

HAZNET

The Magazine of the Canadian Risks and Hazards Network

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Special Issue : **VOLUNTEERS**

In this issue:

Spontaneous
Volunteers

Emergency Preparedness and
Resiliency Strategy in New Brunswick

Dancing Deer
Disaster
Recovery Centre

A New Model for ESS
in Vancouver

Emergency Service Volunteering
in Australia

And much more...



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EDITOR'S NOTE

Greetings and a warm welcome to the 14th edition of HazNet, a special issue on volunteers brought to you during National Emergency Preparedness Week. HazNet has grown through the creation of an editorial team, a dedicated new web-site, enhanced design and a communication strategy. Browse the articles, read the interviews, watch videos and look up our team at <http://haznet.ca/>

Thank you to all our contributors for creating informative and engaging content. A special thank you goes to Zeenat Mackwani, as her submission inspired this issue on volunteers and their roles in community resilience. Our cover image, created by Carime Quezada, features volunteers from across Canada who are included in this issue. Look closely. You might be one of them!

Volunteering is as unique and diverse as the people doing it. According to a **Statistics Canada report**, in 2013, 12.7 million Canadians volunteered nearly 2 billion hours, the equivalent of about 1 million full-time jobs. As this issue highlights, 'formal' volunteering (affiliated with an organization or group) is just part of the picture. Almost twice as many Canadians (82%) volunteer informally by helping people directly with housework, care, shopping, and driving. The 2014 **Survey of Emergency Preparedness and Resilience** shows that Canadians who experienced a major emergency or disaster turned for help to a family member (37%), neighbour (24%) or a friend (15%). Nearly 60% were asked for assistance by someone else during the emergency, and 91% were able to help out. Most importantly for this issue, Canadians affected by major emergencies or disasters less often turned to formal channels such as local government services (15%), first responders (9%), police (9%) or provincial government (5%).

Volunteers are the life blood of all communities. Emergencies and disasters create opportunities to put empathy into action through helping neighbours, volunteering with relief organizations, becoming a spontaneous volunteer or contributing remotely. Volunteering builds social capital, the glue that holds communities together. After a disaster, social capital, unlike other forms of capital, does not wear out but gets stronger. This issue tells stories of this strength: an interview with Darlene Yellow Old Woman-Munro on how she went from being a nightshift volunteer to creating the Dancing Deer Disaster Recovery Centre for the Siksika Nation in Alberta and a story from Christy Schaefer and her experience receiving help from volunteers in Calgary. Explore some of the best international examples of volunteer organization: the changing nature of volunteer management in Australia and a video with Jason Pemberton, a co-founder of the Volunteer Army in Christchurch, New Zealand, which mobilized thousands of students to help after the devastating earthquakes. Learn from the 2013 Southern Alberta floods with key lessons learned shared by city staff, the NGO Council of Alberta, the Canadian Red Cross, federal research agencies, and much more. *Enjoy the read!*

Lily Yumagulova,
Editor, HazNet
editorhaznet@gmail.com

To learn more about statistics and trends visit:
<http://www.statcan.gc.ca/daily-quotidien/150130/dq150130b-eng.htm>
<https://volunteer.ca/>
<http://www.statcan.gc.ca/daily-quotidien/160413/dq160413b-eng.htm>

WELCOME
from

the President

We are pleased to devote this edition of HazNet to the vital role of volunteers in emergency management and building community disaster resilience. Volunteers and volunteer organizations comprise much of the human capacity that contributes to disaster resilience. Volunteers, whether organized or spontaneous, play important roles in the effort to stabilize an emergency situation and are often the largest component involved in the recovery. Volunteer organizations are active on scene, long after emergency personnel and their vehicles have returned to their home stations.

Emergency management practitioners are focused largely, but not exclusively, on coordinating institutional efforts across mandates and levels of government. Many local and provincial emergency agencies incorporate community-based and major volunteer organizations in their planning. Some emergency plans include formal arrangements for emergency social services. Indeed, governments depend on partnerships with volunteer organizations to provide many services. What is often absent however is a supporting network or framework, to enable volunteer support during events, or mechanisms to manage surge capacity. On examination we find that we are not making advantageous use of the volunteer capacity intrinsic in our communities, and are not providing adequate policy and material support.

In working with volunteers, we might ask the following: what do they need from us? What are the expected outcomes for communities, and for our society as a whole? How do we ensure the sustainability of volunteer organizations? In this edition we explore these questions and offer some smart practices and success stories from researchers, practitioners and citizens.



Ernest MacGillivray,
President,
CRHNet

Dancing Deer Disaster Recovery Centre: an interview with Darlene Yellow Old Woman-Munro, Siksika Nation, Siksika, Alberta

By Lily Yumagulova

INTERVIEWS

In June 2013 the costliest disaster in Canadian history unfolded in Southern Alberta. The Siksika Nation was heavily impacted with over a thousand people evacuated and one hundred and fifty-two homes completely destroyed by the flood. I interviewed Darlene Yellow Old Woman-Munro, a coordinator of the Dancing Deer Disaster Recovery Centre, a multi-disciplinary outreach program that assisted the Siksika Nation evacuees and their extended families in their journey of recovery. There are several key lessons learned from her experience.



LY: *How did the disaster impact your community?*

Darlene: There were 5 communities affected by the devastation. Due to the flood water levels in these communities an evacuation was required. On Day #3 I went to volunteer since the valley where I lived was also affected by flood waters and my family was also evacuated. When I arrived I informed the site managers that I came to volunteer, but I became one of the volunteers who took the lead of site management.

LY: *I read over a thousand people were affected by this, is that still the case or is it a bigger number now?*

Darlene: A little over a thousand people were affected and evacuated. Approximately one hundred and fifty-two homes were devastated, totally damaged by the flood.

LY: *What impacts of this flood are you continuing to see today, almost 3 years after the event?*

Darlene: The individuals who are not able to move back into their homes are still living in temporary modular units. The communities are referred to as “NTN”s “New Temporary Neighbourhoods”. Two communities were developed, one on the east end of the reserve and one on the west end. There is one community that has been rebuilt with new homes and they have just moved home. We are continuing with the psychosocial program to provide support and services to all those who were affected by the flood, however Dancing Deer Disaster Recovery Centre (DDIRC) programs ended March 31st, 2016. The DDIRC is a multi-disciplinary outreach program. The team goes out to the community, house-to-house, to ensure that the DDIRC staff meet with clients and do quick assessments and plan appropriate support and services, referrals are made to appropriate departments as required. The post-trauma continues post flood, the Nation members continue to be traumatized, and they have had to move several times from one facility to another. First they were camping, then they went into temporary units, hotels and now they are into their temporary modular units. Now the process begins for the Nation members to move into new homes, which



will be located out of the flood zones, however the loss of community and to see their homes being demolished is a huge psychological issue. The psychosocial impacts are still great.

LY: *Who do you think is most heavily impacted in the community?*

Darlene: The individuals affected by the disaster and their extended family because they are also feeling the emotional effects of the individuals. There is a ripple effect. There is a division in our community too. There is a perception that people who were affected by the flood seem to be getting more resources and more visits than the rest of the community but that is only because their need is greater.

LY: *In terms of the groups, do you think it's the elderly, is it the children or is it those families that lost their houses who are the most impacted?*

Darlene: It's all the age groups. The elderly because they lived in those communities for years and they're aware their parents and their grandparents lived in those communities for 50, 60 sometimes 100 years. We were constantly evaluating the needs of the clients, because we were so short staffed that there was a gap in services, we had been providing services for the elders and the adults, but we were forgetting about the youth and children. So then we changed our focus because we found that children were not attending school, they were not interacting in school and there were real behaviour problems. We started working with the schools and did programming right at the ATCO (temporary) sites. Due to the lack of public transportation, the staff went to the sites, homes, hotels and those living with family and friends. The staff went out there and did activities and quick assessments, from there they worked on addressing the needs of the children and the youth. The flood has affected everybody of all age groups and family units.

LY: *Can you take us back to Day #3 of the flood, to that moment when you walked in as a volunteer? What is the story behind that moment and how it led to the creation of the Dancing Deer Disaster Recovery Centre?*

Darlene: I was a volunteer and I am a retired Nurse so I began to realize that there were real psychosocial issues that needed to be addressed. I began to speak to the CEO of Siksika Family Services who recruited me, as I walked in I was approached by one of the site managers and they said "We really need help, can you assist us with site management" and I said "OK" because I wanted to do whatever I could to help but I soon became part of their management team and I did night shifts so I spent many hours speaking to people who were affected, made observations and realized we really needed to have a psychosocial recovery response. Initially we provided support and services to the best of our ability, knowledge and skills. In October 2013, Alberta Health met with departments within the community and we began to express our concerns about the psychosocial issues that our flood affected clients were experiencing. Once the interviews were completed a proposal was submitted and that's when 'Dancing Deer' was implemented. 'Dancing Deer' means a lot of things spiritually and traditionally in our community because it's one of our healing societies, the name came from the Flood Recovery Committee. The committee was comprised of Siksika Nation department team leads and an appointed community member from the flood affected communities.

It wasn't until October 2013 that we became 'Dancing Deer Disaster Recovery Centre' and we focused on the psychosocial concerns. However, site management was still required for the three ATCO sites. We wore many hats. We had to deal with social problems such as domestic violence, family violence, ensuring that children were safe because the trailers were not designed for families, they were more like a dormitory style. We ensured the children were with their parents and were



safe. We played many roles in the recovery process. Clients referred to the ATCO sites as returning to a “Residential School” environment.

LY: *One of the challenges is that recovery is a really long-term journey, how do you see the future of your centre in the near-term and long-term?*

Darlene: Well our term is coming to an end and we are in negotiations with the province, but we have to convince the province and our leadership that recovery takes longer. We have to wait until people are back in their homes and then adjusting to their new environments because they are moving away from where they lived for many, many years. Their environment is not the same. Even with the ones who have moved home, they are still missing their homestead where they lived for many years and they’re still experiencing the losses they’ve had. They still have to talk about it. Some may think “You’ve got a new house, get on with it, it’s time for you to move on”. But in fact it’s been very difficult for people to move on.

LY: *What are some of the key learnings that you would like to share with other communities across Canada from this experience as a leader within your community in a supportive function?*

Darlene: I would like to encourage other communities who experience a disaster that the use of a multi-disciplinary team is very useful because you have different professional disciplines such as social workers, individuals who work with youth/children, nursing backgrounds, mental health backgrounds, and administration. You really need that team concept. They

go out as a team, you meet as a team, you plan as a team, and you follow up and do case management as a team. That concept is really hard to sell - understanding what a multidisciplinary team approach is fairly new to First Nations. This concept is used in many countries, to deliver supports and services especially when there are limited resources. This approach worked best for us because everybody had their own skills, knowledge, and backgrounds and the familiarity of speaking our traditional language and having the ability to understand our language and/or speak our language is an asset. Most clients are more receptive and at ease when they can speak our language. They are able to express and describe the psychological and social issues they are experiencing.

LY: *You mentioned language, and I think that that really is the central pillar of the healing process, but also the multi-disciplinary knowledge that you were able to apply and skills and ways of listening. What else do you think were the key ingredients to healing during the short term and longer term recovery process given that the needs are different?*

Darlene: With First Nations there’s always the trust issue. Who do we really trust? Who can we really share with? I worked in the community for many years and I know the community; having individuals from within the community is an asset because they know the community members and trust is already established. Client visits are productive, as you are able to sit down with an individual and understand their language, and let them speak, and you listen. Listening is key as well. Don’t try to solve problems for the individual, before



Photo credit: Dancing Deer Disaster Recovery Centre

you've listened to them. So that to me was key, just sitting down, letting them tell their story and then make your observation. Then you make both your subjective and objective assessment and then you plan together. It was difficult for us to refer to Mental Health because of that trust issue, and they didn't speak the language and they were already feeling traumatized and didn't feel like they wanted to be traumatized further. That's from their perspective, not from mine. The clients were more comfortable in their own environments.

LY: *What would you recommend for those communities who haven't experienced a disaster, what can be put in place before it happens? How can you prepare for something as devastating?*

Darlene: You need to educate and provide training for the communities on the different approaches that can be used, like the multi-disciplinary approach. The Dancing Deer Disaster Recovery Team, from the Siksika Nation is prepared to go to other communities to share our experiences and talk about what worked, what didn't work and how we can help other communities be prepared to have a recovery team to address the psychosocial needs of the community. I developed assessment forms, monthly report forms and processes based on knowledge and experience gained from participating in projects at Third World Countries who used the multidisciplinary team concept. In closing, I would like to take this opportunity to thank the Dancing Deer Team, they were very committed to the program and community members affected by the flood.

We are very grateful to Darlene for her time and for sharing her wisdom.



Dancing Deer Disaster Recovery Centre

"Rebuilding Families and Community through Hope and Healing"

DDDRC Team Goals and Objectives

DDDRC is a centralized service that evacuees and non-evacuees can access on a daily basis. Skilled staff allows us to use a multidisciplinary approach when assisting evacuees, in seeking the best solutions and/or options to meet their needs.

1. Assist evacuees on their journey to recovery by providing quality supports and services;
2. Ensure the availability of appropriate resources to provide physical, mental and social well-being supports and services to the community;
3. Continue to improve communications to all directly affected by the flood regarding the availability of programs, resources and services;
4. Maintain and develop positive relationships and partnerships with Siksika Nation Service areas and external agencies/resources/service providers for each relief and recovery centre by providing family and community support services: parenting courses, age appropriate activities for children, cultural (arts & crafts) programs, theme activities, and so forth;
5. Monitor and evaluate our progress based on outcomes through documentation and use of performance measures;
6. Ensure evacuees have shelter and food.

The DDDRRC Team continues to advocate on behalf of the flood evacuee and/or non-evacuee through case management, counseling, and referral as required to appropriate agency and continue to follow-up to ensure their needs are met.

Phase 2

DDDRC assists with housing for evacuees applying to Deerfoot, Crowfoot and Poor Eagle Relief Centres. Mediate with evacuees, ensure visits and follow up of the chronically ill elders at the hotels, living in their homes in the flood-affected areas and as needed. Ensure appropriate referrals to the Siksika Home Care Program. Ensure meal tickets are prepared and delivered to hotels on a weekly basis.

Phase 3

DDDRC continue with Multidisciplinary team providing outreach supports and services to two (Temporary Neighborhoods) Poor Eagle Relief Centre and families who are still in flood zone communities.

Phase 4

Continue to provide psychosocial supports and services to the community and share key learnings with other communities in Canada, once funding is acquired for DDDRRC.

On Disaster Risk Reduction, the Sendai framework, and the importance of planning

By Lily Yumagulova

An interview with Margareta Wahlström

Margareta Wahlström served as the first Special Representative of the U.N. Secretary-General (SRSG) for Disaster Risk Reduction and head of the U.N. Office for Disaster Risk Reduction (UNISDR) since her appointment in 2008. She led the development of the 2015-2030 Sendai Framework for Disaster Risk Reduction, adopted in March 2015 at the Third UN World Conference on Disaster Risk Reduction in Sendai, Japan. It is the first such agreement to set targets for reductions in disaster losses including mortality, numbers of people affected, economic losses, and damage to critical infrastructure.

Ms. Wahlström has over 30 years of extensive national and international experience in humanitarian relief operations in disaster and conflict areas, as well as in institution-building to strengthen national capacity for disaster preparedness, response and for risk reduction. Her academic background includes economic history, political science, social anthropology, archaeology, and philosophy of science.

I sat down with Ms. Wahlström at the Sixth Annual National Roundtable for Disaster Risk Reduction in Calgary. Margareta stepped down as head of the UN Office for Disaster Risk Reduction on December 31, 2015, making way for Dr. Robert Glasser who has been appointed by Ban Ki-moon as the new Special Representative for Disaster Risk Reduction.

Ms. Wahlström: My colleagues and I and many, many other people are working on finding practical methods to reduce the impact and the losses in disasters. Why? Because increasingly, as everyone can see looking in their own community and the world, the losses from disasters are becoming greater, and disasters happen more and more often. We have to look at social impacts -- you lose all your belongings, you lose your job because businesses go out of business when disasters happen, and lives are lost -- but also the economic impacts even if you are insured...the economic impact on the individual, community, government are more and more severe.

This is the body that we call working for disaster risk reduction. So it's prevention of building a new risk, it's reducing the existing risks that you already know, and of course it's also making sure that individuals and communities are resilient in times of disasters because they will happen more in any case. Even if we are able to reduce disasters [they] will still happen and we have to be able to have the capacity to really recover as quickly as possible, to recoup losses, and to try to cut short the unfortunately very lengthy period of reconstruction. So, as is very obvious, this is not a job for a single individual or institution; it requires really an engagement by the entire community, the entire government and all of society, including business, community groups, volunteers, sectoral departments...it is not the

business of only one department or ministry. It requires every entity to look at their responsibility.

This is disaster risk reduction and at a global level, the first time this became a significant message was a very long time ago. [At that time] mainly scientists were saying: 'Be very careful: what we see in terms of disaster risk is that it's going to become a very costly and important issue for countries in the future'.

Any why is that? It's not only the hazard, nature, it's actually how we build our societies, where we build our societies, how well informed and how well prepared the citizens are, the quality of our built environment (the houses). It is the understanding and planning for risks so that we can mitigate them as we go. It may sound like a very complex thing but in some ways it's also very simple. It's simple because we can learn from each disaster and we have to accept that it will happen again and next time we will be much better prepared. And I think this is a simple version of how we are better prepared for the future.

LY: *Why do you do this job?*

Ms. Wahlström: Well, for many years I worked in disaster response and saw many big disasters and crises around the world but I also realized that there is a pattern that repeats itself every time. We respond to a crisis/disaster with a lot of money and a lot of ef-

fort, and get to some recovery point, but as I already said not in a very efficient manner. And then it happens again, and it happens again. So I said 'There has to be a different way to do this, there must be a way of being better prepared to reduce the impact, and understand the economics of disaster but also understand the risk so that we can tackle it from the risk perspective. And that's why about 10 years ago I found that there is a UN office - the UNISDR - and this office at that time started building very important and very encompassing partnerships. Of course, [among these were] national governments and local governments, but also its social groups, science groups, the business community, parliamentarians -- trying to touch every part of society that will have an impact on how we manage and understand risks and what we can do to mitigate and prevent risks. And that's the path that we are on now.

LY: *Could you tell us about the Sendai Framework?*

Ms. Wahlström: Just a few months ago, in March 2015, all the countries in the world agreed on the Sendai Framework for Disaster Risk Reduction. It's a 15-year very concrete plan for the key elements you really need to tackle if you want to reduce risk. It's practical, it's inclusive, and it's completely voluntary, but it actually tells you what you need to do if you want to enter into



CRHNet Board members and CRHNet members with Margareta Wahlström (centre) and Ricardo Mena, Head of Regional Office, UNISDR The Americas (far right)

this partnership. In countries like Canada, you have your National Platform for Disaster Risk Reduction, which is a completely inclusive partnership engaging communities, authorities, your provinces, your state governments, and business, very importantly. It's a fantastic forum to engage in cooperation that has a concrete outcome and can change the reality for many communities in Canada, and of course in the world.

LY:*What keeps you inspired? What keeps you hopeful?*

Ms. Wahlström: Because when I visit countries like here and I see people working hard for the same goals and they are achieving things. So I take that with me and I share it with others, but it also shows me that we can achieve change, we can achieve things that are critical, so people who work globally like me, we become like repositories of knowledge. I also say we have to carry around a positive message because many people today [feel helpless], and we should be very worried and distressed, but if we stop believing that we can make a difference then everything is finished. So that's why the message is 'things are happening, look at this place, look at that country, and look at this community: they have changed their whole reality.'

LY:*What advice do you have for young people who enter this profession?*

Ms. Wahlström: First off we really need young people, not only symbolically, but also who engage, I can tell you one of the biggest challenges we have in this generation is actually short term thinking.

This idea of not having long-term plans is counter-intuitive to planning/building for resilience.

You need to have the courage to plan for 20-30 years, even if you then need to break it down, you need to look at challenges in that perspective and then to break it down, of course, and do your plans. That direction. I think that the younger generation who are now entering the profession -- for them this should be one of the critical areas to really change and to really change the perspective on how we plan.

I once asked a group of specialists in Sweden "What happened to long-term planning, when did it go out of fashion, and why?" They were all very silent for about five minutes and then they said: 'Well, that's very interesting...' So they have sort of adjusted but they realized [there was a change], so we started discussing when it really disappeared and [it was] probably in the

80s with the market economy, the belief that the market would solve everything, it would regulate itself. So that is something that of course we can't go back into the past and repeat. We have to find a new way.

Not just speculating/fearing the future but actually getting to understand it better which is also part of the science. I asked scientists: "Can you tell us, look at the trends, and if these trends continue unabated, if we don't stop the growth and bend the curve, where are we going to be in 40-50 years?" I haven't really got anyone there yet and there is a reason for it of course (in addition to who would finance that type of research). I'm very convinced that that needs to be done and when we do that we will all be able to prioritize how we plan for 20-30 years. So I hope that's something that younger people will bring to the table.

Also one thing that will be very important and I've had this conversation, because we do have youth groups, but they don't really speak for themselves, they speak in more generic terms. Very often the perspective on inter-generational legacies is not very strong. And it's not very practical to just accuse an existing generation of squandering what they have built, but if you link it to this perspective on planning and "How do we conquer tasks," which is one generation's fear of the future and another generation giving up - these are some of the very important things young professionals insist on.

When we discussed Sendai in the early days, and I tried to inject the idea that the framework needed to be a 40-year framework because that's what it takes. Most professionals agree with me. 15 years was what became politically viable. So in that sense 15 years is not terribly practical but we'll work towards that time and we'll use it but the reality is that the timeframe is a different one. If you look at what the IPCC says it's interesting, this obsession with the 2 degrees, it takes away from the fact that 2 degrees is an average and in some parts of the world the increase will be 9 degrees so it will become uninhabitable. I am hoping that we can build that conversation into the forefront because the IPCC also gave up a little bit they say "managing climate change is managing risk" and so I hope now that we can bring conversations much more together in practical terms because it has to do with "where are we going with risk?". So, yes, a big population and of course we have already inhabited all the most productive regions in the world, what is left now is not so nice, but there is lots space in Canada and Sweden still, but it's not so productive.

LY: *How do you see the bigger kind of pressures, like the refugee crisis, interface with disaster risk reduction? What I appreciate about the Sendai framework is the practicality of it. But it doesn't actually talk about the huge challenges. Was it a deliberate choice to focus on the actions?*

Ms. Wahlström: You're absolutely right. We're working with a very practical community, and they don't want to get drawn in: everyone knows it's there, but repeating it...others are doing it, a bit too much, without offering any help as to what to do. So that has really been the spirit. Even in the negotiations... sometimes when diplomats negotiate they can be very annoying and it's like a game, but sometimes you would hear ambassadors say "Please, colleagues, let's stop now, we've had our own diplomatic satisfaction now, but these are life and death issues, we have people at home who really want us to finish this". I think you're right, that that over-riding perspective is very present in people's mind, and it's the character of this community and the response to that is to do things.

LY: *You mentioned the importance of science and technology during your talk. What is the role of social sciences in addition to engineering and technology? We have 60 years of disaster social science research to build on. Has this been effective?*

Ms. Wahlström: I'm constantly emphasizing social science, and it's got a good uptake. I think in a way it's a community of researchers that needs more guidance, they need to talk about risk, they need to understand communities, but they need to talk risk/communities/social protection/networks/resilience what does it mean and how can we strengthen it? History, ethics, philosophy, we have a very active community on cultural heritage.

LY: *I appreciate your explicit focus on planning. You mentioned how different approaches to planning/risk can be detrimental to our overall systems. Where does your focus on planning come from, especially because you come from the response community?*

Ms. Wahlström: I think it's 1) the period when I grew up in a period when long-term planning still meant something 2) I think [it also comes from] when

I started looking at disaster risk reduction and capacity building in countries and local government. Somewhere along the way I realized planning is superior. It's very frustrating to see the plans are changing every year and that people don't believe in planning, and I think if you don't believe in planning you don't believe in disaster risk reduction. A plan is a road map to achieve something you set yourself it's not a straitjacket. So that's how I started really trying to understand why longer-range planning has gone out of fashion.

It's linked to food and food security issues. At some point along the way I found out that agriculture extension services have completely died out in Africa, which is disastrous. In Africa you have an agriculture system of small holders with little income, they can barely live themselves, and then you have large industrial [sector]. And of course the expert community say you really have to revive the small and medium size farming communities in order to improve food security. To deal with malnutrition, poverty issues. And to do that you need to rebuild agricultural extension services. They disappeared in the 80s when the World Bank enforced privatization. Are we going to be able to rebuild all these things? I don't know, so that's why we need new ideas and new models. We've built the risks that we are now having to deal with, and instead of making sure people are resilient in their communities, we've taken away the instruments for resiliency. This is not a very positive message but it's an important/critical message. You have to understand why things are the way they are.

LY: *To finish up our interview. You have travelled all over the world. What's your favourite place in the world?*

Ms. Wahlström: Vietnam and Afghanistan (after the fall of Taliban)



To watch a video interview visit:

<http://haznet.ca/video/margareta-wahlstrom/>

Chart of the Sendai Framework for Disaster Risk Reduction 2015-2030

Scope and purpose

The present framework will apply to the risk of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disasters, caused by natural or manmade hazards as well as related environmental, technological and biological hazards and risks. It aims to guide the multi-hazard management of disaster risk in development at all levels as well as within and across all sectors

Expected outcome

The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries

Goal

Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience

Targets

Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality between 2020-2030 compared to 2005-2015	Substantially reduce the number of affected people globally by 2030, aiming to lower the average global figure per 100,000 between 2020-2030 compared to 2005-2015	Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030	Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030	Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020	Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this framework by 2030	Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030
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Priorities for Action

There is a need for focused action within and across sectors by States at local, national, regional and global levels in the following four priority areas.

Priority 1 Understanding disaster risk	Priority 2 Strengthening disaster risk governance to manage disaster risk	Priority 3 Investing in disaster risk reduction for resilience	Priority 4 Enhancing disaster preparedness for effective response, and to «Build Back Better» in recovery, rehabilitation and reconstruction
Disaster risk management needs to be based on an understanding of disaster risk in all its dimensions of vulnerability, capacity, exposure of persons and assets, hazard characteristics and the environment	Disaster risk governance at the national, regional and global levels is vital to the management of disaster risk reduction in all sectors and ensuring the coherence of national and local frameworks of laws, regulations and public policies that, by defining roles and responsibilities, guide, encourage and incentivize the public and private sectors to take action and address disaster risk	Public and private investment in disaster risk prevention and reduction through structural and non-structural measures are essential to enhance the economic, social, health and cultural resilience of persons, communities, countries and their assets, as well as the environment. These can be drivers of innovation, growth and job creation. Such measures are cost-effective and instrumental to save lives, prevent and reduce losses and ensure effective recovery and rehabilitation	Experience indicates that disaster preparedness needs to be strengthened for more effective response and ensure capacities are in place for effective recovery. Disasters have also demonstrated that the recovery, rehabilitation and reconstruction phase, which needs to be prepared ahead of the disaster, is an opportunity to «Build Back Better» through integrating disaster risk reduction measures. Women and persons with disabilities should publicly lead and promote gender-equitable and universally accessible approaches during the response and reconstruction phases

Guiding Principles

Primary responsibility of States to prevent and reduce disaster risk, including through cooperation	Shared responsibility between central Government and national authorities, sectors and stakeholders as appropriate to national circumstances	Protection of persons and their assets while promoting and protecting all human rights including the right to development	Engagement from all of society	Full engagement of all State institutions of an executive and legislative nature at national and local levels	Empowerment of local authorities and communities through resources, incentives and decision-making responsibilities as appropriate	Decision-making to be inclusive and risk-informed while using a multi-hazard approach
Coherence of disaster risk reduction and sustainable development policies, plans, practices and mechanisms, across different sectors	Accounting of local and specific characteristics of disaster risks when determining measures to reduce risk	Addressing underlying risk factors cost-effectively through investment versus relying primarily on post-disaster response and recovery	«Build Back Better» for preventing the creation of, and reducing existing, disaster risk	The quality of global partnership and international cooperation to be effective, meaningful and strong	Support from developed countries and partners to developing countries to be tailored according to needs and priorities as identified by them	

The Resilient Communities Working Group

By Laurie Pearce

Chair, Resilient Communities Working Group

The Resilient Communities Working Group (RCWG) was the first working group to be established under Canada's National Platform for Disaster Risk Reduction. In January 2005, at the World Conference on Disaster Reduction 168 governments, including Canada, adopted the Hyogo Framework for Action (HFA) under the United Nations International Strategy for Disaster Reduction (UN/ISDR). At this time, conference participants agreed to pursue the expected outcome for the next 10 years as follows: The substantial reduction of disaster losses, in lives and in the social, economic and environmental assets of communities and countries. **The five priorities for action were declared as below:**

1. Ensure that disaster risk reduction is a national and local priority with a strong institutional basis for implementation.
2. Identify, assess, and monitor disaster risks and enhance early warning.
3. Use knowledge, innovation, and education to build a culture of safety and resilience at all levels.
4. Reduce the underlying risk factors.
5. Strengthen disaster preparedness for effective response at all levels.

Special consideration was given to consider that "both communities and local authorities should be empowered to manage and reduce disaster risk by having access to the necessary information, resources, and authority to implement actions for disaster risk reduction." Within this context, the Resilient Communities Working Group will provide the National Platform with informed advice on relevant strategies and take the lead in identifying priorities in appropriate disaster risk re-

duction activities and to foster disaster resiliency. It will guide, set priorities, and support the development of a Canadian network of disaster resilient communities and actively seek opportunities for collaboration to increase community-based disaster resiliency.

Accordingly, the RCWG set priorities for itself in terms of what it was hoping to accomplish from 2011-2015. These priorities were developed and added to during this time period. As well, it became clear that there was also a need to better support disaster resiliency in Canada's Aboriginal communities: First Nations, Inuit, and Métis. Therefore, the Aboriginal Community Resiliency Sub-Committee was established in 2012 with Brenda Murphy and David Diabo as Co-Chairs.

At the end of 2015, the priorities are as follows:

The Resilient Communities Campaign – to encourage and support Canadian communities to participate in the ISDR "My City's Getting Ready" Campaign. Early into its mandate, the RCWG was able to customize the campaign with a Canadian perspective. With funding from Public Safety Canada (PSC), ten thousand mini-posters were created, demonstrating mitigation examples of how Canadian municipalities were able to enhance disaster resiliency. The poster was included in copies of *Municipal World*, a magazine distributed to all English-speaking municipalities in Canada. This poster was translated into French for distribution.

There are now 11 communities in Canada who are or have signed up under the UN Campaign (<http://www.unisdr.org/campaign/resilientcities/home>) and we would love to see more communities sign-up to join the 3,087 that have joined internationally. We are currently working to develop a forum to recognize positive disaster resiliency activities in Canada by offering an annual award.

The Rural Disaster and Resiliency Project (the RDRP) – to encourage and support Canadian rural communities to complete Hazard, Risk, and Resiliency analyses and to develop community disaster action plans to become more disaster resilient.

Aboriginal Disaster Resiliency – under the auspices of the ARCWG, efforts have been made to promote and support Canadian Aboriginal communities to increase their levels of disaster resiliency. Several initiatives, with funding from Indigenous and Northern Affairs Canada (INAC), have been undertaken over the past several years. The mini-poster that was created as part of the ISDR campaign was further amended to reflect and support Aboriginal disaster resiliency and copies were made available in English and in French to all Aboriginal communities.

A major task was to adapt the RDRP to an Aboriginal context. Working collaboratively, the Justice Institute of British Columbia and Brenda Murphy (CRHNet Board member) created the Aboriginal Disaster Resil-

ency Planning program (ADRP). All of the material for this exciting project was created and reviewed by Aboriginal people from across the country and it has now been developed and piloted in a series of workshops in Chilliwack, Calgary, Toronto and Halifax (<https://adrp.jibc.ca/>). Training videos and materials are also available on-line.

Further work has been done by Brenda and Aboriginal researchers to identify ways and examples of how Aboriginal Traditional Knowledge can be incorporated into disaster and resiliency planning. The report on this initiative is also available on the ADRP website.

National Risk-Based Land Use Guide – to develop, review, promote and complete a draft of the Guide and to make a copy available through Natural Resources Canada. Considerable effort has been made through a series of workshops and training sessions to develop a Risk-Based Land Use Guide to help community planners and emergency managers identify the likelihood, vulnerability, and exposure of communities to poten-

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tial hazards. With funding from Defence Research and Development Canada (DRDC) a workshop was held to gather subject matter expertise and feedback on the draft, and it is now available at <http://geoscan.nrcan.gc.ca/starweb/geoscan/servlet.starweb?path=geoscan/download.web&search1=R=295981>

Work is underway to align the guide with other federal government documents and move the current draft to publication. Bert Struik has been the driving force on this program.

Engaging Children and Youth in Disaster Resiliency Projects and/or Initiatives – to offer opportunities to create awareness and reward positive initiatives by children and youth in Canada. This priority is relatively new to the RCWG and plans have been completed to develop an awards program to recognize ideas for disaster mitigation projects by youth and children.

Gender and Disaster – to increase awareness of the issues of gender and disaster and to support communities in recognizing the unique needs of girls and women, developing strategies to reduce post-disaster family violence, and encourage girls and women to have a greater voice during and post-disaster in the rebuilding of their community. This is also a new item and the RCWG is looking for ways to implement this priority.

In 2015, Canada, along with 187 countries, adopted the Sendai Framework for Disaster Risk Reduction 2015-2030 – the new international framework for disaster risk reduction. The RCWG's current Action Items still do align well with the Sendai Agreement. The biggest challenge to date, for the Committee and ultimately the RCWG, has been lack of a dedicated budget and the lack of a user friendly accessible web page. Unfortunately, this remains an ongoing challenge and has obviously impacted the RCWG's ability to move forward on a number of our action items.

On a national basis, the RCWG had an opportunity to influence the agenda and outcomes of the Sixth Annual National Roundtable on Disaster Risk Reduction, Charting the Future of Disaster Risk Reduction in Canada. The Roundtable was held in Calgary on November 2-3, 2015. The RCWG undertook a review of the numerous items listed under the four priorities of the Sendai Agreement. Members then voted on the ones they believed to be the most important and formulated questions based on these four items to serve as a common platform during the World Café that was held at the Roundtable. The outcome of the World Café is contrib-

uting to Canada's strategies for the next five years.

Members are awaiting the results of the National Platform for Disaster Risk Reduction Committee's strategic planning meeting which is to be held in May 2016. It is hoped that the outcome of that meeting will provide the RCWG with a strong mandate to move ahead with its agenda items in the coming years.



Laurie Pearce
M.S.W., M.A., PhD.

Laurie is a part-time associate faculty member at Royal Roads University, the British Columbia Institute of Technology, and the Justice Institute of British Columbia (JIBC). She was elected to Canada's Platform for Disaster Risk Reduction Advisory Committee and serves as Chair of the Canadian Resilient Communities Working Group.

The Sendai Framework or Disaster Risk Reduction 2015-2030

To find out more about how the Sendai Framework can influence Canada's approach to disaster risk reduction and the work of the Resilient Communities Working Group, log on to http://www.unisdr.org/files/43291_sendaiframeworkfordrren.pdf

Creating an Emergency Preparedness and Resiliency Strategy

By John Fife, MSM, CD

The New Brunswick Government's Mission for Emergency Preparedness and Resiliency is clearly articulated in the Department of Public Safety's mission statement

“ We will work collaboratively to enhance the safety and security of New Brunswickers and build strong, resilient communities. ”

This mission statement and the Government's strong desire to better prepare New Brunswickers for the next emergency or disaster drove the creation of the first annual Roundtable on Emergency Management and Resiliency. This foundational meeting had three stated objectives. They were as follows:

- Create opportunities to collaborate as a broader group
- Identify our strengths and weaknesses as they relate to Emergency Management and Resiliency
- Discuss a shared vision for a Resilient NB

Emergency management (EM) and resiliency are complex concepts. Traditionally, EM involves the management of emergencies utilizing all activities and measures related to prevention/mitigation, preparedness, response, and recovery. Emerging more recently is the concept of Disaster Risk Reduction which is the practice of reducing disaster risks through systematic efforts to analyze and manage the factors that cause disasters. This can include reducing a community's exposure to risks and hazards, the strategic management of

land and the environment, improving preparedness, better coordinating response/planning, and finally, forward looking recovery measures.

Preparedness and Resiliency is essentially the ability to adapt and withstand pressure: “to bend and not break”. The textbook definition of resiliency is defined as the “capacity of a system, community or society exposed to hazards to adapt by persevering, recuperating or changing to reach and maintain an acceptable level of functioning”. Resilient capacity is built through a process of empowering citizens, first responders, organizations, communities, governments, and society to share the responsibility and keep hazards from becoming disasters.

The concepts mentioned above are clearly overlapping and do not easily align with existing structures. There are also several related ongoing initiatives for which awareness does not exist. New Brunswick's main objective of building resiliency to disasters and emergencies at the individual, community, business and governmental levels, is fundamental to success. In order to capture the best from each perspective -- emergency management, resiliency building, or disaster risk reduction -- there is a clear need for a broad dialogue, with a diverse group of stakeholders.

In June of 2015, NB brought together this diverse group of stakeholders and conducted the first annual Roundtable on Emergency Management and Resiliency. At the conclusion of the Roundtable six major recommendations were made. These recommendations were as follows:

- Establish a Strategy Working Group that will develop a strategic plan that prioritizes areas of focus and implements an initial action plan;
- Work to increase the linkages between existing and ongoing forums such as the Critical Infrastructure Sector Council and NB Emergency Response Interoperability Committee;
- Increase communication with participants through regular updates or newsletters;
- Review the role of the Incident Command System within the Province;
- Review the applicability of the Canadian Standards Association (CSA) Z1600-14, Emergency and Continuity Management Program; and
- Commence planning for a second Roundtable in Spring 2016 to report back on the progress to participants.

Although all the recommendations coming out of the Roundtable on Emergency Management and Resiliency are important, the majority of our effort will be focused on developing a strategy that enhances the safety and security of all New Brunswickers. This strategy must be clearly understood, sustainable, and affordable over the long term. A committee of key stakeholders from across the public and private sector have been selected to assist in the development of this strategy. One of their first tasks was to establish a list of criteria that could be used to determine if concepts were viable. The current criterion for success includes the following:

- Is the strategy clear, affordable and sustainable;
- Does the strategy raise the bar in preparedness and resiliency;

- Will the strategy be well received at the first responder/grassroots level;
- Does the strategy effectively communicate across departments and the private sector;
- Does the strategy eliminate some of the stovepipes and synchronize stakeholders;
- Will the average New Brunswicker see the value in this strategy; and
- Will this strategy work over the long term (10-20 years).

GNB
is developing a
Strategy for Emergency
Preparedness. Working col-
laboratively to enhance the
safety and security of NB
and build strong, resilient
communities.

In order to ensure our strategy is both effective and worthwhile, NB has selected five broad performance measurements/targets. They are as follows:

- Substantially reduce the number of citizens affected by disasters;
- Reduce the impact of economic loss caused by disasters;
- Reduce the amount of damage to critical infrastructure and disruption of basic services by increasing our level of preparedness and resiliency;
- Enhance cooperation amongst communities and all levels of government; and
- Increase wherever possible the access to early warning systems and disaster risk reduction information.

The vision of the New Brunswick Emergency Preparedness and Resiliency Strategy is to inform and educate the Citizens of NB about our collective approach to preparing for emergencies through education, training, community outreach, and the eventual implementation of a strategy that places an increased focus on emergency preparedness and resiliency. Clearly, if all levels of government, industry, business, and communities work together, we can collectively create a sustainable and efficient emergency management system that reduces the likelihood, impact, and consequence of a disaster. With teamwork, common values, and cooperation, we can all play a role in making communities in NB safer and more resilient.

Although many emergencies and disasters are unpredictable, clearly a lot can be done to prevent, miti-

gate, and reduce the impact when disasters strike the province. By stressing the importance of adopting a comprehensive approach across the public and private sector, we ensure that all communities throughout the province are prepared to respond should the need arise. Through these creative partnerships we can grow capacity and reduce the risk to all New Brunswickers. Furthermore, an increased focus on prevention and mitigation will help to reduce the financial costs of disaster response and recovery. Public Safety will remain the lead department for the implementation of New Brunswick's Strategy for Emergency Preparedness and Resiliency. We will continue to work collaboratively to enhance the safety and security of all New Brunswickers in order to build strong and resilient communities.



In June of 2015, New Brunswickers conducted their first Roundtable on Emergency Preparedness and Resiliency



Col (retired) John Fife
MSM, CD

Colonel John Fife served for almost 27 years in the Canadian Armed Forces, occupying several senior command appointments. His career highlights include operational deployments to Cyprus, Bosnia, Sierra Leone, and Afghanistan. He has commanded at all levels, including the 2RCR BG and a Multinational Formation in Afghanistan. On retirement, he accepted a position with GNB as the Coordinator for the Roundtable on Emergency Management and Resiliency.

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- Deduction of information from various sources and the ability to concentrate on relevant resources
- The ability to organize, understand and analyze sources of information and to apply novel forms of technology or new

information to different professional settings and tasks

- The capacity to critically analyze problems, think creatively and make sound decisions while considering different sides of an argument
- The skills to collect various types of information, assess them, analyze and incorporate potential linkages from different fields, put them into writing and efficiently convey your message and the goal of your work

Management and Teamwork

- The ability to interpret and analyze information presented by peers and efficiently and constructively support or challenge their proposals, theories, ideas and reports in order to achieve a project's intended and successful end result
- Skills enabling you to work effectively in group situations, partaking in decision-making, leading and contributing in various capacities to the ultimate success of the team and task
- The ability to debate, persuade, mediate and present your thoughts and opinions to others, as well as the capacity to recognize and incorporate other potential solutions or applications to given problems
- The capability to identify priorities and proper courses of action, to plan the execution of tasks and to determine and delegate responsibilities to group members to most effectively carry out projects.

Enabling Volunteer Leaders: A new model for ESS in Vancouver

By Katie McPherson, Manager of Community Resilience with special thanks to Jackie Kloosterboer, Emergency Social Services Director



In 2012, the City of Vancouver launched the Vancouver Volunteer Corps (VVC) program to create new and expanded roles for citizens in emergency preparedness and response. The program consists of a general population of VVC volunteers with a basic level of training, and also serves as an umbrella for 4 specialized streams including:

- Emergency Social Services (ESS)
- Vancouver Emergency Community Telecommunications Organization (VECTOR - amateur radio society)
- Neighbourhood Emergency Preparedness Program (NEPP, public education)
- Neighbourhood Emergency Assistance Team (NEAT)

Since its inception, more than 1000 citizens have taken the VVC Orientation and Level 100 course which are pre-requisites for all streams. Many have advanced through to become active members with specialized training in ESS, NEAT, VECTOR and NEPP. VVC members have participated in a number of response and public safety operations ranging from evacuations to oil spills to large special events. They have demonstrated their ability to learn new tasks and lead teams during the first ever functional exercise testing a door-to-door evacuation process.

The VVC Program has had a significant impact on ESS, with a flood of new members and increased demand for training and engagement. ESS had operated as a well-established program since long before the VVC

was introduced. For many years, ESS has relied on a small number of highly trained and dedicated Disaster Assistance Team (DAT) volunteers who respond regularly to house fires and smaller emergencies. The DAT is a well-oiled machine when it comes to smaller emergencies, however, as many emergency managers can attest, it is difficult to train and retain numbers of volunteers sufficient to respond to major emergencies. In Vancouver, for example, we estimate that we will need up to 180 volunteers to staff 6 group lodging centres for just one shift.

The ESS program has set an ambitious 3 year goal of being able to sustain 6 group lodging centres simultaneously for 7 days. To achieve this with no additional resources, while maintaining day-to-day operations, is a tall order. When we looked at this goal in light of the other challenges for volunteer engagement and training, we recognized we had reached the extent of capacity under the current structure. We needed a model that was sustainable for our staff, ensured that we could provide ESS to the community, and also engaged and met the needs and interests of volunteers.

In January of 2016, the City of Vancouver launched the ESS Zone Team Program, embarking on a mission to dramatically enhance volunteer leadership and participation in planning, training, and community outreach. By facilitating volunteers' ownership of activities in their own neighbourhoods, we hope that the zone teams will not only increase engagement, but also improve the quality of plans and programs, and the commitment and understanding of the volunteers asked to implement them when disaster strikes.

The concept is simple. The city has been divided into 6 geographic zones. Within each zone, Leadership Teams have been established. The target for Leadership Teams is 12 volunteers per team; meanwhile, in 2016, we hope to have 6 – 8 of the positions filled.

Leadership Teams are tasked with leading ESS activities in their zones. All ESS members are assigned to the geographic zone where they live. Now, instead of having 500 people reporting in to a single staff person, there are 6 Leadership Teams serving as a force multiplier for outreach, planning, and engagement.

In addition to the primary responsibility of building and maintaining capacity to deliver emergency social services, leadership teams are encouraged to identify and oversee other types of activities in their zones that will contribute to local emergency preparedness and community resilience.

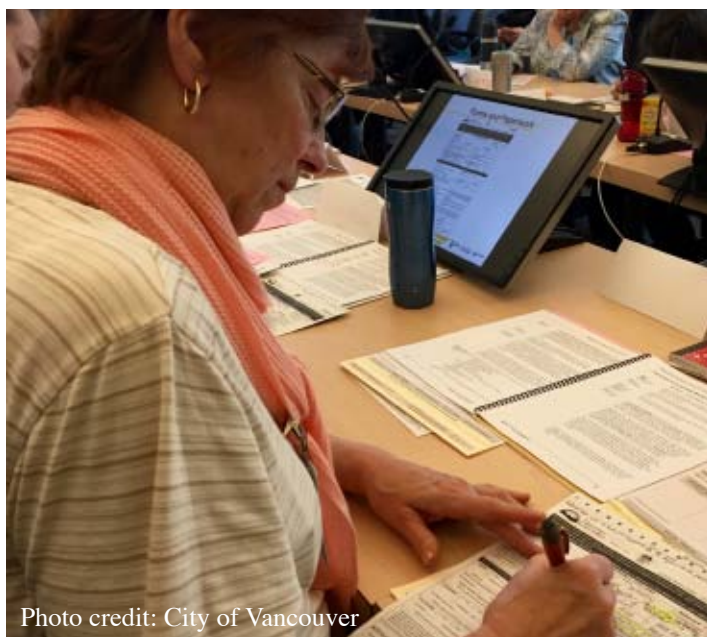




Photo credit: City of Vancouver

At the Zone Team Launch Party in February, over 100 volunteers showed up to provide their input on the events, activities, training, and projects that they would have liked to lead or participate in. Some of the top recommendations included conducting community mapping and gathering information about local resources to help drive planning and preparedness, hosting neighbourhood events to recruit more team members, and making connections with community organizations to engage them in planning and preparedness. All of these projects have direct relevance to ESS, but are outside of the traditional ESS program.

At just 4 months in, it is too early to tell how this program will fare. There will no doubt be stumbling blocks, but the initial response has been overwhelmingly positive. The tasks that have been left in the hands of the volunteers are moving forward. Leadership teams are setting zone priorities, developing plans, and solv-

ing problems together, much like they will be asked to do when the big one strikes. Everyone will have a role to play when an earthquake strikes Vancouver. We firmly believe that enabling volunteer leaders now will drastically improve community response and recovery when that happens.

Katie McPherson is the Manager of Community Resilience with the City of Vancouver. Currently she oversees the Community Resilience portfolio including volunteer programs, community and business engagement, public education and other strategic projects. She is also leading the City of Vancouver's involvement in various consultations and planning initiatives related to marine shipping and oil spill response. She regularly takes on leadership roles in emergency response operations in Vancouver. Prior to working for the City of Vancouver, Katie managed a multi-year Climate Change Adaptation project in Northwest BC, planted over 1 million trees across the country, and served as an ESS volunteer in Kingston and Vancouver. Katie's interest in emergency management and community resilience began in earnest when she responded as a volunteer to the 2004 Indian Ocean Tsunami and supported the development of a co-operative economic recovery project in a relief camp in Ban Nam Khem, Thailand. She holds a Master's Degree in Disaster and Emergency Management from York University and a BA in International Development and History from Dalhousie University.



Photo credit: City of Vancouver

Exploring the Potential of a Landsat-8 Satellite Image in Mapping the 2013 Flood Extent over Calgary, Alberta

By Victor Veiga, Quazi K. Hassan*, Jianxun He, Khan R. Rahaman
Schulich School of Engineering, University of Calgary, Alberta,
Canada

*Corresponding author: E-mail: qhassan@ucalgary.ca



The authors have conducted this study under the leadership of Dr. Hassan at the Earth Observation Laboratory in the Schulich School of Engineering of the University of Calgary.

Introduction

In 2013, Alberta experienced an unprecedented flooding event. This flooding was primarily observed in southern Alberta (known as the Bow River basin). Calgary was the largest city within the affected region with a population of approximately 1.1 million. This particular event not only forced approximately 100,000 residents to evacuate but also resulted in billions of dollars in damages. Here, our aim was to use available remotely sensed Landsat-8 satellite image/data in order to generate a flood extent map. Schnebele et al. (2014) empha-

sised that because of extensive cloud cover and revisit limitations, remote sensing data of the Calgary flooding in June 2013 was extremely limited. However, the nearest usable pre-flood image was on Sept 20, 2011. This was almost 2 years before the June 2013 flood, which was definitely not ideal, as this might detect land use change rather than change in terrain wetness. Therefore, this study was limited to the use of one post-flood Landsat-8 image, which was acquired 16 days after the peak flood time on June 21, 2013.

Methods

Here, we considered our study area as a 1 km buffer (Fig. 1) along the Bow and Elbow Rivers around the City of Calgary. From our experiences and available information, we learned that the flood extent did not go beyond the 1 km buffer. In order to delineate the flood extent, we obtained a single post-flood Landsat-8 data/image acquired on July 7, 2013.

Using the 1 km buffer zone as shown in Fig. 1, we subset the Landsat image. Subsequently, we implemented a widely used unsupervised classifier to generate 50 spectral classes. Upon the classification, we divided the study area into two halves, using the left half for calibration and the right half for validation purposes. Our calibration phase consisted of two steps: (i) distinguishing of “wet” classes from the unsupervised classification image, and (ii) enhancing the classification accuracy through the application of majority filters with several window sizes. The resultant image was then compared against the City of Calgary flood extent map by means of \bar{K} .

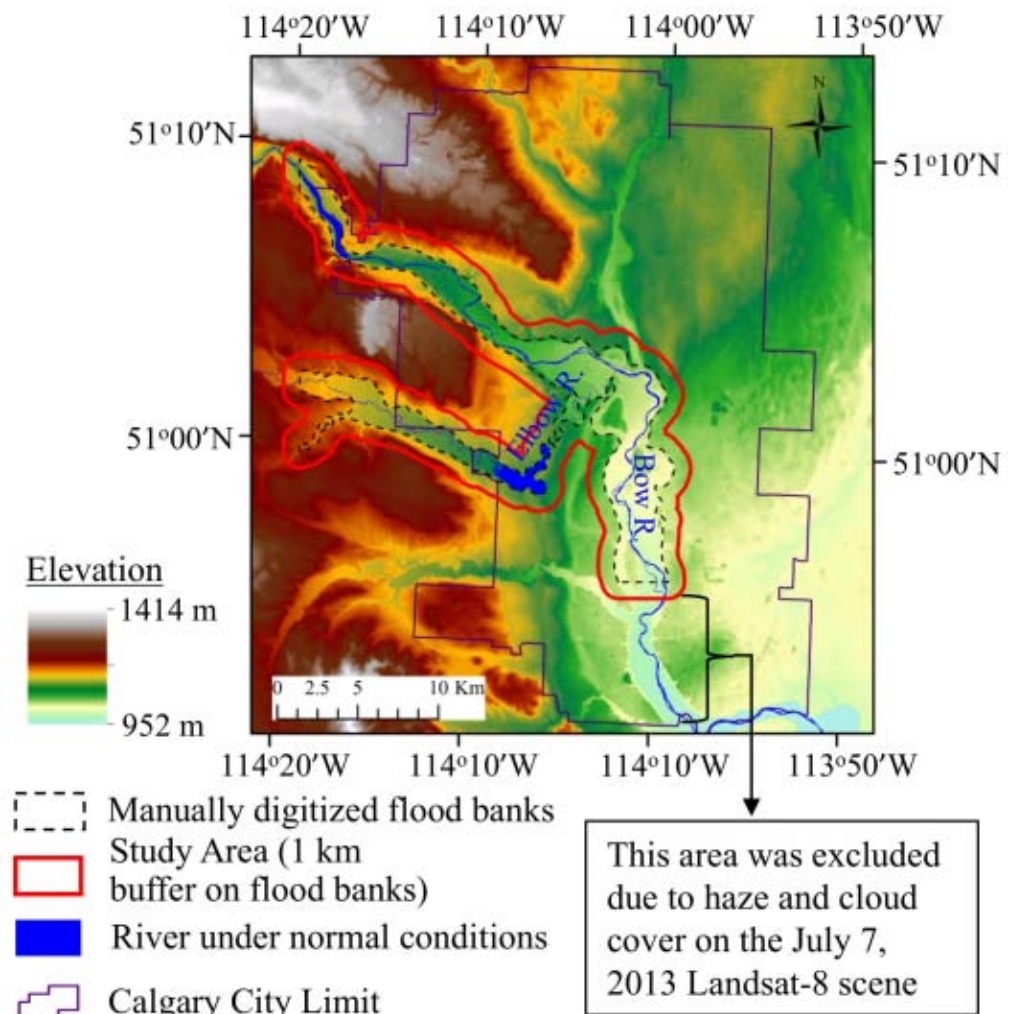


Fig.1 Study area for the flood extent estimation

Results and Discussion

Fig. 2 shows the Landsat-8 derived flood extent maps over the left half of our Landsat-8 image (i.e., calibration dataset) by use of the ISODATA clustering technique, and then the implementation of a majority filter with several windows sizes in the range 3x3 to 11x11. We found that the majority filter was effective: e.g., a simple 3x3 pixel majority filter increased the \hat{R} (or agreement relative to the actual ground data) by approximately 5 percent from the original estimated flood extent (i.e., with a \hat{R} of 0.50). Overall, we observed that 7x7 and 9x9 majority filters proved to be most effective, since they both gave the highest \hat{R} of 0.59. Thus, both the 7x7 and 9x9 window sizes were selected for implementation over our validation dataset (i.e., right half of the image);

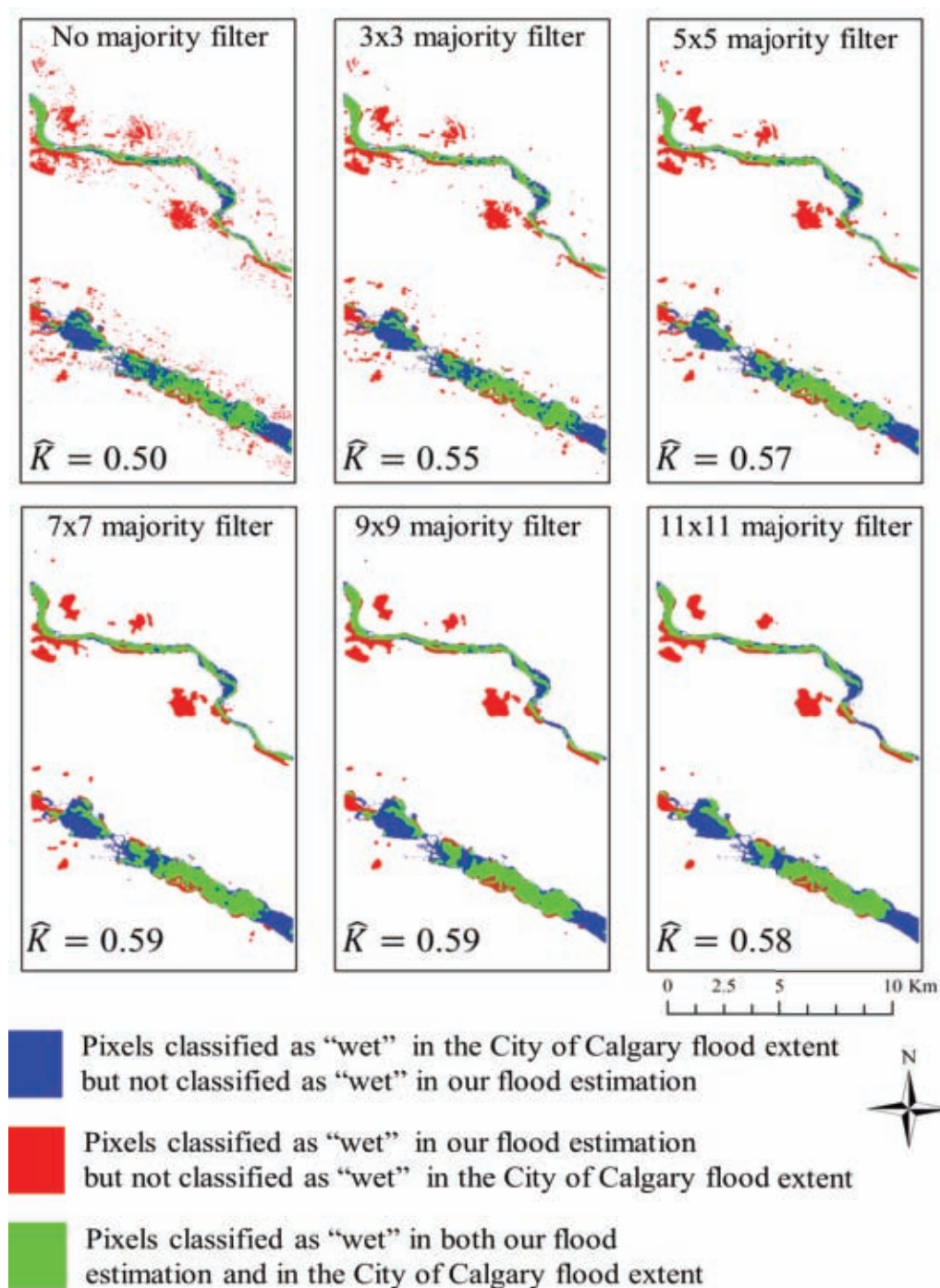


Fig. 2 Comparison between estimated flood extents from Landsat-8 image with that of the City of Calgary. To improve the agreement a majority filter with several window sizes was used.



Useful resources: by Lily Yumagulova

A comprehensive and informative resource, *Floods in a Changing Climate* from the International Hydrology Series, a collaboration between the International Hydrological Program, UNESCO, and Cambridge University Press, addresses critical dimensions of flood science and management:

Floods in a Changing Climate: Extreme Precipitation by Ramesh Teegavarapu,
Floods in a Changing Climate: Hydrological Modelling by P. P. Mujumdar and D. Nagesh Kumar,
Floods in a Changing Climate: Inundation

Modelling by Giuliano Di Baldassarre,
Floods in a Changing Climate: Risk Management by Slodoban Simonović

Informative, packed with methodological guidance and international data, these books offer valuable insights for researchers in the related fields. Sections of the books could inform flood management professionals and policy-makers working in hazard mitigation, risk management and planning.

www.cambridge.org

and such outcomes are shown in **Fig. 3**. It revealed that the \bar{R} were 0.6 and 0.56 upon implementing the majority filters with a window size of 7x7 and 9x9 filters, respectively. Overall, the 7x7 majority filter proved to be more optimal than the 9x9 majority filter, since it gave a better outcome relative to the validation dataset. In addition, our hypothesis of having a smaller 7x7 window size for the majority filter proved to be correct, as this avoided over generalization of the classified areas.

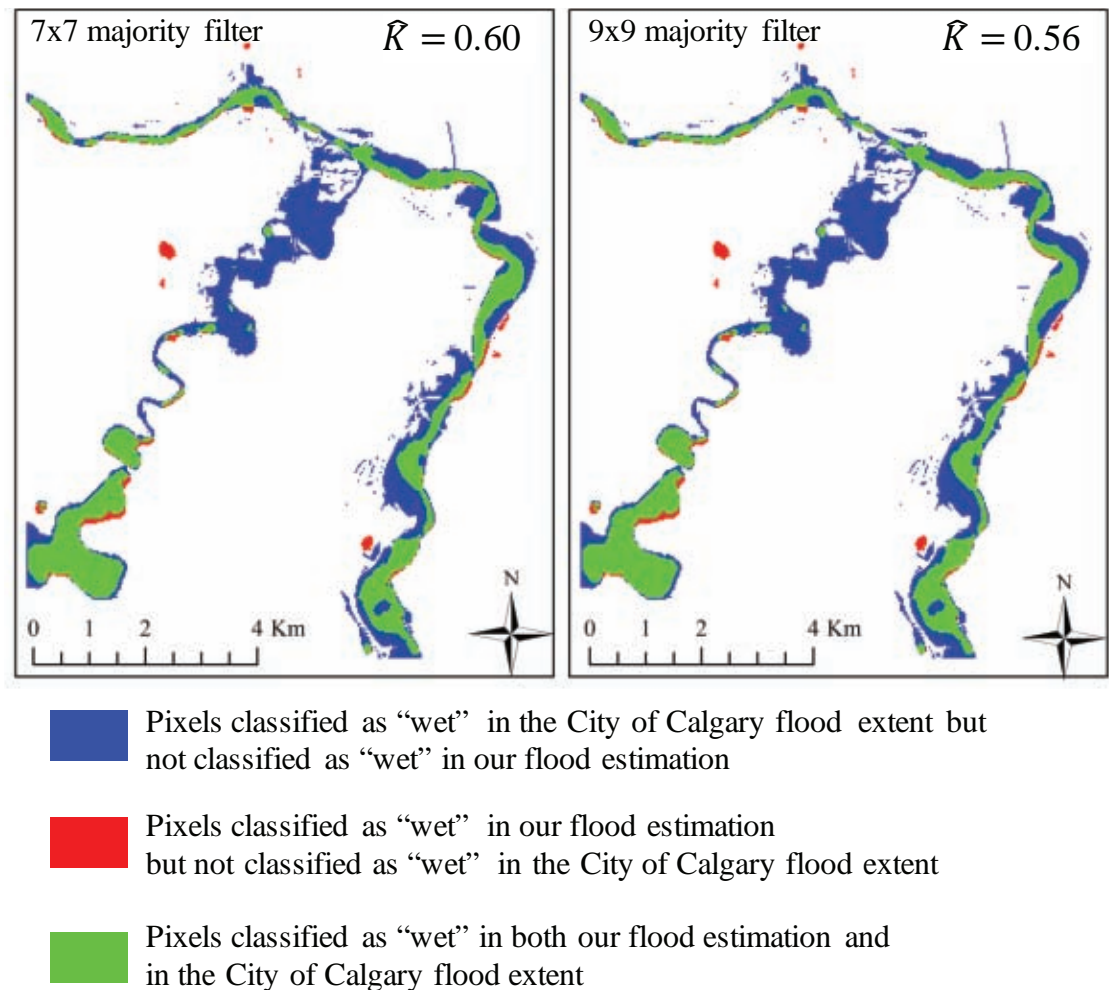


Fig. 3 Validation of our estimated flood extent derived from Landsat-8 image in comparison with the City of Calgary flood extent.

Ideally, our result in terms of \bar{R} should have been closer to 1. However, the major limiting factor for detecting the June 2013 flood extent was the lack of available Landsat data at a closer date to the flood event. In the scope of **Fig. 4**, we overlaid our Landsat-8 derived flood extent map on top of a land-use map consisting of two major classes, such as built-up or vegetated areas.

Figure 4 demonstrates that in areas where the River is surrounded by vegetation and water has a longer retention time, our method worked well and there were plenty of correctly classified flooded pixels. However, where the Elbow River meets with the Bow River (i.e., the area in **Fig. 4** highlighted by a black circle) the classification of the flooded pixels was the worst.

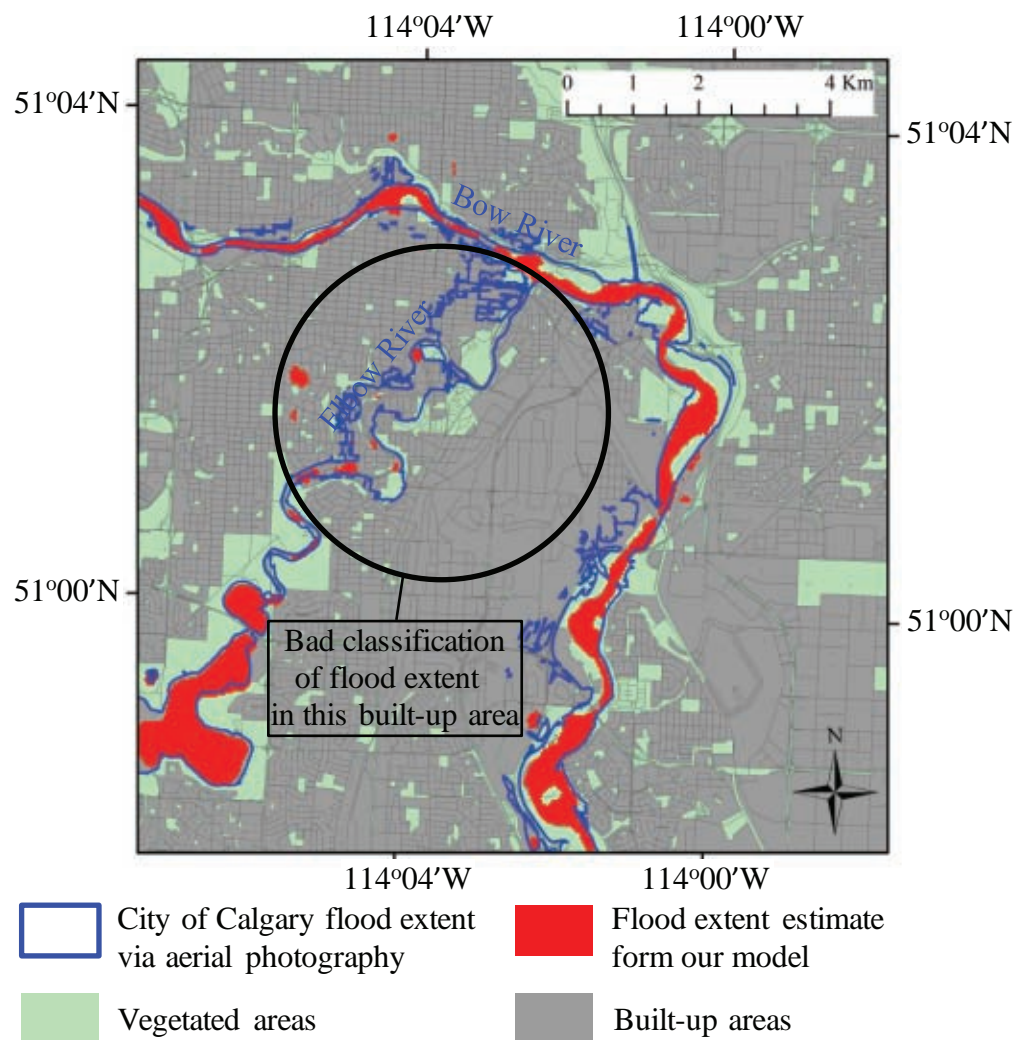


Fig. 4 Estimated flood extent over vegetated and built-up land-use areas

Remarks

In this article, we demonstrated a simple method to estimate the extent of flooding in the City of Calgary during the June 2013 flood event. This estimation relied primarily on unsupervised classification, using an ISODATA clustering technique of 6 total bands (i.e., blue, green, red, near infrared, shortwave infrared1, and shortwave infrared2) from the Landsat-8 satellite. We believe that remote sensing-based techniques and their application in flood management via extent mapping can help decision/policy makers to act quickly with necessary evidence to increase resilience in communities.

Acknowledgements

We would like to acknowledge the following: (i) QE-II Scholarship to V. Veiga, (ii) NSERC Discovery Grant to Q. Hassan, and (ii) Starter Grants from the University of Calgary to J. He. We also would like to acknowledge data support, from USGS for the Landsat-8 image, and from the City of Calgary for the actual ground flood extent and land use maps, free of cost.

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JIBC wins prestigious interactive media awards.

JIBC has won six Horizon Interactive Awards for a number of its innovative new training websites and mobile apps for industry professionals and students in JIBC's public safety programs.

Included in these awards was a Bronze Award for the ESS2go iOS App. Developed by a group that included staff from Technology Enhanced Learning and Teaching Centre (TELT) and the Emergency Management Division (EMD), the app eliminates the need to use some paper-based planning and operational materials. It was created for use as a support tool in training scenarios and as a tool for use during a disaster with nearly all the functions available without the need for Internet access. In September, accessibility of ESS2go was expanded with the launch of the app for Android devices.

JIBC also received Bronze Awards for the Introduction to Reception Centres and the Introduction to Group Lodging Open E-Learning courses offered by EMD. Developed in partnership with Emergency

Management BC, the websites were created primarily to support training for people who live in rural and remote communities. In addition to these awards, the Introduction to Intelligence Analysis course, part of the Bachelor of Emergency and Security Management Studies, was named a 2014 winner of a Blackboard Catalyst Award for Exemplary Course.

"JIBC has made it a strategic priority to improve public safety education and training by developing innovative new e-learning tools and simulations based on the latest applied research," said Dr. Michel Tarko, President and CEO of JIBC. "These awards recognize the ground-breaking work that is being done at JIBC and is a testament to our focus on educational excellence and student success."

JIBC won three Horizon Interactive Awards for its Rural Disaster Resiliency Planning Community Toolkit.

For more information, visit www.jibc.ca/emergency.

Community Participation in Disaster Response: Making the Most of Spontaneous Volunteers

By Micah Clark

It is certain that disasters and emergencies happen, and just as certain that citizens will try to help in any way they can. While some will volunteer formally, many will simply bandage the nearest wound or pick up the nearest shovel. When a need arises, people tend to fill it. Especially in societies with strong civic culture and a shared sense of community responsibility, anything less would be surprising and disappointing.

That does not mean it is easy. Spontaneous volunteering is becoming more common and more controversial, facilitated and complicated by the rapid growth of mobile and social technologies that are empowering citizens to self-organize and respond to disasters outside of traditional emergency management structures. The realities of disaster response and recovery nevertheless endure: to be lasting, response and recovery must be efficient, safe, and coordinated.

A Mandate to Innovate

As part of its long-standing policy priority of building a safe and resilient Canada, Public Safety Canada funded a Conference Board of Canada research project to explore the opportunities and challenges presented by spontaneous volunteerism in disaster response and

recovery. To tackle the challenge, we conducted a literature review, interviewed international experts, and ran a day-long workshop with stakeholders from across the emergency management spectrum. The final report (available for free at the link below) includes more than a dozen practical recommendations for improving the effectiveness of spontaneous volunteer participation in disasters, with a particular focus on three types of spontaneous volunteer:

- “Traditional” SVs who respond in person;
- Digital volunteers who respond using technology;
- Self-deployed professionals, like police officers, who respond with their unique skills and responsibilities.

There is no clear consensus on how to work effectively with SVs. Some international approaches favour a highly centralized, top-down approach that expects all volunteers to conform to emergency management organization and procedures, while others insist that emergency managers should work within the bottom-up emergent social structures that form after a disaster (1). Building on the latter approach, new online and mobile platforms are connecting SVs directly to those in need, reducing the relevance of emergency management professionals (2).

1 For more centralized approaches, see **Points of Light Foundation**, Preventing a Disaster Within the Disaster: The Effective Use and Management of Unaffiliated Volunteers (Washington, D.C.: Points of Light Foundation and Volunteer Center National Network, 2002) and **Australian Red Cross**, Spontaneous Volunteer Management Resource Kit (Canberra: Government of Australia, 2010).

For more decentralized approaches, see **Volunteering Victoria**, Harnessing the Power of Spontaneous Volunteers in an Emergency (West Melbourne, Victoria: Volunteering Victoria, February 2015) and the Dutch model described in **I. Helsloot and A. Ruitenberg**, “Citizen Response to Disasters: A Survey of Literature and Some Practical Implications,” (Journal of Contingencies and Crisis Management 12:3 (2004): 98–111).

2 See, for instance, COBACORE (<http://www.cobacore.eu/>) and Crisis Cleanup (<https://www.crisiscleanup.org/>).

Recent Experiences and Six Core Challenges

The good news is that Canada is well-positioned to develop a progressive, community-oriented approach to SV management. Our relative affluence and resilience, combined with a strong culture of volunteering, has led Canadians to spontaneously support their communities in the face of recent disasters. In recent cases, SVs have worked together to recover from an historic flood, track and capture an active shooter, and provide critical medical care to a fallen soldier.

While the results have been broadly positive, the Canadian emergency management community will need to grapple with six critical issues to design a more productive, coordinated approach to SVs:

- building mutual trust and shared awareness between SVs and emergency professionals;
- establishing an appropriate model for leadership and authority;
- mitigating risk and liability;
- appreciating the critical role of volunteer mental health;
- finding a sustainable approach to recruitment and skill matching;
- understanding the challenges of demobilization and post-disaster retention.

Putting the Community First

To address these challenges, our report provides the rough outline of a community-oriented framework. The framework relies on comprehensive mapping of local capacity and needs and the construction of geographically distributed volunteer resource centres, which would enable SVs to access the information and physical resources they need to self-assess their capacity, choose appropriate tasks, and mitigate risks, all while staying near to home. The centres would be supplemented by a wide-spectrum communications strategy that encourages preparedness before a disaster, legitimates safe behaviour and community self-organization during a disaster, and emphasizes the importance of continuing service to the community after a disaster. An interactive online platform that leverages digital volunteer capacity could reinforce both the resource centres and communications strategy.

Crucially, the model depends on training responders to work with SVs, rather than training SVs to work

with responders. Supported by community liaisons, responders would be expected to adapt to the strengths and structures of emerging volunteer groups and take full advantage of their desire to help. Research suggests that an outcome-oriented approach—one that prioritizes problem solving over process—is most likely to work.

SVs challenge us to re-think our approach to disaster response and recovery. The core challenge lies in setting aside a command and control mindset in favour of an approach that sees the community—its needs, its capacity, its resources—as the primary unit of a disaster. The virtue of this approach is its realism: it acknowledges the inevitability of widespread spontaneous volunteerism and the irrationality of trying to exert absolute control. If the goal of disaster response and recovery is to make an affected community whole again, then members of that community must be instrumental in the process.

Download the full report here:

<http://www.conferenceboard.ca/e-library/abstract.aspx?did=7875>



Micah Clark is Senior Research Associate in National Security and Public Safety at the Conference Board of Canada, where he researches, writes and facilitates discussion on technology and security. Prior to working at the Conference Board, Micah was Mission Manager at SecDev, an Ottawa firm that develops open intelligence and cyber security solutions for military, diplomatic and law enforcement clients.

Emergency Service Volunteering in Australia

By John Handmer
Centre for Risk and Community Safety RMIT
University and Bushfire and Natural Hazards CRC
Melbourne

Volunteers in Australia:

Australian emergency management depends directly on half a million volunteers (ANZEMC 2014). The details vary, but essentially each Australian state and territory has a single large metropolitan area, the state capital, which is serviced by career salaried fire and rescue services. Beach safety patrols and surf life saving are by volunteers, and state and territory “emergency services” organisations (SES) staffed with volunteers service both rural and metro areas. Outside the capital cities, rural fire services are generally provided by statewide volunteer based organisations, as are ambulance services. The SESs and rural fire fighters also provide road crash and other rescue services. Public land management and forestry agencies undertake fire risk management, including fire fighting, for their land. Valuing the volunteer contribution is challenging due to limited data and debate over the correct value of the time involved, including standby time – estimates range from AUD25 billion to 200 billion.



Photo credit ACT SES



Photo credit: Eve Welch, University of Canterbury.

Mud Army in Christchurch, New Zealand

While these volunteer groups have high profiles in response and in the case of the Red Cross and other welfare groups in recovery, they are also active in prevention and preparedness planning. For example, the Red Cross has led much thinking on resilience, Surf Life-saving Australia works on drowning prevention, and the fire and SESs actively promote safety, risk reduction, and emergency preparedness. Nevertheless, it is response and rescue that are subject to intense media interest and generally highly rewarded.

A 2010 study indicates that about a third of Australian adults volunteer in a formal sense (Volunteering Australia 2015). There are increasing numbers of volunteers in sports, religion, and education, but importantly fewer in community services and emergency management. While more people are volunteering, they are giving fewer hours, and prefer more flexible commitments (National Volunteering Strategy 2011). Contrary to much received wisdom, rates of volunteering among young people have been increasing. About half of all adults provided “informal assistance” to those outside their own households. These figures hide the 150,000 Australian children “working” as carers. Volunteering Australia’s new definition is broad and states that: ‘volunteering’ is time willingly given for the common good without financial gain’. Volunteering activities cover all sectors of society, leisure, and hobby areas.

Despite the older profile of many local fire and emergency service units, there is no evidence of higher risk due to age or lack of fitness.

Agencies and associations - focus on fire:

There are two main models for incorporating fire and emergency service volunteers in state systems: a single fire and emergency services agency (Queensland and Western Australia and the smaller jurisdictions of Tasmania and the Australian Capital Territory), and separate agencies. The integrated agencies contain large numbers of volunteers and salaried personnel. The large rural fire agencies also contain salaried fire fighters. This can lead to management tensions.

Volunteering is viewed as an essential part of enhancing community resilience, as set out in the National Strategy for Disaster Resilience (NSDR), and is closely connected with the concept of shared responsibility for all aspects of emergency management. There is tension between the push to have large agencies covering all hazards combining volunteers and career operational staff – and a strong desire for greater local responsibility. Local responsibility is promoted by the NSDR, but agencies would have to relinquish some power and control. There is also a drive for common systems and training, but many, perhaps a majority, of bushfire fighters would not be at the fitness level needed for the metro training. The national association representing fire and emergency service agencies works on developing uniform standards across Australia, as does Volunteering Australia.

At the delivery end of response and within the individual local volunteer units there are some issues and questions. These include availability, especially during normal working hours, occasional issues of unit culture

and leadership, that volunteers are disproportionately older men, and there are relatively few foreign born members (Birch 2011). Though there is criticism of a response emphasis, that is what agencies and their members are mostly assessed against. Volunteers occasionally express frustration at the increasing bureaucracy and complexity they face from head offices, especially with road crashes and other critical incidents. This concern is similar to the results of a recent US survey of volunteers. Importantly, however, this is no more important than poor brigade environment and leadership (Birch 2011).

Non-traditional unaffiliated volunteers:

Given the limitations of formal volunteering, the concerns of many current volunteers, the apparent narrow demographic they drawn from, and some evidence that recruitment is falling, it is little surprise that there

is more attention being given to informal volunteers – also known as episodic and spontaneous volunteers (ANZEMC 2015). Agencies have a range of attitudes and approaches to such volunteers, from seeing them as a liability and nuisance who consume valuable time and deflect the agency from its core business, through to seeing them as a valuable resource as part of surge capacity and almost always the initial responders by virtue of being present. Much agency effort is dedicated to bringing informal volunteers into the formal system.

There is a view that informal volunteers are becoming much more numerous than in the past. It may be that this is a reflection of the increasing formalization and credentialization of emergency management in Australia, rather than any change in propensity to volunteer. However, the change could also reflect broader societal trends creating time poverty and a just-in-time approach to life and work – with the result that more volunteers want less of an ongoing commitment. Other important



Photo credit: Brenton Edwards, CFS Promotions Unit

drivers of change are new communications technology helping to spawn the rapid growth in digital volunteering, growing private sector involvement, and increasing government expectations of volunteers (McLennan et al. 2015)

Informal volunteers pose a challenge to a sector increasingly concerned with centralization, harmonization and credentials (Whittaker et al. 2015). Key issues of concern for agencies and large non-profits are potential legal liability, health and safety issues, and the lack of agency control over non-affiliated volunteers. Nevertheless whether agencies are supportive or not, informal volunteers are playing significant roles in response and recovery, and also in preparation and prevention.

Examples include emergent organisations such as “Be Ready Warrandyte” a community based group concerned with bushfire prevention and preparation, who work with state agencies; “Blaze Aid” who help farmers and avoid dependence on government; and the Student Volunteer Army which emerged after Christchurch, organised largely via social media. There are large numbers who volunteer as individuals, including the “mud army” after the 2011 Queensland floods; the 22,000 or so who spontaneously volunteered immediately after the 2009 Black Saturday fires; and the now numerous people who try to help via social media, eg through the global Digital Humanitarian Network. Digital volunteering is different in that it can disrupt traditional top-down flow and control over information (Haworth 2016). These volunteers can be local or in another part of the world. “We can help” is a local Facebook example matching individual needs with people who can assist (Irons n.d.).

One approach that is finding favour in Australia is that pioneered by Volunteering Queensland with its

Emergency Volunteering - Community Response to Extreme Weather model. This approach provides a half-way position between formal and informal volunteering. Potential volunteers pre-register via a cloud based system and are then matched (by other volunteers) to the needs of registered organisations (McLennan et al. 2016). The model makes Australian volunteering more inclusive while satisfying some of the agency concerns about spontaneous volunteering.



Professor **John Handmer** leads RMIT University’s Risk and Community Safety research group. He has held research related positions on a range of national and international committees and projects. He currently leads the “Non-traditional volunteers” project in the Bushfire and Natural Hazards Cooperative Research Centre. He works on the human dimensions of emergency management and climate change adaptation.

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Executive Director's Note

By Marion Boon

It is with great pleasure that I have the opportunity to write my first CRHNet Executive Director's Note. I have been a member, have served on the Board of Directors since 2009, and even found retirement could not keep me away. After all, I am told it is good to stay busy! During my tenure in emergency management and disaster risk management, CRHNet has been an excellent resource, helping me in many facets of my work. Since this field of practice is just as much about "who you know" as it is "what you know", the network of knowledgeable, skilled, and resourceful members has proven invaluable. This factor has also allowed for strong growth, within Canada, and even beyond our borders! When you bring the practitioners and academics together in CRHNet, it proves how valuable professional collaboration and synergy truly are!

You do not need to look deep within the CRHNet organization to find wonderful examples of volunteers working towards a common good. Our Executive Officers and Board Directors are volunteers who attend monthly meetings and carry out the many tasks to ensure the smooth operation of our non-profit organization, towards meeting our mandate. Our Standing Committees are further examples of volunteers at work on behalf of the CRHNet. The Committees are run by CRHNet members who generously give their time and share their skills and knowledge to reach the committee's goals and objectives. We have five Standing Committees and this is a short description of their work:

The Awards Committee's five members have been active this year, and while working to maintain existing award offerings, they are currently considering a targeted expansion of the awards program over the coming years. This year, funding has been approved for five Symposium Travel Bursaries and three Larry Pearce Education Awards, which are to be awarded at the CRHNet annual fall symposium in Montreal. Addition-

ally, and acknowledging an opportunity to recognize a broader cross-section of the Canadian public safety community, the committee is investigating options to establish some new awards in the coming years. For information regarding any CRHNet award, be sure to check the CRHNet website for the latest updates! Mark Seemann is the Awards Committee Chair.

The Communications Committee began its work in late January 2016 with the view that a Communication Strategy - that includes digital marketing - is a five to ten-year initiative. A number of activities are planned for 2016/2017. For example, getting to know how CRHNet members became aware of their interest in disaster risk management, learnt vital lessons on the job, and appreciate the importance of looking ahead to the future. Another initiative will be an on ongoing series entitled Profiling Canadian Trailblazers. This series is aimed at getting to know how Canadians plan to become leaders in 21st century disaster risk management. Shona van Zijl de Jong is the Communications Committee Chair.

The Membership Committee was created this year to promote and retain membership levels in line with the goals and objectives of the CRHNet. A Terms of Reference document was developed recently which outlines the purpose, roles, and responsibilities of the committee. The four members of this committee are working hard to modernize our membership process and to develop new and exciting ways of promoting and retaining members. The committee will be looking at opportunities in streamlining the online membership application process, providing automatic renewal reminders, and membership benefits. Patricia Martel is the Membership Committee Chair.

The mandate of the Nominations Committee is to identify prospective candidates for the Board and for specific Executive Positions. At the request of the Board, the Committee may serve in a similar fashion by

identifying and recommending candidates for staff appointments. Brenda Murphy is the Nominations Committee Chair.

The Young Professionals Committee has recently developed a Terms of Reference which outlines the purpose and key initiatives for which the Committee will be responsible. With the 2016 CRHNet Symposium fast approaching this fall, the Committee is actively brainstorming and preparing a Young Professionals event to compliment the symposium programing. Bettina Falloon is the Young Professionals Committee Chair.

Join the CRHNet Young Professionals
Facebook page:

[https://www.facebook.com/
groups/226314887482727/](https://www.facebook.com/groups/226314887482727/)

Another Committee hard at work is the 2016 Symposium Planning Committee which is also comprised of volunteers. Michel Dore, former Co-President and Board member for many years is the Chair of the 2016 Symposium Committee. We calculated the volunteer time given for the 2015 Symposium at approximately 560 hours. That's about four months of work time! But those who volunteered did so willingly; it was an opportunity to network, learn, and support CRHNet in achieving its goals.

CRHNet provides a Canadian venue to learn from the experiences of other countries. We strive to achieve this by inviting internationally reputed scholars, practitioners, and participants to our annual Symposium to share Canadian experiences and efforts in disaster risk reduction. It is the hope of the Board of Directors and myself that this issue of HazNet will facilitate learning and awareness of a wide variety of topics and continue as a platform for dialogue and information exchange.



CRHNet Annual Symposium 2016

November 23-25, 2016,
Hyatt Regency Montreal

Inspiring Resilience

At a time when governments are challenged to pursue a wide array of diversified short term and long term priorities, disasters appear as marginal occurrences. However, everyday, disaster risks impose on Canadians a heavier burden. From prevention and mitigation requirements to significant investments in recovery efforts, disasters remain part of our daily reality.

The goal of disaster resilience belongs to the society at large. The traditional approach of government programs and plans implementation seems to be reaching its achievement limits. It is now the time to revisit current approaches and consider empowering every component of civil society to contribute to disaster resilience. Beyond the call for a shared responsibility, everyone possesses assets for disaster resilience, and more importantly, everyone deserves a share of the benefits in making Canada a disaster resilient country.

This CRHNet symposium wishes to explore paths toward empowering Canadian civil society into disaster resilience. It is now time to look at intrinsic motivations and distributed benefits, rather than relying only on legislation, program and funding as the primary instruments to achieve disaster resilience.

For more information visit: <http://www.crhnet.ca/symposiums/crhnet-annual-symposium-2016>

CRHNET AWARDS

The Canadian Risk and Hazards Network continues to promote and encourage excellence in disaster education, research, and praxis. One of the ways we undertake this is through the offering of national awards. In 2015, CRHNet recognized eight deserving individuals at the fall CRHNet symposium through two awards: The Symposium Travel Bursary and the Larry Pearce Education Award.

Since 2012 the Symposium Travel Bursary has been offered annually to five students on a competitive basis. Winners of this Bursary receive up to \$500 to reimburse their Symposium travel expenses.

The 2015 five winners (in alphabetical order) were Christopher Carter (UBC), Michelle Marteleira (UBC), Alexandra Rutledge (UWaterloo), Brittany Schina (UVictoria), and Jeremy Stone (UBC). Congratulations to each of the 2015 winners, and we look forward to applications for the 2016 Symposium Travel Bursary!

This year was also the inaugural year of CRHNet's Larry Pearce Education Award. This competitive award recognizes students' outstanding contributions and is granted to help defray the cost of education in the year in which the award is given. This is a tiered award offering first place (\$1,000), second place (\$750), and third place (\$500) awards.

The 2015 inaugural recipients of the Larry Pearce Education Award are Arshad Khan Khalafzai (shared 1st Place), Jithamala Caldera (shared 1st Place), and Bettina Falloon (2nd Place) and it is our pleasure to introduce these recipients:

2015

Larry Pearce Education Award Winners



**Arshad Khan
Khalafzai**

Arshad Khan is pursuing his Ph.D. degree at the University of Alberta, Canada. His research title is "Climate change and natural hazards' impacts and Indigenous people: The case of Kashechewan First Nation". He holds an MA in Disaster Management; an MS in Development Studies; and an MBA degree. He has worked in the fields of socioeconomic and human development and is equipped with project management and project coordination knowledge and skills. Ten out of Arshad's full 24 years of work experience, are in disaster risk reduction (DRR) and disaster risk management (DRM).

Arshad's work stands at the forefront of climate change and DRR/DRM. In this respect, he has conducted hazard risk analyses and vulnerability assessments for several organizations. He also has developed several DRR/DRM strategies, procedures, and tools. In the past 10 years, he has developed, implemented and evaluated several DRR programs and projects. Arshad has contributed to the DRR initiatives of UN agencies such as UNICEF and UNESCO, and INGOs/NGOs such as IRC, Oxfam GB, Plan International, and the Canadian Red Cross. He also has contributed in the field of DRR/DRM in the public sector in Pakistan. His efforts are recognized in the development, implementation, and improvement of DRR strategies, procedures, and tools. His has contributed to mainstreaming and integration of DRR into the school curriculum, development projects, and DRM. Over the years, Arshad Khan has built a reputation of an innovative practitioner. Arshad Khan is persistently striving for excellence and approaching zero risk in the field of climate change, natural hazards and DRR



**Jithamala
Caldera**

Jithamala Caldera is a master's student in her final year in the Department of Civil Engineering at the University of Calgary, Canada; her supervisor is Professor Chan Wirasinghe. She obtained her B.Sc. in Mathematics and Statistics with Computer Science from the University of Colombo, Sri Lanka. After her 3-year career as a quantitative analyst, she took an academic interest in the field of disaster mitigation. Jithamala is developing a new common global scale that provides an overall picture of the severity of natural disasters and ranks disasters based on their impact. The disasters that can be ranked using the scale range from a community fire to a large-scale tsunami. This unified way of describing disasters yields independent estimates of the magnitude of a disaster for cities or countries and helps gauge the need for regional/national/international assistance. Jithamala received the Schulich School of Engineering Activity Fund Award and the University Research Grants Committee's International Graduate Travel Award for presenting her master's research "Analysis and Classification of Natural Disasters" at the Third UN World Conference on Disaster Risk Reduction (WCDRR), 2015. She also presented her research and volunteered with the Science and Technology Major Group delegation at WCDRR, 2015. In addition, she was the winner of the People's Choice Award at the Canadian Society for Civil Engineering, Graduate Student Poster Competition, 2015. She has published her work in several fora. Ms. Caldera plans to continue her research in the same area as a Ph.D. student.

Photo credit for Jithamala: Ganesh Doluweera



**Bettina
Falloon**

Bettina Falloon is a Program Manager, Emergency Management Division, with the School of Public Safety at the Justice Institute of British Columbia. Previously, she worked for the Village of Pemberton where she handled many roles, including Executive Assistant, Emergency Program Coordinator and Admin Support for the Fire Department. Her passion for emergency management stems from 12 years as Head Dispatcher for Pemberton Fire Rescue and active support for several disasters that struck the Pemberton area, including floods, train derailments and a mid-air small aircraft collision. She holds a diploma in Tourism Marketing from BCIT, has completed the JIBC Emergency Management and Exercise Design certificates and will be concluding her masters in Disaster and Emergency Management soon at Royal Roads University. Bettina still calls Pemberton home as her two young adult sons live there; however, she is enjoying re-discovering city life and Vancouver where she grew up.

**Details on the 2016 CRHNet
Awards will be available on the
CRHNet website
(www.crhnet.ca)**

Volunteers at Work! The CRHNet Communications Strategy and Committee: Plans for 2016

By Shona L. van Zijll de Jong

Did
you know that
CRHNet has
a Facebook Group, a
LinkedIn Page, Twitter
account, and other
communication
venues?

Did
you know
that
John Chapman
is leading our
Twitter
initiative?

The CRHNet Communications Committee began its work in late January 2016 with the view that a Communication Strategy - that includes digital marketing - is a five to ten-year initiative.

Currently, we have five members in our Communications Committee. We have a number of activities planned for 2016/2017, and are delighted that John Chapman and Bettina Falloon (Chair of the CRHNet Young Professionals Group) have offered to apply their communication outreach initiative skill sets to our efforts.

As well, several Communications Committee members will be developing specific content. Shaun Koopman will be leading the Five Questions (see next page). Jacqueline Martens will leading on ongoing series entitled Profiling Canadian Trailblazers. This series is aimed at getting to know how Canadians plan to become leaders in 21st century disaster risk management.

In forthcoming months, specific content celebrating the careers and aspirations of CRHNet members will be developed.

5

Questions

with J.M. Brault, Canadian Health Care Administrator

By Shaun Koopman

About Five Questions

This ongoing series is led by Shaun Koopman. It is aimed at getting to know how CRHNet members became aware of their interest in disaster risk management, learnt vital lessons on the job, and appreciate the importance of looking ahead to the future.



Role/Organization:

I work as a health care administrator at 4 Canadian Division Headquarters in Ontario, otherwise known as the Army HQ for Ontario.

To what do you attribute your interest in emergency management and when did you first become aware of your interest in this discipline?

I was mesmerized by the Thunderbirds as a kid and then had the opportunity in 2011 to join the Canadian Armed Forces Disaster Assistance Response Team.

What is your academic background?

I have a Bachelors degree in politics, a diploma as an Addictions Careworker, a certificate in healthcare administration, and many different qualifications within the military environment. I am currently finishing a Masters in Disaster and Emergency Management.

What do you do on the job and what are your favourite aspects of your work?

I essentially apportion healthcare resources to various operational entities, mainly army entities, for when they train or go on operations. I very much enjoy writing official correspondence and briefing on topics that I know well.

What are some vital lessons your role has taught you?

It does not matter how good a plan one may come up with, it will change. And that's OK, as a famous general said "plans are useless, but planning is essential." Therefore patience is a priority in the workplace.

Which practice area is beyond the scope of your current work that you would most like to become involved in or what would your ideal emergency management / disaster management-related job or project be?

My dream job would be to work for a United Nations Disaster Assessment Team with the United Nations Office for the Coordination of Humanitarian Affairs.

How do you feel your job will be influenced by climate change?

As famous Canadian psychologist Steven Pinker says, it looks like overall violence and major wars may be on the decline. Therefore the Canadian Armed Forces may be called upon to intervene a lot more in disaster areas with a humanitarian mandate.

Learning from Alberta

The impact of emerging volunteers and self organization to support Sunnyside residents in recovery: A Calgary resident's story

By Christy Schaefer

My name is Christy Schaefer and I am a resident in the Community of Sunnyside in Calgary, Alberta. I was personally impacted by the Calgary Floods of 2013. As a Team Lead and Business Continuity and Emergency Management Professional at the City of Calgary, it was very interesting to be on the receiving end of the emergency instead of being involved in the preparation of tabletop exercises and setting up grand plans to respond. This article reflects on my experience from a value and management of volunteers during this crisis.



It was the day after the Calgary Floods of 2013, the largest floods in Calgary's history. The water levels were still high; however, we were starting to gain access to our homes following the emergency evacuation to start pumping the 7-8 feet of water that had filled our homes over the past 24 hours. It was surreal, couches floating like boats, kids' toys making their way up the staircases to where the water levels had risen, our entire office underwater, and there really wasn't anything we could do about it but gain access and start pumping the water. There was an immediate need to remove water first and foremost, then deal with damaged belongings, and then strip the basement down to the studs before mold set in.

It was day 2 when the volunteers started arriving. We kept track of the flood through social media. A Facebook site was established called the East Sunnyside Survivors to provide regular updates, identify homes in need of manpower, and deploy manpower to support Sunnyside residents. Our neighbourhood set up a command post called the



Photo credit: Christy Schaefer

“Crisis Cafe”: it was a centralized location set up by residents where residents could go to be fed, exchange information, borrow pumps and tools, and understand who still needed help. Everybody had a role - from coordinating donations of food, to coordinating deployment of people to homes where residents were less able to pump out their own water. These approaches supported the management of volunteers and were invaluable to residents. Our primary concern was getting the water out of our homes; meanwhile, others made sure we were fed and had the materials we needed to do our jobs. By the time volunteers started to arrive at our house, it was approximately a day after we were able to get in and start pumping the water out. It was perfect timing as the basements were starting to be cleared of water so we could focus the volunteer efforts on moving heavy furniture and appliances out of the home.





Once the volunteers were organized, they would walk down different streets in our neighbourhood asking if they could help. My first thought as I saw these groups of people was, who are these people? When I found out they wanted to help us, I was amazed. We were so grateful to know that we weren't on our own. As we worked, I started talking to them. Some had worked at companies in downtown Calgary and were able to donate their time to help Calgarians recover. Some were coming together as a group, and others were just citizens with a good heart ready and able to help out their fellow Calgarians. We didn't know any of them by name. They entered our basement where they used hand saws to tear apart leather waterlogged couches into pieces to get them up the stairs. They emptied 2 day old freezers and carried them out to the boulevard where the City could remove the waste over

the coming weeks. Some provided emotional support to people that could not live with the fact that their life's prized possessions were spread over their front yard. They went through damaged photos of our wedding, family vacations, and other special memories that were kept safely in our basement for 20 years. As they went through belongings, they were teary as they asked me over and over "Do you want to keep this?" to make sure they were not throwing anything away that was sentimental and meaningful as many of us were in a fragile state. Sometimes I thought they wanted to keep things more than I did. After a while, it wasn't worth trying to salvage materials as the amount of emotional energy required to answer the yes or no questions was too much. It was just easier to make it go away into bags and piles where we could not see it anymore. Once the homes were cleared out, all you could see were 8 ft piles of debris along the entire length of the boulevard. The volunteers were full of energy, and they were not trying to deal with the trauma arising from the flood. They could focus on providing labour and making progress. They were solid. They were strong, fast, and needed. It was difficult to keep track of the volunteers and I worried that

I would never be able to thank everyone for their tremendous efforts. We were fortunate to have people in our community that organized a volunteer appreciation event following the flood. It was wonderful to give back to the many people that contributed to getting our community back to normal.



We never imagined this type of event would happen to our family and are truly grateful for the help of regular people who gave their time to support Calgary's recovery. The thank you volunteers sign is still displayed proudly outside of our Sunnyside home. The efforts of strangers during that difficult time was the best gift ever and one that my family will never forget. Thank you volunteers!



The Challenges and Opportunities of Integrating Spontaneous Volunteers into Emergency Response and Recovery

By Carly Benson

On June 20, 2013, the Town of High River experienced the most devastating flood in its history. The river swelled more than 35 times its typical width and inundated areas of the community that had never flooded. In the aftermath, over twenty-five thousand volunteers came to help clean up. Most were unaffiliated volunteers (no association with a non-governmental organization) who did outstanding work. But this influx was not without substantial challenges.

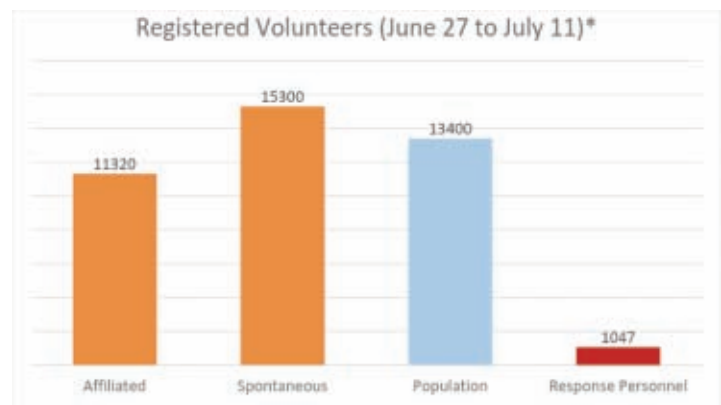
Shortcomings in the effective use of spontaneous volunteers is a consistent finding in post-disaster reports (e.g. SR530 Mudslide, Joplin Tornado, etc.), yet the phenomenon appears to be growing. As the cost of disaster recovery continues to rise, identifying ways to channel this generosity would provide communities with a powerful tool for recovery.

June 20th, 2013

Because High River is no stranger to flooding, it had a well-established flood plan. But the 2013 flood was not a “normal” flood. Upstream monitoring stations failed and so the town had little warning of the scale of the disaster until it struck. Preparedness activities quickly turned to response as the fire department abandoned its role protecting infrastructure to rescue people trapped in flooded vehicles and buildings. Volunteers sandbagging at the recreation complex had to flee as

flood waters inundated the area. By midday, officials ordered a town-wide evacuation.

The flood caused unprecedented destruction in the community. Approximately seventy-five percent of homes suffered damage. Significant damage to infrastructure, underground utilities, lift stations, and the economic heart of the community meant a long road to recovery.



*Based on volunteers who registered at the volunteer centre.

With the help of volunteers, homeowners moved over 40,000 tonnes of debris from 5,000 homes in two weeks. Playgrounds were cleared of debris and scores of volunteers roamed the streets handing out water and masks for those toiling in the summer heat. But the massive influx of people strained still-fragile infrastructure and stretched the resources of the official response to the breaking point.

In addition to resource constraints, spontaneous volunteers presented other challenges. Disaster zones are hazardous environments. When volunteers arrive wearing sandals and shorts, one cannot help but feel they have no concept of the potential hazards. Should they be turned away? Should the municipality equip them with the protective equipment and hope for the best? Does such action imply a duty of care and if so, how does a municipality manage the risk?

The patchwork legal framework leaves practitioners with many unanswered questions. Who is ultimately responsible for the safety of volunteers: the municipality, the homeowners who allows them access onto private property, or the volunteers themselves? What if something goes wrong?

Despite the challenges, volunteers proved an invaluable resource to High River during its initial recovery. Without them, clean up would have taken much longer and put homeowners in a more challenging financial situation. But High River also learned an important lesson based on its experience with spontaneous volunteers.

Spontaneous Volunteers REQUIRE Pre-Planning

The behavior of convergence is well-documented in disaster literature (Fritz and Mathewson, 2015, p. 1). The implication for emergency managers is clear: expect the arrival of spontaneous volunteers. If planning for this influx does not happen in advance, these emergent groups may already have self-identified a task or even disbanded by the time officials can figure out how best to leverage them. Not only could this result in freelancing, but also a reactive approach fails to capitalize on the potential of spontaneous volunteers until it is too late.

In September 2015, High River hosted a workshop/exercise simulation to explore innovative means of harnessing volunteer surge capacity after a disaster. Over seventy participants including community members, all three levels of government, the arts and tech communities, non-governmental organizations, and academia

came together to examine the challenges and opportunities of spontaneous volunteers.

The workshop identified the following themes as foundational for integrating spontaneous volunteers:

- Take a “Whole of Community” approach: No one organization or entity “owns” spontaneous volunteers.
- Move away from command and control: Based on the simulations run during the workshop, formalized command and control systems were too slow, not well understood by non-first responders, and resulted in significant freelancing by volunteers.
- Triage and identify skills: Volunteers are looking for a meaningful way to contribute and assigning all volunteers to general manual labour overlooks much of their potential.
- Identify barriers for residents impacted by the disaster: Although the focus of the workshop was on spontaneous volunteers, we cannot lose sight of the fact that both volunteers and official responders are there to help those who have been affected by the disaster. Any framework must put residents at the center.
- Messaging is key: Open, frequent communication is one of the best tools responders have to help manage the expectations of potential volunteers and affected residents. Much of this messaging can be developed in advance but must come from a position of inclusion and respect. Negative feedback focused on keeping people away undermines the authority of the municipality and encourages potential volunteers to work outside of the system.
- It all hinges on trust.



High River's Approach

Based on the lessons learned from the 2013 flood and the workshop, High River is developing a framework for incorporating spontaneous volunteers into future emergencies. As trust between the community and first responders is central to an effective framework, High River has assembled a planning committee of twelve community leaders invested in the sustainability and resilience of the town.

This project is still in the design phase but already the value of including community members has paid off. There is a growing recognition that government cannot do everything. The planning team has begun to identify key areas where community groups and volunteers could step in to fill gaps and support the official response. Focusing on inclusion and looking to the community to help address this challenge has fostered a sense of interdependence that will create a more cohesive response in the future.

We're all in this together.



Carly Benson is the Director of Emergency Management for the Town of High River. She has a Master of Arts in Disaster and Emergency Management from Royal Roads University and is a Certified Emergency Manager.



Photo credit: the Town of High River.

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The Alberta Flood: Insight into Voluntary Sector's Readiness and Surge Capacity

By Zeenat Mackwani, Lead Researcher
(Consultant), Canadian Red Cross

Volunteers in Disaster

This paper summarizes a study recently completed by the Voluntary Sector Working Group (VSWG) of Canada's Platform for Disaster Risk Reduction (DRR) to better understand Voluntary Sector's readiness and surge capacity in the light of volunteer mobilization during the 2013 Alberta flood response.

The Alberta flood has been one of the most devastating and costly disasters in Canada. The flood is also remembered for the massive and spontaneous participation of volunteers. The Voluntary Sector in Disaster Management (DM) delivered an unprecedented response which tested its capacity to deploy volunteers in coordination with governments and partners. Volunteer contribution accelerated relief and recovery efforts while minimizing costs for governments and those affected by the flood. The flood offers a compelling opportunity to review volunteer mobilization capacities and potentials.

Methodology

The study focused on priorities identified by the VSWG to better ensure the Voluntary Sector is in a state of readiness, has surge capacity, and can operate in an effective, inclusive and predictable way. The study examined the integration of the Voluntary Sector into governmental emergency management (EM) systems and operations; sectoral collaborations; and volunteer management processes in place.

Interviews were carried-out with all the Voluntary Sector Organizations (VSOs) with formal capacity in disaster response that took part in relief efforts. Additional interviews were conducted with emergent (citizen-led) volunteer groups, private corporations, public agencies, and NGOs supporting volunteerism.

A desk review examined trends in volunteerism and the role of the Voluntary Sector in DM in international and domestic policy frameworks.

Results and Findings

Respondents

There were ten VSOs in DM that took part in the flood response operations. All of them were established organizations with a national and, for some, an international presence. Six of them self-identified as Faith-Based Organizations (FBOs). Two were strictly providing specialized services (medical aid, search and rescue). The other VSOs offered various services including provision of emergency shelter and food, family reunification, transportation and immediate recovery. Together, these VSOs deployed nearly 15,000 volunteers including 13,000 spontaneous volunteers.

Integration

The study found that the level of recognition and integration of the Voluntary Sector into EM systems and operations at the local level did not fully achieve the vision set in the Hyogo Framework for Action and EM frameworks at the federal, provincial and territorial (FPT) levels.

Though half of the VSOs had prior agreements in place with provincial and/or local authorities, nine out of ten VSOs observed that the intersection between VSOs and EM systems was unclear, particularly at the municipal level where emergency response is initiated. VSOs reported that their capacity was understood and activated in very different ways depending on the municipalities with which they interacted. The deployment of volunteers based on information provided by Emergency Operation Centres remained limited. Beyond a level of improvisation that any emergency situation requires, the flood highlighted a persistent disconnect between VSOs and local authorities, and a lack of awareness and explicit arrangements.

Collaboration

There is an opportunity for VSOs in DM to further consolidate their collaborations to optimize volunteer training standards and resources, information sharing, and advocacy.

All ten VSOs collaborated with at least one other VSO although only a few high level sectoral agree-

ments were in place. The study did find, however, that dissemination of volunteer training standards and resources among VSOs was insufficient. Moreover, information on response efforts was not readily available in shareable and aggregated formats. Consolidated metrics would provide strong evidence-based information to plan future operations and promote greater recognition.

Trends in volunteerism

While volunteerism is vibrant in Canada, VSOs recognized it is also becoming more fluid, diverse and unpredictable.

The flood confirmed Canadian statistics¹ in many ways : volunteerism is strong, influenced by socio-economic factors, and Canadians increasingly prefer short-term opportunities found online. VSOs underscored the growing presence, flexibility, and unpredictable nature of spontaneous and emergent volunteers. VSOs envisioned stronger connections within the Voluntary Sector as a way to secure access to large fluid pools of “pre-screened” volunteers to diminish risks and uncertainties. VSOs also acknowledged the necessity to better leverage emergent groups’ innovation and social media skills.

For corporations, working with VSOs helped them manage their employees’ participation and create a positive association between their brands and established non-profits. While possibilities seemed promising, VSOs realized that corporations are sought after partners, employees’ time is limited, and turnover can be high.

Volunteer Management

Generally robust and inclusive processes featured some ongoing gaps that could have adverse effects.

VSOs have well honed volunteer engagement, intake, and deployment practices in place. Those accelerated access to local networks of volunteers, particularly for FBOs, and ensured a positive experience for volunteers. However, some screening procedures proved to be too cumbersome for the rapid deployment of spontaneous volunteers. Also, only four VSOs provided insur-

¹ **Sinha, M. 2015.** “Volunteering in Canada, 2004 to 2013” Spotlight on Canadians: Results from the General Social Survey. Statistics Canada. Catalogue no. 89-652 X2015003.

ance that included both general liability and accident coverage.

Conclusion and Recommendations

The Alberta flood confirmed the Voluntary Sector's readiness and surge capacity, and its ability to deliver with a high degree of flexibility and reliability for one of the largest disaster responses in Canada.

To sustain the Voluntary Sector's capacity, the study makes the following recommendations for consideration by the VSWG and its partners, including governments:

Enhance the Voluntary Sector's integration into EM systems by

- a) mapping the capacity of the Voluntary Sector operating in DM;
- b) articulating explicitly the role of the Voluntary Sector in Provincial frameworks and local EM systems;
- c) identifying key enablers to coordinate the Voluntary Sector with local authorities.

Consolidate collaborations among VSOs by

- a) further disseminating volunteer training standards and resources;
- b) improving information sharing to qualify and quantify the Sector's contribution.

Anticipate trends in volunteerism by

- a) developing connections of the Voluntary Sector in DM with other VSOs;
- b) building the Voluntary Sector's competencies with social media;
- c) enhancing the Voluntary Sector's communication strategies with the private sector.

Improve volunteer management practices by

- a) establishing volunteer management processes based on a graduated system of minimum and optimal standards;
- b) establishing volunteer on-boarding packages that clearly communicate information related to insurance coverage.

With its expertise in disaster management and its ability to mobilize citizens, the Voluntary Sector is a strategic and cost-effective partner in EM. Provided with the appropriate support, the Voluntary Sector would have greater capability and potential to accelerate whole-of-society resilience.



Zeenat Mackwani

conducts research at the Canadian Red Cross on behalf of the Voluntary Sector Working Group. She has a particular interest in approaches fostering Civil Society's capacity and participation in the areas of disaster management and community resilience.

LEARNING FROM ALBERTA



NGO Council of Alberta

By Brent Davis

Disasters pose unique challenges for resource management, including uncontrolled volunteer mobilization and over-response of unnecessary resources. If, in the disaster management world, convergence is the secondary (and perhaps unavoidable) disaster, coordination among non-government actors may well be the primary mitigation. Coordination among Albertan Non-Governmental Organizations (NGOs) active in disasters is facilitated through the Alberta NGO Council.

The NGO Council was formed in 2000, following a major tornado event in Pine Lake which saw the convergence of NGO actors who, while well-meaning, were not well-coordinated either amongst themselves or with local authorities. Those NGOs, along with Alberta Emergency Management Agency (Emergency Management Alberta at the time), decided to build sound relationship and structure between the agencies themselves as well as with local and provincial government. This endeavor has resulted in an overall reduction in the instances of duplication of effort among responding member organizations.

The NGO Council is founded on the fundamental principle of collaboration with the benefit of the affected public in mind. In short, member agencies recognize a common goal – assisting individuals and families impacted by disaster. While each agency may bring a slightly different resource, it is recognized that when all organizations are able to coordinate their efforts without regard for their own posture or prominence, the benefit is to the community and individuals affected.

Role of the NGO Council in the 2013 Flood Event

The NGO Council served a number of functions within the historic 2013 flood event in Southern Alberta – with some member organizations still active almost 3 years following the flood. The many functions are best described in the context of information sharing, resource coordination and advisory support.



Information Sharing

Information is critical in any disaster setting. Beyond situational awareness of the incident itself, most municipalities are unaware of available resources that can be leveraged into their community to assist in either the response or early recovery phases. It is also true that good information builds trust. For example, in the 2013 flood event, there was an overwhelming convergence of NGO and voluntary organizations moving into affected municipalities. Because the Council regularly provides representatives to participate in exercises, trainings, learning events, and workgroups between disasters, the province and municipalities better understood the capacities and professionalism of member organizations. The NGO Council provided a level of credibility developed through these processes which strengthened trust and built relationships between the parties.

Integration between the province of Alberta and the NGO Council has been key to the success of NGO activity in disasters. One of the most effective provincial initiatives has been the inclusion of a representative of the NGO Council in the Provincial Operations Centre (POC) when it is activated. During both response and recovery phases, the NGO Council's collaborative structure allowed for resource requests to be received

through this single representative seated in the POC and to be actioned by the most appropriate NGO operating locally. Furthermore, NGOs operating in various municipalities were able to pass information back up to the province through the Council representative to confirm that requests had been acted upon and/or completed, or to provide critical information from the ground level.

Resource Coordination

At the outset of the recovery, member NGOs brought their resources immediately to bear, assisting impacted residents with a wide range of supports. These wide-ranging supports included temporary food services, home and property clean-up, psycho-social supports within evacuation and reception centres and registration support. It was obvious that the enormity of the disaster would require strong resource allocation of NGO supports to help mitigate gaps and duplication of service.

Within days of the flood, NGO Council members began coordinating their resources locally. For example, several NGOs shared a common capacity to support homeowners in flood clean-up. To aid in the overall recovery, the council met to determine where each organization had the best capacity to operate. This coordination resulted in member organizations being active from Canmore to Medicine Hat, without duplicating services or abandoning whole municipalities on the assumption that someone else was operating there.

Within High River specifically, the NGO Council brought together other major voluntary organizations operating within the town, as well as the Human Impact Services officer from the local EOC to coordinate efforts and resolve issues locally. This group became a sort of unmet needs committee for early recovery. Unique challenges such as OHS regulations and volunteer safety in High River were addressed and resolved through this local coordination team in cooperation with local and provincial government.





Advisory Support

For most municipalities, the response and early recovery phases can be overwhelming. When it comes to long-term recovery, most local governments find themselves creating a roadmap they never thought they would need. Many of the NGO Council member agencies belong to larger, bi-national or international disaster response organizations and can bring a wealth of experience in disaster management and long-term recovery to bear. This experience was borne out particularly in High River during the transition from early recovery (clean-up) to long-term recovery (reconstruction). Member organizations engaged in such work leveraged their first-hand experience in large disaster contexts such as Hurricane Sandy or Katrina to recommend the creation of a local long-term recovery committee within High River. The committee, named RENEW, served as a local coordination body for NGO activity in the High River recovery context.

RENEW was established, in large part, through training offered by the NGO Council and funded in part by member organizations. RENEW ensured that there was local community oversight with regard to NGO activity in High River. This helped to centralize requests for assistance from homeowners and coordinate recovery efforts of all NGOs in High River. While common in the US context, RENEW was the first formal long-term recovery committee created following a Canadian disaster.

Looking Ahead

The Alberta NGO Council remains a central resource for a wide range of emergency social supports provided by a number of professional, experienced non-government organizations. The model of a provincial NGO Council or consortium is not unique to Alberta and interest has been growing among other provinces. Most recently, NGOs active in Ontario have begun meeting together to map out a similar model to Alberta's. While the Canadian disaster context and landscape provides unique challenges to readiness and resource coordination, the strong collaborative spirit evidenced by Canadian NGOs in the field is unlike anywhere else in the world.

Current Alberta NGO Council membership includes:

the Adventist Development & Relief Association (ADRA), Billy Graham Rapid Response Team, Canadian Red Cross, Canadian Global Relief, Mennonite Disaster Service, Salvation Army, Samaritan's Purse, St. John's Ambulance and World Renew. The Alberta Emergency Management Agency and Alberta Human Services participate as non-voting members.



Brent Davis is the Disaster Response Manager for Samaritan's Purse Canada and currently chairs the Alberta NGO Council. Since 2007 Brent has managed volunteer supports for disaster recovery in over 20 Canadian municipalities and coordinated Canadian resources for 8 major international disasters.

Photos: volunteers working in Calgary following the Southern Alberta flood event.
Photo credit: NGO Council of Alberta

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NEW RESEARCH EXAMINES RESILIENCY IN CHILDREN AND YOUTH FROM 2013 SOUTHERN ALBERTA FLOODS

When southern Alberta was overwhelmed with flood waters as rivers and creeks breached their banks spilling into streets and homes in June 2013, flood waters forced Melissa Palmer from her home and her community.

She was worried for her two children, both by the catastrophe that was unfolding around them, and the uncertainty of their futures. Drs. Robin Cox, Julie Drolet, and Caroline McDonald-Harker are hoping to better understand the resiliency of children in order to bring peace of mind to families like the Palmer's and strengthen communities when disaster strikes.

A new research project supported by Alberta Innovates - Health Solutions (AIHS) at the University of Calgary, Mount Royal University, and Royal Roads University aims to help children and youth during times of disaster. The Alberta Resilient Communities project (ARC) will work with children, youth and their communities to inform and strengthen child and youth mental health and enhance disaster prepared-

ness, reduce risk and build resilience in southern Alberta. ARC will help better understand the social, economic, health, cultural, spiritual and personal factors that contribute to child and youth resiliency while empowering them, their families and communities to build resiliency.

"We are very aware that children and youth can effectively contribute to their own recovery and that of the people and places around them, but that they often lack the opportunities to do so," notes Dr. Cox. "Youth are uniquely positioned to contribute to disaster risk reduction and resilience as conduits of information to family and peers, as early adopters of new technology, and as current and future leaders in their communities. As part of the ARC project, we will partner with youth to enhance their leadership and research skills, and to support their capacity to innovate real-world resilience strategies in their communities."

LEARNING FROM ALBERTA

Communities Helping Themselves: Building a Framework for Managing Spontaneous Volunteers in Emergencies in Calgary

By Suzanne Waldman, Analyst, Defence Research
and Development Canada's Centre for Security Science

In 2013, a 100-year flood hit Calgary, causing 5 million dollars in property damage and one death. Perhaps the most amazing number, however, was the 13,000 volunteers that spontaneously organized to help their affected neighbours temporarily relocate and then clean up the damage. At the center of this volunteer phenomenon was an emergent organization called YYCHelps, started on-the-fly by three Calgarians who directed this massive volunteer force through the social media platforms Facebook and Twitter.

“As we saw from the flood and know from other disasters, people want to help each other. The sense of community flourishes in those hardest of times. We wanted to find a way to harness this energy and direct it where it can provide the most benefit.”

This was the conclusion that led Chief Tom Sampson and Business Continuity and Recovery Planner Amy Cage at Calgary Emergency Management Agency (CEMA) to start to set up a more official—but equally community-based—volunteer network that could coordinate Calgarians who want to help out their neighbours in the next emergency.

To develop a framework for managing volunteers, CEMA approached Defence Research and Development Canada's Centre for Safety and Security (DRDC CSS), which has significant experience conducting research about how to coordinate disaster volunteers in the age of social media. This work is funded through the Canadian Safety and Security Program (CSSP), a federal program led by DRDC CSS, in partnership with Public Safety Canada.

The first step in developing a framework was to investigate how other countries manage the large numbers of what are called “spontaneous” volunteers that can come forth after an emergency hits.

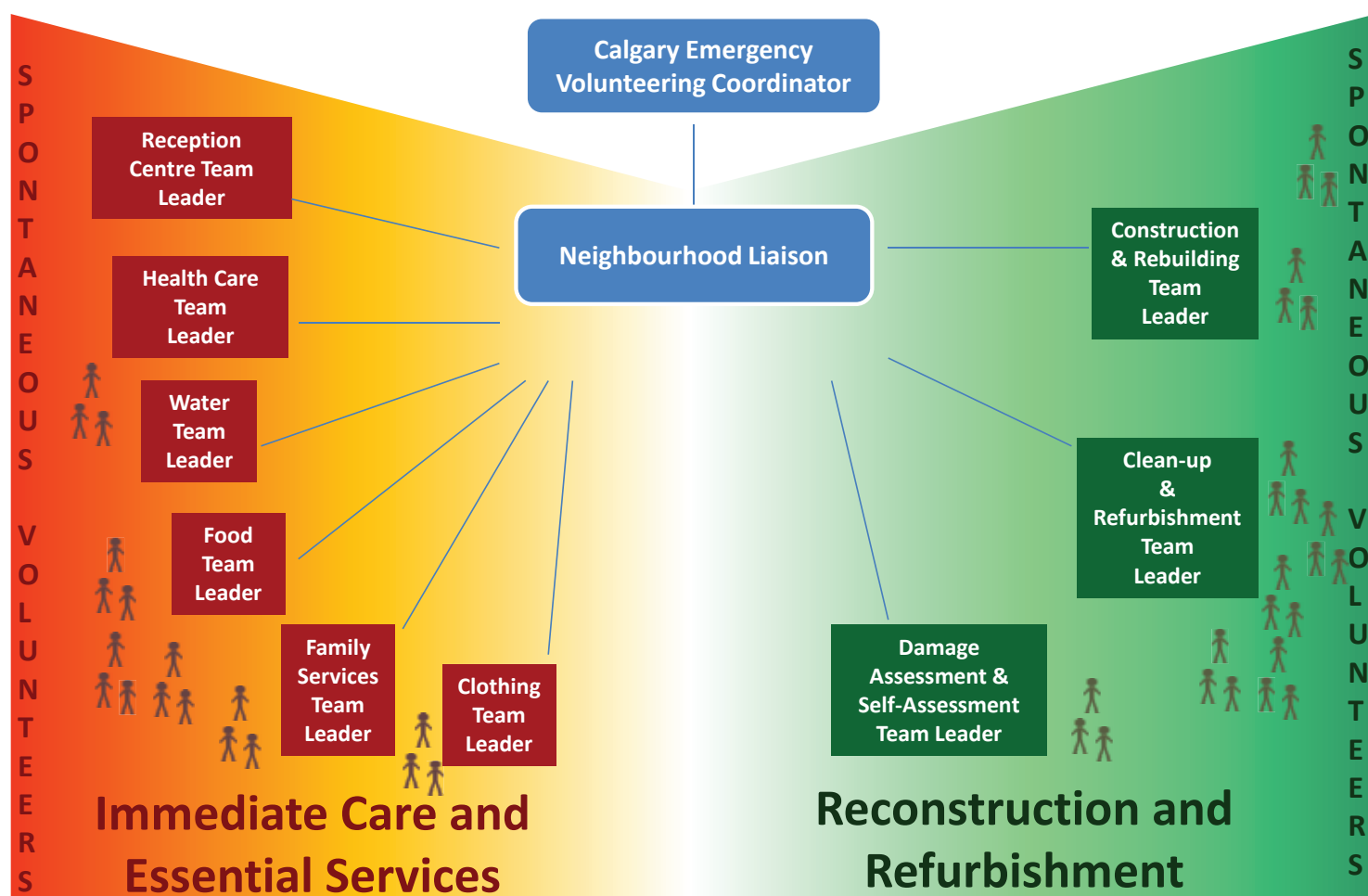
Spontaneous volunteers are not pre-affiliated with emergency relief organizations such as the Red Cross, and may not have any training or experience in how to help out after a disaster (Fernandez et al, 1-2). Spontaneous volunteers have good intentions but sometimes they can become part of the problem. They often don't know where to go or how to help and managing them can create extra work for emergency personnel and possibly add to the confusion that already exists. As such, there is a general understanding that planning how to integrate spontaneous volunteers is necessary and that most municipalities don't do enough of it.

Several countries already have hypothetical frameworks for handling spontaneous volunteers in emergencies that their municipalities and other organizations

can make use of, for instance Australia's Spontaneous Volunteer Management Resource Kit (2010) and the United States's Managing Spontaneous Volunteers in Times of Disaster: The synergy of structure and good intentions (2005). However, these systems aren't completely suitable for the Canadian context. The Australian system uses a web intake interface that allows for the identification of spontaneous volunteers with specialized skills, filtering out most others. If this selective approach had been taken in Calgary, the surge of volunteer support that made YYCHelps success would not have happened. The American system allows more volunteers to participate, but depends on a network of experienced Volunteer Organizations Active in Disasters (VOADs) to train up, equip and coordinate them. Canada doesn't have quite as many Volunteer Organizations to rely on in a pinch.

“We realized we needed to build a Made-In-Canada approach to managing spontaneous volunteers that would make use of the resources Canadian cities such as Calgary actually do have”

said Matt Godsoe, Portfolio Manager, DRDC CSS. “So, we worked with CEMA to design a Stakeholder Workshop to establish and cluster the capabilities required in emergency response and recovery in Calgary, and which would also give a sense of how volunteers can help out and who could take responsibility for overseeing them.”



Post-workshop cluster model for an emergency volunteering framework for Calgary

The Stakeholder Workshop confirmed one thing CEMA anticipated, “a made-in-Canada model for coordinating spontaneous volunteers should be focussed at the neighbourhood level, given the existence in Calgary—as in many Canadian cities—of strong and resilient neighbourhood communities.” The workshop also revealed that Calgary had another significant resource: a robust structure of City of Calgary community services networked amongst diverse community associations and non-governmental organizations (NGOs). Between them, the public and voluntary sectors could conceivably attract, stream, coordinate, and manage a large swath of spontaneous volunteers in providing essential services in their communities.

The workshop further revealed there were two clusters of capabilities where volunteers, including spontaneous volunteers, were most needed and could best be supported (see Figure 1). One of clusters was the provision of Immediate Care and Essential Services, including water, food, and temporary lodging, to victims of the disaster. The other cluster was the undertaking of Refurbishment and Reconstruction tasks ranging from damage assessment to actually rebuilding homes. Of course, some degree of vetting would have to be undertaken to ensure that volunteers were performing tasks that were suited to their skills.

“The work we’re doing with CEMA could have an important impact in Canada,” said Simona Verga, Portfolio Manager, DRDC CSS.

“We hope other Canadian municipalities will follow in CEMA’s footsteps and go through a similar process of building their own emergency volunteer management frameworks, allowing them to make use of the tremendous resources Canadian communities hold for helping each other out after disasters.”

The Canadian Safety and Security Program (CSSP) is a federally-funded program led by Defence Research and Development Canada’s Centre for Security Science (DRDC CSS), in partnership with Public Safety Canada. Launched in 2012, the CSSP aims to strengthen Canada’s ability to anticipate, prevent, mitigate, prepare for, respond to, and recover from natural disasters, serious accidents, crime and terrorism through the convergence of science and technology with policy, operations, and intelligence.



Suzanne Waldman is a research analyst at Defence Research and Development Canada’s Centre for Security Science working on projects related to the use of social media in emergencies and security situations. She is also a PhD student in Communication Studies at Carleton University, where she is completing a dissertation on how to improve communication and public dialogue about risk in controversial policy areas such as nuclear waste disposal. You can follow her on Twitter at <https://twitter.com/SuzanneWaldman>.

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Réseau canadien d'étude des risques et dangers:
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HAZNET is a bi-annual magazine of the Canadian Risks and Hazards Network (CRHNet) that brings together the latest in research and practice to enhance resilience in Canada.

HAZNET aims to facilitate public, professional and scholarly discussion through analysis, views, lessons learned, and insights into current and future issues of disaster risk reduction in Canada and internationally.

Editor - Lilia Yumagulova

Layout and design - Marina Shilina and Lilia Yumagulova

Copy Editor - Sarah Kamal

Editorial Assistant - Shaun Koopman

Communications Officer - John Chapman

Illustrator - Carime Quezada, QC Illustrations



CRHNet is a not for profit association established to:

- initiate the development of a Canadian interdisciplinary and cross-sectoral network of researchers, academics, and practitioners to enhance understanding of emergency management in all dimensions and help build Canadian capacity to deal effectively with threats and consequences from all hazards;
- create a Canadian annual Symposium for dialogue focusing on disaster risk reduction and facilitate policy formulation and the adoption of best practices in Canada;
- provide a Canadian venue to learn from the experiences of other countries by inviting internationally reputed scholars, practitioners, and participants to the annual Symposium and to share Canadian experience and efforts in disaster reduction;
- publish a bi-annual magazine, HazNet, comprised of articles on a wide range of topics within the emergency management and disaster risk reduction sectors.

Become a Member

The goal of the Canadian Risk and Hazards Network is to create a safer and more resilient Canada. This can be accomplished if you join.

Help CRHNet develop a vibrant community of people, academics and practitioners, who mitigate risk and hazards and improve emergency and disaster management.

You will be entitled to a reduced registration fee for the annual CRHNet conference, and depending on your type of membership, better access to the CRHNet member database.

Your membership directly helps CRHNet initiatives such as publishing HazNet and supporting students in the field of risk and hazard management.

Help make a safer Canada and a safer world.

Fees

Annual membership to CRHNet is available to students (\$25), individuals (\$50), academic institutions (\$500) and organizations ranging from \$500 to \$25,000.

Membership year approximately covers the period from November 1 to October 31. The new membership year starts following the Annual CRHNet Symposium, and ends at the end of the next Annual CRHNet Symposium.

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Fall 2016

HazNet Special Issue:

Emergency preparedness, disaster resilience and climate change adaptation in First Nation, Métis and Inuit communities in Canada and learning from Indigenous people of the world.

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