

Understanding Resiliency and Risk:
A Final Report of the Lost Creek Fire Pilot Case Study

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For 100 years, the “Pass” has been my family’s home (the Kulig’s and the Michalsky’s) so I have always known that it is a special place. The experience of the Lost Creek Fire once again allowed it to shine and demonstrate what it can handle. I would like to extend a warm-hearted thank you to the participants and agencies that provided information for this study. The financial support of the Institute of Catastrophic Loss Reduction was greatly appreciated. The assistance of the research team, the advisory board, and the secretarial support staff (Wendy Herbers and Dawn Levenne) is gratefully acknowledged. Last, but certainly not least, Paige Emerson, RN, BN, and CIHR Health Professional Student Research Award recipient, significantly contributed to the study; many thanks to you Paige!

A handwritten signature in cursive script that reads "Judith Kulig". The signature is written in black ink and is positioned in the lower right quadrant of the page.

“It became a story bigger than itself, and when you talk about the Lost Creek Fire, you talk about the fire fighters at the wall of the flame, holding it back while everybody else left, whether or not that’s true, that’s the folklore. That’s the story that’s come out of the whole thing”

Female Participant

EXECUTIVE SUMMARY

Addressing disasters is an important area of study given the potential threat to human life, the environment, and the associated financial, physical and emotional cost involved in recovery post-disaster. This pilot case study examined the perceptions of 30 individuals who experienced the Lost Creek Fire, in the Crowsnest Pass in 2003. This wildfire resulted in a 31 day state of emergency and when contained it had burnt over 21,000 hectares and required over 800 individuals and the full resources of the provincial Ministry of Sustainable Resource Development (SRD) to contain it.

This pilot case study is part of a larger research program that is guided by community resiliency as its theoretical orientation. Community resiliency reflects a particular type of capacity: the capacity of a community to deal with adversity *and develop a higher level of functioning as a result*. However, the main focus of this pilot case study was to determine who was at-risk during and after the disaster; why they were at-risk; and, what characteristics identify individuals at different levels of risk (i.e., low-risk to high-risk) and how these different levels might be defined?

Individuals who had been evacuated, involved in fire fighting or the administrative component of the disaster were interviewed. The current Community Resiliency model (Figure 1) was supported by the findings as evidenced by the enhanced social networks, collective problem-solving and the ability of the community to deal with change in a positive manner. The findings also inform us that there was both individual and community vulnerability. Individual vulnerability was further differentiated as being at-risk and feeling at-risk. Individuals who were at-risk identified that they had specific health problems that were exacerbated by the wildfire. Those who felt at-risk included the wives of the fire fighters because of the demands of their husbands' volunteer work which was physically demanding and dangerous. The fire fighters did

not personally acknowledge feeling at-risk but instead felt an obligation to assist in helping to control the wildfire.

The participants were also asked about their perspectives regarding which individuals in the community were at-risk. Their perception was that being at-risk was determined by internal or external circumstances. Internal circumstances include age, development status, income level, available support systems, health status, or primary residence. These circumstances further differentiate individuals who display a range of independence; dependence; and, interdependence. Examples included seniors, lone parent families and individuals with physical, emotional or mental development delays. External circumstances include individuals without house insurance.

There was also a community level of being at-risk. Economic risk included the downfall in retail sales for local businesses. Numerous local individuals were not able to work at their regular job during this time because of the wildfire. Tourism suffered during the wildfires with the closure of campgrounds and bans on open fires. The trees that were destroyed in the fire reduced the logging operations. However, during and after the fire, there were some economic benefits to the community including the sale of t-shirts advertising the Lost Creek Fire and a year later the high volume of morel mushrooms that provided income to the local pickers.

Another form of risk for the community during the fire was the need for a high number of volunteers with the assumption that all were appropriate in this role. During a wildfire, criminal record checks are not possible due to the lengthy time they take in addition to their cost. Assumptions are made that all volunteers are appropriate but this may not always be accurate.

Lessons learned from the Lost Creek Fire include:

- ❖ it is crucial to pay attention and take things seriously at the beginning of a situation to ensure it does not become a larger disaster;

- ❖ although there are numerous key players in a disaster, someone needs to be designated as the head administrator who is responsible for decisions and delegating activities and tasks;
- ❖ make sure that the right people are in place at the helm, as individuals who are unable to perform in an exceptional manner in their routine job will not be able to attend to the requirements of handling a disaster;
- ❖ communication with all individuals within the community experiencing the disaster is key;
- ❖ the presence of a well designed community disaster relief program (an evacuation centre, individuals in charge, resources and structures in place to care for residents who are unable to care for themselves) is very important;
- ❖ equipment and resources to deal with the disaster must be allocated; and,
- ❖ signed contracts must be in place with agencies such as SRD to ensure that any damage on personal property which is used for fire control purposes (placement of equipment) is repaired at their cost.

Policy recommendations include:

- Reviewing regional and provincial disaster plans to ensure that they emphasize a collaborative problem-solving process.
- Working with communities to ensure that clear communication processes are developed and implemented during times of disaster.
- Reviewing and adopting a checklist of essential items for those who are being evacuated or may need to be evacuated.

- Reviewing the Ministry of Health and Wellness mental health board's links to perceptions and experiences of being at-risk and feeling at-risk for those who experience disasters such as wildfires.
- Reviewing SRD policy on the urban-wildfire interface with its implications to fire fighting in rural areas.

Discussions with governmental and non-governmental agencies involved in disaster mitigation and response will help ensure that the needs of individuals and communities experiencing disaster in a variety of regional, provincial and national contexts will be met. Finally, future research on the topic of disasters and community resiliency are needed in order to further understand the complexity of the topic.

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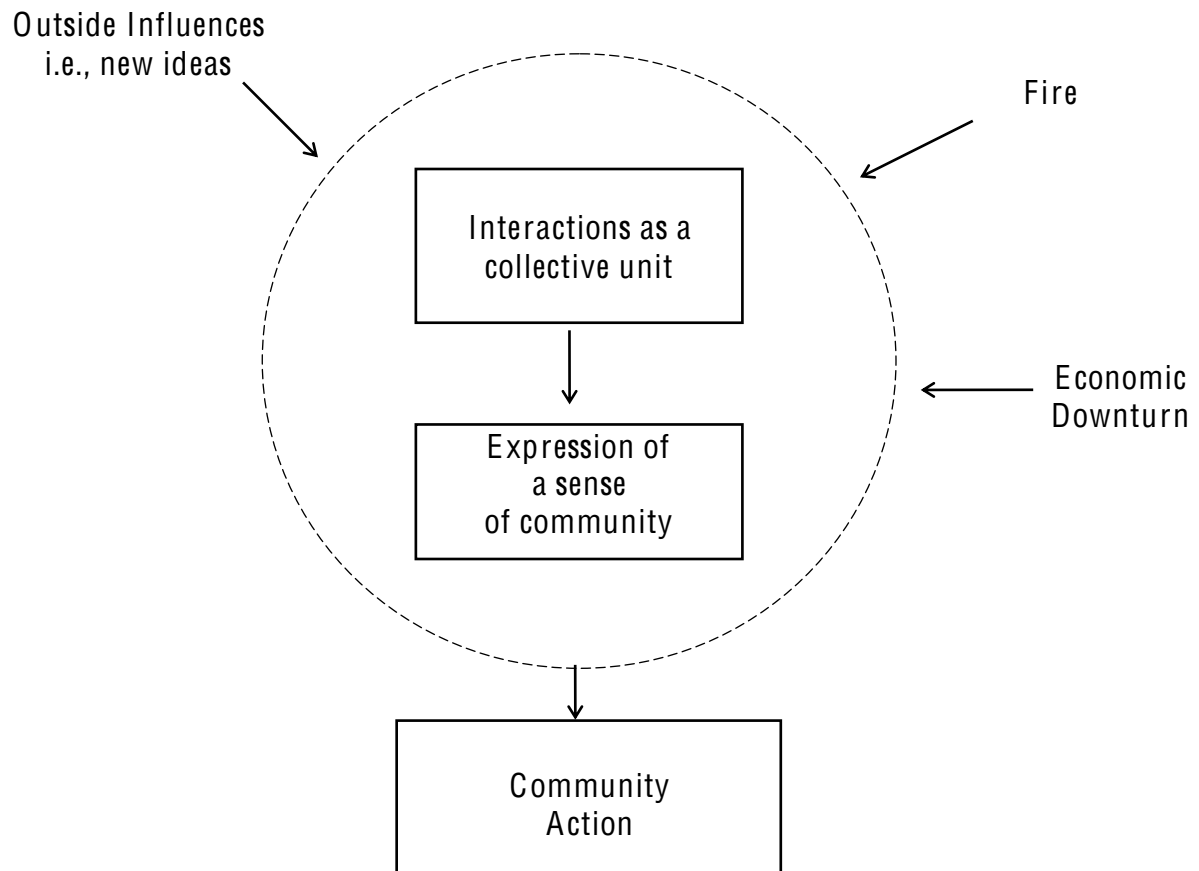
Over the last several years, there have been increasing concerns about individual and community preparedness for disasters, or the impact from “natural hazards, technological hazards or conflict (not including war)” (1). There is evidence on a global scale that disasters are increasing in numbers (2). In the ten year period from 1991 to 2001, \$3.9 billion was paid to Canadian owners of homes, businesses and vehicles for repairs and compensation of losses as the direct result of major natural hazards with an additional \$13 billion paid out by the Canadian government to restore uninsured properties and damaged infrastructure (3). One third of Canadians live in areas that are subject to natural disasters such as flooding, landslides or tornadoes (4). Variables such as global climate change are linked to an increase in the frequency and intensity of natural disasters (4). Hence, addressing disasters is important given the potential threat to human life, the environment, and the associated financial, physical and emotional cost involved in recovery post-disaster.

Community resiliency has been defined as the ability of a community to deal with adversity and develop a higher level of functioning as a result (5-9). Resiliency is therefore conceptualized as a process (10) through which the community continually moves in relation to the dynamic conditions (e.g., economic downfalls) within which they exist. Resiliency issues are particularly noticeable within rural communities where there are limited resources, infrastructure and human capital that can be summoned to address such adversity.

Resiliency reflects a particular type of capacity: the capacity of a community to deal with adversity *and develop a higher level of functioning as a result*. According to the framework derived from the New Rural Economy (NRE) research, this resiliency would be increased by access to economic, human, social, and natural capital and the organization of these assets to

overcome the challenges of immanent or actual disasters. A key element of this ability rests in the nature and utilization of the social capital assets of the community. Earlier studies on community resiliency include two investigations within the Crowsnest Pass (CNP), a former coal-mining town that has now become a tourist destination (8-9). These studies illustrate resiliency as a process that is influenced by the presence of community leadership, proactive members, and the ability to use a community problem-solving process. These variables contributed to the development of community cohesiveness, an important precursor to community resiliency. One subsequent, inter-related study in another coal mining region examined how community-based workers enhanced community resiliency (5-7). From all these studies, an identifiable community-resiliency process (Figure 1) was noted, including residents' interactions as a collective unit ("getting along" and "a sense of belonging") that leads to a "sense of community" (community togetherness and a shared mentality and outlook). This can result in some type of community action occurring, demonstrated, for example, through visionary leadership and conflict-resolution. The entire process is often permeable and open to new ideas from external community sources. The community resiliency process *was* applied in *this study by*: (1) asking questions of individual community members about interactions as a collective unit, sense of community, and community action (See Appendix A); and, (2) analyzing the responses *according to the resiliency process* in order to generate information about resiliency and its outcomes within the participants' communities.

Figure 1. Revised Community Resiliency Model



Kulig, JC Sensing collectivity and building skills: Rural communities and community resiliency. In: Ramp W, Kulig J, Townshend I, McGowan V, eds. Health in rural setting: Contexts for action. Lethbridge, AB: University of Lethbridge, 1999:232.

Increasingly, the literature on disasters is using resiliency as a framework to understand community responses and to focus on capacity building in the face of disaster response rather than vulnerability reduction (11). Advocating for humanitarian, development and risk reduction work to increase resilience has been the suggestion of the 2004 World Disasters Report (12). Activities include strengthening social capital and creating new institutional strategies and cross-

sectional coalitions to boost resiliency at the local level. People-centred planning and appropriate governance also contributes to this plan (12). Other authors add that having a comprehensive systems perspective will assist in enhancing social and economic resiliency while also meeting emergency response need (13). Finally, the presence of social resiliency, characterized by strong local institutions and a capacity to deal with challenges in general, are positively related to a community's response to disaster; and thus, ways in which social resiliency can be bolstered are to be encouraged (14). Responses to disaster and resiliency have also been tied to the realm of policy development to produce "a more resilient and safe Canada" (15).

It is generally assumed that a more resilient community provides a cushion against risks associated with disasters. Seldom is this assumption investigated, however. For that reason, a primary focus of this project was to investigate such a connection. Four key risks served as initial points of reference: risks to economic security, risks to property, risks to health, and risks to social exclusion.

In this instance, resiliency is linked to financial capital assets (economic security), physical capital assets (property), human capital assets (health) and social capital assets (social exclusion) (12). Financial capital assets refer to the economic assets that all individuals require. In communities where disasters occur, there is a risk to the economic security through the destruction of workplaces and/or the implementation of inappropriate policies related to the economy, including distribution of donations from aid organizations. Physical capital is apparent through the presence of infrastructure such as: homes, hospitals and other health facilities and government offices. Disasters place all of these infrastructure components at risk. Human capital assets including health are also at risk during times of disasters. It has furthermore been hypothesized that resiliency and health status are linked. Some authors have suggested that a community which exhibits resiliency will have healthier people (16). The most recent study on

community resiliency, a pilot study that was the basis for this current research, was conducted in three Alberta communities: Hinton, Hardisty, and an urban neighborhood within Red Deer (17). In total, 82 qualitative interviews were conducted, 210 household surveys were collected and an examination of existing health databases was completed. One of the major findings was that the participants recognized their communities as demonstrating resiliency. They articulated it as the ability of their communities to move on despite the challenges they were facing or had faced. With the household survey, a significant positive association was observed between a person's sense of belonging in their community and self-rated health ($r=0.18$, $p=0.01$); furthermore, congruence was found between self-reported medical diagnoses of depression, asthma and cancer and the Alberta Health & Wellness outpatient claims and inpatient hospitalization databases database age-adjusted utilization rates for these locales. Overall, the original model of community resiliency was supported (17).

Finally, social capital assets include social cohesion and the abilities of people to work together. During and after disasters, individuals and groups are at-risk for being socially excluded. In one study in Quebec affected by the January 1998 ice storm, it was found that there was a minimal difference in the views of those less affected and those more affected by the disaster. Residents felt that they had a large amount of social support during and immediately after the disaster, but that government emergency relief efforts were inadequate (18). One conclusion drawn was that disasters are temporary disruptions that do not fragment a community (19). In contrast, a study of the 1997 flood in the city of Grand Forks, North Dakota found class conflicts arising after the disaster. Those residents of a lower economic status felt that their voices were not heard compared to those with higher economic status, who had not suffered similar losses, and were able to capitalize on the changes for economic gain (20).

Study Objectives

The purpose of this pilot case study was to examine the concept of risk within rural communities that experience disaster. The definition of “rural” for the study was communities under 10,000 population outside the commuting zone of urban areas (21).

Research Program on Community Resiliency

This pilot case study is part of a larger research program that is guided by the following questions:

- What types of local social dynamics and institutional structures contribute to resiliency in rural settlements that have experienced disasters?
- How is resiliency manifested under these circumstances at: a) an individual or household level and, b) a collective level?
- What are the physical, social and emotional impacts on the health of individuals who experience disasters? What is the impact on the collective health when a disaster is experienced?
- What are the implications for emergency preparedness policy and programs when working with similar settlements that may undergo disasters in the future?

Pilot Case Study Research Questions

For the current pilot case study, we focused on the following questions:

- Who are the individuals who are at-risk during the time and immediately after the disaster? What are the reasons that they are at-risk? What characteristics identify individuals at different levels of risk (i.e., low-risk to high-risk) and how these different levels might be defined?

- What is the relationship between community resiliency and individuals at-risk? For example, do different levels of community resiliency place different types of people at-risk?

Study Design

This investigation involved two methodological approaches that were conducted iteratively to maximize their complementary strengths (22). First, qualitative interviews were conducted in order to generate information on topics such as community members' perceptions of resiliency, their communities' assets and levels of functioning before, during and after the disaster and how they understand resiliency. Second, quantitative data was derived from available census, survey, historical and local administrative data regarding the settlement.

Study Setting

As a result of experiencing the Lost Creek Fire in 2003, the CNP, in Southern Alberta was chosen as the pilot case study site (see Appendix B). There has been only one other study conducted in relation to the Lost Creek Fire; that study focused on how the experience of the fire affected local perceptions of wildfire risk. (23)

There was community support for the pilot case study reported here including provision of access to data from the Municipal Office. A local community advisor was chosen; this individual assisted with duties such as locating potential participants, forwarding quantitative data and arranging for the community meeting to share the findings.

The attached community profile provides many details about the historical context of the CNP. The "Pass" as it is commonly known, was originally five individual towns (Coleman, Blairmore, Frank, Bellevue, Hillcrest Mines) before amalgamation. Individually, and collectively, the area has dealt with a number of significant historical events including the Frank Slide in 1903 and the Hillcrest Mine Disaster, the worst mine disaster in Canadian history that occurred in

1914. Both of these events led to the loss of lives and the rebuilding of families and the physical structures of the communities.



*Research Team.*¹

The investigators and advisors for this study represent a range of disciplines and expertise allowing for a comprehensive examination of the topic at hand (Appendix C). The creation of our advisory board helped ensure that the pilot case study examined the issues of key importance while also allowing for a contextual understanding of the data (See Appendix D).

¹ Of note is that monies used in the development of the research team and this research proposal were awarded through an internal application process to the Canadian Rural Health Studies group which had received a capacity building grant through the 2001 Strategic Initiatives in Rural Health Competition (#54125).

The Principal Investigator (PI), who is from the community and has many family members and friends there, conducted the interviews in the chosen community. A local transcriber was hired to confidentially transcribe the taped interviews. A student research assistant (Emerson) worked with the PI assisting with data collection, analysis and report preparation.

Data Collection

The data were collected from September, 2006 to January, 2007. The findings shared below support the literature which indicates that sentinel events are recalled with over 80% accuracy up to 50 years later (24-25) and thus there are minimal concerns regarding recall of the wildfire (i.e. uncontrolled fire in wildlands (26)) that occurred in 2003. This pilot case study was also useful for generating hypotheses (27), ideas, and new meanings regarding the identified variables (28). Such hypotheses and ideas can then be addressed through other communities that have been identified for inclusion in the larger study.

The first step in the case study included gathering and organizing available census, survey, historical and local administrative data regarding the settlement to identify its patterns of problem-solving and community assets and liabilities (Appendix E). The second component of the case study included 30 interviews in the settlement in order to generate sufficient information about an individual's experience before and after the disaster as well as their community's general functioning. Informed consent (Appendix F) was established before the interview was conducted. The latter were held in a mutually agreeable place that provided privacy. Demographic information was collected (Appendix G) before the interview began (Appendix A). The data collection previously described and the analysis occurred simultaneously in an iterative process to ensure that the community context in relation to the experience of the Lost Creek Fire

was fully understood. Data analysis followed the standards set for qualitative research (29) and documentary analysis (30).

Findings

Participant Characteristics

A variety of participants were interviewed for the study including local volunteer firemen, local administrators and businessmen, local individuals involved in disaster planning and services, external individuals involved in the forestry department, individuals who had been evacuated, and volunteers with various activities related to the Lost Creek Fire. The majority of the participants were male ($n = 17$), aged 41 to 50 years (Figure 2), married ($n = 13$) and claimed the CNP as their birthplace ($n = 13$) and primary residence ($n = 27$). Of the 30 participants, the majority ($n = 23$, 77%) had spent their lives in a rural community. Given the nature of the disaster (i.e., wildfire), it stands to reason that the majority of the participants were male but all efforts were made to include sufficient females in the study.

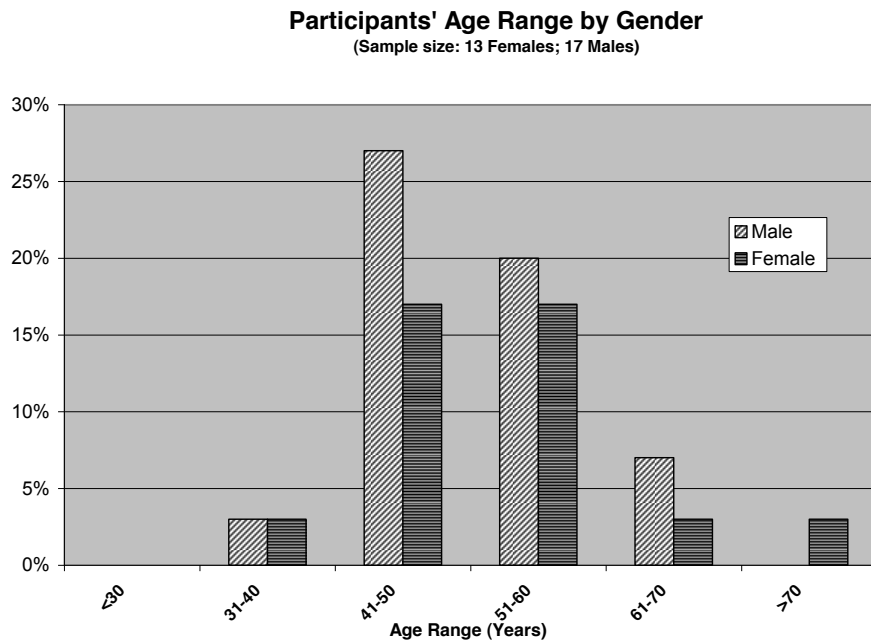


Figure 2

There were two questions on the demographic form that stimulated the most discussion with the participants. The first was ethnic background. Participants debated whether or not they were “Canadian” or a combination of mostly Eastern European (i.e., Czech, Polish, Russian) backgrounds. Figure 3 reveals that there was an even split of 12 responses for both Canadian and European.

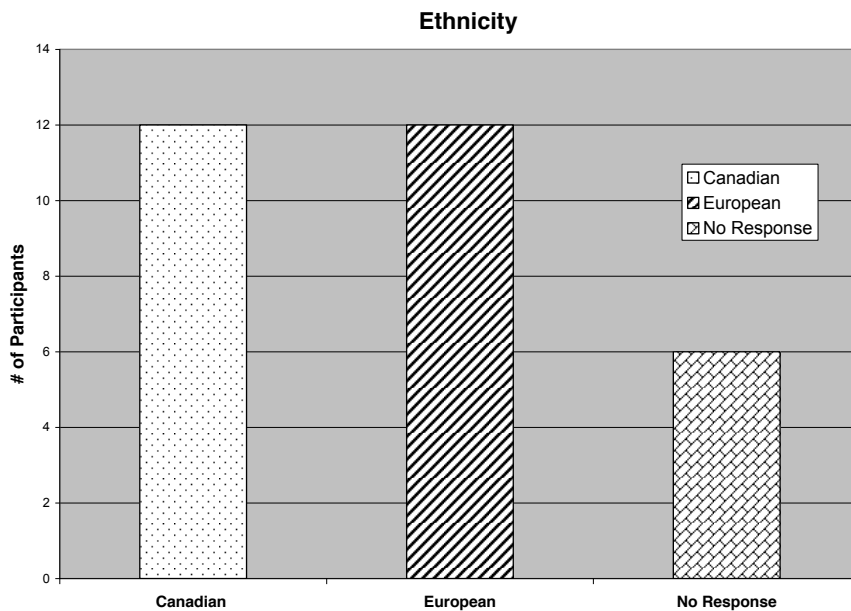


Figure 3

The second question that stimulated the most discussion was their “current location of residence.” To illustrate the range of responses, the following two graphs (Figures 4 & 5) are included. The CNP amalgamated in 1979 from five individual towns to a unified municipal government. The amalgamation was publicly and privately debated but ultimately passed because it was seen as the more economically viable option for the community as a whole. Despite the amalgamation, individual town names and postal codes remained, although other aspects of the community, such as the school system, were integrated across towns. There were several issues raised by some of the participants when they were asked to note their current residence. First, for

some of the participants, the amalgamation means that they are from the community of “the Crowsnest Pass.” In order to create this identity, it was important for them to declare that they are from the amalgamated community. Second, some of the remaining participants either still identify solely or at least partially with their original individual town. In addition, some of these participants indicated that stating they live in the CNP will not specifically identify where they actually live since addresses are still based upon individual towns. Thus, Figure 4 notes that 34% ($n = 10$) indicated that they live in the CNP compared to 56% ($n = 17$) who noted their individual town locations, whereas Figure 5 denotes residence by using the amalgamated definition.

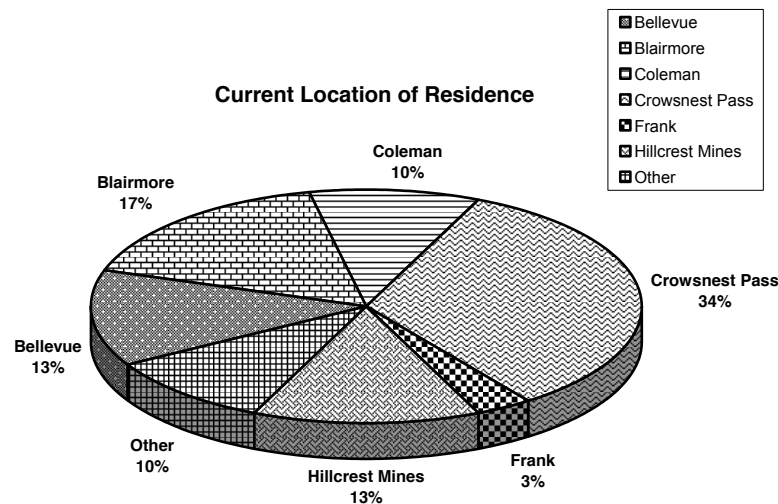


Figure 4

Twenty three of the participants (77%) were employed full-time; 5 (1.6%) were part-time and 2 (.06%) were retired. The participants who were employed worked in a range of occupations including mining or other natural resource positions, the local education, health and social service systems or self-employment managing their own businesses (Figure 6). One of the retirees was

an active community volunteer.

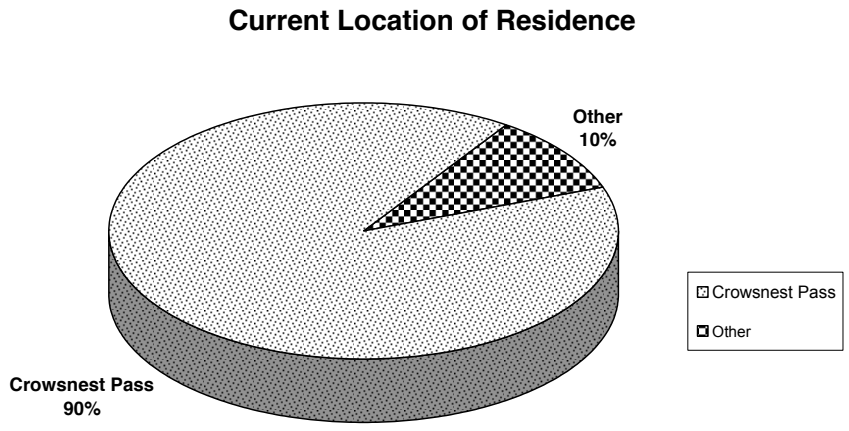


Figure 5

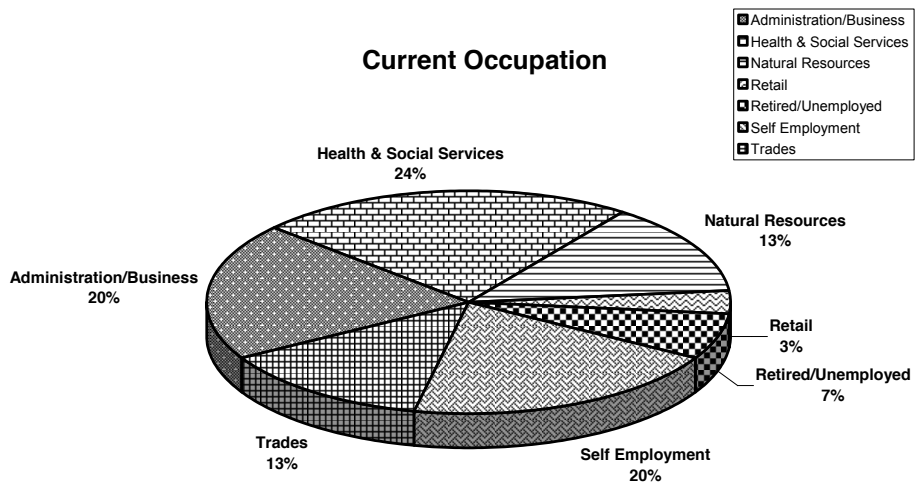


Figure 6

Other information was also collected to identify the impacts of the 2003 Lost Creek Fire. The CNP, a mountainous and picturesque community, is becoming a tourist destination but the only figures available are those collected through the Frank Slide Interpretive Centre (<http://www.frankslide.com/>). The following figure displays the monthly visitations to this Centre in 2002-2004. It is noteworthy that the Lost Creek Fire led to the cancellation of the 100th Anniversary Celebration for the Frank Slide that was to be held August 1 to 4, 2003. The monthly visits to the Frank Slide Interpretive Centre were significantly down during the months of July to October in 2003, leading to a reduction of income generated for the Centre.

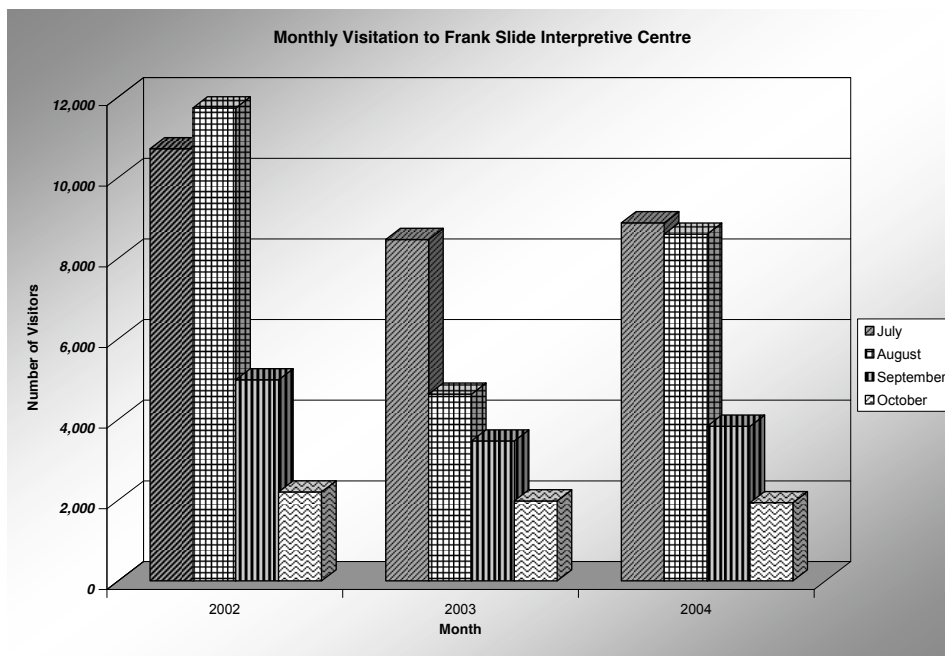


Figure 7

Other information collected during this time includes new investigations of child welfare issues (Figure 8 & 9). In July 2003, there was a drop in the number of screenings and new investigations in comparison to July of the previous year. By August, 2003, there was a slight rise in screenings while new investigations for both months of the fire were low compared to summer of 2002 or 2004. By September 2003, there is a rise in screenings and new investigations

compared to the 2003 summer months. (31)

Family Services Caseload Numbers by Years and Months - Screening

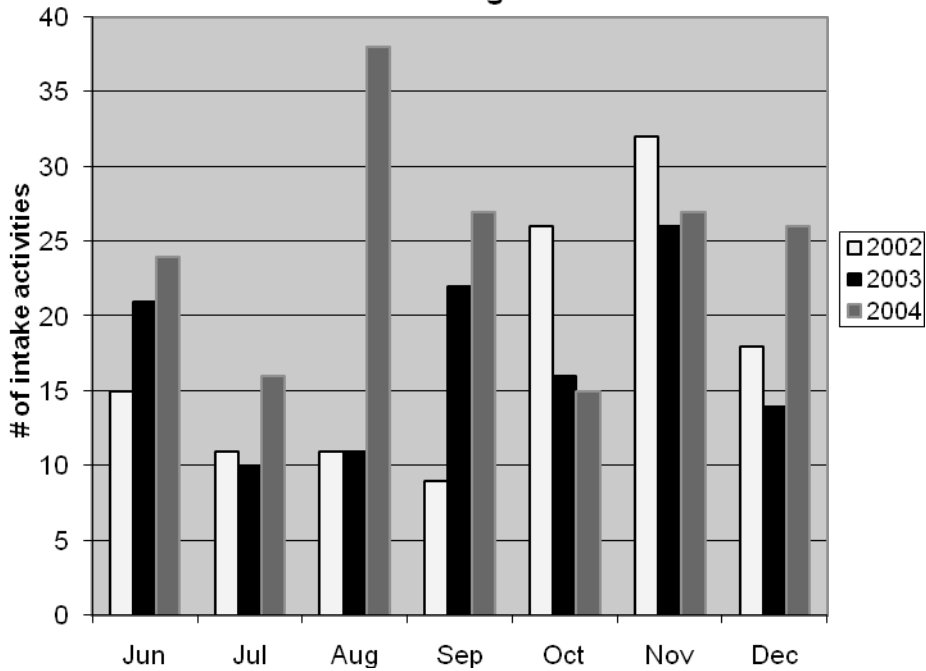


Figure 8

Family Services Caseload Numbers by Years and Months - New Investigation

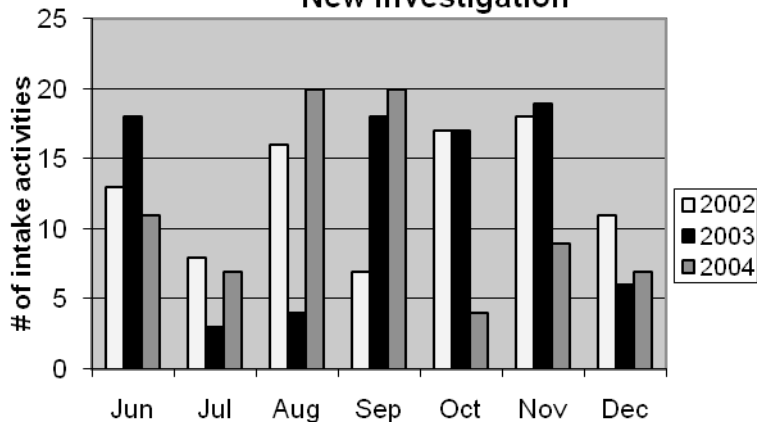


Figure 9

Context: The Summer of 2003

The CNP has become well known for a large community event, Rum Runner Days (<http://www.rumrunnerdays.com/>), a weekend of activities that acknowledge the community's rum running history. Rum running, or the clandestine shipment of alcohol, was common during prohibition when alcohol was not legally available. Although the significance of this historical period is not currently appreciated by all generations, events like Rum Runner Days are engaged in to re-connect with family members and friends. Some of the weekend festivities include a parade, car show, and a presentation of local talent including dance groups and fun activities for the children. The event is culminated in a fireworks display on the Saturday evening that was initiated by the Blairmore Fire Department and supported by the other local fire departments (Hillcrest, Bellevue and Coleman). It is referred to as Thunder in the Valley (<http://www.thunderinthevalley.ca/>) because the fireworks sound like "thunder" when they echo off the mountains. The community population swells from just over 6000 to more than 40,000 and is a major economic boost for the community. The extensiveness of the event draws on a number of community volunteers but also includes regional police and security companies to deal with the traffic and crowd issues.

In 2003, Thunder in the Valley was held July 19. A few days later, July 23, the Lost Creek Fire started (see Box 1). On July 26, a State of Emergency was called that lasted for 31 days (until August 25). Some of the participants talked about how the community as a whole did not have sufficient time to recuperate from the Rum Runners Weekend before the outbreak of the worst wildfire in the community's history.

How the fire started is still open to debate, however, the conditions were ripe for a major wildfire. The temperatures were hot and remained so for several weeks, an unusual occurrence in

the community. On the day the fire began, the temperature reached 34.7⁰ C. The subsequent days saw temperatures of 28.9⁰ C (July 28), 33.9⁰ C (August 2) and 28.7⁰ C on August 17.

- July 23, 2003 Fire started
- July 26 State of Emergency declared (31 days)
- July 27 Adanac Road and East Hillcrest evacuated; all others in Hillcrest received 1 hour alerts
- August 2 All of Hillcrest evacuated
- August 3 South of the tracks in Blairmore evacuated
- August 6 Return of Hillcrest residents
- August 8 Return of Blairmore residents
- August 11 Evacuated same area of Blairmore
- August 17 Return of Blairmore residents
- August 25 State of Emergency removed

Box 1 Lost Creek Fire Timeline

The only other large fire in the area was the Castle River Fire which started in 1936 and smoldered for the next three years coming within approximately 6 km of the CNP. Firefighting was difficult in the 1930s in part because of the depression but also because of the lack of equipment and resources to contain wildfires. At its height, the Lost Creek Fire moved at close to 89 feet per minute and required over 800 Sustainable Resource Development (SRD) firefighters and personnel, all 68 local volunteer firefighters (Bellevue: 19; Blairmore: 21; Coleman: 19; Hillcrest: 19), 21 helicopters, 8 water bombers, over 30 dozers and more than 20 water trucks to contain it.

Over 2000 residents were evacuated and approximately 100 residents used the local evacuation centre for their primary residence during their evacuation. By the time the fire was

under control, 21,000 hectares (51,800 acres) had burned. The cost, to the municipality, which was fully reimbursed by the Provincial government, was \$2,394,180 and the SRD cost was approximately \$38 million (Roy Campbell, Personal Communication, February 15, 2007). In comparison, the SRD costs for the 2001 Chisholm Fire in Central Alberta which burnt 116,000 hectares were \$10 million, the 2003 McLure, Barriere Fire in British Columbia which burnt 26,420 hectares was \$31.1 million and the 2003 Okanagan Mountain Park Fire (Kelowna) in British Columbia which burnt 25,600 hectares was \$33.8 million.

Interviews

Describing the Crowsnest Pass

The “Pass” as a Community

All of the participants were asked to define community. For most of the participants, the social aspects of community were emphasized and thus relationships between people and the activities that they did together were very important. Infrastructure such as businesses, services and government were also described, but without people who were willing to work together for common goals, community would not exist. The Pass was seen as a community but not one without issues. Invariably, the interviews included comments about amalgamation particularly from the long-time residents.

Amalgamation which occurred in 1979 was put in place out of perceived necessity by provincial and local politicians for overall community survival. One female participant stated:

I really believe that the forefathers of amalgamation didn't spend enough time on future planning, when we amalgamated instead of sitting down and looking at a future plan for our community including infrastructure and bringing the communities, individual communities together, they spent more time on administrative and micromanagement on day to day, and struggling and trying to get through that, and I think now, twenty-five to thirty years later, we're still struggling with that, because it wasn't something that was well prepared for when we amalgamated.

Participants, who are not originally from the Pass, do not see amalgamation as an issue. If they had children in the community, the schools were already fully integrated and thus these families were accustomed to their children going to school with other children from the individual communities. Residents who have always lived in the Pass continue to see amalgamation as an issue; one example is that services are not equitably provided throughout the Pass. It was noted that those who reside in Hillcrest and Bellevue have fewer services and must travel to Blairmore for shopping or Coleman for skating or curling.

Although a minority, a few felt that the recurring issues in the Pass reflect other issues historically embedded in the history of the community rather than amalgamation. One of the male participants talked about the tensions between groups: miners and bosses; various ethnic groups as some examples. Whatever one's perspective, it has led to the way in which residents indicate where they live. One male participant said: "I always want to say I'm from the community of Crowsnest Pass because this is the only legal community that there is here."

A female participant stated:

it's interesting when you talk to people that grew up here, they define themselves more according to which little town that they came from before the Crowsnest Pass was amalgamated.

An emerging perspective in the interviews was to describe the Pass as a series of communities within a larger community. For example, one female participant stated:

Bellevue has always been Bellevue, and there's history based in that name. Hillcrest Mines has its own history, Blairmore has a huge history base. If you lose your names, no longer is our history the same. Each community has worked hard to develop their towns, to develop their residential area, their industrial base; they've all worked hard for that. I think in a whole yes, they are one amalgamation, but five different communities.

Even though there are issues related to amalgamation, the participants easily described the community as a place where people get along, where volunteerism is common place and where residents have a deep sense of belonging. Participants who are from the Pass and are familiar

with its mining history acknowledged that the strikes and upheavals of the mining era did negatively impacted on their sense of belonging and inclusion into different social groupings. However, they felt that these concerns for the large part have dissipated.

One male participant expressed their attachment to the Pass this way: “I am prepared to stay here, no matter what the outcome is, and how the the landscape changes, this is where I want to be, and so I am prepared to stay, no matter what happens.”

The Pass was also described by the participants as having community spirit demonstrated by the residents’ pride in their history, willingness to address issues and their hope for the future. The participants repeatedly stated that the residents addressed issues that arose and that they had a history of helping others and dealing with disasters. For example, Highway 3 has been closed during winter storm conditions leaving up to several hundred travelers stranded and needing accommodation. It is common for local residents to board these travelers for the night or to volunteer at the local Learning Centre which also serves as the evacuation centre. This is supported by the following quote from a female participant: “whenever there is a big thing that happens in the Crowsnest Pass, as far as I can remember, we’ve always been there for one another.”

Even though there was significant support in the interviews for the community level of functioning, there was also acknowledgment that some individuals do not participate in community. One female participant said that “You have individual personalities and not everyone is a community.”

Is it Rural?

Most of the newcomers move to the Pass because they are attracted to its rural nature as reflected in the small population, mountain setting and access to recreational activities. Although most of the participants would agree with this description there were other opinions. The

Sustainable Resource Development (SRD) policy maintains that the Pass is the urban site which is situated in a forested area. The only other varying opinion was from one participant who described the Pass as possibly “rurban.” This term was used because of the increase in services and infrastructure that would signify an urban setting. Examples include access to high speed Internet allowing individuals to live in the community but work at a distance. The fluidity of the term rural and its meaning in comparison to other settings more geographically isolated is a relevant discussion point leading to other questions. For example, what is the meaning of isolation in a technologically-driven world where virtual communication is commonplace?

Newcomers

The participants also spoke about the influx of “newcomers,” mostly part-time residents who have decided to own a second home in the Pass and anticipate retiring there. There were two main issues with these residents. The first is the change in values that they bring and the impact those changes have on the community at large. One female participant said:

A lot of the new ideas are very city oriented. A lot of the designated, a lot of the developments that are being posted as private property, I mean that’s just advancement, but you’re starting to find we’re being crowded by people that do have finances to come in and buy substantial amounts of property, and now are designating them as no through zones.

Another female participant stated:

with the people that have lived here all their lives, yeah for sure, there is a sense of belonging and no problem, but when there’s new people that come in, you are naturally on guard, you don’t know these people.

The increase in property values with the associated tax increases has meant that the full-time, long term residents are paying higher rates but are not having locally available services that match such rates.

The second issue with the part-time residents is the increased number of empty homes in many neighborhoods throughout the Pass. In 2006, the Pass experienced a -8.2% population

change from the 2001 census; the current population of the Pass is 5749 (32). There are many associated changes with this population loss that were reflected upon by the participants. Having fewer permanent residents means that there are fewer family members available to care for elderly parents or other relatives. Several of the participants care for elderly neighbors and worry that the social infrastructure of the Pass will deteriorate with subsequent population losses. Other elderly residents have decided to relocate to nearby cities to be closer to family members.

There is also a decrease in the number of children in the community limiting the availability of recreational events such as local baseball or hockey teams; some families have been known to drive 100 km one-way to ensure that their child(ren) are involved in team sports. The 2007 high school graduating class of 71 students will be the highest over the next three years. During one session of interviewing that occurred immediately after Halloween, a number of the participants commented that they had very few children trick or treating. This was concerning to the residents because it illustrated the realities of the population change and the rationale for the closure of M. D. McEachern School in 2002; there are also plans to close another school in the next few years. Having fewer residents also means that there are less available volunteers to serve in the community; this has direct implications to local firefighting and will be discussed in a subsequent section.

There is no consensus on the right balance of permanent and part-time residents in rural communities. One participant reflected that the current rate was likely 80%-20% (permanent to part-time residents) but that moving to 70%-30% or 60%-40% would strain the social and economic infrastructure of the community. In fact, in 2004 there were 13% absentee landowners in the Pass but currently it stands at 30.9% (G., Snelgrove, Personal Communication, July 4, 2007). Real estate sales continue to climb in the CNP. In the first six months of 2006, there were 70 listings while in the same time period in 2007 there were 108. Prices have increased in

conjunction with the provincial rise of real estate (average sale price in 2006 was \$199,213 compared to \$275,636 in 2007) (33).

The Experience of the Lost Creek Fire

Municipality Response to the Fire

Most of the participants talked about seeing the smoke in the region of Lost Creek before they were aware that a major fire was brewing. Local individuals (Fire and Rescue Squad) notified the Mayor who then contacted the Chief Administrative Officer (CAO). The local personnel from SRD met with the Mayor and CAO to advise them about the fire and the potential it had for the community. Once the state of emergency was declared on July 26, 2003, the Mayor and CAO needed to determine their plan of action. All regular work at the Municipal Office was suspended and all vacations cancelled while the disaster was being handled. The Municipality has a disaster plan as required by provincial policy but they determined that this model would not be as effective for the community. Instead, a “flat managerial model” was used to ensure all relevant groups were included. Meetings were held twice per day in the Municipal Office to discuss ongoing issues of handling the fire.

Communications were handled by the Municipal Office through the local radio station which announced evacuations and general information to the public. The local radio station was played in local stores so that community residents who were shopping could hear the updates. It took a few days for the communication patterns to be fully put in place; some of the participants noted that during this time, communication was not as helpful. A male participant said: “there wasn’t enough update, we kept getting the same recording all the time.”

Communication also included discussing the situation with the provincial government officials in the Ministry of SRD and with the local Member of the Legislative Assembly (MLA).

Fly-overs of the area with these individuals were used to fully inform them of the seriousness of the situation.

Communication was also guaranteed through the 24 hour telephone line that was manned at the Municipal Office. The staff had to deal with a variety of calls related to the fire including addressing general questions, advice about evacuation and even assuring individuals from other provinces or countries that their relatives in the Pass were safe. Due to the significant population of Eastern Europeans in the community, there was extra consideration given to language barriers as noted in the following quote from a female participant:

I personally when they were phoning in, didn't really need to use a translator, we found that if they spoke very broken English, we spent a lot of time on the phone with them, using simple terms, to make them understand, if they felt fearful or whatever, told or encouraged them to call back at any time, if they felt threatened, to phone back at any time, we were here twenty-four hours, and if we had to, we would send somebody to the house to try and to help them out. Social Services was wonderful for us.

Another source of communication was through the information booths that were set up throughout the community. These were effective ways to share information. One male participant stated:

If I was ever was involved with an event like this again, that would be one of the first things I would do, is get those (fire boards) set up, because without accurate and adequate access to information, rumors start all, anxiety escalates and people just get simple basic questions answered, life is a lot simpler.

Individual Perspectives on the Fire

Despite the three-year gap between the time of the Lost Creek Fire and the interviews, the participants all had vivid memories of the experience. They may not have been able to remember all of the details but they were able to say what they were doing and where they were when they first saw the fire or heard it had started. The following quote from a female participant exemplifies this notion while also illustrating how the participant was feeling emotionally at-risk:

I was walking down main street in Blairmore, and I looked at the skies and just the colours, and I was just sobbing, I was crying and I could not believe that this was my community and it was going up in flames.

The reaction to the fire was dependent upon the participant. In the interviews, wives of the local volunteer firefighters spoke of the concerns they had for their husbands' safety. Evacuees talked about the challenges of living away from their primary residence combined with their concerns about the possible loss of property. Local administrators, business owners and SRD personnel focused on the larger collective issues of handling a large-scale community disaster as a result of the wildfire. Children were described by their mothers in a variety of ways from seeing the fire as an adventure, particularly if they had to evacuate and live somewhere else to a stressful time when their children worried about their belongings that had to be left behind.

At the height of the fire, over 2000 residents were evacuated. One female participant said:

I never thought that we would...it would get to the point that we would be evacuated, and then once...I mean once they tied the blue ribbon on our door, well then you knew that it was a possibility, but when they said, you guys had to get out, it was like, pow. It was like a panicky feeling. It's not a good feeling.

And another female participant said: "it was distressing to be uprooted and uplifted from the one place you feel safest."

Local groups were involved in the evacuations which required considerable organization and coordination to orchestrate. One of the local groups, the "Quad Squad," is a community group comprised of individuals who enjoy riding their all-terrain vehicles (ATV) in the back country that surrounds the Pass. During the Lost Creek Fire, this group assisted with evacuations by going to residents' homes to notify them of the evacuation order and then patrolled the streets to secure the area. In more than one instance, they provided emotional support for the evacuees particularly with the elderly who were alone and frightened. Other groups involved the members of the local Royal Canadian Mountain Police (RCMP) detachment who on occasion needed to

assist with evacuations of individuals who refused to evacuate or who demonstrated behaviors (i.e., intoxication) that were not conducive to an orderly evacuation.

Most of the evacuees relocated to family or friends' homes in the other communities that were not evacuated. Thus, it was not uncommon during the interviews to be told that participants who were evacuated moved in with their siblings or children or moved their holiday trailers to friends' homes. This is one example that demonstrates the strength of the Pass; the family relationships and connections between friends as well as the geographic locations of the communities allowed for support during this unsettling time.

Those who were evacuated to the Learning Centre were given a private room and had all meals provided. All of the evacuees were required to register in-person or by telephone at the Learning Centre even if they stayed in other homes in a non-evacuated community. The staff at the Learning Centre, as well as the 24 hour-manned telephone line at the Municipality of the Crowsnest Pass office, handled calls of relatives or friends who lived elsewhere but were enquiring about their local relatives. Calls from relatives of Pass residents were received from as far as way as the United Kingdom because the Lost Creek Fire attracted international media attention. At the Centre, toys were available and programs were directed by a young adult volunteer to help children pass the time and give their parents a well-needed break.

Personnel at the Learning Centre were supervised by two locally-based individuals (a social worker and human resource director) who called in volunteers such as teachers who were on summer break to help with the situation. All personnel at the Centre were advised that confidentiality and privacy needed to be maintained. Issues that arose included handling the media who arrived to photograph the evacuees or talk to individuals without appropriate clearance. Donations from various stores in the province arrived at the Learning Centre including

televisions, mattresses and food items. At the end of the fire, whatever was remaining was sent to a community in British Columbia that was also experiencing a fire that summer.

Some of the participants talked about not having a choice to evacuate and did not always agree that they should be forced from their homes. All of the participants were asked about their insurance coverage and all indicated that they had sufficient coverage. A number of the participants said that a booklet or some type of one page pamphlet that listed things that should be taken when evacuated would be helpful if handed out by the volunteers and paid staff that was giving evacuation notices. For example, the pamphlet could include essential items that should be removed from the home (i.e., hard drives, bank books, life insurance policies).

Who is Vulnerable?

Discussions were held with the participants about vulnerability due to the wildfire. There were three groups in the sample: (1) participants who were directly involved in dealing with the fire, either as fire fighters, volunteers or administrators; (2) participants who were directly involved with the fire and were simultaneously evacuated; (3) participants who were evacuated; and, (4) participants who were not involved in the fire and were not evacuated. The perspectives of vulnerability emerged from all of these groups.

The comments in the interviews indicate that there was both individual and community vulnerability. Individual vulnerability was further differentiated as being at-risk and feeling at-risk. Individuals who were at-risk identified that they had specific health problems that were exacerbated by the wildfire. One of the female participants acknowledged she had been vulnerable because of her asthma which necessitated her leaving the community for a few days. When she returned and was evacuated, she stayed inside to avoid the smoke. Those who felt at-risk included the wives of the fire fighters because of the demands of their husbands' volunteer work which was physically demanding and dangerous. The fire fighters did not personally

acknowledge feeling at risk but instead felt an obligation to assist in helping to control the wildfire.

The participants were also asked about their perspectives regarding which individuals in the community were at-risk. Their perception was that being at-risk was determined by internal or external circumstances. Individual circumstances include age, development status, income level, available support systems, health status, or primary residence. These circumstances further differentiate individuals who display a range of independence; dependence; and, interdependence. Examples included:

- ❖ senior citizens who no longer had family members living in the Pass;
- ❖ any individuals, regardless of age, with health problems including asthma and heart disorders;
- ❖ any individuals who are low income;
- ❖ lone parent families;
- ❖ children of all ages;
- ❖ individuals with mental or developmental delays such as those individuals who live in local group homes and may not be able to cope with the stress of the fire and being evacuated;
- ❖ individuals living in the local senior lodges and continuing care facilities; and,
- ❖ individuals who had lifestyle behaviours such as substance abuse that were unknown to the larger community.

Individuals who are independent, with support systems, and access to other resources will be less vulnerable. However, individuals with impaired mobility (either from health {physical or mental disabilities} or social circumstances {i.e., including not having a vehicle or not having family

members in the community}) mean that they are dependent upon others to help them perform their activities of daily living.

One male participant described it this way:

the shut-ins, the disabled folks that require extra assistance, you know whether they be wheel chair bound or you know having to use a walker, just generally need assistance to do their regular course of life activities.

A female participant also said that children were very vulnerable during the time of the fire.

I think the children, that was one of the things that kind of came up where we ended up with FCSS, we actually did some luncheons for the kids. Because we weren't quite sure what was happening out there, with so many people busy and doing all sorts of things so. And we normally we do have problems with hunger in the schools, there were some luncheons that were put on and a little more emphasis that way. That was something that was an after thought, but the children they were at risk but really never thought of.

Individuals with lifestyle behaviors such as substance abuse were noted as being at-risk as their behaviours' could be difficult to hide or may be exacerbated due to the stress of the disaster causing other difficulties for them. However there was only one instance where the local RCMP constable was called to assist with an evacuation. The situation involved a family member who was intoxicated and refused to be evacuated. Through careful handling of the situation, the evacuation occurred peacefully.

Individuals also had external circumstances that led to their vulnerability including individuals who did not have house insurance; individuals who had recently purchased a home in the Pass and were not able to purchase insurance; and individuals who were business owners or were unable to work during the fire. Since the Pass is a "weekend home" to many individuals, property sales are common occurrences. However, when a state of emergency is declared, insurance coverage on existing policies cannot be altered and new policies cannot be negotiated. For individuals who had purchased homes in the evacuated areas, they had to simply wait and hope that the wildfire would be contained and that their new property would not be lost. Some of

the participants made it clear that those individuals who could buy a second property did not have financial concerns. Those to truly be concerned about were the seniors who had never had insurance and faced losing their only property.

Residents who had chosen to live in the “urban-fringe” nestled in treed areas were at greater risk for devastation from a wildfire. One female participant said:

definitely people who are a little further out. You know who have homes that aren't right in the community, are definitely more at risk, you know a person that's got an acreage or something out a little bit closer. They're definitely at risk.

There was also a community level of being at-risk. Economic risk included the downfall in retail sales for local businesses. Numerous local individuals were not able to work at their regular job during this time because of the wildfire. One female participant stated:

anybody at the time who was even volunteering or even working for Forestry, who gave up their job, or couldn't do their job, because their business was shut down, everybody in that respect was at risk because where is your income coming from you know?

Tourism suffered during the wildfires with the closure of campgrounds and bans on open fires and thus local business owners who normally sold retail items including groceries and gasoline, restaurant owners and independent operators who offered local tours did not fare as well during this time. The trees that were destroyed in the fire reduced the logging operations and subsequently the income of individual operators and residents who were logging their land. However, during and after the fire, there were some economic benefits to the community including the sale of t-shirts advertising the Lost Creek Fire and a year later the high volume of morel mushrooms that provided income to the local pickers.

Another form of risk for the community during the fire is the need for a high number of volunteers with the assumption that all were appropriate in this role. There were a few comments made that some individuals would not be suitable for security or other related activities because of their past record. During a wildfire, criminal record checks are not possible due to the lengthy time

they take in addition to their cost. Assumptions are made that all volunteers are suitable but this may not always be accurate. The accompanying table (Table 1) includes a list of criminal offenses comparing three years which shows some variation but it is not significant (34).

Table 1 Criminal Offenses, July 15 to August 15

	2002	2003	2004
Break & Enter	14	8	28
Theft Motor Vehicle	1	5	2
Theft Over \$5000	1	1	0
Theft Under \$5000	11	3	33
Possession Stolen Property	0	1	0
Property Damage	8	13	33

SRD Policy and Wildfires

The Alberta Provincial Government is responsible for managing forestry issues through SRD by working “with Albertans across the province to ensure a balance between the economic, environmental and social values of our province. We fight forest fires, manage fish and wildlife, oversee the development of Alberta's forests, and manage the use of public lands”

(<http://www.srd.gov.ab.ca/aboutus/default.aspx>). SRD is divided into four divisions: Forestry; Lands; Fish and Wildlife; and, Finance & Administration.

SRD is responsible for provincially mandated policies within each of these divisions. Forestry is specifically mandated to address wildfires through implementation of programs based upon provincial policies. For example, the Firesmart program which includes public education to use appropriate roofing materials and clear deadfall around acreages was designed to prevent wildfires. One of the challenges for SRD is the “wildland-urban interface” which refers to the increase in the number of homes in the wildland area which are vulnerable to wildfires. SRD acknowledges that they are learning to address these issues in part because wildfires have

occurred in such environments necessitating more appropriate processes to communicate and work effectively with local governments. Like other provincial departments, SRD has undergone restructuring. In 2001, there was a centralization of headquarters for the CNP area which led to the development of a new area (Southern Rockies) for which decisions were made through the Calgary office.

The SRD personnel who were interviewed for the study made it clear that within their line of work, they needed to follow the policies of their department. Policies are based upon scientific research examining terrain and forest types, fire behavior and experience in dealing with fires versus the necessity of ensuring public safety. Hence, evacuations occur early in fire situations to try and ensure that lives in the community are not at stake and that buildings are not lost. Given the large physical size of the Lost Creek Fire, the Incident Command System (ICS) was used to divide the fire into Divisions for the purpose of firefighting. The Division Supervisor was responsible for a section of the fire line with all necessary resources including the SRD firefighters to implement wildfire containment strategies determined by the incident action plan (IAP). It was emphasized by participants that all SRD personnel (Division Supervisors and firefighters) were trained in wildfire suppression. Division Supervisors also needed to demonstrate leadership skills including being able to communicate. It was noted by a number of individuals that it was fortunate that in the summer of 2003, the only significant fire in Alberta was the Lost Creek Fire and therefore all provincial resources were at their disposal for containing this fire.

During the Lost Creek Fire, fire boards erected by the SRD in each of the communities provided an opportunity for local residents and passers-by to find out about the progress of the fire on a daily basis. The residents quickly found out what time the most current maps were available; they would then go to the board to locate a map, ask any questions of the SRD

personnel and share the latest information with others who were equally concerned. Sometimes, the information provided at the boards was not accurate, frustrating the local, knowledgeable residents. For example, one female participant said:

People who come in from Universities and Colleges that are hired for this, that do not have an idea what the area is all about. They have no idea. They are trained to do a job, but they are not trained to know the area. I know there was one girl that was talking here and she was giving us directions and she was totally off base regarding the direction the fire was taking, and she was SRD.

Other participants commented that this was not an isolated incident and that even at public meetings, SRD personnel who were not familiar with the area provided incorrect information about the fire’s location or direction. As the fire was contained, the fire boards began to close down as the community itself began to return to its normal functioning pattern.

Goals for Controlling Wildfires

The interviews revealed that there were different goals for each of the major groups involved in the Lost Creek Fire (Table 2).

Table 2 Goals in Fighting the Lost Creek Fire

Municipality of the CNP	SRD	Residents
No loss of life No loss of structures No lasting impact on taxpayers	Fire control with minimal losses to natural habitat and wildlife	No loss of life No loss of homes No loss of natural habitat or wildlife

In order to meet these goals, and to ensure communication between all relevant groups, meetings were held twice daily (morning and evening) in the Municipal Office. Local fire chiefs, SRD personnel, personnel responsible for the Learning Centre, Municipality staff, local officials (Mayor, CAO) and provincial officials (i.e., MLA) are some examples of those who attended. Updates on the fire (e.g., closeness to the individual towns, number of personnel fighting the fire, etc.), evacuations, donations and any other relevant items were addressed. The feeling in the

room varied from concern to worry to frustration to elation. One example of the latter was when a deceased SRD personnel's cabin on his former trap line was miraculously saved, it gave those at the meeting hope that the outcome of the fire would be positive:

I announced in the meeting that night, that the cabin had been saved, and there was a rallied cheer in the room, it was like nothing else mattered that day, his cabin had been saved. It's those kinds of things that...that pull a community together, like I said, well you can tell, I get choked up even to this day, three years later.

Interaction between the Municipality and SRD

For some of the participants, there was a perception that at least initially, the Municipality had limited control over the situation since the fire was considered the responsibility of the SRD.

One female participant said:

It was actually very deceiving what was going on because there wasn't communication. Between our Municipality and SRD, there was a very poor communication, the SRD weren't anticipating the fire where it was at, and how fast it was moving. It was political, the fire was a very political battle, it was political all the way through.

For a number of the participants, the fire had been neglected by SRD. The above woman also stated:

I think there was a lot, they had more than enough chances to stop the fire before it came as close as it did. I really do, I know the terrain was bad, but I also think that they should have had more professional people closer into this area, instead of Edmonton or Calgary, there should have been more in the area, which they were but there should have been more and they have been listening to the Crowsnest Pass residents.

There were a number of other similar comments made in the interviews. In particular, local knowledge about the terrain was not incorporated in the initial stages of the fire fighting campaign launched by SRD. The following quotes from two different female participants illustrate these concerns:

Probably a lot of frustration we heard about that fire, is people's sense of powerlessness... there's a lot of people that know this countryside really, really well, and had the SRD looked to local skills and abilities, and empowered some local people to help relieve the fire, there wouldn't have been the disgruntleness that there was.

our local logging contractors who...who know the area and you talk to them and they say, well you know we told them about this, but they didn't listen and I mean if they would have listened, maybe things wouldn't have got so bad, so I just think that if in the event that they can...they can involve local citizens, things would have been, I would have felt more comfortable.

Recent administrative changes within SRD meant that the Blairmore SRD office in the Pass could only make changes as directed from the Calgary office, as noted in the following quote from a female participant.

There was a lot of frustration at the beginning because SRD was being handled out of Calgary, and there were a lot of strong feelings that the fire did not have to be as big as it was, had it been dealt with different at the onset.

Although the participants still spoke about the frustrations of how the Lost Creek Fire was handled, particularly at the beginning, there was no ongoing resentment toward SRD among the participants. A certain amount of "folklore" exists regarding the fire and how individuals acted to control it.

I mean who knows if it was the Hillcrest Fire Department and Bellevue Fire Department that stopped the fire from eating up Hillcrest, we don't know that but I think you know it became story bigger than itself, and when you talk about the Lost Creek Fire, you talk about the fire fighters at the wall of the flame, holding it back while everybody else left, whether or not that's true, that's the folklore, that's the story that's come out of the whole thing.

The Local Fire Fighters

The four local fire departments in the Pass (Coleman, Blairmore, Bellevue and Hillcrest) have their own volunteer crews with financial reimbursement and equipment provided by the Municipality. Each department has a Captain and Vice-Captain. All members practice their skills on a routine basis and attend workshops in other communities to assist them develop skills in attending house and grass fires. Although there are four units, they work with each other helping out when their services are needed to attend to a large fire that cannot be contained by only one unit. The boundaries for their work are clearly within the Municipality of the CNP and not within

the forested area that is SRD's primary responsibility. At the time of the fire, clarification of these boundaries was being undertaken, in part, because of the increased number of individuals who have purchased land and built homes in what is now referred to as the "urban-fringe."

During the fire, the captains of the stations and many of the firemen did not work at their routine jobs. The open pit coal mines in southeastern BC and other natural resource companies allowed the men to take time off without pay. The funding provided by the Municipality for their role only partially compensated for their lost wages. The SRD and the local firemen learned to work together to address the fire. The participants who were firemen talked about learning more about the science of fire and the ways they could be proactive to prevent extensive destruction.

For example, one of the firemen said:

a fire of the size of the Lost Creek Fire, it creates its own weather, with the smoke and with the...just the amount of oxygen that it needs to consume the forest basically, it creates its own winds, and it will actually change the natural wind patterns that we have coming through the mountain passes, you know in the Crowsnest Pass here, they're predominantly west winds, it's always has been ever since I was a kid, and during the fire, you know we were getting south east winds, and that's what brought the fire right down onto basically right into Hillcrest.

Prior to the fire, the firemen had opportunities to learn about sprinkler systems for houses, but this was the first time they had to actually do the work in a real fire situation. In the communities that were evacuated, the firemen placed sprinklers on roofs and other housing structures, ensured that water trucks and tanks were full and assisted with fighting the fire. Their substantial local knowledge of the geography was beneficial to SRD who used the advice to evacuate Hillcrest.

Being firemen during this time was exhausting, particularly for the Hillcrest Fire Department which came the closest to having the fire enter their community. The men in this unit worked long hours (18 hours and more) and had to completely focus on their work hoping that

their wives and children were faring well without them. The following quotes from one of the firemen exemplify what it felt like during this time:

We were back on the Ironstone Lookout and we watched the fire just blow in a matter of seconds just come right up a mountain range and right over the top, my eyes were big as pie plates, I couldn't believe that the fire would move that fast.

we knew it was just a matter of time that, even if we cut wide cat bursts, or fire lines, it's still going to jump them the way the fire is moving, we knew it was going to come on into town, there was just no doubt about it.

Comments were made in the interviews that after the fire was contained, the men from this department were so physically and emotionally tired that they did not want to discuss it. During the interviews, stories were related of going away from the Pass and being recognized as part of the Hillcrest Fire Department because of wearing hats or other clothing with the department insignia on it. When they were recognized, strangers would ask the firemen what it was like to fight the Lost Creek Fire. The notoriety, although well intended, was not preferred by the firemen.

During the Lost Creek Fire, two other fires started in the area that had to be contained. One was in a forested area north of the community and the other was west of the community near the gas plant. These two other fires further concerned local residents at a time of great stress. When the Lost Creek Fire was over, several new fire trucks were purchased for the departments. One of these trucks is specially designed to fight fires in the urban-fringe area of the community. An up-and-coming issue is the lack of volunteers to serve as local firemen. There are currently 68 firemen throughout the Pass but fewer volunteers come forward each year. This is also heightened by the increase in part-time residents who would not be eligible for such activity.

Volunteerism and the Lost Creek Fire

A number of comments were made during the interviews that volunteerism during the fire helped to strengthen community ties and build community spirit. The Pass was described as close-knit during this time. Whether they are true or not, stories of feuding relatives who patched up their differences and worked as volunteers side-by-side during the fire, illustrated how compassion and concern for the greater good of the community surpassed individual disagreements.

Meal Service

Individuals in one of the communities in the Pass decided to prepare and serve meals for the local fire fighters as a means to support their efforts to handle the fire. Until evacuation, the Hillcrest Miners' Club was the site of this activity which included local women as volunteers. When the meal service was moved to the Maple View Hall in Bellevue, other individuals such as the Municipal Council, SRD personnel, visitors (Ministry of SRD, local provincial officials) were also provided meals. The food that was served was donated from large corporate stores outside of the community.

Community volunteerism was supported by assistance from outside of the Pass. Donations including food, supplies (such as air mattresses) and other items (televisions for the Learning Centre) were donated from hardware store chains and retail grocery stores. Two religious groups (Mennonites and Hutterites) living near Pincher Creek, a community 50 km east of the Crowsnest Pass, provided food donations and assisted with cooking and serving meals in the Maple View Hall. These examples reinforced others' concern about the Pass and how it was handling the fire situation.

Coping with the Lost Creek Fire

“This fire is what it is, and will be what it will be, everybody will be making the best effort to control it, circumstances will change from day to day, if not hour to hour, take a breath, walk don't run.”

Male Participant

The Lost Creek Fire was a physically and emotionally demanding experience for the Municipal staff, Learning Centre staff and volunteers, local firemen, local SRD personnel, and local elected officials. Long days that often stretched into 18-20 hours of solid work were commonplace among those responsible for addressing all aspects of the fire. Annual summer vacations were cancelled and the routine business of many offices (Municipality, Children's Services) were suspended or cut back during the fire. Local social workers offered on-the-spot counseling to fire fighters as needed. Participants in these roles talked about feeling physically and emotionally drained afterwards. After the fire was contained, they took several days off to begin to recuperate, although they reported not feel fully recovered for months afterwards. During the fire, some of the local fire fighters took a few days off and left the community to sleep out of necessity in order to continue in their roles. Critical incident team members from a nearby city offered to come to the community and help local staff deal with the stress of the fire if needed. There were incidents of disagreement in the daily meetings, particularly as it related to communication between SRD, local firemen, and elected officials regarding the location and extensiveness of the fire.

Several of the ministers from various Christian denominations initiated a multi-denominational prayer service every night for a 10-day period during the fire. Community members were invited to attend and pray that the fire would be controlled, that rain would fall and the experience of the Lost Creek Fire would bring the community together. One male participant stated:

Participant: "I guess I look at things a little different in that to me it's all about God and what He's up to. I see the Lord allowing, not necessarily [that He] sent a fire or something like that, but allowing these things in our lives. One, He warns us that they are coming, two He tells us to be prepared, and to take that, even if a person doesn't believe in God or anything, to me that's just normal life, God warns us ahead of time, these things are going to happen, sometimes the result of our stupidity, sometimes they have nothing to do with it at all. But it's how we are going to handle them, and to me, we just discussed how we

handle life in general, it just happened to be a fire, but life is made up of what we have just talked about. Generally speaking, how you are handling what's coming into your life now, that's how you are going to handle the fire.”

Interviewer: “It seems like you're saying then, that this community was handling life, because it handled the wildfire.

Participant: “Yeh, that's a great conclusion to a sermon. You wrapped it all up.”

Lessons Learned from the Lost Creek Fire

“Prepare for the worst but hope for the best.”

The participants were also asked about specific lessons they learned from their experience with the wildfire. Their responses included:

- ❖ it is crucial to pay attention and take things seriously at the beginning of a situation to ensure it does not become a larger disaster;
- ❖ although there are numerous key players in a disaster, someone needs to be designated as the head administrator who is responsible for decisions and delegating activities and tasks;
- ❖ make sure that the right people are in place at the helm, as individuals who are unable to perform in an exceptional manner in their routine job will not be able to attend to the requirements of handling a disaster;
- ❖ communication with all individuals within the community experiencing the disaster is key;
- ❖ the presence of a well designed community disaster relief program (an evacuation centre, individuals in charge, resources and structures in place to care for residents who are unable to care for themselves) is very important;
- ❖ equipment and resources to deal with the disaster must be allocated; and,

- ❖ signed contracts must be in place with agencies such as SRD to ensure that any damage on personal property which is used for fire control purposes (placement of equipment) is repaired at their cost.

At the end of the fire, there was some discussion by SRD that they planned to do extensive logging and conduct controlled burns in the Bow-Crow Forest south of the Crowsnest Pass. Notices were served in the local newspapers and public and individual meetings were held with various landowners. One female participant commented:

I tend to believe that, by decimating a forest that surrounds a community is not the answer, but proper Forest Management would be. And I also believe that an adequate Disaster Plan that encompasses some direction for two governments to come together so bureaucracy is minimal, and communication would be very fast and forthcoming.

The participants were asked about any changes in personal habits regarding disaster preparation for the future. The majority did not check their insurance coverage or have a permanently packed bag of extra clothing or other necessities such as medications, important documents or other survival gear or equipment. One participant noted that their family has always had a bag ready in an accessible location if a disaster was to strike and they had to quickly leave their home.

“Resiliency is Us! It’s the Crowsnest Pass”

“Adversity tends to bring people together, and I saw what I would describe is an absolute, completely different community at least for thirty-one days.”

Male Participant

All of the participants were asked about resiliency, its meaning and whether or not the Pass demonstrated it. All of the participants saw resiliency as a process of dealing with change and adversity and all agreed that resiliency was displayed by the Pass. They noted that individual contributions to resiliency included having a positive attitude and willingness to work with others. However, they also perceived that there are municipal and provincial government

contributions to resiliency, including policies (disaster plans) and infrastructure (money and resources) to ensure that rural communities can manage with their everyday operations as well as the adverse events that they faced. Although local knowledge was not initially perceived by the participants as being recognized or used to address the fire, the community demonstrated resiliency and showed that the Community Resiliency model (Figure 1) can be used to describe processes used by communities to deal with disasters such as wildfires.

The following examples show how the findings support each component of the model.

❖ Interactions as a Collective Unit

- Getting Along: During the fire, differences were put aside and energies were put into addressing the concerns related to the impact of the fire. There were unsubstantiated stories of family members reconciling during the fire having realized that there were larger issues that needed to be addressed. Even if the stories are not true, they speak to the spirit of how disasters bring people together to address the important aspects of life.
- Sense of Belonging: Residents felt very attached to the Pass and wanted to do something to help the community survive it. What was striking was the positive reaction of the “newcomers” and “part-time” residents who expressed concern about their adopted home and how meaningful it was for them to live in the Pass. They were as equally concerned that the community was threatened and felt a part of the Pass from their experience of living through the Lost Creek Fire.
- Networks: The complex and inter-related networks within the Pass meant that individuals in charge of implementing the disaster plan and setting up the evacuation centre were aware of individuals they could call on for help. For

example, summer holidays meant that teachers were on break and served as volunteers.

❖ Expression of a Sense of Community

- Community Togetherness: Despite the challenges posed by the Lost Creek Fire, there was an inherent belief that it would survive this disaster just as it had survived so many other disasters in the past. There were times however, when faith in this conviction faltered and individuals did not feel that the Pass would fare so well.
- Community Mentality/Outlook: The participants expressed hopefulness about the Pass and its ability to address events such as the fire. There were some who also felt that the fire did not threaten the resiliency of the Pass because it was not large enough and only affected two out of the five communities if evacuations were considered.

❖ Community Action

- Coping with Divisions: With any large-scale event there is speculation and discussion about how it was handled. During the fire there were many comments made about SRD policy and its negative effect on the attention paid to the fire in its initial stages. However, there are minimal lasting negative reactions regarding how the fire was handled and ultimately controlled.
- Dealing with Change in a Positive Way: The participants acknowledged that they had difficulties becoming accustomed to the loss of the forest and the change in the landscape. They have accepted the changes and commented in the interviews that visible signs of re-growth have begun.

- Problem-solving Ability: There were several examples of problem-solving demonstrated by the community residents during the fire. One example is the creation of the drop-in meal service provided initially in Hillcrest until it was evacuated and then at the Maple View Hall in Bellevue until the fire was under control and the service was no longer required.
- Presence of Visionary Leadership: The local administration developed a collaborative model for disaster planning that was more effective in addressing the issues. Examples of this model include the twice daily meetings open to the public that included all personnel involved in the fire (local fire department chiefs, local administration, SRD personnel, social services and human resources personnel).

Even though the current model of community resiliency was supported, the findings also suggest that future revisions to the model would be in order. For example, expansion of which individuals or groups were more effective at “getting along” and working together would help us understand more specifically the elements of resiliency that are most effective in dealing with issues such as wildfire. An upcoming study recently funded by the Social Sciences and Humanities Research Council (SSHRC) which will include an examination of community response to wildfires in Barriere, BC and La Ronge Saskatchewan provides the opportunity to further our understanding of these details (35).

Links between Individual and Community Resiliency

There continues to be no straightforward answer to the question “What is the relationship between individual and community resiliency?” Participants in this study put individual agendas aside and worked together to help ensure that their community effectively dealt with a wildfire. Without the dedication of these resilient individuals there would be no evidence of resiliency at the community level. We do not know, however, if there are a set number of resilient individuals

needed to ensure community resiliency occurs. We do know that individuals who display attachment to the community, commitment to relationships and willingness to work together to resolve problems will contribute to resiliency. The next study will continue to address these issues which will assist in furthering our understanding of community resiliency as a model to describe community reaction to adversity.

Public Policy, Community Resiliency and Wildfires

This pilot case study has a number of policy implications including:

- Reviewing regional and provincial disaster plans to ensure that they emphasize a collaborative problem-solving process.
- Working with communities to ensure that clear communication processes are developed and implemented during times of disaster.
- Reviewing and adopting a checklist of essential items for those who are being evacuated or may need to be evacuated.
- Reviewing the Ministry of Health and Wellness mental health board's links to perceptions and experiences of being at-risk and feeling at-risk for those who experience disasters such as wildfires.
- Reviewing SRD policy on the urban-wildfire interface with its implications to fire fighting in rural areas.

In addition, there is a need to assemble individuals at the municipal, provincial and national levels of government and non-governmental organizations to discuss disaster mitigation and emergency response plans that will meet the needs of individuals and communities in a variety of regional, provincial and national contexts. This includes ensuring that rural communities have the resources needed to respond to disasters and that there is local capacity to serve in the outlined roles. Of note from the current pilot case study is the identified concern of

diminishing numbers of local volunteer firefighters. This concern will likely be experienced by other rural communities as their population dwindles due to a variety of internal and external changes.

Recommendations for Future Research

The pilot case study has stimulated other areas of research that need to be pursued including: (1) further examination of the link between individual and community resiliency; and, (2) a more detailed examination of the different aspects of the Community Resiliency model to more carefully identify which social elements in communities are related to enhancing community resiliency.

The current pilot case study is an example of the importance of developing research teams that include an advisory committee whose members represent a variety of individuals including the residents of the community under study and individuals with provincial, national and international roles in understanding disasters and in addressing them through disaster mitigation and response. Furthermore, knowledge translation through dissemination efforts needs to involve public members of the community under study as well as the appropriate governmental and non-governmental agencies responsible for disaster mitigation and response.

Dissemination

The findings from the pilot case study were shared with the community members at a public meeting held in the community on February 12, 2007. Feedback on the presentation was positive and indicated that their viewpoints were respected and presented appropriately. Media coverage of the community meeting was also noted in the local community newspapers. A presentation of the findings was also given at the 9th National Rural Health Alliance Conference in Albury, Australia on March 8, 2007. Media coverage in Australia as a result of that

presentation also occurred. Copies of the final report have been distributed to: the participants; the Municipal Office, the Crowsnest Pass Libraries, and to external agencies including SRD, Alberta Health and Wellness, Public Safety and Emergency Preparedness Canada, Mennonite Disaster Services, and the Red Cross. A booklet that emphasizes the lessons learned from the Lost Creek Fire is also under development and will be distributed within the community and to the previously listed agencies.

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Appendix A

Understanding Resiliency:
A Case Study of the Lost Creek FireINTERVIEW GUIDE: Qualitative Interviews

1. Tell us about your experience as a member of XX. Describe your role as a resident in XX.
2. How would you define a community? What characteristics does a community have? Do you consider XX to be a community? (Probe: In what ways is it a community and in what ways is it not?)
3. Would you consider (XX) to be rural or urban? Please tell us what features of XX make it rural instead of urban (or urban rather than rural).
4. How would you describe XX to people who live here? (Probe: do people get along, are there a lot of activities and events, are there volunteers, what kinds of tensions exist? Ask for specific examples) How are people made to feel welcome here? Do some people “fit” in? Do you feel as though you “fit” in here?
5. Describe events in your community that celebrate its history. How do these events help people “fit” in?
6. This community experienced a wildfire in 2003. Tell me about that experience. What was your role in dealing with the fire? When did people or groups in this community recognize it as a concern? What was done about it and who initiated it? Tell me all the steps that individuals, households, businesses, groups, or local government took to deal with this issue and attempt to find a solution.
7. Were you evacuated? For how long? Where did you go? How were evacuations handled by the local municipal government and other related agencies?
8. Were there specific individuals who were at-risk during or immediately after the disaster? Can you describe the kinds of people who were at-risk? What were the reasons they were at-risk? What are the reasons some people are at higher risk than others? Was assistance needed from inside this community to help these individuals? From outside this community? What kind of assistance was provided and for what time period? Were they evacuated, for how long, where did they go? Before this experience were you aware of your local, provincial or national disaster plans or aid?
9. Were there property losses? What kinds of risks results for individuals who lose their property during a disaster? What about economic risks—has there been any changes to economic security in the community as a result of the fire (Probe: damage to area as a tourist destination)?

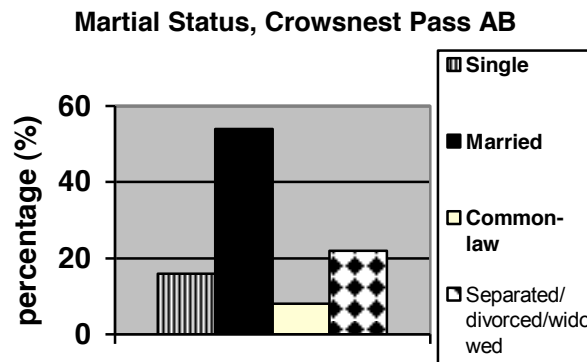
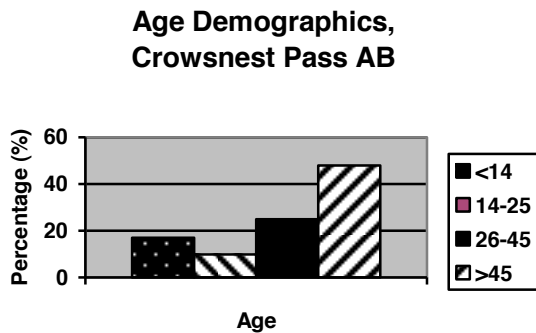
10. What has this community been like since the disaster? Describe any changes in how people, businesses, groups, or local government interact with each other, respond to each other or feel about this community. (Probe: Are they split into groups, are people satisfied with the way the disaster was handled? Are those who were at-risk excluded in any way from the community?)
11. What would you tell other rural towns or regions based upon this recent experience you have had? (what advice would you give about preparation for emergencies and disasters?)
12. What is resiliency? Can a community display its resiliency? What would it look like? What characteristics do you see as being important for increasing resiliency? What are the barriers to resiliency? (Probe: economic conditions, social relations, political conditions, cultural conditions) How do members contribute to a community's resiliency? How do they inhibit it? Do you think that your community shows signs of resiliency? What makes you say that? What characteristics of resiliency do you see? Did the experience with the fire affect the community's resiliency? In what ways—can you give specific examples? (was it a positive or negative effect) What are some ways to positively change the resiliency in the community? In the community after a disaster like a wildfire has occurred? What can individuals and groups do to enhance the resiliency of the community? What could municipal governments do to enhance the resiliency of communities? What about provincial and national governments—what can they do to enhance resiliency?

Appendix B

Community Profile: The Crowsnest Pass, AB

The Municipality of the Crowsnest Pass is located in the southwestern corner of Alberta, and was established in 1979 when all the towns, villages and hamlets in the Crowsnest Valley amalgamated into a singular municipal government. The discovery of coal in the 1880’s quickly placed the region on Canada’s economic map. Coal mining and the railway were the major economic drivers until 1962; after the closures of the coal mines, tourism became the major industry through the promotion of four-season recreational activities. The area, often referred to as ‘danger alley’, has experienced many tragedies. In 1903, over 60 residents of Frank, Alberta were killed when the south slope of Turtle Mountain released 90 million tons of limestone, burying the town, railroad, and a mine. Later, the Hillcrest Mine Disaster struck in June 1914 killing 189, gaining the distinction of the worst Canadian mining disaster of all time.

The most recent census population figures for Crowsnest Pass report 6262 inhabitants with 3062 occupied private dwellings. The following highlight the specific demographics of the area.



Employment Demographics

- Unemployment rate is 7%
- Manufacturing/construction = 15%
- Wholesale/retail = 16%
- Agriculture/resource-based = 19%
- Health/education = 17%
- Business services = 10%
- Other services = 20%

Religion

- Catholics = 31%
- Protestant = 44%
- Jewish = 0.4%
- Christian Orthodox = 0.4%
- No religious affiliation = 24%
- Eastern Religions = 0.4%

Language Demographics

- English-speaking only = 89%
- French-speaking = 2%
- Non-official languages = 9%

Immigrant Demographics²

- Canadian-born = 86%
- Aboriginal = 3%
- Foreign-born = 11%
- Visible minorities = 2%

Mobility Status

- Lived at same address for 1 year = 85%
- Lived at same address for 5 years = 57%

Description of the Disaster

The summer of 2003 has been identified as one of the worst wild land fire seasons on record for the provinces of Alberta and British Columbia. The Lost Creek Fire burned out of control for 31 days; many residents were on one-hour evacuation notice for days or weeks at a time, and others were evacuated for days at a time. Fire fighting costs were estimated to be \$38 million.

³

³ Visible minority refers to individuals who are non-white in colour or non-Caucasian in race but not Aboriginal (36).

Appendix C

Research TeamInvestigators:

Judith Kulig (Principal Investigator) is a rural health nurse researcher with expertise on community resiliency and is the nominated principal applicant. As PI she was responsible for the overall project implementation including the data collection and analysis.

The following co-investigators provided guidance for the overall direction of the pilot case study:

Bill Reimer (Co-Investigator) (Concordia University).

Ivan Townshend (Co-Investigator) (University of Lethbridge).

Dana Edge (Co-Investigator) (formerly at University of Calgary; relocated to Queen's University).

Katja Neves-Graca (Co-Investigator) (Concordia University).

Nancy Lightfoot (Co-Investigator) (Sudbury Regional Hospital).

Advisory Team Members:

Michael Barnett, is a psychiatrist working as a special assistant regarding community health issues to Congressman Patrick Kennedy. Dr. Barnett provided his expertise of community health issues set within the American policy system.

John Clague, is the Director of the Centre for Natural Disasters Research at Simon Fraser University. Dr. Clague contributed his expertise on earth sciences--specifically his knowledge on natural disasters;

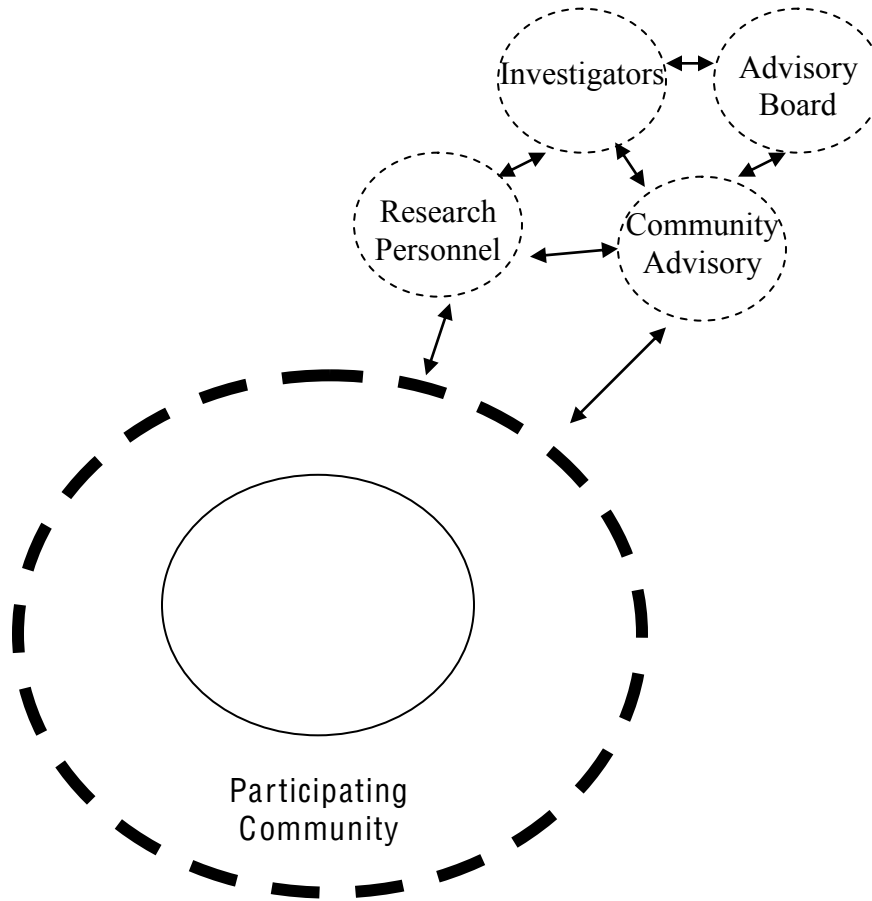
Andrew Coghlan, is National Manager, Emergency Services, Australian Red Cross. Mr. Coghlan will provide an international perspective regarding disaster response;

Murray McKay, is Research Relations, Research & Evidence Branch, Alberta Health and Wellness. Mr. McKay offered his assistance in policy development within provincial government systems, data access to existing databases within Alberta Health and Wellness and in the development of the knowledge translation plan.

Ron St. John, Director General, Centre for Emergency Preparedness & Response, Public Health Agency of Canada. Dr. St. John provided his expertise regarding emergency preparedness and public health systems from a national government perspective. He retired while the study was being completed and was replaced by Dr. Howard Njoo who holds the same position.

Appendix D
Organizational Chart

Figure 2. – Organizational Chart¹



¹ The broken lines around the community and individual groups indicates a permeable border and dynamic relationship where ideas are exchanged and changes can occur to any and all participating groups

Appendix E

Crowsnest Pass Site Profile

2006 – 2007

Understanding Resiliency and Risk:
A Case Study of the Lost Creek Fire

Research Team:

Judith C. Kulig, University of Lethbridge
Bill Reimer, Concordia University
Ivan Townshend, University of Lethbridge
Dana Edge, Queen's University
Katja Neves-Graca, Concordia University
Nancy Lightfoot, Northern Ontario School of Medicine

Advisory Team:

Michael Barnett, Office of Congressman Patrick Kennedy
John Clague, Simon Fraser University
Andrew Coghlan, Australian Red Cross
Murray McKay, Alberta Health and Wellness
Ron St. John, Public Health Agency of Canada
Howard Njoo, Public Health Agency of Canada

Funded by the Institute of Catastrophic Loss Reduction

Compiled by: Paige Emerson, RN, BN, 2006 Canadian Institute of Health Research (CIHR) Health Professional Student Research Award recipient

Crowsnest Pass Site Profile 2006 – 2007

The purpose of this pilot case study is to examine how resiliency is evident in the Crowsnest Pass after its experience of the Lost Creek Fire, 2003. This pilot case study will assist in generating information useful to local policy makers in relation to future disasters that the community may experience. In addition, research related to community reactions to wildfires will also be pursued in similar rural communities across Canada. Given climate changes and the increase of disasters including wildfires, the information generated from these studies will be applicable in other jurisdictions.

This site profile was compiled from a number of sources including:

Statistics Canada. 2002. 2001 Community Profiles. Released June 27, 2002. Last modified: 2005-11-30. Statistics Canada Catalogue no. 93F0053X1E.

<http://www12.statcan.ca/english/Profil01/CP01/Index.cfm?Lang=E> (accessed May 1, 2005).

Statistics Canada. 2007. Crowsnest Pass, Alberta (table). 2006 Community Profiles. 2006 Census. Statistics Canada Catalogue no. 92-591-XWE. Ottawa. Released March 13, 2007.

<http://www12.statcan.ca/english/census06/data/profiles/community/Index.cfm?Lang=E> (accessed April 17, 2007).

The 2006 census is not completely released and hence only specific variables include both 2001 and 2006 census data.

2. SITE DEMOGRAPHIC INFORMATION

2.1 Statistics Canada. Community Profiles 2001: Crowsnest Pass.

Population	Site: Crowsnest Pass, Alberta		
	Total	Male	Female
Population in 2006	5,749	-	-
Population in 2001	6,262	-	-
2001 to 2006 population change (%)	-8.2	-	-
Population in 1996	6,356	-	-
1996 to 2001 population change (%)	-1.5	-	-
Total - All persons	6,260	3,135	3,125
Age 0-4	280	150	125
Age 5-14	760	420	340
Age 15-19	410	215	190
Age 20-24	245	120	125
Age 25-44	1,550	765	785
Age 45-54	1,045	550	495
Age 55-64	715	355	360
Age 65-74	655	325	325
Age 75-84	445	185	255
Age 85 and over	165	45	120
Median age of the population	44.0	43.0	44.9

Common Law Status	Total	Male	Female
Total - Population 15 years and over	5,220	2,565	2,655
Not in a common law relationship	4,820	2,365	2,455
In a common law relationship	400	200	200

Legal Marital Status	Total	Male	Female
Total - Population 15 years and over	5,220	2,565	2,655
Single	1,215	705	515
Married	2,875	1,435	1,435
Separated	160	80	80
Divorced	455	225	230
Widowed	520	120	400

Language(s) First Learned and Still Understood	Total	Male	Female
Total - All persons	6,135	3,105	3,035
English only	5,475	2,745	2,735
French only	115	75	40
Both English and French	15	10	10
Other languages	535	280	255

Highest Level of Schooling	<i>Crowsnest Pass, Town</i>			<i>Alberta</i>		
	Total	Male	Female	Total	Male	Female

Total population aged 20-34	790	350	435	641,520	324,535	316,985
% of the population aged 20-34 with less than a high school graduation certificate	21.5	22.9	20.7	18.2	20.4	16.0
% of the population aged 20-34 with a high school graduation certificate and/or some postsecondary	31.0	34.3	28.7	32.2	33.2	31.2
% of the population aged 20-34 with a trades certificate or diploma	10.8	15.7	5.7	11.6	14.8	8.3
% of the population aged 20-34 with a college certificate or diploma	24.7	17.1	31.0	18.0	14.5	21.6
% of the population aged 20-34 with a university certificate, diploma or degree	11.4	10.0	12.6	20.0	17.1	22.9
Total population aged 35-44	1,005	510	500	515,670	256,370	259,300
% of the population aged 35-44 with less than a high school graduation certificate	23.9	27.5	21.0	20.3	21.8	18.8
% of the population aged 35-44 with a high school graduation certificate and/or some postsecondary	25.4	22.5	28.0	23.8	20.5	27.0
% of the population aged 35-44 with a trades certificate or diploma	24.9	30.4	19.0	16.4	22.9	10.0
% of the population aged 35-44 with a college certificate or diploma	18.9	16.7	22.0	19.7	15.6	23.8
% of the population aged 35-44 with a university certificate, diploma or degree	6.5	3.9	8.0	19.8	19.2	20.4
Total population aged 45-64	1,750	855	900	658,835	330,605	328,230
% of the population aged 45-64 with less than a high school graduation certificate	31.4	29.8	32.2	26.2	25.1	27.3
% of the population aged 45-64 with a high school graduation certificate and/or some postsecondary	18.3	17.0	18.9	20.1	17.1	23.0
% of the population aged 45-64 with a trades certificate or diploma	27.7	35.7	20.0	15.8	22.0	9.5
% of the population aged 45-64 with a college certificate or diploma	11.1	6.4	15.6	17.1	13.5	20.7
% of the population aged 45-64 with a university certificate, diploma or degree	11.7	10.5	12.8	20.9	22.3	19.4

Mobility Status - Place of Residence 5 Years Ago	Total	Male	Female
Total population 5 years and over	5,860	2,945	2,915
Lived at the same address 5 years ago	3,355	1,705	1,645
Lived within the same province / territory 5 years ago, but change address	2,090	1,035	1,050
Lived in a different province / territory or country 5 years ago	410	200	215

Selected Family Characteristics	Total
Total number of households	2,675
Total number of families	1,870
Number of married-couple families	1,415
Number of common-law couple families	205
Number of lone-parent families	250
Number of female lone-parent families	200
Number of male lone-parent families	45

Selected Occupied Private Dwelling Characteristics	Total	
	2001	2006
Total number of dwellings	3,062	3,004
Total number of dwellings occupied by usual residents	2,675	2,633
Number of owned dwellings	2,170	-
Number of rented dwellings	505	-
Population density per square kilometer	16.8	15.4

Land Area	373.07	-
Number of dwellings constructed between 1991-2001	260	-

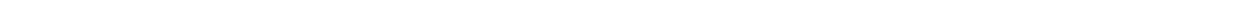
Labour Force Indicators	Total	Male	Female
Participation rate	60.9	66.6	55.5
Employment rate	56.7	60.7	52.7
Unemployment rate	7.1	8.9	4.9

Earnings (in 2000)	Total	Male	Female
Average earnings (all persons with earnings (\$))	26,323	35,368	16,402
Average earnings (worked full year, full time (\$))	40,949	48,498	27,875

Immigration Characteristics	Total	Male	Female
Total - all persons	6,140	3,105	3,035
Canadian-born population	5,465	2,750	2,720
Foreign-born population	665	345	315
Immigrated before 1991	615	330	290
Immigrated between 1991 and 2001	45	15	25

Aboriginal Population	Total	Male	Female
Total - All persons	6,135	3,105	3,030
Aboriginal identity population	165	70	100

Visible Minority Status	Total	Male	Female
Total population by visible minority groups	6,135	3,105	3,035
Visible minority population	140	55	80



2.2 Education Services and Schools

	Elementary School #1 (K - Gr. 3)	Elementary School #2 (Gr. 4-6)	High School (Gr. 7-12)	Continuing Education Institution	Continuing Education Institution
Name of institution	Horace Allen School	Isabelle Sellon School	Crowsnest Consolidated High School (CCHS)	Nippon Institute of Technology Inter-Cultural Campus	Chinook Educational Consortium
Mailing address of institution	Box 400 2002 – 76 Street Coleman, AB T0K 0M0	Box 210 12602 – 18 Ave Blairmore, AB T0K 0E0	Box 520 8901 – 20 Ave Coleman AB T0K 0M0	Box 1148 13437 – 20 Ave. Blairmore, AB T0K 0E0	Box 1349 10509 – 20 Ave. Blairmore, AB T0K 0E0
Name of principal	Mrs. Pam Reed	Mr. Bill Roughead	Mr. Grant Frier	Phil Cann <i>Director</i>	Allen Wilcke <i>Coordinator</i>
Name of school board	Livingstone Range School Division #68	Livingstone Range School Division #68	Livingstone Range School Division #68	-	-
# of students - kindergarten	38	-	-	-	-
# of students - grade 1	45	-	-	-	-
# of students - grade 2	51	-	-	-	-
# of students - grade 3	66	-	-	-	-
# of students - grade 4	-	48	-	-	-
# of students - grade 5	-	54	-	-	-
# of students - grade 6	-	48	-	-	-
# of students - grade 7	-	-	46	-	-
# of students - grade 8	-	-	49	-	-
# of students - grade 9	-	-	72	-	-
# of students - grade 10	-	-	50	-	-
# of students - grade 11	-	-	56	-	-
# of students - grade 12	-	-	71	-	-
# of students - community college	-	-	-	-	-
# of students - continuing education	-	-	-	12	100
Operational language(s) of the school	English	English	English	English	English
Immersion programs	No	No	No	No	No

3. DESCRIPTION OF SITE BOUNDARIES

The Municipality of Crowsnest Pass is geographically located in the southwest corner of Alberta situated between the Canadian Rocky Mountains. The Municipality is an amalgamation of five towns (from east to west): Bellevue, Hillcrest, Frank, Blairmore, and Coleman, and other small communities including Burmis, Passburg, Lille, and Sentinel.

The Municipality of Crowsnest Pass covers an area of 373.04 km², at an altitude of 1585 meters.

Location: 49°37'59. 5"N,
114°41'34. 2"W



4. SITE HISTORY - MAJOR EVENTS & STORIES

On April 29, 1903 approximately 90 million tons of limestone broke free from Turtle Mountain and covered the southern part of the town Frank, the mine, and the railroad below, killing approximately 70 people in its wake. To this day the remnants of Frank Slide lie at the base of Turtle Mountain.

The Crowsnest Pass, rich in coal was a prosperous mining district in the early 1900s, but also the location of terrible mining disasters. On December 9, 1910 the residents of Bellevue were shaken by the Bellevue Mine Explosion, which killed 30 men. Years later, on June 19, 1914, the town of Hillcrest experienced similar devastation when 189 men lost their lives in the Hillcrest Mine Explosion. After the Hillcrest Mine Explosion a relief fund was set up to help ease the financial burden for families who lost a husband, father or brother, in the mine and as a result were left without anyone to provide for them.

Although all of the local underground mines on the Alberta side of the Crowsnest Pass have since closed, pit coal mines in the neighbouring province of British Columbia are still operational, and continue to be a significant source of employment for Crowsnest Pass residents.

During the prohibition of 1916–1923, Crowsnest Pass was a center for the illegal transport of liquor from the neighbouring province of British Columbia into Alberta. Today, this legacy is marked every July with Rum-Runner Days featuring parades, sporting events, and the spectacular Thunder in the Valley fireworks display.

Flooding has also occurred periodically in the Crowsnest Pass. The most serious spring floods occurred in 1923 and 1942, when heavy rainfall overpowered the surrounding rivers and creeks immersing the towns in several feet of water.

The municipality of Crowsnest Pass was created on January 1, 1979 through the amalgamation of five towns (Blairmore, Coleman, Bellevue, Hillcrest, and Frank) and other smaller communities (Sentinel). The provincial government made the suggestion for the amalgamation because of the concerns that several of the individual towns were not economic viable. It was felt that amalgamation of the towns and centralization of services would enhance their ability to

survive.

Throughout its history the Municipality of Crowsnest Pass has also been susceptible to wildfires. Most recently the municipality experienced the Cherry Hill Fire in 2000 and the Lost Creek Fire in the summer of 2003. In the Lost Creek Fire over 21,000 hectares were burned and over 2,000 people evacuated from their homes, but luckily no lives were lost or homes destroyed.

The most recent disaster in the Crowsnest Pass occurred in the winter of 2005, when an ice storm knocked out power to local residents for five days.

5. SOCIAL SERVICES - AVAILABILITY AND ACCESSIBILITY

1. For each item determine whether or not it is located within the Site (Yes/No column).
2. For services located in the Site, please note if they are available on a full-time (F) basis, part-time (P) basis, such as monthly or bi-annually, or seasonal (S) basis.
3. If it is not, please indicate where the nearest services are located (which place column), and how far it is by car.
4. Add any additional relevant comments. For example, perhaps the elementary school has closed since 2000, or there has been a change in who provides a particular service. The key is to ask: What has changed? of the person(s) you are speaking to.

ITEM	Yes/ No	If yes, availability? F: Full-time P: Part-time S: Seasonal	If no, how far?					Comments:
			Adjacent	Within 30 min	More than 30 min	Which place?	Kms	
EDUCATION								
Pre-school / Kindergarten	Yes	F						
Elementary School	Yes	F						
High School	Yes	F						
CÉGEP/Community College / Univ. College	No				✓	Lethbridge Calgary Cranbrook	138 218 167	
University	No				✓	Lethbridge Calgary	138 218	
Continuing Education and Extension Courses	Yes	F						
Other Educational Institutions	Yes	F						

ITEM	Yes/ No	If yes, availability? F: Full-time P: Part-time S: Seasonal	If no, how far?					Comments:
			Adjacent	Within 30 min	More than 30 min	Which place?	Kms	
HEALTH								
Hospital	Yes	F						Blairmore: 16 acute care beds, 5 bassinets, 60 continuing care beds
Health Centre / CLSC	Yes	F						Community Health Site - Blairmore
Medical Clinic	Yes	F						1 Bellevue; 2 Blairmore
Blood/Urine Testing Facility	Yes	F						
X-Ray Facility	Yes	F						
Baby Delivery Facility	Yes	F						
CT Scan Facility	No				✓	Lethbridge Calgary	138 218	
Nursing Home	Yes	F						
Doctor(s)	Yes	F						if yes, specify # 6
Nurse(s)	Yes	F						if yes, specify # 42 RNs and 27 LPNs
Dentist(s)	Yes	F						if yes, specify # 2 and 1 denturist
Dental Surgeon(s)	No	F			✓	Calgary	218	if yes, specify #
Optometrist(s)	Yes	F						if yes, specify # 3
Home Care/Visits	Yes	F						

Lawyer	Yes	F P						if yes, specify #: 2 (local) 2 (North & Company LLP)
Notary	Yes							Private notaries, Lawyers, and Commissioners of oath in Crowsnest Pass.
Court (specify type)	No			✓		Pincher Creek	45	Provincial
FINANCIAL / BUSINESS								
Bank	Yes	F						if yes, specify # 5
Credit Union	Yes	F						Coleman
ATM Machine	Yes	F						3
Micro-Financing Group	No			✓		Pincher Creek	45	
Insurance Office	Yes	F						2 Blairmore; 1 Coleman
Industrial Park	Yes	F						Sentinel
Real Estate Office	Yes	F						Blairmore 6 ; Coleman 1
Farming / Fishing / Other Industrial Association	No			✓		Pincher Creek	45	Agricultural Society
Accounting	Yes	F						Chartered Accountants
COMMUNICATION SERVICES								
Cell Phone Service - Analog	Yes	F						
Cell Phone Service - Digital	No				✓	Lethbridge Calgary	138 218	
Cell Phone Service - Satellite	No				✓	Lethbridge Calgary	138 218	
Internet Service - Dial up	Yes	F						
Internet Service - High Speed	Yes	F						

Internet Service - Satellite	No				✓	Lethbridge Calgary	138 218	
BASIC SHOPPING SERVICES								
Grocery Store	Yes	F						if yes, specify # 2
Farmers Market	No				✓	Lethbridge	138	
Liquor Store	Yes	F						4
Bakery	Yes	F						2

ITEM	Yes/ No	If yes, availability? F: Full-time P: Part-time S: Seasonal	If no, how far?				Which place?	Kms	Comments:
			Adjacent	Within 30 min	More than 30 min				
SERVICE FOR THE ELDERLY AND DAYCARE									
Daycare	Yes	F						1 Blairmore; 1 Frank and 1 Licensed Family Day Home in Bellevue.	
Senior Citizens' Nursing Home	Yes	F						Long-term Care beds – hospital York Creek Lodge	
Senior Citizens' Retirement Home	Yes	F						Tecumseh Mountain Manor	
GOVERNMENT									
Employment Insurance Office	Yes	F						Alberta Human Resources and Employment	
Provincial Automobile Licence Office	Yes	F							
Social Assistance Office	Yes	F						Income Support &	

								passenger) - Blairmore
Train - Passenger	No				✓	Calgary	218	
Train - Freight	No							
Airport	No			✓	✓	Pincher Creek Calgary (international)	45 218	
Helicopter Port	Yes	F						Hospital
Boat / Ferry Terminal	N/A							
Taxi	Yes	F						
Gas Station	Yes	F						
Automobile Repair Services	Yes	F						

ITEM	Yes/ No	If yes, availability? F: Full-time P: Part-time S: Seasonal	If no, how far?					Comments:
			Adjacent	Within 30 min	More than 30 min	Which place?	Kms	
RECREATION FACILITIES								
Curling Rink	Yes	F						Coleman
Bowling Lanes	Yes	F						Blairmore
Municipal Swimming Pool (indoor)	No			✓		Pincher Creek Sparwood	45 39	
Municipal Swimming Pool (outdoor)	Yes	S						Blairmore
Municipal Skating Rink (indoor)	Yes	F						
Municipal Skating Rink (outdoor)	No							

Community Playing Field	Yes	F						
Community Gym	Yes	F						
Community Centre	No				✓	Lethbridge	138	
YMCA/YWCA	No				✓	Lethbridge	138	
Athletic Club (private)	Yes	F						
Theatre (live performance)	No				✓	Fort Macleod Lethbridge	90 138	
Cinema (movie)	Yes	F						Blairmore
Museum	Yes	F						Coleman
Art Gallery	Yes	F						Frank
Library	Yes	F						1 Blairmore; 1 in Bellevue
Municipal Parks	Yes	F						
Provincial Parks	No				✓	Beauvais Lake Willow Creek	56 140	
National Parks	No				✓	Waterton Banff	101 344	
Tennis courts	Yes	S						
Skiing trails	Yes	S						
Hiking trails	Yes	S						
Snowmobile trails	Yes	S						
Quad trails	Yes	S						
Dirt biking trails	Yes	S						
Horseback riding trails	Yes	S						

Racquet ball courts	Yes	F						
Rodeo	Yes	S						
Golf courses	Yes	S						
Campgrounds	Yes	S						

6. ECONOMIC FORTUNES

6.1 Business Licenses

The Development Officer has issued 497 business license renewals for the 2007 calendar year. This does not necessarily indicate the number of businesses that will renew their license for 2007. However, for the past five years the average number of business licenses issued has been between 450 to 497 licenses.

6.2 Where is retail activity concentrated? (E.g. Main Street, dispersed retail activity).

Majority of the retail activity is concentrated in Blairmore, which has become the commercial centre of the Crowsnest Pass, but there are also pockets of businesses in Coleman and Bellevue.

6.3 What is the site's dominant economic base? (E.g. forestry, agriculture, fishing, tourism, manufacturing, mixed services).

Industry	Crowsnest Pass, Town		
	Total	Male	Female
Total - Experienced labour force	3,090	1,670	1,415
Agriculture and other resource-based industries	585	525	60
Manufacturing and construction industries	475	420	55
Wholesale and retail trade	490	210	280
Finance and real estate	90	15	75
Health and education	525	80	445
Business services	315	200	120
Other services	605	225	380

Occupation	Crowsnest Pass, Town		
	Total	Male	Female
Total - Experienced labour force	3,085	1,670	1,415
Management occupations	225	140	85
Business, finance and administration occupations	300	40	265
Natural and applied sciences and related occupations	110	100	10
Health occupations	195	10	180
Social science, education, government service and religion	165	45	125
Art, culture, recreation and sport	65	30	35
Sales and service occupations	805	205	600
Trades, transport and equipment operators and related occupations	735	705	35
Occupations unique to primary industry	310	270	40
Occupations unique to processing, manufacturing and utilities	170	130	35

7. GOVERNMENT STRUCTURE

We want to have a better understanding of the local government structure and tax base that affects local operations.

7.1 What percentage of tax base is residential, commercial, or industrial?

The Municipality's 2003 tax assessment breakdown shows that the majority of the assessment consists of property classified as residential. Approximately 71% of the Crowsnest Pass tax roll is considered residential in its nature. Compared to about 27% of the assessment classified as non-residential, which includes both commercial and industrial property. The portion of the assessment classified as machinery and equipment makes up 5.5% of the total (Municipality of Crowsnest Pass, 2006).

The Municipality's 2004 tax assessment breakdown also shows that the majority of the tax roll is considered residential, approximately 74%, compared to about 12.5% of the assessment classified as industrial and about 9% residential. The proportion of the assessment classified as machinery and equipment was 5%.

In 2005, the Municipality's tax assessment breakdown showed approximately 75% of the tax toll was considered residential, compared to 12.5% classified as industrial, and about 9% commercial, while 4% was classified as machinery and equipment.

7.2 Describe the structure of local government.

Does the Site have an elected council?	Yes
If yes, what is the structure of this council?	Members of council must be taxpayers in the municipality and are elected by majority vote. Currently council consists of a mayor and 6 council officials.
How many are elected?	Specify # elected: 7
How many elected officials are men?	Specify # elected <i>men</i> : 5
How many elected officials are women?	Specify # elected <i>women</i> : 2
If no, what is the form of local governance that manages local services?	

8. COMMERCIAL SHOPPING

We want to determine the level of retail / commercial shopping in the Site, and the distance and time to travel to any higher levels of retail / commercial shopping. We are roughly following Hodge / Stabler's retail classification scheme.

For example, if the community is a full convenience centre, write yes in the Yes/No column beside that description. Then for each of the four descriptions of more extensive retail / commercial centres, identify the nearest community people in the Site would travel to for that level of shopping, and how far that is by personal automobile.

ITEM	Yes /No	If yes, availability?	If no, how far?					Comments:
			Adjacent	Within 30 min	More than 30 min	Which community?	Kms	
<u>minimum convenience centre</u> (gas and basic groceries)	Yes	F						
<u>full convenience centre</u> (minimum plus some general merchandise, full grocery store, implement dealers)	Yes	F						
<u>partial shopping centre</u> (above plus selected merchandise - small malls)	No			✓		Pincher Creek Ferne	45 71	
<u>complete shopping centre</u> (above plus extensive retail merchandise - large malls)	No				✓	Lethbridge Cranbrook Calgary	138 167 218	
<u>secondary wholesale-retail centre</u> (above plus some wholesale)	No				✓	Lethbridge Calgary	138 218	
<u>primary wholesale-retail centre</u> (above plus central wholesale outlets)	No				✓	Lethbridge Calgary	138 218	

9. ECONOMIC / DEVELOPMENT ORGANIZATIONS WITH GOVERNANCE LINKAGES

ITEM	Yes /No	If yes, availability?	If no, how far?					Comments:
			Adjacent	Within 30 min	More than 30 min	Which community?	Kms	
Business Development Bank of Canada / Banque de Development du Canada	No				✓	Lethbridge Calgary Edmonton	138 218 507	
Community Futures Development Corporations - Western Canada, Ontario, and Quebec only	Yes	F						Crowsnest Pass CFDC – Blairmore
Community Business Development Centres - Atlantic Canada only	N/A							
Federal / Provincial Economic Development Agencies - ACOA - Regional Economic Development Board, etc. - Atlantic Canada only: please specify.	N/A							
Chamber of Commerce	Yes	F						
Aboriginal Business Development Services	N/A							
Local Business Development Corporations	Yes	F						
Economic / Community Trust (i.e. Columbia Basin Trust)	No				✓	Cranbrook	167	

Economic Institutes and Research Centres (i.e. Northern Land Use Institute)	No				✓	Edmonton	507	
Career Training / Placement Programs	Yes	F						Minimal
Financial / Business Consulting	Yes	F						Minimal
Real Estate Boards	Yes	F						
Tourism Associations	Yes	F						
Rotary Clubs	No			✓	✓	Pincher Creek Lethbridge	45 138	
Retraining Programs - general	No				✓	Lethbridge	138	
Retraining Programs for women	No				✓	Lethbridge	138	
Women's Leadership Groups	No				✓	Lethbridge	138	

10. SOCIAL HOUSING

We want to know if there is any housing in the Site or beyond that is subsidized in any way by the provincial or federal government through its various programs.

ITEM	Yes /No	If yes, availability?	If no, how far?					Comments:
			Adjacent	Within 30 min	More than 30 min	Which community?	Kms	
Co-op Housing Units	No				✓	Lethbridge Okotoks Calgary	138 173 218	If yes, specify #:
Rent Supplement Units	Yes	F						If yes, specify #:
Assisted / Subsidized Housing for Low Income Seniors [do not include nursing homes]	No				✓	Lethbridge Calgary	138 218	If yes, specify #:
Assisted / Subsidized Housing for Low Income Families	No			✓	✓	Pincher Creek Lethbridge Calgary	45 138 218	If yes, specify #:
Assisted / Subsidized Housing for Low Income Single People	No							Location Unknown
Assisted / Subsidized Housing for Persons with Disabilities / Special Needs	No				✓			need to apply through Housing Field Services Office in Edmonton or Calgary

Appendix: Glossary of Terms

Section 5

Hospital: Provides the widest range of medical services. A hospital is open 24 hours a day, will conduct surgeries, and will accommodate over night stays.

Health Centre / CLSC: A health centre is not open 24 hours a day and will not perform major surgeries. A health centre will provide access to medical physicians, nurses, public health nurses, as well as other specialists such as a psychologist or a social worker.

Medical Clinic: This is also referred to as a walk in clinic where residents access medical care by a physician. Services include consultation and referral. There are no special medical services, programs, or counseling available.

Respite Care: This is care provided for short-term or extended periods of time for relief of family members providing regular extensive care to a family member. Respite care provides rest for the caregiver.

Victorian Order of Nurses - VON: They provide services for home care, life style education for adolescent parents, palliative care, crisis intervention, respite care, and foot care. While there are VON offices across Canada, there are more VONs in Ontario, New Brunswick, and Nova Scotia. <http://www.von.ca>.

Occupational Therapy: A practitioner trained in the promotion and maintenance of helping workers to return to work. They also provide assistance in self-care, productivity, and leisure. They may work with individual therapy, policy development, environmental modifications, staff education, or with management.

Other Emergency Line: In towns with no 911 service, there may be an alternative emergency number. In some cases, this emergency number will be a long distance number to a nearby centre, which will dispatch an emergency service.

Notary Public: These individuals are authorized to administer oaths, attest to the authenticity of signatures, and certify deeds, wills, and passports.

Micro-financing: Specializing in providing small business loans.

Halfway House: According to the John Howard Society of Alberta (2001), a halfway house is a community based residential facility for offenders who, having been sentenced to a term of incarceration, are serving a portion of their sentence under supervision in the community. Alternatively, a halfway house may also provide shelter for abused women in transition.

Women's Safe House / Shelter: Places for women who are or may be at risk for violence, threats, and / or abuse. These include transition houses, safe home networks, safe home networks (trained community members who provide shelter in their homes), and second stage homes which provide more long-term independent living for women and children coming out of transition houses.

Second Hand Stores: Consumers can purchase second hand items, such as clothing, furniture, and toys.

Clothing Exchange or Depot: This is usually organized by volunteers where people can bring in used clothes and exchange them. This service is usually free of charge. A popular clothing exchange is for children's clothing. You may find these to be operated out of a home or a church.

Senior Citizen Nursing Home: Public sector housing for seniors, usually owned by a community group or non-profit organization, and usually providing a minor medical component.

Senior Citizen Retirement Home: Private sector housing for seniors, privately owned and operated, usually providing no minor medical component.

Section 8

Central Place functions below are adapted from de Souza (1990), Conkling and Yeates (1976), and Garner and Yeates (1971). The examples provide illustrations of services across this hierarchy.

Hamlets:

- These places have limited services like gasoline service stations and eating and drinking establishments.

Minimum convenience centre:

- Hamlet services +
- a hardware store, drug store, a bank, and two other convenience functions, such as a variety store.

Full convenience centre:

- Minimum convenience centre +
- laundry or dry cleaning, jewelry, appliances or furniture, clothing, lumber, building materials, shoes and garden supplies, and a hotel or motel.

Partial shopping centre:

- Full convenience centre +
- some specialty goods and services like camera stores, florists, radio, TV stores, and women's accessories.

Complete shopping centre:

- Partial shopping centre +
- additional specialty goods and services.

Secondary wholesale-retail centre:

- Complete shopping centre +
- provides less than 32 different kinds of function services in conjunction with different types of wholesaling activities. Wholesale activities include automotive supplies, bulk oil, chemicals, paint, dry goods, apparel, electrical goods, groceries, hardware, industrial, farm machinery, plumbing, heating / air conditioning, professional, service equipment, paper, tobacco, beer, drugs, lumber, and construction material.

Primary wholesale-retail centre:

- Secondary wholesale-retail centre +
- more than 32 different kinds of function services in conjunction with 14 different types of wholesaling activities.

Metropolitan retail centre: This centre offers the widest range of services.

Section 9

Community Futures Development Corporation: Community Futures Development Corporation is funded through a partnership with the federal and provincial governments, and fosters local entrepreneurship, as well as promotes and coordinates community development initiatives. They offer entrepreneurial programs, business counseling, loan programs and business information to community members interested in expanding or starting a business. CFDCs can be found across Canada.

Community Business Development Centres: CBDCs assist to create small businesses and expand or modernize existing businesses by providing financial and technical services to entrepreneurs. CBDCs are only found in Atlantic Canada.

Regional Economic Development Board: REDBs develop and coordinate strategic economic plans; coordinate business development; provide support to organizations and communities within the zone; coordinate social and economic initiatives within the zone; and promote public participation and education. REDBs are only found in Atlantic Canada.

Local Business Development Corporations: These organizations are grass roots, bottom up, locally developed business development groups. Example: Woodriver: Lafleche Economic Loans Cooperative

- This organization helps small businesses to start or to upgrade. Loans are given at a low interest rate. The community screens potential loans and sets its own interest rate. Interest collected goes into the cooperative, and they put it back into the community.

Career Training and Placement Programs: These refer to non-government programs in career training and job placement.

Section 10

Rent Supplement Units: These are housing units owned by the private sector. They receive a subsidy directly from the government, and then rent the units at a reduced rent to a qualified household.

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Appendix F
Qualitative Study Consent Form

Understanding Resiliency:
A Case Study of the Lost Creek Fire

CONSENT – QUALITATIVE INTERVIEWS

You are invited to participate in a study about how people and groups in the Crowsnest Pass responded to a recent event that occurred within it. The purpose of the study is to understand how communities deal with challenges such as flooding, forest fires or other similar problems including identifying who is at-risk and why during disasters. The findings will help us develop a better understanding of how a community functions when faced with problems. This information can be used in preparing other communities to deal with challenges and helping local community members and regional, provincial and national decision makers to develop more appropriate strategies for all communities that have to deal with disasters.

Your participation in this study will include an interview that will take about 1½ hours. Your answers will be combined with information from the other study participants to create a final report and other written material such as presentations and publications about the project. A summary of the findings will be shared with you. The findings will also be shared with a variety of health agencies such as your health region and other interested organizations and disciplines.

You are under no obligation to participate in this study. There are no known risks to you. If you decide to participate, you are free to stop the interview at any time. You may refuse to answer certain questions. Your decision whether or not to participate or terminate the interview will not have any negative effect on yourself or your family.

Your real name will not be used on any forms or notes. All the information will be kept in a locked cabinet and destroyed within seven years. A copy of the files containing your interview transcript may be used for additional data analysis in other future studies regarding community issues.

If you have any questions, please feel free to ask me. You are also encouraged to contact Judith Kulig, RN, DNSc at (403) 382-7119 or by mail at the School of Health Sciences, University of Lethbridge, 4401 University Drive, Lethbridge, Alberta, T1K 3M4. Questions regarding your rights as a participant in this research may be addressed to the Office of Research Services, University of Lethbridge at 403-329-2747.

Signature of Participant

Date

Signature of Research Personnel

Date

Appendix G

Demographic Information Sheet, Qualitative Study

Understanding Resiliency:
A Case Study of the Lost Creek Fire

DEMOGRAPHIC FORM: Qualitative Interviews

Birthplace _____

If birthplace outside of Canada: _____
↓

You are a: Landed Immigrant Canadian Citizen Other (specify) _____

Date of arrival in Canada _____

Place of initial arrival in Canada _____

Gender Female Male

Date of Birth _____ (mo/da/yr)

Ethnicity (specify): _____

RESIDENTIAL HISTORY

Current Location of Residence (i.e., city, town, village) _____

Past Location of Residence(s)

Place (i.e., city, town, village, country)	First Yr	Last Yr
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

EDUCATION

Education Level (in years) _____

Location of school(s) _____

RELIGION

Religious Affiliation: Past _____

Present _____

MARITAL STATUS

- Married Single
 Common-law Widow/Widower Divorced

Number of Children: _____

OCCUPATION

Current Employment Status: Full-time Part-time Not-Applicable

Current Position/Occupation _____

Past _____

Do you work where you reside? Yes No

Length of time working in rural areas: _____

Length of time living in rural areas: _____

Length of time working in urban areas: _____

Length of time living in urban areas: _____

