just incredible. It was the frogs in the creek. That was like a didgeridoo and there was some. There was a dingo noise over there and I can, I can recall it. Absolutely. A dingo call, all the sounds of the little you know, flying things." - Mary

Resilience Building

The participants' lived experiences became useful learning tools. They used these learning tools to build resilience and to reduce the likelihood of future lost events. They achieved this through knowledge building, identifying shortfalls, and upskilling. Carly and William spoke of the learning value of their lost experiences.

"I just think for me, the learning from making mistakes is so important."
- Carly

Knowledge Building

Learning was a key component of recovery for all the stakeholders in the lost events that have been discussed throughout this thesis. This learning involved understanding what went wrong and upskilling by applying newfound knowledge to future wilderness adventures. Lessons learned included accepting that lost events can happen to anyone, understanding why lost events happen, learning about preparation shortfalls and learning about skill deficits. These lessons were learned by the lost people and by other affected stakeholders including friends, family and loved ones.

This learning and upskilling might be compared to the resilience building and build back better components of disaster management tools such as the PPRR model or Boon et al.'s (2012) adaptation of Bronfenbrenner's bioecological modelling theory. Recognising that stakeholders other than the lost people also go through post event learning might also go some way toward justifying Kortenkamp et al.'s (2017) call to extend preventive search and rescue theory beyond the lost people.

Accepting that Lost Events Happen

Most participants were surprised how easily they found themselves in their lost situations. This led to the realisation that lost events happen easily and can happen to anyone. Mary now suggests that people should always assume that they could get lost when they enter the wilderness.

"And, and it was like the interview, a couple of interviews that I did. Always assume you're going to get lost when you go out for a walk. That you might not get back that night. That would be my advice to myself." - Mary

Alongside the realisation that lost events can happen to anyone was the realisation of the need to avoid blame and to accept that lost people are not idiots.

"And, and it's not a blame game at all." - Dale

"I don't think they're idiots." - Mark

One should treat lost wilderness tourists with respect and empathy.

"I'd much prefer to see them out in the bush than on a computer game or stuck in a house somewhere. I never criticised and no matter how big or obese or whatever, you see a person out there I think it's just great to get them out. And so I don't judge people doing those sorts of things. And I'd like to see us give support to those people should they get into trouble? That sort of thing, because I just, I'd love to see a lot more people out in the bush." - William

Understanding why Lost Events Happen

All the participants were experienced wilderness users. Before their lost events they all believed that they were adequately prepared for their planned adventures. They believed that they had good bushcraft skills, adequate knowledge, and sufficiently well-developed plans. In hindsight several participants cited a lack of appropriate bushcraft, inadequate research, and inadequate technical skills as factors that contributed to their lost events.

Inadequate Bushcraft

Oscar expressed a concern that people could chase the quick thrills of selfies without considering the realities of what they were trying to do.

"I think people today see all these amazing pictures and think that it's easy. They think these things are easy, and they, they, don't, they just step straight up

and they're not willing, they're not understanding what they're going into, because they want to achieve that picture." - Oscar

Jack verbalised his concern about people not adequately researching where they are going.

"It's interesting because often you hear about it and you see where they are and you think why are you up there… So when I was planning to do Bartle Frere, I was looking for every piece of information I could find, partly because I was planning to do it by myself. I wanted to know how long it was going to take, what the difficult parts were, what the challenges would be. And a couple of them said, you know, if you're a fit, healthy person, you can probably do it return and this is the timeframe.

… So I think something must have gone wrong or perhaps they don't think they've gone wrong or they have not, not appreciated, how difficult perhaps the situation is." - Jack

Carly agreed that many people including herself might be inadequately prepared, but she questioned how people could improve their knowledge.

"I don't know how you're going to get a casual bushwalker who then thinks they can throw in a backpack and do the Larapinta or do the Bibbulmun or you know. You go from the Overland to the Larapinta like, that's just such a different experience. Except when we talk about, we talk about the Overland being this hard trail. You know I think that level of expectation of trails as well and safety on trails. Yes, I don't know how you're gonna get that person because I don't know what would have got me to do something different." - Carly

Unprepared for Weather

Several participants were unprepared for the weather. This was typically due to a mismatch between what they expected to encounter and what they did encounter. Some participants were simply underequipped. Others, like Bruce thought that they were adequately prepared and discovered that the weather was more severe than what they had anticipated.

"I've been in crappy weather. The weather can be four seasons in one day. Yeah, and you can expect snow and heat and awful rains and stuff. That's just normal. So we all, we all had gortex jackets, waterproof pants, you know, all the good gear. You know, down, down jackets, thermals, the whole lot. What, what we weren't expecting was it to hit so hard and so fast and so strong. That, that's what we hadn't really planned for. We still had enough gear for it. Everything was okay in the end, but we were freaking cold." - Bruce

Unprepared for Terrain

Other participants were unable to navigate through harsh terrain and this led to their lost person events. Jack suggested that a poor understanding of the tropical climate could contribute to lost events and that better public education might help address this.

"I think more information about the impact humidity will have on people, people who might be fit and healthy and can climb hills day in day out and they come up here…. Getting off the plane here at Cairns airport it's like hitting a brick wall. The humidity in summer. People underestimate just how humid and still it is in the rainforest as well. There's no breeze blowing obviously when you get right down into the gullies and the valleys." - Jack

Inadequate Technical skills

Inadequate technical knowledge contributed to some participants lost events. Bryan thought that he understood the climbing equipment he planned on using to ascend a waterfall. He realised in hindsight that he had poor understandings of both the task and the technical climbing equipment.

"Yeah. I didn't fully check out information like I normally do." - Bryan

Mary also lacked technical knowledge. She did not understand that her phones rescue app couldn't work without mobile phone coverage.

"And I hadn't understood, and I now know that I've since discovered that a lot of people in our club don't know that you can't use that to call for help if there's no reception…" - Mary

Upskilling

Previous research has pointed to hiker-based causes of lost events (Dudchenko, 2010; Hill, 1998; Kortenkamp et al., 2017). Consistent with these findings was that lack of knowledge was commonly cited as a causal or contributing factor to the participants' lost experiences. However, participants increased their knowledge through their lived lost experiences and through their post event reflections. Most participants also engaged in upskilling after their lost events. They upskilled by active learning, by upgrading their equipment and through personal growth.

Active learning

Several participants identified shortfalls in their bushcraft and navigation skills. After their lost events they spent time improving these skills through formal and informal study. Carly learned orienteering with her father, did a bushcraft course in Australia's Blue Mountains and then did a 14 day bushcraft course in Utah, USA. During her bushcraft courses Carly refined her skills and spent time alone in the wilderness.

> "We started doing orienteering together, so he bought me. I shouldn't, I was gonna bring it, it's called how to read map and compass. It's a very old book, it's out of print, but he bought a copy of it. Yeah. And I've got some beautiful photos of Dad, like reading maps kind of teaching me how to read maps. So yeah, we started doing orienteering and learning how to use a GPS. We've learned how to use my watch. And so I then went that next year, I went to the Blue Mountains and did the navigation, the bush navigation two day course at the Australian School of Mountaineering, and I enjoyed it. But I really found that it probably still didn't give me what I was looking for…
>
> …I went and did a 14 day desert navigation course in Utah, with the Boulder Outdoor Survival School, and they, part of that course is obviously navigation, but it's, teaching off trail navigation. And so I did four days, three nights completely off trail in the desert by myself. That was solo, which was an incredible experience."
>
> - Carly

Educating Others

As a flipside to active learning most of the participants believed that education was the key to incident avoidance and harm reduction. Many felt that their own lived lost wilderness experiences and subsequent learnings gave them knowledge that they should share with others.

"Education is the key." - David

"It's a story and I think I think people can learn from it." - Oscar

Participants were especially keen to pass on learnings about why and how people get lost and unlost.

"But as soon as it starts to get dangerous stop, go back. That rule at Outward Bound. If you don't know where you are, go back to your last known location. It is such an important rule for bushwalking. I've used that quite a lot bushwalking with people that don't know… I think that it's is a very important message to give people. When you're lost go back to your last known location."
- William

Carly also suggested it might be better to concentrate on teaching people to normalise getting lost and unlost.

"I don't know how to stop people getting lost. What I, what I do feel is like you're normalising that people do get lost and normalising how to get yourself out of that situation safely… I just think for me, the learning from making mistakes is so important." - Carly

Different participants found different ways to pass on their newfound knowledge. Bryan passed lessons on informally through social media.

"I put up, put up a big story and two big issues being that we want to think of taking a PLB and a little bit of extra warm clothing." - Bryan

Mary found value speaking about wilderness safety with members of her hiking club.

"I think that's more therapy for me actually. But I've always been one that says to people, because I've been bushwalking a long time. When I see people walking with a very tiny pack I often say to them, you sure you've got all your

emergency stuff in there. So I feel rather embarrassed about that now actually because I obviously didn't have all the stuff I should have had that day. I don't in any way feel I'm an expert, I feel I'm at the other end of the spectrum. So, it's the bushwalking club that asked me to give a talk about what I've learned. I just have to apologise too much. I think, you know, mindset."- Mary

Max takes any opportunity he can to pass his knowledge on to other wilderness users.

"You know, just tips and hints of things to pass on to people to remind them of those basic things of safety and survival. Because you can just take it for granted and, but probably not just the bush skills and the commonsense things with keeping safe, but the mindset of how that you know, you need to be confident, to have confidence so that you don't panic." - Max

Dale continues to share his knowledge through his bushwalking group. At the time of the interview Dale was also working with national parks to identify potential lost person locations.

"We work with the Queensland Parks and Wildlife Service in infrastructure. And we keep an eye on you know, on off track walks if people report that they do have issues what, how we can make it better for them with the off track walking as well... we let them know, we let Parks and Wildlife know that a lot of people are using this off track walk." - Dale

William now stresses the value of signage to himself and others.

"I see lots of people who, and mainly the young people who should pay attention, don't pay attention...Have the signs, because I went bushwalking yesterday with another friend, both of us have been bushwalking since our teens and both of us, we didn't read the sign before we went into the national park. There was a map of the track we were doing. And I've done the track 50 times but this person had never done it. And she was visiting so I thought I'd take her up. And we read the sign, we looked at the map and a big message under that map would have been effective I'm sure." - William

Upgrading Equipment

Problems with equipment caused or contributed to some lost experiences. This included problems with both electronic and non-electronic equipment. Some participants upgraded hiking gear, safety gear and communication equipment after their lost events and learned how to use this upgraded equipment. Other participants no longer engage in the activities that are beyond their skillsets.

Bryan and Bruce both had issues with physical equipment. Bryan no longer engages in technical climbing and Bruce has upgraded his equipment. Likewise, Thomas now carries more appropriate equipment and Max now ensures he carries a mobile phone and flagging tape when he is exploring off track.

Communication Devices

Several participants had communication problems while they were lost and addressed these problems as part of their post event recovery. Max had no phone when he was lost. Mark was concerned about his batteries going flat. Thomas had poor phone coverage. Mary was unable to signal a rescue helicopter and also mistakenly believed that she could use her phone's rescue app without network coverage.

After her lost experience Mary debriefed with the police who rescued her and learned that she lacked some important hiking gear, communication gear and knowledge. She then set about upgrading her equipment, her knowledge, and her understanding of the wilderness environment.

"I've got all the things. I've got a new phone. I've got up to date phone I've, I've had some sessions with, a friend already was teaching me one of the navigational tools. Whether or not I'll keep up with that I'll try. I've bought a PLB, it's registered. So that will go with me whenever I'm out anywhere apart from around here. I expect never to use it. You know never to have to call on it. I've got all the gizmos for being rescued. Because the session I had with two of the guys at the big police station in Palmerston, they brought out all their stuff to show me about what they would take, what they take in their little emergency kit when they go out. And so I've got all of that organised now. And I'll be showing the people in the bushwalking club what I've got. And the other tips that they told me about for being more visible. And a tinsel tree to shake as well, as they all said it was good to use the space blanket on the rock.

… Everyone said, why didn't you light a fire? Well, because I was so focused not on going out for a walk that day but on the big trail and I tidied up my tent that day, knowing my were friends coming. In the process, I'd left my two lighters and matches in the tent, of course. So now I've got a flint. And I'll always have two sorts of things with me, and I've got other stuff that people have recommended." - Mary

Ongoing Personal Growth and Impact

The positive impacts of the lost events were not limited to learning and upskilling. For some participants there were also positive attitude changes and growth in personal confidence.

Changed Safety Attitudes

Several participants identified potential improvements on wilderness planning and preparation. These participants became more safety conscious and more risk averse. Bryan says he never goes into wilderness environments without a PLB anymore. Thomas says he would never go in that type of terrain again and Liz said that she would never take the same risks again.

"And we wouldn't go and do the things he had chosen to take us on with our kids I don't think. But I think you know, our choices would be you either find a prepared trail or you make sure that what you have with you enables you, that you're confident you can read your map, you're confident of finding a way and you don't leave home without a plan and you don't leave without telling someone where you're going you know, so we've done all those things." - Liz

Increased Confidence

Most participants experienced increased self confidence. This came from learning that they could survive being lost wilderness tourists. Carly described this newfound confidence as a deep sense of self belief that has had an overwhelmingly positive effect on the rest of her life.

"Yeah, I don't really talk about it. I'm proud, I think back and I am proud of the way I handled the situation… And I am so much more confident in myself because of all of the mistakes that I've made that I have been able to resolve or solve and then walk away from and knowing that, yeah, I have the capability to be in a situation that is really fucking scary. But is okay. Yeah, not having done infantry

training or anything. You know, I think that's really cool. So someone who just works a nine to five office job, and I think about what I'm able to do now... Knowing that I've been able to push myself before means that I can do more in my everyday life."

- Carly

Carly became so confident with her newfound skills and knowledge that she then went on to become a search and rescue volunteer.

"My life got pretty cool after I got lost, I have to tell you... So since then, I've joined the Victorian bush search and rescue group as well. And I've been out a couple of, yeah, so I've been out and done a couple of rescues with them. Not that we actually, none of them have been rescues. They've all been finding people deceased. So that hasn't been that great, but it's been really good to be part of that group...but the I mean, the reason I joined search and rescue and got the kind of the kick up the bum to do it was that there was a young guy in his 30s who went missing in Victoria around a certain hiking area that I hike regularly. And I was like, oh I would love to use my skills and my knowledge of that area to kind of go out and to be looking for him. Like and so I think that was the kick up the bum to kind of go and do it. But it had definitely been something I've been thinking about for a while. I'm building up these navigation skills and building up this off trial, like competencies and confidence. And then what do I do with that? You know, I can, I work nine to five in an office job. You know, what, what am I doing with these skills that I'm building up, except for using them a couple of times a year for my own kind of fun?" - Carly

Chapter Summary

This chapter has examined the recovery phase of the lost wilderness experience from the lost participant's perspectives. It has identified the characteristics of the recovery phase, the trauma associated with lost events, the key stakeholders, and the recovery process. The chapter has shown that trauma and recovery are inextricably connected and that recovery has fuzzy boundaries. The chapter has also shown that trauma and recovery have multiple stakeholders and that lost people, trauma, recovery, and other stakeholders interact to cause, treat, and reduce lost event trauma.

Characteristics of Recovery

Recovery from a lost event refers to the process of recovering from the psychological and physical trauma that the participants experienced because of their lost wilderness experiences. This could be acute or ongoing, it has blurred temporal boundaries, can involve multiple locations, often involves multiple stakeholders, and differs from individual to individual. This multi-faceted and ongoing temporality again suggests that Boon et al.'s (2012) adaptation of Bronfenbrenner's model might be useful for interpreting lost event resilience and recovery. This is explored in more depth in the next chapter.

Fuzzy Boundaries

This thesis has adopted a phase based approach to understanding lost person experiences. This phase based approach is useful for analysis, interpretation and intervention planning but lost events, like many other human activities do not have clear and concise boundaries. The recovery phase exemplifies these fuzzy boundaries, perhaps more so than any of the other five phases. This recovery chapter has focused primarily on rescue and post event recovery. It identifies that recovery can begin soon after lost events are triggered, can continue throughout lived lost experiences, is a key part of rescues, can be ongoing and can move with individuals from one wilderness experience to the next. This fluidity will be discussed more in the next chapter.

Multiple Stakeholders

This thesis focuses on the lived experiences of lost participants. Those lost events did not happen in social isolation. The lost events occurred in built environments, often occurred in the company of others, often involved primary or secondary responders, and often involved friends and family outside of the event. This meant that many different stakeholders and stakeholder groups had the ability to influence lost events, to be influenced by events, to reduce trauma, and to increase trauma.

Individual Characteristics

All the lost participants in this study had previous wilderness experience. All of them entered the wilderness in the pursuit of leisure or pleasure and all of them became lost wilderness tourists as defined by Schwartz (2022a). The ongoing interplay between the lost individuals, the event characteristics, the trauma, the recovery, and the other stakeholders created unique experiences for each participant. Most participants experienced psychological and physical trauma. Most participants

also experienced some positive outcomes. The ongoing interplay between the multifarious event factors also influenced trauma, recovery and the positivity and negativity of event related recovery.

Stakeholders' Impact

Trauma and recovery involve multiple stakeholders. The lost participants were the primary stakeholders in the lost events discussed in this thesis. Other key stakeholders included companions, loved ones, primary and secondary responders and affected communities. This is consistent with previous findings by Schwartz (2022a) and Whitehead (2015).

Figure 10 shows the broadening sphere of influence as lost events impact the lost parties, their loved ones, and the wider communities. These stakeholders had a two way relationship with the lost participants and their lost events. They could influence events and they could be influenced by these events. This influence could be acute, short term, or ongoing. The intensity of these two-way relationships reduces as impacted stakeholder groups move further from the focal point. Both the figure 10 model and the implications are expanded on and discussed in more depth in the next chapter.

Figure 10

Stakeholders impact model.

Lost People and Wilderness Companions

Friends and Family

Broader Stakeholder Groups
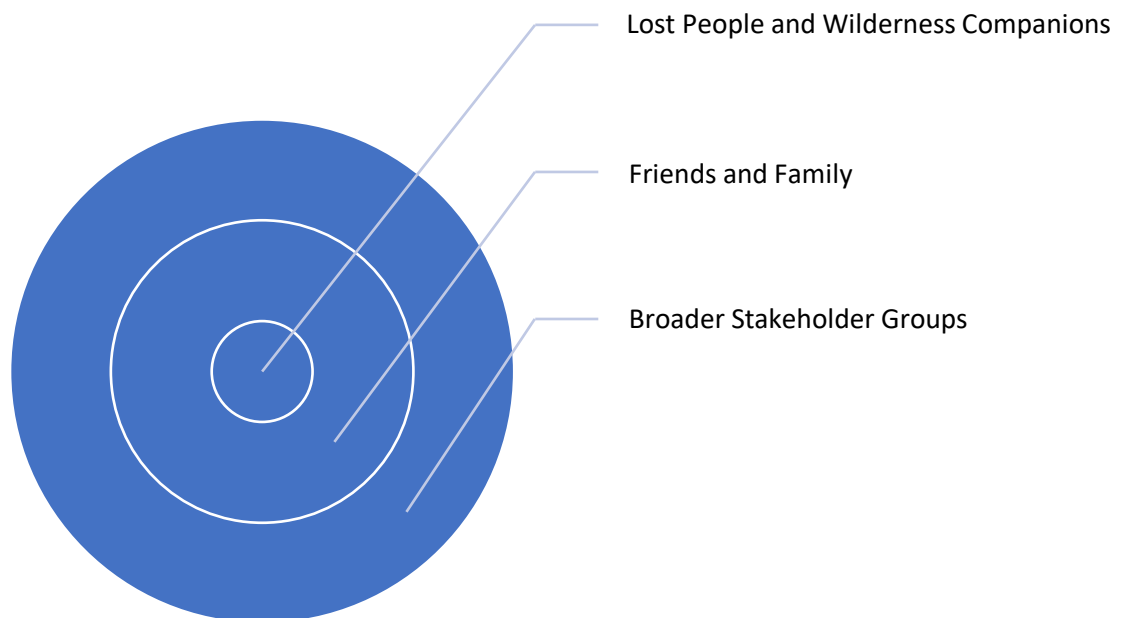
Secondary Stakeholder Influence

Secondary stakeholders who influenced recovery included companions, friends and family, influencers, and the broader affected community.

Companions shared the lost experiences with the participants. These companions could influence events by influencing pre-event activities, lived lost experiences and post event activity. Non companions could also provide pre-event support, through event support and practical and emotional support such as on scene support, transport, accommodation, and counselling. Not all secondary stakeholder influences however were positive. Companions could increase event trauma due to their own physical, psychological and emotional needs. People who did not accompany the lost people in the wilderness could also increase trauma through negative words and actions.

Some members of the extended stakeholder community also experienced event related trauma. This vicarious trauma is beyond the scope of this thesis. Vicarious trauma amongst rescuers has however been well documented (McCann & Pearlman, 1990; Mortimer & Mortimer, 2023). Vicarious trauma of other stakeholders has been alluded to less well recorded and could be a topic worthy of future research.

Trauma

The participants all experienced some physical, psychological, and emotional distress as part of their lost experiences. This trauma could occur before, during or after the lost wilderness experiences and could be acute, short term, or ongoing.

Physical trauma included injury and fatigue. Injuries ranged from minor cuts and abrasions to more severe soft tissue damage, infections, and hypothermia. Fatigue came from sleep deprivation, over exertion, mental stress, and the consequences of hypothermia.

Psychological trauma included shock, guilt, embarrassment, confusion, fear, self-blame, self-doubt, damaged egos and concerns about others. These concerns could be real or imagined and they could be acute or ongoing. Individual distress ranged from mild distress to self-diagnosed PTSD. Concerns about others could involve specific concerns about interpersonal relationships or more general concerns about social judgement. This distress could happen before lost events, during lost events, through rescues and after lost events. This is consistent with the findings of Hutson et al. (2015).

Pre Rescue Trauma

Trauma could begin in the pre-event phase when the participants and their companions began to experience concerns about their upcoming wilderness adventures. Trauma could continue to occur or increase as the participants entered the wilderness, experienced triggers, and became lost. The pre rescue trauma is discussed extensively in previous chapters and includes both physical and psychological trauma.

Rescue Trauma

Rescues ended the acute phase of their lived lost experiences. The rescues themselves however could be traumatic. This was true for self-rescues, externally managed rescues and hybrid rescues. Self-rescue trauma included increased doubt, fatigue, injury, distress, and guilt. External rescue trauma also included psychological and physical distress. Psychological distress relating to external rescues included embarrassment, guilt, shame, concerns about cost, confusion about rescue operations and communication difficulties. Several participants also experienced or feared experiencing injuries during helicopter extractions.

Post Rescue Trauma

The participants completed their rescues by reaching places of safe refuge either alone or with the assistance of others. Once they reached these places of refuge, they no longer faced urgent needs to address immediate concerns. This gave them an opportunity to address ongoing medical issues and to reflect on their experiences. For the participants who experienced ground based rescues, post rescue trauma began when they reached places of safe refuge. For the participants who were rescued by air, post rescue trauma could began when they were in the aircraft. This post rescue trauma included on going medical concerns, shock, guilt, and concerns about interpersonal relationships.

Recovery

Recovery occurred throughout the participants lost experiences. Some recovery occurred before the participants were rescued, some occurred through rescues and some occurred after the acute lost events had ended.

Pre Rescue Recovery

Pre rescue recovery involved accepting, understanding, and responding to lost situations, developing rescue plans, and addressing physical and psychological concerns. This has been broadly discussed in the previous chapters and will be revisited in the discussion chapter of this thesis.

Through Rescue Recovery

Through rescue, recovery involved addressing ongoing event related trauma whilst reaching places of safety. This was influenced by the nature of the lost event and the nature of the rescue. For ground based rescues this through rescue recovery involved responding to ongoing difficulties, finding paths to safe refuge and in some cases connecting with external rescuers. For aerial rescues through rescue recovery involved connecting with search and rescue personnel, embussing into helicopters, debriefing with rescuers, and reflecting on lived lost experiences.

Post Rescue Recovery

Post rescue recovery could be short term or long term. It typically involved addressing ongoing trauma, reflecting on lived lost experiences, and engaging in personal growth. This occurred once participants had reached places of safe refuge.

Short term recovery

Immediate post rescue recovery involved reaching places of safe refuge, dealing with urgent physical needs and if necessary, relocating to secondary places of refuge. Other short term post event recovery occurred once the participants had left the wilderness, had reached places of accommodation, and had access to ongoing medical and social needs. During this time the participants sought attention for ongoing medical concerns, rested and reflected on their lost experiences. Several participants also took the opportunity to discuss their experiences with loved ones and to debrief with affected others and interested strangers.

Ongoing recovery

Ongoing recovery needs were both physical and psychological. Some participants had injuries that required ongoing medical attention. Some participants also had ongoing psychological concerns include trauma, fear, self-doubt, and interpersonal relationship issues. These were addressed by debriefing, returning to lost locations, reflecting on lost experiences, addressing and reassessing relationships, and personal growth. Post event recovery also influenced future wilderness activity.

Positive Outcomes

The lost events had several positive, albeit different outcomes for the participants and the other event stakeholders. These positive outcomes included pleasant memories, knowledge building, upskilling, upgrading and personal growth.

Pleasant Memories

As wilderness tourists the participants all entered the wilderness in pursuit of leisure or pleasure. It was not unusual for participants to have fond memories of their time in the wilderness. Mary and David both recounted happy memories of their wilderness environments and Carly and Bryan both talked about how wonderful the rescue flights were. Bruce also talked about his near death experiences as being very exciting in hindsight.

Knowledge Building

The participants' lost events were learning experiences. The participants learned that lost events could happen to anyone without warning. They learned about shortfalls in research, planning, preparation, and technical skills. They also learned the differences between what they thought they needed and what they actually needed with respect to knowledge, skills and equipment. This newfound knowledge led to personal skill development and to upgrading wilderness equipment and communication tools.

Knowledge Sharing

Participants often felt a compulsion to share their lessons learned. They felt that they had knowledge to share and that sharing this knowledge could minimise other peoples' lost person incidents and trauma. This knowledge sharing took place through informal chats and through more structured pathways including organised talks and through liaising with wilderness safety groups.

Ongoing Personal Growth

The lived lost experiences led to personal growth and development for the participants. The participants tended to adopt more risk averse approaches to their subsequent wilderness adventures. Several participants also spoke of increased personal confidence arising from the knowledge that they had faced and survived being lost in the wilderness. This increased confidence and personal growth

was applied in future wilderness experiences, so much so that at least two of the participants had become active in wilderness search and rescue by the time I interviewed them.

Conclusions

Recovery occurs when the lost person recovers physically, emotionally and psychologically from lost experience trauma. This occurs over an extended time and changes as time progress. It can begin during the lived lost experience, can be part of the rescue experience and can be ongoing. It always involves the lost person, but it may also involve other stakeholders such as companions, rescuers, loved one and other affected stakeholders. The stakeholders and the role that they play in recovery changes over time.

The previous chapters have shown that trauma and recovery can occur throughout the various phases of the lost wilderness experience. This final chapter of research findings has shown that critical differences between the first five phases and the post event recovery phase are the increased presence of other stakeholders and the increased ability to focus on recovery rather than rescue and survival. The next section of this thesis will synthesise the study's findings, connect these findings to relevant literature and propose theory development that might be useful for understanding lost wilderness tourists.

CHAPTER ELEVEN: DISCUSSION

Introduction

Lost wilderness tourist events occur when tourists enter wilderness areas and became unable to reach places of safe refuge. These events occur regularly throughout Australia (Whitehead, 2015) and the rest of the world (Boore & Bock, 2013; Scott & Scott, 2008). Very little research has been conducted to address the needs of lost wilderness tourists or to understand their lived lost wilderness experiences. Previous research been shown that tourists are uniquely vulnerable because of their lack of familiarity with their environments, their behaviours, their attitudes, and their barriers to effective communication (Gurtner, 2014; Jeuring & Becken, 2013).

Preventive search and rescue refers to actions that are taken to reduce the frequency and trauma of lost person events (Schwartz, 2022b). Limited work has been done in developing the field of preventive search and rescue and this is an area in need of further research (Boore & Bock, 2013; Kortenkamp et al., 2017; Pearce et al., 2019; Spano et al., 2019). Lost person literature is dominated by positivist approaches and by statistically driven taxonomies that attempt to predict likely lost locations. Taxonomic models such as those developed by Koester (2008) and AMSA (2021) have sought to categorise lost people based on demographics, psychographics and statistical data. These models have formed the basis of best practice search techniques (Lin & Goodrich, 2010; Sava et al., 2016). These don't however seek to develop rich understandings of lived lost experiences, they don't include lost tourists, they have limited depth and they don't typically extend much beyond location probability prediction.

This thesis has therefore sought to extend the literature by defining lost wilderness tourists and by developing a holistic qualitative understanding of lived lost wilderness tourist experiences. The findings of the study establish who a lost wilderness tourist is, who the stakeholders in lost tourist events are and how lost wilderness events are constructed over time. This final chapter reconnects the empirical findings with the informing literature, extends the literature and concludes with two models that might be helpful to those with an interest in wilderness trauma prevention and harm minimisation.

The discussion begins with an overview of the findings and establishes how trauma and recovery occur with respect to lost wilderness tourist events. The thesis then concludes by proposing how trauma might be identified and how PSAR resilience might be developed. These findings are grounded in empirical research and framed by the PPRR model (Cronstedt, 2002), by Faulkner's (2001) tourism disaster management model and by Boon et al's (2012) adaptation of Bronfenbrenner's (2007) bioecological model. The findings, the discussion and the conclusions expand our

understanding of lived lost wilderness tourist experiences and have the potential to develop meaningful and sometimes life saving PSAR initiatives.

Research Approach

This thesis is based on qualitative research and has adopted an interpretivist approach to address the research questions. Consistent with qualitative research design (Maxwell, 2012; Neuman, 2014) the study seeks to develop rich understandings of the participants' interpretations of their lived lost experiences. The post positivist epistemology holds that lost wilderness tourist events are socially constructed and are interpreted through the lived experiences. Research validity comes from the ability of others to enter those constructed realities.

Research design has utilised commonly accepted qualitative research methods such as phenomenology, grounded theory and three step coding. Phenomenological interviews sought to develop an understanding of what lived lost wilderness experiences meant to the participants. Grounded theory sought to develop a deeper understanding of the informing data. Three step coding sought to identify emergent themes, develop axial themes and identify representative vignettes. Findings have been merged with extant literature where applicable and have been utilised to develop new empirical findings when little extant literature exists. Developing new theory in this manner is consistent with the grounded theory approach (Lewis-Beck et al., 2004; Neuman, 2014; Strauss & Corbin, 1994).

Defining Lost Wilderness Tourists

There is no widely accepted definition of 'lost wilderness tourist'. The first task of this thesis was therefore to develop such a definition. This definition was developed from a literature based definition, utilising the literature based definition to drive empirical research and then developing a definition that was grounded in both existing literature and empirical investigation.

The literature based definition drew from lost theory and tourism theory. Lost theory advises that lost people are geographically disorientated (Dudchenko, 2010; Hill, 1998; Montello, 2020), that being lost can be objective, subjective or both (Velasco & Casati, 2020) and that people might be lost when they are disorientated, unable to return to places of safety or thought of as lost by others (Dudchenko, 2010; Syrotuck & Syrotuck, 2000). Tourism theory advises that tourists may be people who take temporary journeys into unfamiliar environments in the pursuit of leisure or pleasure (Cohen, 1974; Leiper, 1979; McCabe, 2005; Yu et al., 2012) and who are easily identified by themselves or others as tourists (McCabe, 2005; Yu et al., 2012). The following working definition of lost wilderness tourist was developed from the literature based findings.

'A person making a discretionary trip away from their normal place of residence for longer than 24 hours, engaging in touristic behaviours in a wilderness environment and being identified by themselves or others as a tourist, who is geographically disorientated and/or unable to return to a place of safe refuge or considered to be so by others.'

- (See Chapter 2.)

This literature based definition was used to recruit and screen participants to inform the empirical study. People were recruited on the basis that they had previously been lost while engaging in touristic behaviour in Australian wilderness environments, that they were over the age of 18, that they were willing to discuss their experiences and that they gave informed consent. The recruited participants took part in one on one qualitative interviews where they discussed their individual experiences. The interviews were analysed using three step coding to define who self identified as a lost wilderness tourist.

The results of the qualitative enquiry produced two meta categories of lost wilderness tourists and both meta categories had clearly identifiable subcategories. The first meta-category was geographically disorientated. This was consistent with Dudchenko (2010), Montello (2020) and Hill's (1998) assertations that a lost person is someone who is geographically disorientated. Geographic disorientation could occur on or off track, could occur at known or unknown locations and it could be further subdivided into partially disorientated or completely disorientated.

The second meta category was people who had been stuck and unable to proceed to planned places of safety. These people could be partially or completely stuck because of any combination of fatigue, injury, or restrictive environmental conditions. These participants did not necessarily meet Montello (2020) or Hill's (1998) geographic disorientation test but did meet the unable to return to places of safety test proffered by the likes of Syrotuck and Syrotuck (2000).

From these initial findings it was concluded that a person might be considered lost if they were disoriented or stuck or if other people thought that they were disoriented or stuck. These lost situations may be real or perceived and they may be partial or complete. When these lost situations occur in wilderness environments whilst engaging in recreational activities the people might be deemed to be lost wilderness tourists. From these findings Schwartz (2023) concluded that a lost wilderness tourist is

"…a person who has entered a wilderness area in the pursuit of leisure or pleasure and who has become permanently or temporarily unable to reach a place

of safety because they are geographically disorientated, geographically stuck or both disorientated and stuck." Schwartz (2023, p. 53).

Interpreting Lost Wilderness Experiences

This thesis has shown that lost wilderness experiences are constructed by multiple stakeholders across six different event phases. The thesis argued that this makes lost events similar to natural disasters and crisis events and it has therefore framed the phase-based findings within disaster management and tourism disaster management literature.

Emergency management has been using phase based models since the PPRR model was developed in the late 1970's (Cronstedt, 2002). The PPRR model adopted a whole of event approach to preparing for, preventing, responding to, and recovering from disasters and emergency events. Faulkner (2001) and Ritchie (2004) extended this phase based approach by developing and expanding Faulkner's (2001) tourism disaster management framework. Boon et al. (2012) have likewise sought to develop a holistic understanding of disaster and emergency events and to understand resilience through stakeholder interactions. Both the phase based and the stakeholder based models might be useful in developing a holistic approach to interpreting, managing, and developing PSAR resilience within lost wilderness tourist event management.

Lost person events have a number of similarities with natural disasters and crises. Lost person events occur when people are not able to stay unlost (Dudchenko, 2010) and natural disasters are beyond the coping ability of the experiencing community (Zibulewsky, 2001, p. 144). Lost events and natural disasters both involve environmental hazards, risks and triggers (Gstaettner et al., 2018; Haegeli & Pröbstl-Haider, 2016; Heggie & Heggie, 2012; Hill, 1998; Kortenkamp et al., 2017; Oliver-Smith, 1996; Pearce et al., 2019; Ritchie, 2008; Syrotuck & Syrotuck, 2000). Disaster events and lost events both occur in phases (AMSA, 2019; Cronstedt, 2002; Faulkner, 2001).

There are however some obvious distinctions between disasters and lost events. One major difference between a lost event and a disaster might be the amount of impact (Whitehead, 2015). Disasters are typically large scale, high impact events (Faulkner, 2001; Laws & Prideaux, 2005; Ritchie, 2008) whereas lost events are smaller in scale and more localised in impact. Chapter two of this thesis suggested that one way to overcome this conceptual difficulty might be to perceive the lost event as a crisis event which according to Faulkner (2001), Laws and Prideaux (2005) and Ritchie (2004) requires a much lower qualifying threshold.

Conceptualising lost tourist events as disasters or crises allows lost events to be interpreted through similar tools. The phase based models posited by the PPRR model (Cronstedt, 2002) and

Faulkner's (2001) tourism disaster management framework have therefore formed the basis for analysing and interpreting the lived lost experiences of the self-identified lost wilderness tourists who have informed this study. Throughout the phase based analysis there has been clear evidence of the involvement of multiple stakeholders, stakeholder groups and stakeholder interactions so the thesis has adopted the position that Boon et al's adaptation of Bronfenbrenner's (2012) bioecological model night also be useful for interpreting stakeholder based resilience building.

The final section of the thesis therefore proposes using both stakeholder based and phase based diagnostics to identify ways to reduce lost event trauma. A stakeholder based diagnostic drawing from Boon et al's adaptation of (2012) Bronfenbrenner's bioecological model is proposed to interpret how individuals conceive stakeholder impacts on lost event construction. A phase based diagnostic based around Faulkner's (2001) tourism disaster management model is then proposed as a means of interpreting the key factors that impact individual experiences over time This twofold approach should allow interested parties to identify potential causes of lost wilderness tourist trauma and develop appropriate mitigation strategies at personal, situation based, site based or temporal based levels.

Lost Event Stakeholders

There are multiple stakeholders who are involved in the construction of lost wilderness tourist events. These stakeholders include lost tourists, wilderness companions, fellow hikers, friends and family, emergency responders, secondary responders, infrastructure providers, and members of the broader hiking community.

Lost People

Wilderness tourists are central to lost wilderness tourist experiences. They enter wilderness areas in pursuit of leisure or pleasure (Boller et al., 2010) but something unplanned happens and they became lost. Wilderness tourists construct their journeys and experiences through their combined knowledge, skills, motivations, interpersonal interactions, and engagements with wilderness spaces. Once they became lost they continue to construct their lived lost experiences through their resources, their decision making, their personal attitudes, their interpersonal relationships, their rescue efforts and their ongoing interactions with their environments.

Wilderness Companions

Some participants were alone when they experienced their lost events and some of them had companions. In the pre wilderness phase companions could contribute to pre trip planning and

resource gathering. In the pre-event phase they could contribute knowledge, skills and abilities, add to group resources and influence group dynamics and group decision making. Through the lived lost phase some companions had positive influences, but others hindered the group due to injury, fatigue, incompetence, anxiety and interpersonal friction. Throughout the rescue and recovery phases wilderness companions continued to have both positive and negative influences. They could aid with rescue by sending for help. They could also aid with recovery by providing support, comfort, and security but they could hinder recovery by engaging in derogatory conversation at the expense of the lost participants' wellbeing.

Friends and Family

Previous research has identified that peer influence is not restricted to the members of the lost parties (Jeuring, 2011; Kortenkamp et al., 2017). In this current study there was also clear evidence of non companion influences of the wilderness event. Once again, this influence could be positive or negative and could occur anytime throughout the lived lost experience. Non companion influencers could provide education, support and safety that the participants could utilise throughout their lived lost experiences. They could initiate rescues and help with planning and operations. They could also provide physical and psychological support and help with post event knowledge development. On the downside non companion friends and family could sometimes provide poor advice, create external pressures or become a cause of distress when the lost people worried about how they were coping.

Infrastructure Providers

The presence or absence of technological and physical infrastructure enabled, assisted, or challenged the construction of wilderness experiences and lived lost experiences. In the pre-event phase participants utilised or attempted to utilise human made landmarks, communications infrastructure, and tracks and trails. Through the lived lost phase several participants attempted to call for help or initiate rescues through cellular phone infrastructure and PLBs. Through the lived lost experience and the rescue phases, the match or mismatch between what infrastructure was expected, the actual infrastructure and the participants' ability to utilise the available infrastructure could make lost events easier or more challenging. Through the recovery phase the participants also engaged with non wilderness infrastructure as they reconnected with others and recovered from their lost experiences.

Other Community Stakeholders

Other community-based stakeholders included those whose influences were directly connected to their relationship with individuals or lost events and those whose influences were more indirect. These influencers included tourism boards, educators, park managers, emergency service agents, secondary health service providers, members of hiking communities, media agents, members of the outdoor recreation industry and members of the general public. These stakeholders could influence the construction of the lost wilderness tourist experience by providing wilderness destinations, promoting wilderness recreation and by providing information, education, support and resources.

The influence of this extended stakeholder community was mostly positive but could also be negative. They could provide advice, support and resources. They could help locate and rescue lost people. They could provide emergency first aid and help with physical and psychological support. When things were not done well however they could cause trauma by failing to spot lost people, failing to diagnose medical conditions, and creating negative media attention. Through the recovery phase there was also often somewhat of a role reversal as the participants connected formally or informally with their broader communities and shared their lessons learned in what Mary described as "taking my skinny fingers and putting them on people's hands" (Mary).

Undertaking a Stakeholder Analysis

There is a predisposition to 'blame the hiker' in lost recreational wilderness user events (Kortenkamp et al., 2017). Tourist events are constructed by multiple stakeholders (Gurtner, 2014). These stakeholders who contribute to the construction of their lost events might be thought of as a lost event community. One way to understand these stakeholders, their contribution to lost event construction and their potential impact on resilience is through a community diagnostic.

Community diagnostics are a useful way to describe, define, and interpret communities (Barrett, 2015; Brint, 2001). Understanding these lost event stakeholders, stakeholder groups and stakeholder influences through a community diagnostic might be useful for understanding lost events and guiding future efforts to reduce the frequency and trauma of lost wilderness tourist events.

One way to undertake a resilience focused stakeholder analysis is to utilise the bioecological format suggested by Boon et al. (2012). This is consistent with the attempts of the thesis to ground PSAR research in disaster and crisis management literature and supports Kortenkamp et al.'s (2021) call to move away from the 'blame the hiker' mentality and toward a more holistic, multi-party understanding of lost events.

The Bioecological Model, Lost Wilderness Tourists and Levels of Influence

Bronfenbrenner (1986) originally develop the bioecological model to understand influences on a child's educational development. Boon et al. (2012) demonstrated how this model might be adapted and utilised to understand the influences and communities that contribute to resilience in the face of disaster or climate change. Similarly, this thesis proposes that the model might be well suited to interpreting lost wilderness tourist events.

Bronfenbrenner (1986) and Boon et al. (2012) identify six levels of influence. These are the individual, the microsystem, the mesosystem, the ecosystem, the macrosystem and the chronosystem. The individual is the person experiencing the event. The microsystem refers to the things that have the most direct influence on the experiencing individual such as family, friends, clubs and groups. The mesosystem is where individual microsystems interact and incorporates stakeholders such as emergency services rescuers and responders.

Stakeholder Analysis by Sphere of Influence

The previous discussion has established that resilience and PSAR interventions could be individual centric or community centric. Translating Boon et al.'s adaptation of Bronfenbrenner's model into lost events produces the following results. At the individual level is either the lost party or the lost individual who are the focus that is being examined. At the microsystem level are the stakeholders who directly influence the lost tourists. At the mesosystem level are the interactions between the microsystem influencers as they impact upon one another. At the exosystem are the more global stakeholders and the formal and informal social structures that influence the microsystems without directly impacting the individual. Finally, at the macrosystem level are the socio-cultural type influences, ideologies, attitudes, and social conditions.

From Bronfenbrenner's model we can establish that resilience building can occur at individual, microsystem, mesosystem, exosystem, and macrosystem levels (Boon et al., 2012; Bronfenbrenner, 1986; Bronfenbrenner & Morris, 2007). Conducting a stakeholder analysis to identify the various stakeholders at each of the system levels might therefore help to identify ways to build resilience to lost person events. Undertaking such an analysis would first consider the individual, then the microsystem and mesosystem, then the exosystem and macrosystem.

An effective PSAR focused stakeholder analysis could take the form of individual, microsystem, mesosystem, ecosystem, and macrosystem analysis as depicted in figure 11. Conducting such an analysis is likely to identify lost event stakeholders, the influence of stakeholders on lost events, the influences that stakeholder activities have on one another and how individualised or global stakeholder influences are. Interpreting a lost event, series of lost events or potential lost event through this type of stakeholder analysis could identify who the stakeholders are and how they can

contribute to or hinder PSAR resilience. This can in turn drive strategic and tactical level stakeholder focused policies and procedures that are aimed at reducing both the frequency and trauma of lost wilderness tourist events.

An example of a Boon et al, (2012) / Bronfenbrenner (1986) type PSAR resilience analysis based on the findings of this study might produce the results shown in Table 14. It is important to note that the model presented in Table 14 is intended to demonstrate the application of the bioecological system and is not intended to be a comprehensive catch all. The analysis tool will need to be modified for each case or group of cases, some stakeholders can influence multiple levels and as the final section of this discussion will show the systems analysis might be used as a stand alone tool or in conjunction with a phase based model.

Figure 11

Expanding Spheres of Influence.
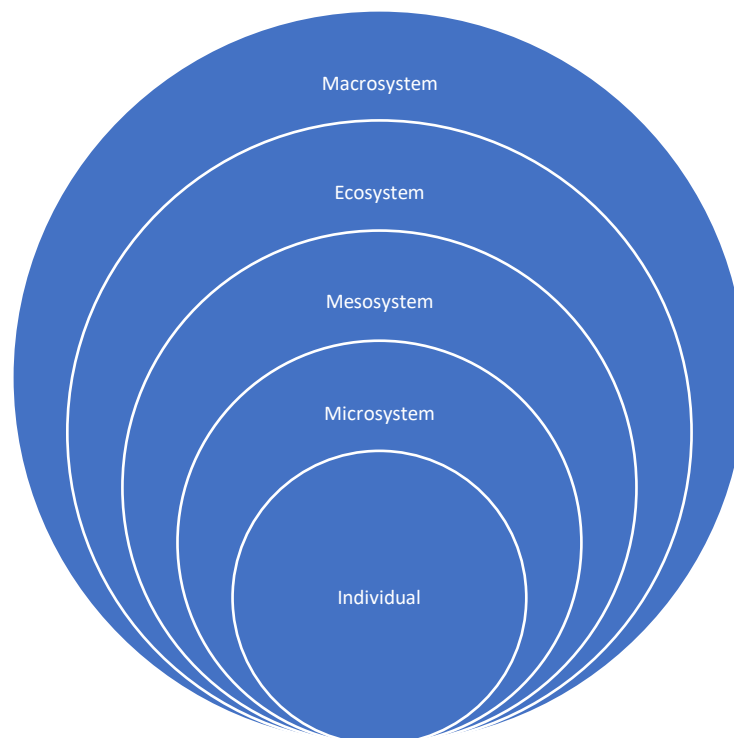
Adapted from (Bronfenbrenner, 1986)

Table 14

PSAR Resilience by Sphere of Influence.

Level	Description	Examples
Individual	The individual level being considered for PSAR analysis.	- Lost person - Wilderness companions - Knowledge - Skills - Prior experience - Lost Person location - Lost person event
Microsystem	The stakeholders who can or do contribute to PSAR resilience.	- Hiking clubs and groups - Friends and family - Local guides - Rescuers - Responders
Mesosystem	The interaction of microlevel stakeholders.	- Outdoor retailers - Outdoor educators - Wilderness park managers - Tourism Industry
Exosystem	Formal and informal social structures that influence the microsystems without directly impacting the individual.	- Government agencies - Media - Infrastructure providers - Emergency services - Hospitals - Tourism agents - Spiritual authorities
Macrosystem	The cultural ideologies, attitudes, and social conditions that individuals are immersed in.	- Pro hiking culture - Outdoor recreation funding - Emergency service funding - Prevailing attitude to outdoor recreation - Prevailing attitude toward risk - Volunteerism

Source: Adapted from (Bronfenbrenner & Morris, 2007)

Stakeholder Analysis Example

By considering the various members of the stakeholder community, their impact on the construction of lost events and their impacts on one another it may be possible to develop an analytical tool to assist with strategic and tactical level PSAR efforts. Developing a system based analysis such as the example presented in table 15 can help to identify stakeholders, stakeholder groups, stakeholder influences on lost events and potential stakeholder based PSAR initiatives.

Table 15

Influencer Groups and Opportunities for Intervention.

Influencer Group	Examples	Intervention Opportunities
Lost people	Disorientated people Stuck people	Preparation Upskilling Planning Notifying intentions
Wilderness companions	Planned companions Spontaneous companions	Pro active planning Upskilling Learning Upgrading equipment
Non-companion friends and family	Family members Friends Loved ones	Provide peer education Alert rescuers Provide equipment Aid rescue planning
Formal educators	Outdoor education centres Scouts Outward bound	Teach bushcraft Teach outdoor safety
Infrastructure providers	Telecommunications providers	Provide communication infrastructure Provide coverage advice
Wilderness managers	Parks administrators Weather bureaus	Track maintenance Track advice Weather advice
Tourism agents	Government agencies Tourism Industry Outdoor retailers	Promote wilderness safety Provide accurate advice Provide educational resources
Emergency services	Police State Emergency Service Fire and Rescue Volunteer Rescue Groups	Rescue planning and preparation Rescue action Advising policy
Media	Social media Traditional media	Provide information Ensure information accuracy

Developing A Phase Based Understanding of Lost Events

This thesis has taken a phase based approach to interpreting lived lost wilderness experiences. In depth phenomenological interviews were conducted with suitably qualified participants. These interviews were transcribed and coded to establish potential event phases. These initial findings were

then combined and refined to establish six phases based on temporal boundaries. Those six phases were pre departure, pre-event, trigger, lived lost experiences, rescue, and recovery.

Phase One: Pre Wilderness

The first phase that was identified was the pre wilderness phase. This phase encompassed all event related activity that happened before the participants entered into wilderness areas including planning, resource gathering, knowledge building, team building and travel. Disaster theorists have established that this pre-event period is the best time to plan and prepare for emergency responses (Cronstedt, 2002; Faulkner, 2001). Lost person theorists have established that pre-event planning and preparation can influence wilderness behaviour and incident prevention (Hung & Townes, 2007; Jeuring & Becken, 2013; Kortenkamp et al., 2017; Mason et al., 2013; Pearce et al., 2019). The findings in this study also demonstrated the influence of pre-event activity on the participants' lived lost experiences.

Planning

Planning involved travel planning, route planning and activity planning. Some participants did more extensive planning than others and those who did more extensive planning tended to have less traumatic lived lost experiences.

Travel Planning

Participants who had to travel a long way to wilderness sites tended to be more invested in travel planning and this impacted their lost events. Mary, Carly and Oscar all had long trips, had all developed good pre trip plans and had all communicated these plans with others. In contrast Max and Thomas did not travel far, had made haphazard plans, had not communicated these plans well and were harder to locate because of this limited planning.

Route Planning

Wilderness route planning also varied widely amongst the participants. Some participants had well developed route plans whereas others made poor route plans. Those with good route plans had much better situational awareness when they became lost. The people with strong situational awareness were able to easily self rescue or connect with external rescuers and this reduced their trauma. In contrast the people who had not done a lot of planning had poorer situational awareness

when they became lost and had more traumatic lost experiences because they did not know where they were, could not easily self-rescue or found it difficult to connect with rescuers.

Activity Planning

The participants entered wilderness areas for various recreational activities including hiking, climbing, skiing, photography, camping and exploring. These activities required varying amounts of planning. The participants who had undertaken thorough activity planning experienced less trauma than their counterparts. For example, Carly was well prepared for her multi day hike and had the shelter and provisions she needed when she became lost, whereas Bryan was not well prepared for his abseiling and climbing adventure and had a traumatic night stuck half way up a waterfall.

Contingency planning

Contingency planning involved developing what if type plans. This was not universally undertaken and it was not always done well. Good contingency planning included identifying turn around times, developing effective rescue plans and developing first aid plans. An example of good contingency planning was Carly deciding to take a PLB with her. A case of bad contingency planning was Mary's erroneous belief that her phone's rescue app would work without mobile phone coverage. The contrast here was extreme because Carly was quickly located and rescued after she activated her PLB whereas Mary was had a three-day lost event and expected that she would die where she was.

Resource Gathering

Tangible and intangible resources also included both the participants resources and the resources of wilderness companions. Resource gathering was part of the pre wilderness phase. Tangible resources included food, water, sleep systems and specialist gear. Intangible resources included knowledge, skills, attitudes, and group dynamics. The people who were better equipped and prepared had less traumatic experiences than their counterparts. This link between preparation, resources and trauma reduction is consistent with previous PSAR research (Kortenkamp et al., 2017).

Knowledge

A key intangible resource was knowledge. Knowledge was developed through experiential learning, formal training, and active study. Formal study included outdoor education and scouting programs and Outward bound. Informal study included learning from friends and family, and from self-directed study. Experiential learning involved learning from previous wilderness experiences. Self

directed study included seeking out and engaging with third party resources such as maps, web sites and literature. The role of education has also previously been identified by PSAR researchers (Boore & Bock, 2013; Kortenkamp et al., 2017) as a key to trauma reduction.

Personalities and Attitudes

Previous studies have shown that different wilderness users have different approaches to risk identification, information seeking and risk-taking propensity (Jeuring & Becken, 2013; Kortenkamp et al., 2017; Mason et al., 2013). These differing approaches were shown by the lost participants in this study. Some participants had more risk-taking or more risk averse attitudes than others. Some participants had strong loci of control whereas other took more of a laissez faire approach or allowed others to dictate their wilderness experiences. Participants who lacked risk awareness had more traumatic experiences and participants who had strong internal loci of control typically had less traumatic experiences but felt more responsibility for the wellbeing of their companions. These findings suggest that one way to reduce lost wilderness trauma might be to increase risk awareness and encourage stronger internal loci of control.

Group Dynamics

Wilderness companions were a feature of some lost experiences. Many of the participants were also influenced either directly or indirectly by people outside of their lost parties. The role of peer influence and external information sources is an identified as a factor in wilderness safety (Kortenkamp et al., 2017). Previous research has shown that this role is not always positive as it could either guide positive behaviour, encourage risky behaviour or create interpersonal friction (Boore & Bock, 2013; Kortenkamp et al., 2017).

Summary Pre Wilderness Phase

The pre wilderness phase is the part of the lived lost experience that happens before wilderness tourists enter wilderness areas. Pre wilderness planning involves travel planning, route planning and activity planning. Pre wilderness preparation includes resource gathering, knowledge building and travel to wilderness sites. Pre wilderness stakeholders include the future lost people, their companions, peer influencers, formal and informal educators and the wider wilderness tourism community. The personalities and attitudes of the wilderness tourists and their influencers drove both

the commitment to pre wilderness planning and preparation and the effectiveness of that planning and preparation. This in turn contributed to the future lived lost wilderness experiences.

Good pre wilderness planning and preparation reduced the likelihood of lost events occurring and reduced the trauma when lost events did occur. Conversely poor pre wilderness planning and preparation increased the likelihood of lost events occurring and increased the trauma when they did occur. The influence of self and others represents an opportunity to intervene and either positively or negatively influence future lost wilderness experiences.

Phase Two: Pre-event

The second phase of the lived lost experience was the pre-event phase. This phase began when the participants entered wilderness areas and finished when their lost events were triggered. Pre-event experiences were constructed by the interplay between journeys, wilderness environments, resources, individual factors and influential others.

The Journey

The participants journeys ranged from short and spontaneous to long and well planned. Some participants were alone whereas others were accompanied by companions. Throughout these pre-event journeys the participants relied upon their knowledge, skills, abilities, personality traits and the other four pre-event factors.

The Environment

The participants entered wilderness areas in pursuit of natural environments but all of these environments had been altered, influenced, or impacted by people. Natural environments consisted of terrain, topography, and meteorology. Human infrastructure included tracks and trails, physical infrastructure, and communication infrastructure. Likewise, the participants' ability or inability to interpret and interact with their natural and human infrastructure could have positive or negative influences on pre wilderness experiences and in some cases triggered lost events. This was especially evident when the participants experienced harsher than expected natural environments or attempted to rely on marginal or non-existent human infrastructure.

Physical resources

The participants and their companions all carried physical resources such as food, water, sleep systems, communication tools and specialist activity gear. The participants' commitment to

preparation and the accuracy of their pre-event planning influenced how well their resources matched the needs of their chosen wilderness activities and environments. Those participants with strong internal loci of control tended to be better resourced and those who took more laissez faire approaches to resource gathering or were more willing to rely on their companions tended to be less well resourced. An example of this was Max who believed that he did not need to take his phone because his companion would have one.

Individual Factors

Previous research has shown the influence of individual factors on wilderness planning, preparation and behaviour (Gstaettner et al., 2018; Haegeli & Pröbstl-Haider, 2016; Jeuring & Becken, 2013; Mason et al., 2013; Pearce et al., 2019). The lost participants in this study all took different approaches to constructing their individual wilderness experiences. Some were committed to developing knowledge, skills, and abilities. Some had better decision-making abilities than others. Some had different risk profiles to others. Some had more confidence than others and some had confidence that exceeded their abilities.

Individual attitudes, understandings and decision making skills all influenced the pre-event phase. Locus of control, risk profile and environmental understanding all influenced the quality of decision making. Likewise, confidence and over confidence could lead to inappropriate behaviour and decision making. In extreme examples panic, heat stress, and hypothermia also led to impaired cognitive ability and this led to poorer decision making.

Influence of Non-Companion Others

The influence of others has previously been identified as a key influencer on wilderness behaviour (Kortenkamp et al., 2017). For the participants this 'other people' influence could be positive or negative. Non companions could be educators, advisors and provide emergency back up support. Non companion others could however create extra stress by providing poor advice, creating external pressures or failing to turn up as planned.

Summary Pre-event phase

The pre-event phase was the second phase of the lived lost experience. This phase began when people entered wilderness areas and ended when lost events were triggered. It was characterised by the interplay between wilderness environments, wilderness journeys, resources, the participants and other people. Key stakeholders were the participants, their companions,

infrastructure providers and outside influencers. The match or mismatch between the five factors, the expected experiences and the constructed experience increased or decreased the participants trauma through this phase.

Phase Three: Trigger

The third phase in the lost wilderness tourists experience was the trigger. Previous researchers suggest that people are lost when they fail to stay found, experience geographic disorientation, become unable to return to safety (Dudchenko, 2010; Hill, 1998, 2013; Montello, 2020; Syrotuck & Syrotuck, 2000), or when someone else believes they are lost (Montello, 2020). Velasco and Casati (2020) suggest that this has both subjective and objective elements.

Previous research has identified wilderness user behaviour, other people, equipment, institutional influences and group dynamics as potential lost event triggers (Boore & Bock, 2013; Kortenkamp et al., 2021; Pearce et al., 2019; Spano et al., 2019). For the participants in this study the transition from not being lost to being lost could occur suddenly or gradually and it could involve internal triggers, external triggers or both.

Lost event triggers could be natural or human made. Natural external triggers included terrain, ground cover, an overabundance of animal trails, and meteorological conditions. Non-natural external triggers included environmental guide structures and influential people outside of the wilderness party. Internal triggers were causative factors that could be directly attributed to the lost people and their wilderness party companions. These internal triggers included shortfalls in preparation, equipment and skills, as well as individual attitudes, personalities and health problems, group dynamics and decision making. These triggers could begin in the pre wilderness or pre-event phases or could manifest more quickly and spontaneously trigger lost events.

Summary Triggers

Lost events are triggered by one or more causative factors. These triggers made navigation difficult, contributed to fatigue and injury, caused people to become disorientated or stuck, created confusion, created extra pressure or caused the lost participants to make poor decisions. Triggers may be natural or human made, may be spontaneous or develop over time and may come from inside or outside of the wilderness party. The key stakeholders who influence these triggers are lost people, wilderness companions, educators, outside influencers and infrastructure providers. Better education and skill development for all stakeholders could reduce the likelihood of lost wilderness event trauma

occurring by improving the interaction between wilderness tourists, causative factors and wilderness environments.

Phase Four: The Lived Lost Experience

The lived lost experience began with the participant recognising and accepting that they were lost and continued until they had a means of reaching safety. It involved addressing immediate needs and concerns and planning on how to become unlost. Some people also had their lived lost experiences amplified by their inability to cope and their uncertainty about outcomes. Very little work has been done to understand the lived experiences of lost wilderness tourists and a stated aim of this thesis has therefore been to address that knowledge gap by using grounded theory and phenomenology to interpret the lived lost experiences of the participants.

Physical needs

Previous research has identified physical harm as a significant part of wilderness trauma (Boore & Bock, 2013; Kortenkamp et al., 2017; Spano et al., 2019). Addressing these physical needs became a significant feature in this study. Fatigue management included dealing with heat, dealing with cold and addressing general fatigue. First aid needs included tending to minor scrapes and cuts and addressing more serious medical concerns such as hypothermia and soft tissue injuries. Several participants became concerned they could run out of water, and additionally feared experiencing serious injury or death as a result of lack of shelter from harsh environmental conditions.

Decision making

Decision making was a key part of the lived lost experiences. Effective decision making required a commitment to rational thinking, avoiding panic and recognising and addressing stress. This was made easier when underlying needs were addressed and became more difficult when the participants were poorly prepared or when they were impeded by injury, fatigue, hypothermia, heat or other stressors.

Fears and Concerns

Fears and concerns included fear of the unknown, fear of harm, fear of social consequences, and spiritual concerns. Fear of the unknown included general fear of the unknown, fear of the dark and fear of not being found. Fear of harm included fear of ongoing or worsening pain and suffering,

fear of negative interaction with flora and fauna and fear of death. Fear of social consequences included fear of harm to other members of the group, fear of public humiliation, fear of prosecution, fear of having to pay rescue costs or fines and concern for affected others. Spiritual concerns included consideration of faith-based beliefs, a desire to connect with wilderness settings, fear of upsetting ancestral spirits, and fear of harming wilderness environments.

Order of Needs

When the participants became lost, they all experienced physical and psychological trauma. Addressing this trauma followed the classic trajectory described in Maslow's hierarchy of needs (Maslow, 1943). The participants who were able to address and resolve lower order needs such as the need for shelter, water and security were able to transcend to higher needs such as the needs for freedom and self-actualisation. The participants who could not resolve the need for lower order needs had much more traumatic lived lost experiences as exemplified by Bryan and his waterfall experience. The ability to resolve lower order needs and transcend to higher order needs was influenced by lost situations, personalities, group dynamics, resources, confidence and the ability to problem solve.

Rescue Planning

Rescue planning is a significant part of lived lost experiences and becoming unlost was a universal goal of the lost wilderness tourists in this study. Previous research however (AMSA, 2019; Koester, 2008; Twardy et al., 2006) has produced a body of work that is searcher centric, concentrates on predicting lost locations and offers little insight into understanding how lost people plan their rescues.

Rescue planning could involve planning for self rescue or planning for external rescue. Self rescue attempts were undertaken by lost people as a natural progression of discovering they were lost. If the initial self rescue attempts failed, the participants then developed more thorough self rescue plans or started planning for external rescues. External rescue planning involved working out how to connect with external rescuers and figuring out how to work with them. The rescue planning efforts of the participants and external agents could be well coordinated, partially coordinated or completely independent.

Summary Lived Lost Experiences

This thesis has used qualitative inquiry to extend empirical research beyond the quantitative, searcher centric and response focused body of knowledge. It has shown that the lived lost experience involves addressing physical and psychological stressors. It has also demonstrated that whilst lost

people are the central protagonists in their lived lost experience those experiences are in fact constructed by multiple stakeholders both inside and outside of lost events.

Phase Five: The Rescue

The rescue phase took the participants to places of safety. Previous research into how people become unlost has examined the basics of trail sampling and reorientation and the role of psychology (e.g., Dudchenko, 2010; Fernández Velasco & Casati, 2020). This thesis has sought to advance this knowledge by examining how lost people attempted to become unlost by drawing on their own their own inherent abilities, knowledge and skill with or without external assistance.

Rescue Initiation

Rescues could be initiated by lost parties, by external agents or by both. Internally initiated rescues typically began with the participants attempting to reorientate or wait for conditions to change. If the early self rescue attempts failed the participants attempted to call for help by physically sending for help, by using mobile phones and by using PLB devices. People outside the lost party also initiated external rescues when they realised the participants were overdue and contacted emergency services. Rescue initiations and activities could occur concurrently and with or without full knowledge of all parties involved. Challenges to initiating rescues included knowing when to call for help, knowing who to call for help, knowing how to call and being willing to call for help.

Self Rescue

Most participants attempted to rescue themselves unless they were physically stuck. Self rescue attempts involved attempting to reorientate to known locations, trail sampling, pushing through challenging conditions and sheltering in place while waiting for conditions to change. Those who were unsuccessful in their self rescue attempts sought external help. Some participants who could not self rescue initiated external rescues while others waited for someone outside the event to initiate search and rescue efforts.

External Rescue

External rescues were undertaken by agents outside the lost party. These external rescues involved locating lost parties, connecting with them, and extracting them to places of safety. Locating lost parties was easier when their lost locations were known and was more difficult when lost locations

were not known. Connecting with the participants was easier when they had good signalling devices and more difficult when they did not.

Participants who experienced external rescues were rescued either by ground crews or by helicopters. Extraction could involve land-based rescue teams, airborne rescue teams or both, was easier when lost people were in clear open country and was more difficult when they were in challenging environments. The participants who were rescued by ground crews walked to places of safety. Those who were rescued by helicopters were either ground loaded or winched. Being winched into helicopters was much more traumatic than ground loading.

Summary Rescues

The rescue phase ended the acute phase of the lived lost experience. Rescues were either internally initiated, externally initiated, or both. Likewise, rescues were conducted by lost participants, by external agents or by both. Rescues often involved trauma and intense emotional responses. Physical trauma could come from cuts and scrapes that occurred while self rescuing or being winched into helicopters. Emotional responses generally involved joy and relief but also often involved more unwelcome emotions such as guilt, fear and remorse.

Phase Six: Recovery

Recovery is an integral part of the PPRR model (Cronstedt, 2002). Recovery and resolution are part of Faulkner's (2001) tourism disaster management framework. For the participants in this study recovery was the final stage of their lost wilderness tourist experience as they recognised and addressed their physical and psychological lost event trauma. This recovery could occur throughout the lost event phases but it most commonly occurred after the participants had reached places of safe refuge.

Pre rescue recovery included addressing the shock of becoming lost and addressing immediate concerns such as the needs for water, shelter and safety. Through rescue recovery included taking shelter, addressing immediate health concerns and having first responders tend to immediate physical and mental health needs. Post event recovery could be short, medium, or long-term term and included connecting with rescuers and loved ones, tending to medical and personal welfare issues, and reflecting on lived lost experiences.

Short and medium term recovery typically addressed lower order needs (Maslow, 1943) whereas longer term recovery often also involved addressing higher order needs including the need

to reassess relationships, the need to debrief, the need to develop deeper understandings of what happened, the need to develop new knowledge and the need to share lessons learned.

Most participants experienced self-actualisation (Maslow, 1943) as a result of their lost experiences. Higher level outcomes included reflection on pleasant memories, confidence boosts, knowledge building, resilience building, upskilling, and developing a desire to educate others. Some participants returned to their lost locations or similar locations to help them understand their lived lost experiences. Some upgraded communications equipment and resources. Some undertook formal or informal wilderness skills training. Most also felt an increased sense of self confidence because they knew they had survived lost experiences.

Summary Recovery

Recovery involves returning to a normal or improved state of being. Previous lost person behaviour literature has focused on locating lost people (e.g. Koester, 2008) utilising indirect observation (e.g. Boore & Bock, 2013, Pearce et al., 2019) or responding to lost events (e.g. Koester, 2008, Lin and Goodrich, 2010). In contrast most crisis and disaster management literature identify the importance of pre and post event phases.

This thesis has sought to extend our understanding of how lost wilderness tourists recover from their lost experiences and develop improved resilience. It has shown that recovery could be a short, medium, or long term process. It has shown that recovery could begin prior to rescue but was mostly undertaken post rescue. It has also shown that recovery followed a trajectory that reflects Maslow's hierarchy of needs as the participants progressed from addressing immediate lower level needs to addressing higher level needs and self actualisation. Through this recovery journey the participants extended their wilderness experience and developed resilience that they could carry into future wilderness experiences.

The Phase Based Model

This thesis has examined lost wilderness tourist events through the lens of lived experiences. The study took its conceptual lead from modified adaptations of generally accepted disaster management models such as the PPRR model and Faulkner's (2001) tourism disaster management framework. It then used phenomenology, grounded theory and three step coding to deconstruct lost experiences into six phases. This has produced a phase based understanding of lost wilderness tourist

events that is both empirically backed and also grounded in contemporary disaster management literature. Table 16 identifies, describes and overviews of each of the six phases.

Table 16

Lost Event Phases and Key Characteristics.

Phase	Description
Pre wilderness	The pre wilderness phase occurs before people enter wilderness areas. This phase is characterised by planning, preparation, and learning. It can be trip specific or ongoing.
Pre-event	The pre-event phase occurs after people enter the wilderness but before they become lost. During this phase wilderness tourists are almost entirely dependent on the combined knowledge, skills and resources of their wilderness party.
Trigger	Triggers make lost events happen. These triggers may be isolated events or a culmination of events. They may be natural or human made. They may come from inside or outside of the group. They may be spontaneous or part of an ongoing situation.
Lived lost experience	The lived lost experience begins when people become lost and ends when they become unlost. The lived lost experience involves addressing fears, tending to survival needs, planning rescues, dealing with group dynamics and, for some, remembering to enjoy being in the bush.
Rescue	The rescue phase involves becoming unlost and reaching a place of safety. Rescues may involve self rescue, external rescue or a combination of self rescue and external rescue. Rescues may be land based or involve aerial assets. Rescues often involve additional trauma and can be emotionally charged.
Recovery	The recovery phase involves addressing physical, emotional, psychological, and interpersonal trauma. It can also involve upskilling, personal growth and reassessment of relationships. Recovery can be short term, medium term or ongoing.

Utilising the Phase Based Model

Each of the phases of the lost wilderness journey has unique characteristics and temporal boundaries. Phase based analysis has been successfully employed in disaster management (Cronstedt, 2002) and tourism disaster management (Faulkner, 2001; Faulkner & Vikulov, 2001) and is also likely to be effective in PSAR management. Identifying the phases, exploring their unique characteristics and examining their phase specific stressors can help to identify potential trauma points. Appendix F of this thesis offers an example of a phase based diagnostic tool that might be utilised to interpret actual or anticipated lost events, better understand lost wilderness event trauma and to identify potential intervention opportunities.

Combining the Phase Based and Systems based Models

This thesis has presented a systems based model and a phase based model that have been developed from accepted disaster and emergency management models. These might be utilised as stand alone analytical tools as has been described throughout this chapter. They might also be combined for greater effectiveness.

The phase based model is an excellent deconstructive tool that simplifies the lived lost experience into manage chunks. Two flaws with the phase based model are that it tends to be somewhat linear and that it can lack the holistic overview of the systems approach. In contrast the systems approach might be a great tool for interpreting stakeholder interactions and influences but may not uncover the changing stakeholder influences through the various phases of the lost wilderness journey.

Combining the two models helps overcome their inherent limitations. This could be done in one of two ways. PSAR analysts might simply undertake each of the analytical methods described in this thesis and use the results from both processes. For a more in depth insight however PSAR analysts might undertake both the phase based analysis described in appendix F and an accompanying systems analysis presented in Table 14 on a phase by phase basis rather than on a whole of event basis. This second proposed method of analysis would be more resource intensive, but it would uncover otherwise hidden idiosyncrasies such as the changing nature of microsystem, mesosystem and exosystem stakeholder influences over time.

Chapter Summary

Lost wilderness tourist experiences are traumatic. They are constructed by multiple stakeholders and they are constructed across multiple phases. This final discussion chapter has sought to address the research questions, to link the findings back to the informing literature and to demonstrate how the thesis advances knowledge.

The first part of this chapter has shown that lost wilderness tourist research requires a multidisciplinary approach. It has that this thesis has drawn from fields as diverse as lost person behaviour, tourism, disaster management and community theory. It has then shown how following definition of lost wilderness was developed.

> "...a person who has entered a wilderness area in the pursuit of leisure or
> pleasure and who has become permanently or temporarily unable to reach a place

of safety because they are geographically disorientated, geographically stuck or both disorientated and stuck." Schwartz (2023, p. 53).

The second part of the chapter demonstrates that lost wilderness tourist events might be conceptually similar to natural disasters and crisis events. It shows how this thesis has utilised disaster and crisis management tools to guide the development of PSAR tools. It shows how Boon et al.'s. adaptation of Bronfenbrenner's bioecological model led to the development of a stakeholder focused PSAR analysis tool. It then shows how the PPRR model and Faulkner's (2001) tourism disaster management framework have led to the development of a phase based PSAR analysis tool.

The stakeholder analysis has shown that lost wilderness tourist events are constructed by multiple stakeholders. These stakeholders are not typically independent but instead tend to interact with one another as they are impacted more broadly by individual, social and cultural ideologies and attitudes. The phase based analysis has demonstrated that lost wilderness tourist events are constructed across six temporal phases. It has also shown that each phase involves multiple stakeholders and has multiple opportunities to increase or decrease lost wilderness tourist trauma. The chapter concludes by describing how phase based and systems based PSAR analysis might be undertaken separately or together to provide insights for those with an interest in interpreting lost person behaviour and in PSAR strategy development and intervention.

CHAPTER TWELVE: CONCLUSIONS

Wilderness recreation is a popular pastime. It has well documented benefits but also comes with the risk of people becoming unable to reach places of safety due to injury, incapacitation, or disorientation. Becoming unable to reach places of safety can be overwhelming and traumatic. One pathway to address lost wilderness tourist trauma and the risk of it occurring is to develop a deeper understanding of the lost wilderness tourist experience.

This thesis has sought to develop an understanding of lost wilderness tourist experiences through a combination of empirical research and relevant literature. The thesis has taken a threefold approach to defining and interpreting lost wilderness tourist experiences. The first step was to define lost wilderness tourists. The second step was to develop an understanding of lost wilderness tourist experiences. The third step was to link empirical findings to relevant literature streams and produce outcomes that can inform both theory and practice.

Developing a definition of lost wilderness tourist began by drawing on relevant literature to define the key terms 'lost', 'wilderness' and 'tourist'. A working definition then drove a recruitment process that sought to connect with people who self identified as having been lost wilderness tourists. Merging the literature based findings with the empirical findings established that a lost wilderness tourist is "a person who has entered a wilderness area in the pursuit of leisure or pleasure and who has become permanently or temporarily unable to reach a place of safety because they are geographically disorientated, geographically stuck or both disorientated and stuck." (Schwartz, 2023).

The second part of the empirical investigation utilised a phase based approach to interpret lived lost wilderness experiences. This phase based approach is common in emergency management and disaster management. The findings from this analysis established that lived lost wilderness experiences have six phases with overlapping boundaries. The phases are pre wilderness, pre-event, trigger, lived lost experience, rescue and recovery. Each of these phases has unique characteristics and involves various stakeholders, trauma creation risk points and intervention opportunities.

The final section of this thesis merges empirical findings and the literature to develop and advance lost person theory. This discussion section produces a phase based model and a stakeholder systems model. The two models could be used either independently or together to analysis past, present and potential lost events. It is my sincere hope as a researcher, a wilderness user and a search and rescue operator that the findings in this thesis, the theory development and the associated models can lead to advancement in PSAR theory, enhancement of recreational wilderness user enjoyment and a reduction in the risk of trauma occurring because of lost wilderness tourist events. Furthermore, it is my hope that this thesis is the beginning of a new direction for lost person research. The identification of lost wilderness tourists as a unique group could lead to further studies about their

vulnerabilities and needs. Likewise, the methods and models that are developed within the thesis could be reimagined and applied to other vulnerable groups of lost people such as children, people with dementia and people with intellectual or psychological impairments but is of course a task for future research and future researchers.

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Appendices

Appendix A: Defining Tourists

The following discussion shows how this thesis draws on extant definitions to develop the working definition of tourist.

United Nations (1963)

In 1963 the United Nations defined tourists as:

> *"Temporary visitors staying at least 24 hours in the country visited and the purpose of whose journey can be classified under one of the following headings: (a) Leisure (recreation, holiday, health, study , religion, and sport), (b) business, family, mission, meeting." (Leiper, 1979, p. 393)*

Cohen (1974)

Cohen (1974, p. 533) defined a tourist as "…a voluntary, temporary traveller, travelling in the expectation of pleasure from the novelty and change experienced on a relatively long and non-recurrent round-trip". Cohen (1974) also informed that the term 'tourist' has fuzzy boundaries and that some people may engage in touristic behaviours and characteristics but may not fit this definition.

Leiper (1979)

Leiper (1979) also discussed fuzzy boundaries. He described different touristic groups including excursionists, visitors, day trippers and tourists. He extended his definition to include domestic tourists and informed that being a 'man away from his usual habitat' is a key touristic characteristic. He confirmed that tourist activity has the two elements of journey and stay and informed us that a third element is that tourists are net economic contributors. Leiper thus (1979) offered the following definition of a tourist.

> *"…a tourist can be defined as a person making a discretionary, temporary tour which involves at least one overnight stay away from the normal place of residence, excepting tours made for the purpose of earning remuneration from points en route." (Leiper, 1979, p. 396)*

McCabe (2005)

McCabe (2005) confirmed the existence of tourists, quasi tourists, and touristic experiences. He defined a tourist as "… a person who travels outside of his normal environment for a period of

more than 24 hours" and claimed that "it may reasonably be argued that 'tourists' do not exist at all outside of conceptual definition." (McCabe, 2005, p. 87). McCabe (2005) also suggested that the emphasise on defining touristic behaviour has resulted in a lack of attention to the tourist voice in tourism literature.

Yu et al. (2012)

Yu et al. (2012) continued the theme of self-identification in their empirical investigation into who qualifies as tourists. They examined the relationship between definition and self-identification. They confirmed that tourism involves travel, time, and purpose. They confirmed Leiper's' (1979) claim that a tourist is someone outside of their usual environment. They supported the notion that tourists have at least one overnight stay and that tourists are different to visitors or excursionists. They also supported the notion that purpose of travel and engagement in touristic acts distinguishes tourists from other travellers. Arguably though their most important contribution is to reaffirm the role of self-identification in defining who is and who is not a tourist.

Appendix B: The Problem with 'Community'

Community is a term that is found in academic literature, grey literature, and everyday discussions (Titz et al., 2018). Evidence of the interaction between lost people and communities can be found in academic literature, in popular media, in social media and in everyday conversations. Anecdotal evidence shows the use of the term community in references to the outdoor community, the SAR community, the hiking community, and such like. Academic literature shows that communities seek to locate lost parties during the action phase of search events (AMSA, 2019; Koester, 2008; Sava et al., 2016; Twardy et al., 2006; Whitehead, 2015). The literature also shows some evidence of attempts by stakeholder communities to connect with people entering wilderness environments in order to prevent them from becoming lost (Boore & Bock, 2013; Pearce et al., 2019; Spano et al., 2019). The problem with the term 'community' however is that it is well used and poorly understood (Barrett, 2015).

Developing a definition

Community has a multidisciplinary background. Theoretical understandings and the practical applications of communities are fraught with difficulties (Titz et al., 2018). Specifically, community is contested in terms of definition, use and usefulness. Some researchers see community as a useful catch all from which to analyse, structure and govern social groups while others see it as vague concept with little practical use (Brint, 2001). Furthermore, there is disagreement about what constitutes community and the distinction between casual groups and bona fide communities is contested. Nevertheless, it is possible to establish that while communities are diverse they all share similar characteristics that define them as communities.

Barret (2015) advises that individual and collective interests define ingroups, outgroups and community boundaries. The theological philosopher Greenaway (2018) claims that community building can only happen when there is deep rooted social commitment and that there is a clear distinction between loose associations of people and true communities. In contrast, consumer behaviour theorists typically believe that communities do not need to be deep rooted to exist (Arnould, Price, & Otnes, 1999; Jahn, Cornwell, Drengner, & Gaus, 2018; Kozinets, 2002) and Kozinets (2002) and Arnould et al. (1999) claim that communities can be loose social groups. Sociologists such Brint (2001) and Barrett (2015) lie somewhere between the deep and sacred perspective of theologians and the temporary and loose associations posited by consumer behaviour theorists.

With respect to structure Barret (2015) advises that communities have production and consumption interests, group norms and identity construction characteristics and that these characteristics set individual and collective rules, standards of conduct, and patterns of conduct.

Barrett (2015) further advises that individual and collective identities are socially constructed within communities through self, self-image, sense of belonging, social worth, traditions, customs, and rituals. Brint (2001) posits that the three levels of structure that define communities are existential basis, reason for interaction, and frequency of interaction. Brint (2001) also advises that communities may have the four core structural variables of dense and demanding social ties, social attachments to institutions, ritual occasions, and small group size along with the two cultural variables of perceptions of similarity and common beliefs.

The multidisciplinary nature of community further contributes to the lack of definitional clarity. Academic understandings of community draw from a blend of disciplines including sociology (Barrett, 2015; Brint, 2001; Titz et al., 2018), consumer behaviour (Muniz & O'guinn, 2001), anthropology (Oliver-Smith, 1996), theology and philosophy (Greenaway, 2018). Despite, or perhaps because of this widespread use of community there is no clear and universally accepted definition (Barrett, 2015; Brint, 2001; Titz et al., 2018). There is little chance that this definition issue will be resolved in the foreseeable future and to attempt to do so is well beyond the scope of this thesis. Lost tourist researchers therefore need to establish their own definition of community, this might be based on the looser understandings of sociologists and consumer theorists because lost tourists are consumers. To this end it might be pragmatic to utilise the following definition offered by Brint (2001).

> *"…aggregates of people who share common activities and/or beliefs and are bound together principally by relations of affect, loyalty, common values, and/or personal concern (i.e., interest in the personalities and life events of one another)."*
> (Brint, 2001, p. 8).

Identifying Communities

Existing research shows that communities may be place based, non-place based or online. Place based communities form around common bonds to geographic locations (Greenaway, 2018). Non place based communities form through shared commitment to non-geolocated foci such as fantasy and play (Belk & Costa, 1998; Kozinets, 2001), brand loyalty (Muniz & O'guinn, 2001), ideologies, abstract symbols, structures, and belief systems that are not necessarily geolocated (Brint, 2001). Online communities are a special form of non-place-based community that are made up of "…aggregates of individuals who interact in cyberspace around a shared interest…" and do not require face to face interactions (Jin, Park, & Kim, 2010, p. 578).

Communities have many forms. Community studies have examined groups that are place based (Brint, 2001), non-place based (Brint, 2001), activity based (Arnould et al., 1999; Brint, 2001),

ideologically based (Brint, 2001; Kozinets, 2002), brand based (Muniz & O'guinn, 2001), friendship based (Brint, 2001), and centred around pop culture (Kozinets, 2001). These communities may be permanent (Brint, 2001), temporary (Arnould et al., 1999; Brint, 2001; Jin et al., 2010; Kozinets, 2001, 2002), transient, virtual, or imagined (Brint, 2001). Lost tourists are likely to connect with many of these types of communities through their lost person experiences. This thesis examines many of these interactions.

Appendix C: Disasters, Crises and Lost Tourist Events

Disasters, crisis, and lost tourist events are similar but determining whether a lost tourist event is a disaster, crisis or some other type of event is a difficult task and is at least somewhat subjective. Lost tourist events have many of the characteristics of disasters and crises but the typology surrounding crises and disasters is contested and lost tourist events may be viewed through multiple lenses.

The main differences between lost person events and disasters are scale and cause (Whitehead, 2015). Typical disaster definitions refer to large scale events and use key terms such as; widespread, overwhelming, and magnitude (Laws & Prideaux, 2005; Zibulewsky, 2001). In contrast lost person events typically only involve one or very few lost people. There is also a strong claim that disasters are caused by natural events (Faulkner, 2001) whereas crisis refers to smaller scale events (Laws & Prideaux, 2005) with human made causes (Ritchie, 2008).

Similarities between lost person events and disasters can be found through definitions and key terms. Disasters and lost person events both involve environmental hazards (Oliver-Smith, 1996; Ritchie, 2008) and risks (Gstaettner et al., 2018; Haegeli & Pröbstl-Haider, 2016; Heggie & Heggie, 2012; Kortenkamp et al., 2017; Laws & Prideaux, 2005; Maria Gstaettner, Rodger, & Lee, 2017; Oliver-Smith, 1996). They both involve triggering events (Hill, 1998; Laws & Prideaux, 2005; Oliver-Smith, 1996; Syrotuck & Syrotuck, 2000; Zibulewsky, 2001). They both often require outside assistance (AMSA, 2019; Twardy et al., 2006; Zibulewsky, 2001) and they both happen in phases.

Lost tourist events can be interpreted through three different lenses. These lenses are lost tourists, search communities, and other stakeholders. Lost tourists are the people who go missing in wilderness environments whilst engaging in touristic behaviours. Search communities are the groups and individuals who seek to locate and retrieve these lost tourists (Whitehead, 2015). Other stakeholders can be broadly defined as people and organisations that enable, affect, and are affected by the activities of lost tourists (Gurtner, 2014).

A lost tourist event can be a disaster to one group, a crisis to another, and of lesser significance to the third. If the event is viewed through the lens of the lost party it probably fits the inability to cope and need for outside assistance criteria. Lost people, search communities and other stakeholders may also consider lost wilderness tourist events to be disasters or crisis depending on the scale and impact of the event and the capability of those stakeholders. The combined stakeholders may consider lost tourist events to be disasters, crises, or lesser events depending on scale, magnitude and impact (Faulkner, 2001; Laws & Prideaux, 2005; Ritchie, 2008). For instance, if a lost tourist event or search activity is of sufficient magnitude to impact the tourism sector and is viewed through the tourism lens it might also fit the disaster criteria (Faulkner, 2001; Faulkner & Vikulov, 2001; Laws & Prideaux, 2005).

An examination of the differences and similarities therefore indicates that it is likely that a lost person event is a crisis and not a disaster but that lost person events, disasters and crises are sufficiently similar to justify the use of a disaster management tools to interpret lost person events. Examining lost tourist events through the crises and/or disaster lens might therefore provide insights into lost tourist events, illuminate PSAR opportunities and steer future research directions.

Appendix D: Is this a Lost Tourist Flowchart

Determining whether a potential participant would be suitable for the study involved asking a series of questions. Each potential participant was first assessed for age eligibility.

Question 1/. Is the person over 18?

They were then asked to confirm that their lost experience occurred while engaging in touristic or recreational activity.

Question 2/. Did the experience occur whilst engaging in touristic or recreational activity?

If the answer to either of these questions was no then the potential participant was excluded from the study. If the answer to these first two questions was yes than the potential participant was deemed eligible and was asked another series of questions to establish if they qualified as a lost person. These questions were -

Question 3/. Did they know what their geographic location was?
Question 4/. Did they know where their intended destination was?
Question 5/. Could they navigate to their intended destination?
Question 6/. Could they travel to their intended destination unaided?
Question 7/. Did someone else believe they were lost?

If a person answered no to any of questions 3 - 6 or yes to question 7 then they were deemed to have had a qualifying lost person experience. If a potential participant was deemed both eligible and qualified, they were then given invitation to participate information (Appendix I) and offered the opportunity to give informed consent to participate in the study (Appendix J).

8/. Do you wish to contribute to the study through an in depth interview?

If they answered yes to this final question informed consent was sought and they were offered a place in the study. For ethical reasons they were assigned pseudonyms. These pseudonyms are used throughout this thesis.

Appendix E: Phase Based PSAR Analysis Tool

This questionnaire is built around the phase based deconstruction that is presented in the findings section of this thesis. It will be useful as it is but it could also be adapted and adjusted to suit the PSAR needs of individuals, groups, places, or specific situations.

Preventive Search and Rescue (PSAR) Assessment Framework.

Phase One: Pre Wilderness

Likely Stressors:

Inappropriate planning, inappropriate resource gathering, insufficient knowledge, poor personal attitudes, poor group dynamics.

Intervention Points:

What is the planned route?

What tasks will be undertaken?

What knowledge skills and resources are required?

What pre-event learning opportunities exist

What are the individual and group attitudes to risk?

Is there a strong internal locus of control?

Are there good group dynamics?

Are there well developed contingency plans?

Phase Two: Pre-event

Likely Stressors:

The journey, the environment, personal attitudes, insufficient resources, group dynamics, mismatches between actual and anticipated conditions.

Intervention Points:

> Are the route, terrain and topography well understood?
>
> Is the natural environment well understood?
>
> Is the built environment well understood?
>
> What personal attitudes are appropriate?
>
> Are there good group dynamics?
>
> What mismatches between expectation and realty are observed?
>
> What contingency plans exist?

Phase Three: The Trigger

Likely Stressors:

> Lack of appropriate knowledge skills or abilities, inappropriate personal attitudes, inadequate preparation, insufficient resources, poor group dynamics, harsh natural environment, different to expected human infrastructure, external pressures.

Intervention Points:

> Are there sufficient skills to complete the planned activity?
>
> Are the participants adequately resources and prepared?
>
> Are they group dynamics issues that need to be addressed?
>
> Are the natural and human built environments as expected?
>
> Are there any external pressures influencing the wilderness experience?

Phase Four: The Lived Lost Experience

Likely Stressors:

> Frustration, realisation, denial, acceptance, fear, physical needs, uncertainty, feelings of incompetence, rescue plans, group dynamics, desire to enjoy the experience.

Intervention Points:

      What is the best way to become unlost?

      Are there well developed pre made contingency plans?

      What can be done to recognise and address fears?

      What can be done to reduce uncertainty about survival needs?

      Have group dynamics been addressed?

      Is there an opportunity to build happy memories?

      Is an external rescue likely to happen?

      How might an internal rescue be initiated?

Phase Five: Rescue

Likely Stressors:

      The environment, on going fears, communication problems, uncertainty about rescue efforts, rescue related trauma and injuries.

Intervention Points

      What can be done to work within the natural environment?

      Are there pre made rescue plans?

      Is the communications infrastructure well understood?

      Can rescue trauma be reduced?

      Are all stakeholders considered?

Phase Six: Recovery

Likely Stressors:

      Physical trauma, psychological trauma, guilt, influence of others, damaged interpersonal relationships, feelings of inadequacy, desire for resolution.

Intervention Points:

      Have injury been identified and treated?

      Have fears and concerns been addressed?

      Have any post-traumatic stress injuries been identified and addressed?

      Are interpersonal relationships positive?

      Are there new growth and learning opportunities?

Appendix F: Semi Structured Interview Questions Guide

1. How did you think you came to be lost?

2. How did you get back to a place a safety?

3. Are there thing you wish you had known?

4. Are there things you wish you had done?

5. Did you try to communicate with anyone when you were lost?

6. What advice would you offer search communities?

7. What advise would you offer friends and families?

8. What do you think could be done to help prevent future lost person events?

9. What do you think could be done to help make lost person events safer?

Appendix G: Facebook Advertisement

Preventive Search and Rescue Research for Australian Terrestrial Wilderness Environments

Hi Everyone

Recently Admin has been doing some background work to ensure hikers can remain safe whilst enjoying our many great National Parks. Part of this background work is looking at ways this group can better assist local authorities and provide useful information to hikers on how to stay safe. In conjunction with James Cook University, members will be encouraged to volunteer in a research project that is focused on lost persons experiences and events. For more information, please email Steve Schwartz at steve.schwartz@my.jcu.edu.au or phone him on 041-646-4821.

An outcome to this contribution will be an update to the Group Values that will enhance the safety recommendations to better inform hikers on what they should be doing to ensure good safety practices. Members participation would be greatly appreciated, and who knows maybe your contribution will one day save a life.

Appendix H: Invitation to Participate

Project Title: Preventive Search and Rescue Research for Australian Terrestrial Wilderness Environments - HREC: H8401

You are invited to take part in a James Cook University research project to understand the experiences of people that become lost in Australian wilderness environments. This project is funded by the Australian Research Training Program. The results from this study are intended to inform future lost person prevention strategies and search and rescue responses. The principal investigator for this study is Steven Schwartz from the Centre of Disaster Studies (College of Science and Engineering). The study will contribute to a PhD qualification for the Principal Investigator. The study is being supervised by Dr Yetta Gurtner and Associate Professor David King from the Centre of Disaster Studies (College of Science and Engineering).

If you are over 18 and agree to take part in the study you will be invited to take part in a semi-structured interview with the researcher. The interview will take up to one hour and will involve discussing your personal experience as a lost person. The interview will be audio taped. Taking part in this study is completely voluntary and you can stop taking part in the study at any time without explanation or prejudice. All interviews will be conducted in a covid safe manner.

Your responses are strictly confidential, and your personal details will not be shared outside of the research team. The interview data and findings may be used in research publications and reports. You will not be identified in any way in these publications and all names will be changed before publication. If you have any questions about the study, please contact the Principal Investigator – Steven Schwartz on   or email steve.schwartz@my.jcu.edu.au

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Phone:
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Supervisors
Dr Yetta Gurtner yetta.gurtner@jcu.edu.au
Associate Professor David King david.king@jcu.edu.au
Ethics
 If you have any concerns regarding the ethical conduct of the study, please contact:
Human Ethics, Research Office
James Cook University, Townsville, Qld, 4811
Phone: (07) 4781 5011 (ethics@jcu.edu.au)

If you are experiencing emotional distress at any stage, please contact Lifeline Telephone Counselling
13 11 14 or any of your local community support services as advised byhttps://headtohealth.gov.au/

Appendix I: Informed Consent Form

This administrative form
has been removed