

THE MALLARD FIRE 1999

LESSONS LEARNED



RECOMMENDATIONS FOR COMMUNITY PREPAREDNESS AND MITIGATION

*“If you don’t have a disaster, you’re never going to plan for one.
If you see it once, then you’ll say, Well, next time it happens we’ll be ready.
I think that has taught us a lesson here.”*

THE MALLARD FIRE 1999

LESSONS LEARNED



Photo Courtesy of Todd Pidhaychuck

“...after that it was like dreaming about each room burning down and stuff like that. And I think the worst thing too was seeing my children, yeah, seeing them go through the rubble and trying to find trophies and awards and stuff like that.”

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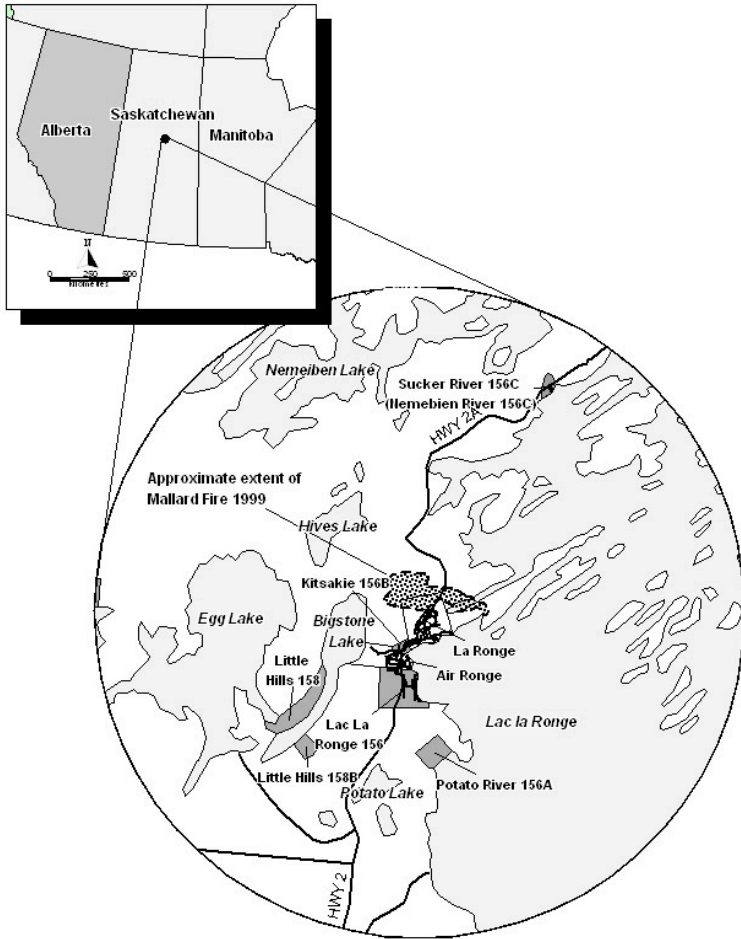
New Growth Since the Fire



Photo Courtesy of Judith C. Kulig

BACKGROUND

LA RONGE, SASKATCHEWAN, CANADA



La Ronge Study Area

ABOUT THE AREA

La Ronge is located in northern Saskatchewan on the shore of Lac La Ronge. It is adjacent to the Lac La Ronge Indian band and the northern village of Air Ronge. La Ronge is the largest community in northern Saskatchewan with over 2700 people residing in the town, 2000 people on the adjacent First Nations lands of the Lac la Ronge Indian band, and approximately 1000 people residing in the bordering Métis settlement of Air Ronge^{1,2}. La Ronge acts as the service centre for almost all of Northern Saskatchewan².

Mining, government and the tourist industry comprise the majority of employment (43%)¹. Additionally, industries such as fishing, logging, and wild rice production have played key roles in the development of the area and continue, in a variety of forms, into the present³.

The landscape surrounding the area is defined by the presence of the lake and its surrounding waterways. The rocky Precambrian topography includes boreal forests, and muskeg that immediately encompass the settled areas³.

The area of La Ronge has an extensive First Nations heritage of mostly Cree speaking people. Approximately 55% of the population are First Nations people⁴.

The area is also somewhat isolated as the closest urban center is 250 km south in Prince Albert. Due to its situation on the shore of Lac La Ronge as well as the banks of the Montreal River, the area has historically functioned as a crossroads for travelers and centre for trade⁴.

La Ronge houses the main airport for the Northern part of Saskatchewan, which includes a fire fighting base equipped with water tankers⁵.

THE 1999 MALLARD FIRE

Firefighters battled the Mallard Fire that caused the evacuation of the entire community of La Ronge on May 27, 1999¹². The fire, which was started by lightning, stretched over a distance of 8 kilometres and it took one week, 248 firefighters, and several water bombers to extinguish it. The damage included the destruction of 8 homes in Eagle Point, 1 trailer on Riese Drive and 1 bush home¹². Some commercial buildings were also destroyed within the town boundaries; however, no injuries were reported⁴.

At the time, the area only had one main roadway in and out via highway #102. Smoke and flames slowed down traffic and visibility; fortunately, the highway remained open for evacuation¹². The area was initially well equipped to fight the fire and was believed to be manageable, as La Ronge houses one of Saskatchewan Environment and Resource Management's (SERM) main fire bases for the North. However, due to the strong winds and the high fuel load, the fire quickly grew out of control and additional resources were called in. Most of the town evacuated to the local Uniplex - a recreation centre in La Ronge¹².

"...a lot of people said that it was like the hottest, fastest fire ever. Like usually when there's a fire when you go back to your home maybe half your fireplace is still standing or you can find a metal something or other. It was just black holes."

FROM THE ELECTED LEADERS

Town of La Ronge



Lac La Ronge Indian Band



Village of Air Ronge



Photos courtesy of Judith C. Kulig

To the La Ronge Regional Area, the Mallard Fire of 1999 was a local fear that came to reality.

Our communities are in the center of the boreal forest, so every fire season the local people live with the threat of what could possibly happen with an out of control wild fire coming into our communities. However, the threat of wildfire had not become a reality until the Mallard Fire of 1999.

The day began as a mostly sunny day which was interrupted by a plume of smoke in a westerly direction from our communities. Within less than 2 hours of seeing the plume the fire had made its way into the north end of La Ronge and a state of emergency was declared.

With the help from Saskatchewan Environment utilizing the water bombers and the fuel retardant disbursement process, a huge catastrophe was prevented as they were able to divert the fire from the center of town.

With the volunteer efforts of the three communities, as well as some government agencies, only minimal property loss was encountered.

The lesson that the three communities learned, was that working together and having an emergency plan in place is instrumental to success during times of crisis. Having gone through the Mallard Fire it has made our current planning more precise and organized.

Thank You,

Gordon Stomp, Mayor
Northern Village of Air Ronge

Chief Tammy Cook Searson
Lac La Ronge Indian Band

Thomas Sierzycki, Mayor
Town of La Ronge

RURAL COMMUNITIES

Currently, the 20% of Canada's population that is rural lives throughout 99.8% of its landmass. Rural Canadians enjoy a lifestyle that is unique, compared to the majority of the population who still reside within cities. Issues such as youth migration, access to health care services, economic development and community involvement are all central to understanding rural communities.



Photo Courtesy of Judith C. Kulig
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Rural to Urban Migration

Statistics Canada reports that there is a large rural-to-urban migration of youth aged 20-24 that is currently taking place, as youth leave their rural communities to pursue greater educational opportunities. However, individuals with a university education are three times more likely to move back to a rural location, after relocating to an urban setting. The same is not true for individuals with a grade nine education or less. Rural areas are indeed competitive in attracting community members with higher levels of education.

Rural Health Status: What are the Issues?

Residents of rural communities rate their own health lower than residents of urban areas. Risk factors for poor health, such as travel distance to health care services, smoking, and obesity, are considerably higher in rural communities. Significantly higher rates of hypertension and arthritis have also contributed to decreased health and functioning in both rural and northern Canadian areas⁸.

Rural dwellers report a lower likelihood of taking action to improve their health. This diminished health status in rural communities has been recognized by local, provincial and federal governments. Across Canada, healthy lifestyle activities have been initiated, in an effort to increase the level of health experienced by rural and northern Canadians⁸.

One example of these initiatives is the "Kick the Nic" program funded federally in Yellowknife and the Northwest Territories. Similar youth anti-smoking initiatives recognize the dangers of smoking and challenge young rural Canadians to make healthy choices early in life.



Photo Courtesy of Judith C. Kulig

THE BENEFITS OF WORKING TOGETHER

Jonas Roberts Memorial Community Centre



Photo Courtesy of Judith C. Kulig

Community Involvement

Rural Canadians have strong ties to friends and family. Individuals who live in more rural places develop trusting and close relationships with their neighbors. A strong sense of belonging is also common and it is these characteristics that help rural residents work together when facing adversities such as economic downturns and natural disasters.

Furthermore, individuals who experience a sense of belonging feel as though they "fit" in the community and more often participate in its activities. They also self-rate their health as higher than those who do not feel as though they "fit or have a sense of belonging".

COMMUNITY RESILIENCY

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. It is a process that most communities experience as they interact with their environment, particularly after events such as natural disasters.

What does resiliency look like?

The attribute of resiliency is the result of a dynamic process. Community members working collectively alongside each other will naturally develop a sense of belonging. This sense of belonging and shared outlook leads to community action that demonstrates leadership and conflict-resolution. While these qualities are borne of the specific actions of the community, resiliency does allow for feedback, input and new ideas from external sources.

Community Emergency Planning Meeting, Mallard Fire 1999



Photo Courtesy of Ron Pratt

What are the benefits of resiliency?

Resilient communities provide good examples for other communities. By understanding how affected communities have coped with adversity, others can benefit from their strategies. Residents of resilient communities carry a local pride that manifests itself in the life-perspective of its members. These community members will exhibit community action as conflict resolution and problem-solving activities occur.

What can be done to increase resiliency?

The social strengths of a community, such as multi-generational families, a healthy cohesiveness between residents, and the influence of powerful informal leaders can be valuable assets in a time of disaster. Resiliency will be promoted once community members increase their recognition that all residents are vulnerable and interdependent.

“There should be unity and there should be that – the sense of wanting to work together. So to me that’s what best defines a community is that camaraderie and that cooperation.”

FROM THE FIRE CHIEF

THE LA RONGE FIRE DEPARTMENT



Photo Courtesy of Judith C. Kulig

Letter From the Fire Chief

TIPS TO BE PREPARED:

- Have adequate home insurance and review your insurance plan annually
- Have an updated community disaster plan which includes a back-up community that can assist
- Reduce the risk of wildfire impacting your home by adopting FireSmart® activities - For example:
 - ⇒ Be familiar with fire protection services in your area
 - ⇒ Remove all brush and debris from around your home to decrease fire fuel
- Be prepared during Fire Season:
 - ⇒ Always leave sufficient gas in vehicles
 - ⇒ Have cash on hand
 - ⇒ Have a "grab and go" bag for all members of one's family prepared in advance

THE MALLARD FIRE

COMMUNICATION

COMMUNICATION WITH ALL INDIVIDUALS WITHIN THE COMMUNITY AFFECTED BY DISASTER IS THE KEY

QUESTIONS REGARDING COMMUNICATION...

- Is there a prepared emergency communication plan including official, community and media contacts and their pertinent information?
- Is there a plan for communicating with the media? Who will brief them, how often, and from where?
- Who are the unofficial local individuals and groups that could be helpful? Who can be contacted to mobilize their assistance?

Northlands College



Photo Courtesy of Judith C. Kullig

From the initial confirmation of the fire, local individuals, the RCMP, administration, municipal and provincial (SERM) firefighters as well as different government officials were engaged in frequent communication.

During the Fire a number of communication resources were utilized such as the local radio station for community members, and the incident command system (ICS) for personnel that

helped in inter-agency and inter-community cooperation and dissemination of information. However, there were some communication issues: Children were in school when evacuation notices were issued and some parents did not know where their children were evacuated to.

In an area with more than one bordering community such as La Ronge, Air Ronge, and Lac La Ronge, communication between communities can be difficult.

Community members claimed they received information from official and non-official sources that was not always accurate⁶. However, the local radio station proved invaluable during this time as they remained on air throughout the entire duration

of the fire, keeping in contact with the Town Office and the Provincial Fire Centre to inform the community⁶. They also translated reports for Cree community members.

People need one main source of communication to receive reliable and timely information during a disaster.

In 2010, the 'Public Safety Radio System' began operating in Saskatchewan. The system allows different agencies, including Municipal Fire and Police, First Nations agencies, Emergency Medical Services, Volunteer Search and Rescue chapters, Environment, Corrections, Highways and other government agencies to effectively communicate with one another during an emergency⁷.

WHO NEEDS WHAT? RECOGNIZING COMMUNICATION NEEDS

COMMUNITY MEMBERS

Community members require diverse information. Individuals desire detailed information regarding the land they know intimately. The public also requires information that is presented in a straightforward manner, free of jargon with clear, concise directions.

THE MEDIA

The media can be a powerful ally for informing and educating the public. Effective planning on getting consistent and accurate information to the media will benefit community members and ultimately, the collective fire effort.

FIRE ADMINISTRATION

Fire administration officials require accurate reports from the "front". With correct information, officials will be better prepared to make decisions. These officials also need regular and candid communication with one another to ensure efficient progress.

"My children still talk about how traumatized they were about that day...they didn't know where their parents were and nobody was communicating what was going on..."

THE MALLARD FIRE

LEADERSHIP

WHO IS IN CHARGE

Government officials need to know who the leaders are in a community in order to work together during a wildfire. Often in rural communities there are no obvious leaders for officials to connect with.

It is also important to have a key community contact who is in charge of coordinating with government officials.

At the time of the fire there was no emergency measures co-ordinator, as their previous co-ordinator had resigned and had not been replaced.

LEADERSHIP THROUGH TEAMWORK

The Local Fire departments of La Ronge, Lakeland, and Buckland all worked long hours helping to fight the fire.

Municipal fire departments, provincial firefighters and the RCMP worked together during this time.

Local community members helped to evacuate people who were less mobile, including the elderly and people with disabilities.

LEADERSHIP COMES FROM THE TOP...

Aerial View of the Mallard Fire



Photo courtesy of Brent Krayetski

In the province of the Saskatchewan the forest fire management centre controls wildfire management from its La Ronge Centre and other centres across the province.

Locally, the municipality of La Ronge has the Regional Fire/Rescue Services with paid and volunteer firefighters.

However, at the time of the fire the community lacked a comprehensive emergency plan. Since the fire, the three

communities have developed a detailed emergency plan.

In addition SERM officials now contact rural municipalities annually prior to fire season to discuss fire safety, emergency planning, as well as determine available resources, and establish contact lists⁹.

One role of the Office of the Fire Commissioner for Saskatchewan is to support training opportunities for volunteer fire fighters¹⁰.

In 2009, La Ronge hosted the provincial Volunteer Fire Fighter's Association Conference and training. For many First Nation firefighters, this was their first conference. More than 60 First Nations fire fighters attended⁷.

Cross training is important to maximize efficiency and ensure that local firefighters can contribute as much as possible during a wildfire. This means that in addition to training in structural firefighting, rural firefighters have the proper training, clothing and equipment for interface fire fighting as well¹¹.

Statue to Celebrate Saskatchewan's 100th Anniversary



Photo courtesy of Judith C. Kulig

...AND FROM WITHIN IT TAKES MORE THAN ONE TO ACHIEVE SUCCESS

FIRE FIGHTERS

Rural firefighters play an integral role during a wildfire and are usually first on the scene. Their devotion is admirable as they are often on-call and/or volunteer and simultaneously hold full-time jobs in the community.

COLLABORATION

Amid the stress and confusion of the fire, community members were able to pull together an emergency measures committee (EMC) in a short period of time. The committee served as a unified command centre for the town of La Ronge.

VOLUNTEERS

Volunteers helped to strengthen community ties and build community spirit. When individuals found an area where they could lend their support, a purpose was discovered that transformed them from would-be victims to leaders with intention.

THE MALLARD FIRE

COMMUNITY

THE PRESENCE OF A WELL-DESIGNED COMMUNITY DISASTER RELIEF PROGRAM IS VERY IMPORTANT

WHO IS AT RISK?

When considering who may be at risk in your community during a disaster, it is important to delineate between different types of risk. Some things that may be “at risk” are economic security, physical property, individual health and social cohesiveness. When planning and preparing your community for a possible disaster, it is crucial to consider (and plan for) the multifaceted face of risk.

LENDING A HELPING HAND

Our findings show that people in the La Ronge have high levels of Cohesion. This means that they are friendly to one another, feel a sense of community, attachment and social connectedness to the area.

This sense of community support and connectedness is an important factor in reducing risk and promoting resilience, both at the community and individual levels.

This was evidenced during the fire as community members worked together to help others in need

The Uniplex: Evacuation Spot



Photo Courtesy of Judith C. Kulig

At the time of the fire SERM was in charge of providing emergency services to La Ronge and area. The government learned valuable lessons while meeting community needs throughout the disaster and have since updated their emergency planning and enhanced training for firefighters.

Provide a central location from which to offer services:

The Uniplex in La Ronge served as a point of registration as well as a place of refuge for evacuees. Out-of-town family members could confidently leave messages for loved ones, while local residents were able to contact one another during the uncertainty of evacuations.

Develop an awareness of community needs: Discover what things community members affected by a disaster actually need before donating goods, in order to ensure donations are useful. Cash donations are helpful to empower people to make their own decisions and to support local businesses.

IN RURAL AREAS...

“COMMUNITY IS A WAY OF LIFE”

Initial Fire Starting Point



Photo Courtesy of Judith C. Kulig

“But I think the fire department and their team did a very good job by getting people out. We had a lot of emotions, people coming in crying and scared and - the health region was very good. They sent people over and did what they could do.”

Rural communities possess a depth that is built from **shared**

Encourage local participation:

Local volunteers were a huge source of support during the Mallard fire. The three communities of La Ronge, Air Ronge and Lac La Ronge all pitched in and helped one another - becoming one community instead of three.

After the Mallard Fire, the three communities (the Town of La Ronge, Air Ronge, and the Lac La Ronge Indian Band) collaborated on the building of a jointly owned and shared state-of-the-art Fire Centre for future fires and other disasters.

history, shared relationships and shared activities.

When disaster strikes, citizens can be counted on to meet the needs of their community, both by **anticipating** the needs and **responding** to the communicated needs that are described by local officials and media.

THE MALLARD FIRE

PERSONNEL

MAKE SURE THE RIGHT PEOPLE
ARE AT THE HELM

Security & Efficiency

During the 1999 Mallard Fire local RCMP were required for assisting with evacuations and providing security to the community.

To maximize efficiency, involve local law enforcement agencies from the beginning of the disaster management planning. A co-created plan can be quickly acted upon for the benefit of the local residents.

“And there we registered and we were met by the most comforting group of Red Cross workers. They were supportive, they were giving cookies to the kids, they were smiling, and it seems to me they made a point of behaving in a very relaxed manner, welcoming people. That was very calming.”

SERM is learning to work with communities to include the knowledge of local residents in the management and control of wildfires.

Local Victims Services, the Royal Purple, and the Legion, among countless of others volunteered their services during this time.

La Ronge Health Centre



Photo courtesy of Judith C. Kulig

Social Services were there to answer questions and register the names of community evacuees.

The Red Cross provided significant resources and services.

Other personnel that provided valuable services include the Mamawetan Churchill River Health Region & La Ronge Regional Fire/Rescue Services.

After a disaster, parents need support looking after children as they must contend with a myriad of issues such as dealing with insurance agencies, rebuilding their homes, and, if employment structures were lost, finding new employment.

Our findings indicate that there is a grieving period for people after a disaster. People need time to process the magnitude of what has occurred and the impact it has had on their lives

Mental health services need to be readily available to help both adults and children cope after a disaster.

The Robertson Trading Company Ltd



Photo Courtesy of Judith C. Kulig
With Permission of Robertson Trading Company

“...a lot of times they will have de-briefing when you find bodies in a house in a fire because it's so dramatic, but people don't realize stuff like this is too.”

WHO IS QUALIFIED TO HELP?

AND IS THERE REALLY TIME TO FIND OUT?

In an emergency situation, the people willing to volunteer are often the ones recruited.

There is little time or available staff to conduct formal interviews, perform criminal record checks and contact former employers for references. Having a reliable volunteer base already recruited, properly

screened, and equipped with necessary skills and certification is an integral part of disaster planning.

The Emergency Social Services Program is an example of this type of service. Its pre-established volunteer base plans and provides for the needs of individuals and fami-

lies during an emergency. Advance preparation reduces concerns regarding proper volunteer placement.

It may be helpful to consider relying on volunteers that have been approved for other service positions.

THE MALLARD FIRE

COMMUNITY RESOURCES

EQUIPMENT AND RESOURCES TO DEAL WITH THE DISASTER MUST BE ALLOCATED

The Mallard Fire Required:

- 258 firefighters
- 14 Water Bombers
- Numerous Helicopters

...probably because we're three funded different communities...I think that's what creates a lot of situations sometimes because of the different levels of government."

WHAT CAN THE MUNICIPALITY DO TO HELP ITS LANDOWNERS WITH DISASTER PLANNING?

- **Work with local health & social services personnel to conduct public education about disaster management and preparation.**
- **Develop materials such as fridge magnets that emphasize the essentials needed for successful evacuation. Reminder notices can be sent in monthly bills or tax notices and the inclusion of information about disaster planning and management can be placed in the local newspapers.**
- **Adopt updated provincial policies related to disaster planning.**
- **Create evacuation plans for the community including plans for the evacuation of pets and large-scale animals.**

The Mallard fire demonstrated the need for **human resources** and **revised infrastructure** as well as **physical resources**. **Human resources** including community volunteers and Emergency Social Services as well as paid employees contributed greatly to dealing with the disaster.

All-Saints Anglican Church



Photo courtesy of Judith C. Kulig

Allowing volunteer firemen time away from their regular employment is an example of the need for flexibility when it comes to allocating **human resources**.

Redistributing municipal firefighters to work in the bush fighting the wildfire is an example where **revised infrastructure** contributed to a more effective disaster management.

Creating inventories of what human and physical resources are available in your community will be a useful exercise in preparation for disaster management.

Rural communities have more limited **physical resources** than urban areas; therefore, issues such as transportation of

evacuees, evacuation of pets, and generation of power all need to be addressed with a clearly articulated plan before disaster strikes.

In the case of the Mallard fire, different communities received resources from various levels of government. For example, La Ronge was aided by the Provincial government while Lac La Ronge received resources from the Federal Government. In this case, resources may not be the same or equally dispersed. Community cooperation and communication is extremely important within these types of communities in order to share and allocate resources.

SIGNED CONTRACTS MUST BE IN PLACE TO PROTECT PERSONAL PROPERTY

Having an up-to-date list of contractors with equipment useful in fire management will be helpful. Having signed contracts with these individuals and their companies to access their equipment during disasters will help ensure efficient disaster planning.

Wild Rice Plant



Photo courtesy of Judith C. Kulig

RESOURCES TO ACCESS

GROUPS PROVIDING INFORMATION TO INDIVIDUALS AND COMMUNITIES INTERESTED IN DISASTER PLANNING

GOVERNMENT OF SASKATCHEWAN - WILDFIRE RISK ASSESSMENT

<http://www.environment.gov.sk.ca/Default.aspx?DN=548bb226-240e-4bde-a71c-1461e72b78a6>

WHAT YOU NEED TO KNOW ABOUT WILDFIRE

<http://www.environment.gov.sk.ca/Default.aspx?DN=548bb226-240e-4bde-a71c-1461e72b78a6>

CANADIAN RED CROSS- DISASTER PREPAREDNESS

<http://www.redcross.ca/article.asp?id=000005&tid=003>

AUSTRALIAN RED CROSS- DISASTER PREPAREDNESS

<http://www.redcross.org.au/default.asp>

Follow the “disaster and emergency services” quick link

THE CANADIAN CENTRE FOR EMERGENCY PREPAREDNESS

www.ccep.ca

UNIVERSITY OF CALIFORNIA

HOMEOWNER’S WILDFIRE MITIGATION GUIDE

<http://groups.ucanr.org/HWMG/>

LIVING WITH FIRE- A GUIDE FOR THE HOMEOWNER EVACUATION PREPARATION AND CHECKLIST

<http://www.scribd.com/doc/19381124/Living-With-Fire-A-Guide-for-the-Homeowner>

IS YOUR FAMILY PREPARED?

<http://www.getprepared.gc.ca/index-eng.aspx>

SALVATION ARMY- EMERGENCY DISASTER SERVICES

<http://www.salvationarmy.ca/eds/>



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References:

1. Statistics Canada. 2006 Community Profiles. 2006. 2. Town of La Ronge website. 2010. Available from: <http://www.townoflaronge.ca/Welcome/Introduction.php>. 3. Resiliency in Rural Settlements that have Experienced Wildfire: Implications for Disaster Management and Mitigation. Website. 2010. Available from: <http://www.ruralwildfire.ca>. 4. Kulig, J.C., Reimer, B., Townshend, I., Edge, D.S., Lightfoot, N. SSHRC Research Proposal. 2007. 5. fire Management and Forest Protection Branch Saskatchewan Ministry of Environment.. 2010. 6. Boyes, S. Opinion - In honor of big things. The La Ronge Northerner. 1999 Jun 45;22. 7. Barnes-Cornell, V. B. La Ronge hosts provincial volunteer fire fighters conference. The La Ronge Northerner. 2009 May, 55;18. 8. DesMeules, M. & Pong, R. How healthy are rural Canadians? An assessment of their health status and health determinants. Ottawa, ON; 2006. Canadian Institutes for Health Information & Public Health Agency of Canada. 9. Saskatchewan Environment. Saskatchewan environment protocol for providing assistance on municipal fires. 10. Saskatchewan Municipal Affairs and Housing. Office of the Fire Commissioner. Annual Report 2000. 11. Saskatchewan Environment. Saskatchewan's Wildfire Management Strategies. 12. Boyes, S. Loss and survival. The La Ronge Northerner. 1999 June, 45;22.



Photo Courtesy of the La Ronge Northerner

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