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THEIR USE IN CANADA

ICAR 2011

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Volume 95 Winter 2010-11
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Cover shot: This size 2.5 slab was triggered by explosives in the North Fork area of the Jordan River, northwest of Revelstoke. Photo: John Weinel

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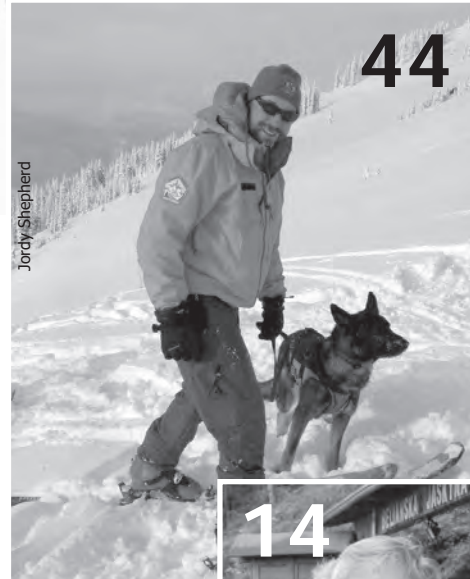
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avalanche.ca
The journal of Canada's avalanche community
Volume 95 Winter 2010-11

Return undeliverable Canadian addresses, change of address and subscription orders to:
Canadian Avalanche Association
PO Box 2759, Revelstoke, BC V0E 2S0
E-mail: publish@avalanche.ca
Publications Mail Agreement No. 40830518
Indexed in the Canadian Periodical Index ISSN 1911-5342

This journal is the official publication of the Canadian Avalanche Association (CAA), the Canadian Avalanche Centre (CAC) and the Canadian Avalanche Foundation (CAF). The CAA and CAC are non-profit societies based in Revelstoke, BC, serving as Canada's national organizations promoting avalanche safety. The CAF is a registered charity formed to provide a tax-deductible fundraising mechanism for the support of public avalanche safety initiatives. The CAF is based in Canmore, AB.

The goal of *avalanche.ca* is to keep readers current on avalanche-related events and issues in Canada. We foster knowledge transfer and informed debate by publishing submissions from our readers. Responsibility for content in articles submitted by our readers lies with the individual or organization producing that material. Submitted articles do not necessarily reflect the views or policies of the CAA, CAC or CAF.

We always welcome your opinions, teaching tips, photos, research papers, survival stories, new product announcements, product reviews, book reviews, historical tales, event listings, job openings, humorous anecdotes and, really, anything interesting about avalanches or those people involved with them. Help us share what you have. Please send submissions to:

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Content Deadlines: *avalanche.ca* is published quarterly. Material is due on the 15th of February, May, August and November for our spring, summer, fall and winter editions respectively.

Note: Digital contributions work best for us. For details, contact Brent Strand at bstrand@avalanche.ca.


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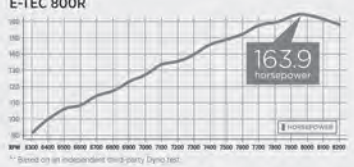
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Our vision:
To be a world leader in
avalanche awareness,
education and safety services.

Moving Forward

There have been many articles written in this journal and in other publications despairing of the seemingly inexorable rise in avalanche fatalities among snowmobilers. This trend didn't arise overnight, and we knew it wouldn't change that quickly either. We also knew the programs of the CAC and CAA couldn't have a real effect without help and guidance from the sledding community.

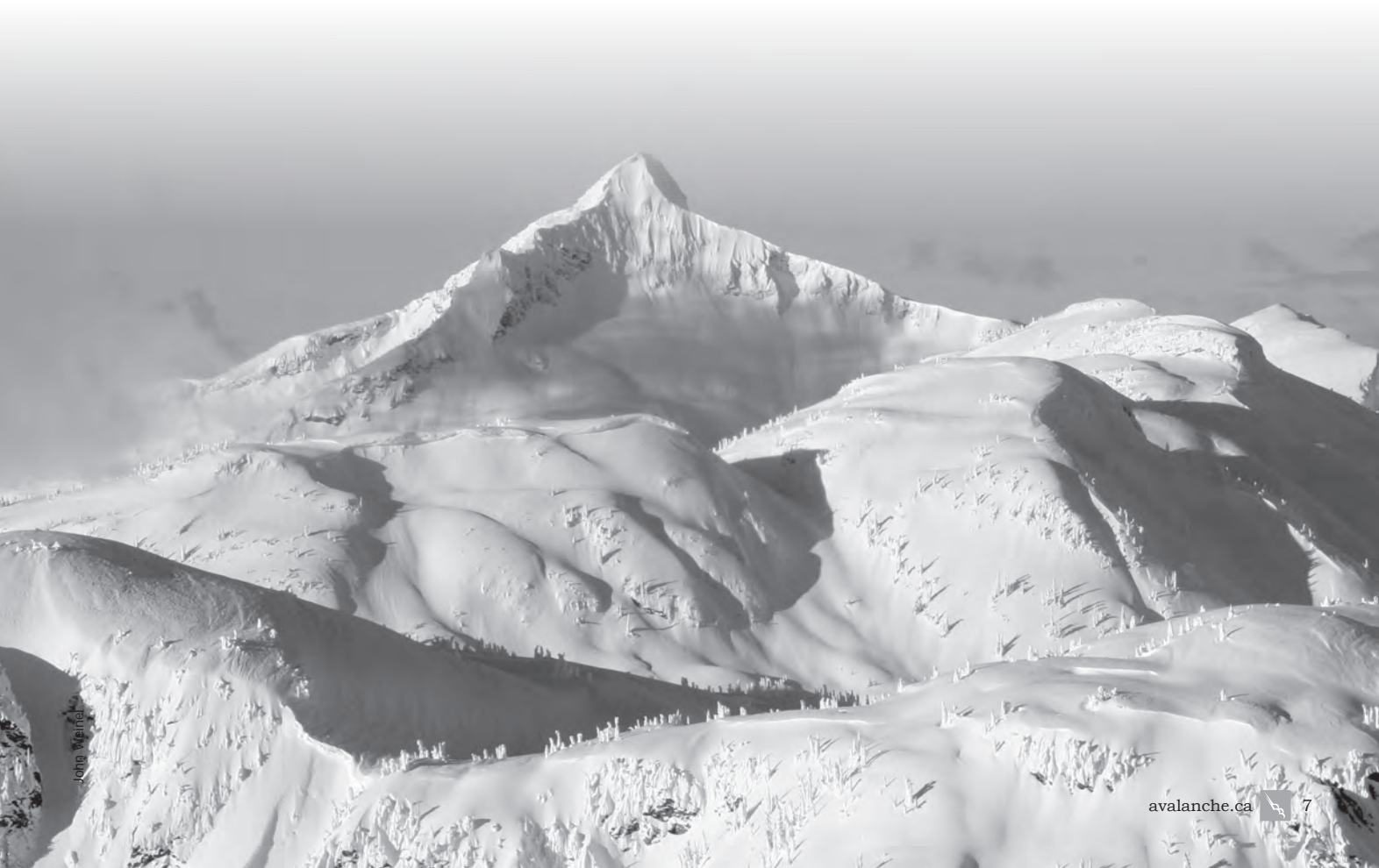
But we are happy to report a significant shift, as sledding groups of all description step forward to take ownership of this issue. From the Association of BC Snowmobile Clubs, representing nearly 30 clubs in the province, to individuals looking for ways to make change where they can, the response has been overwhelming. You can read more about this in John Kelly's article on page 36, as he describes some of the work and fundraising efforts aimed at avalanche safety.

It's wonderful to see the work of our communities and its many stakeholders showing some real and tangible results. It's a great time to be involved in avalanche safety here in Canada; the foundation laid by the pioneers of the industry was indeed built to last. The CAC's public/private partnership is unique in the world and the concept has sometimes been difficult to communicate. But we are seeing a remarkable change in the level of engagement from the snowmobiling community. There's a sense of ownership and responsibility for the collective safety and education of their community, and we're looking forward to following their lead.

For clear evidence on the increase in buy-in from the sledders, one needs to look no further than professional training courses. In the late 90s, at the request of snowmobile organizations, the CAA made a considerable investment in developing a professional-level course for sledders. For more than a decade, that investment has not seen a return. For years we have tried to schedule a Level 1 for snowmobilers, only to have the courses run at a loss or be cancelled completely due to minimal enrolment.

Now for the first time, the CAA is running a Level 1 for snowmobilers with full enrolment, and even a wait list. While still cautious, we are optimistic that this is the beginning of another new trend in the snowmobiling community where advanced training and professionalism takes the industry to its next stage. We're looking forward to seeing new leadership emerge, new voices advocating for education and awareness.

The final word goes to George Field who retired in December, 2010 after 27 years in public safety in Alberta's Kananaskis country. Over George's long career he touched many people's lives, took part in countless rescues and recoveries, and passed on his considerable knowledge to hundreds of students. While it marks the end of an era, it's always wonderful to see a colleague retiring in good health and looking forward to many more active years in the mountains. All the best George!



HARD WORK PAYS OFF

Anyone who has spent any time at the offices of the CAA and CAC in Revelstoke has said the same thing—the volume and quality of work achieved here is nothing short of astonishing. We have deeply dedicated staff working on behalf of members and stakeholders in the delivery of the mandates from both organizations.

It's been no secret that the CAC has been struggling to meet the demands on its services for a few years now. So we were very pleased and proud when the BC Government announced in early December that is doubling its annual contribution to the CAC through a BC Community Gaming Grant.

This new source of funding has not come without its fair share of hard work. CAC Board Members Mike Boissonneault and Phil Hein were instrumental in this new success, while Sponsorship and Marketing Coordinator Jennifer George deserves mention for refining the application we submitted this summer. But most importantly, this new grant is yet another reflection of the BC Government's recognition of the important work of the CAC.

Led by Operations Manager John Kelly, CAC programs are well established and very cost efficient. But more needed to be done and our call for resources was met. As you will read in this issue, there is a lot of good work going on.

As I write this, we're eagerly awaiting news about our most recent NSS-SAR NIF application—Avalanche Safety for Mountain Snowmobiling. This three-year project aims to unite all stakeholders in snowmobile avalanche safety under one project, with funds to study the at-risk demographic and develop targeted educational and lifestyle media campaigns in support of improved avalanche safety.

Again, a lot of hard work, most of it unpaid, has been done to get this project to where it is today. Pascal Haegeli of Avisualanche Consulting and Mark Lang of Digital Video Productions are two individuals who deserve high praise. Hopefully by the spring edition we'll be writing about all the work we're doing to get ready to start this project on April 1.

2010 HAS BEEN A YEAR OF ACCOMPLISHMENTS...

There is one individual who deserves some special attention for his hard work for avalanche safety, and that is Al Hodgson, President of the Association of BC Snowmobile Clubs. Al's weekly phone calls ensure intimate coordination between CAC and ABCSC initiatives, and his tireless work advocating for improved avalanche safety has paid off. This winter, ABCSC member clubs will be making a significant contribution by participating in the "buck-a-head" for avalanche safety. At this time of year when we're taking time to reflect on our successes and challenges, Al's efforts and commitment is top of mind. On behalf of the CAC, our members, stakeholders and the public who use CAC programs and services—thanks for all the hard work; it's paying off.

Public avalanche safety is often in the limelight, due to keen interest by media and the government. However, we need to remind ourselves that the public safety net in BC is built upon the extensive professional avalanche risk management industry in Canada. Dedicated members working on the front lines contribute vast amounts to the avalanche safety community every year, through their expertise and information.

Hard work is paying off for the CAA and the professional community too. Under the keen supervision of Operations Manager Kristin Anthony-Malone, InfoEx is growing, membership services maturing, and in partnership with ITP Manager Emily Grady our training programs continue to meet the demand for the highest quality professional avalanche education.

2010 has been a year of accomplishments for the CAA, also born out of hard work. In early December we received word from WorkSafeBC that they have accepted the new Guide for Writing Avalanche Control Blasting Procedures, which was created by CAA members. These procedures will replace out-of-date guidelines used by WSBC Safety Officers in the review and approval of explosives procedures for avalanche control.

There was an enormous amount of volunteer work done over the summer by the Explosives Committee under the supervision of Chair Scott Aitken. This new guide joins many other documents developed by the CAA and its stakeholders, which are recognized and written into Occupational Health and Safety regulations for avalanche safety for workers in BC—including the QAP standards, Land Mangers Guide, Risk Determination Guidelines and Generic table of contents for Avalanche Safety Plans.

More good news from WorkSafeBC was received in early December. The CAA's application for an Innovation at Work grant was approved, for an in-depth study into the current status Avalanche Floation Pack use in the Canadian workplace. More information on the project can be found on page 13.

With all of the successes for the CAA and CAC over the past couple of months it's clear the hard work is paying off. We're now focusing our attention on to other priority areas, including InfoEx and this publication. Our new-found knowledge regarding funding opportunities for non-profits can help these areas too, so we can continue to improve resources for our members and all the good people who contribute to the programs and services that have become world renowned.

As we begin the 2011 season, I'd like to thank everyone who has played a role in helping the CAA and CAC confront our challenges and accomplish so much. From the BC government to the CAA member on the front lines, thank you.

Working Together—Separately

The CAA and the CAC—joined at the hip but with separate heads and hearts. The two bodies we know today come from the same storied background. And though their mandates and focus are independent, there is strength in the common bonds that tie the two together.

In the 1970's, an Avalanche Committee was formed from a small group of committed and dedicated avalanche practitioners. That ad hoc group would eventually become the nucleus of the CAA when it was formally incorporated in 1981. Both the Avalanche Committee and the CAA established as their primary objectives to represent the interests of people engaged in avalanche safety work, and of ensuring the safety of the public.

In 2004, the CAC was incorporated and became the body responsible for public avalanche safety. The two entities have largely co-existed together within the same house, working very closely together with most of the same board, and under the same Executive Director. But “public safety” is a very broad term, and for our intents and purposes, encompasses any and all people exposed to and working in avalanche terrain. In fact, the activities and responsibilities of the CAA and CAC tend to blur the lines at times, with both organizations looking after the public good in varying ways, depending on what each considers as elements of their mandates.

Currently, we are exploring how the two organizations should function into the future and many questions of structure and responsibilities must be considered. On one level the delineation between the two is clear. The CAA is the organization responsible for professional activities, active operational and industry organizations, and worker-focused representation. The CAC is the organization responsible for the recreational and backcountry travel interests of the public.

But as we consider a further division of operations and labour between the two organizations, some of the activities and representation of both begin to come up for question at



times. The words “public,” public interest” and “public good” come up time and time again. One of the most notable discussions lately has been a review at the board level of both organizations regarding the Public Avalanche Bulletin (PAB) and questions surrounding the disclaimer for its use.

This disclaimer essentially warns users that the PAB may have limitations, is used by those who access it at their own risk, and states that “the authorized use of this data is limited to personal and recreational purposes only, and is NOT for operational or commercial purposes.” Some people have asked “why the delineation?”

In this case, who is “the public”? Is it principally recreationists? Or is it everyone out there who may be exposed to avalanches? Is it the travelling public on the roads, people at or in facilities and structures in or near avalanche terrain? Does it include workers, business, commercial and industrial activities? All of a sudden, the word public seems to cross all of the lines. How about training? The CAA has primarily focused for many years on providing training for operational activities. The CAC has supported training systems focused and aimed at recreationalists. Would you consider either or both are providing training for the public?

**...is there a
separation between
the 'recreating
public' and the
'working public'?**

Both organizations deal with numerous policies. That is, written guidance that helps to clarify roles and responsibilities, with specific terms and procedures that help to guide activities. For some activities, policies exist and are well documented. In others, they may be vague or not yet as well developed.

As we begin asking ourselves more questions regarding which organization clearly represents which activities, objectives and missions, the view to future separation of both brings forward some interesting perspectives on some of the challenges that will likely confront the division of mandates.

It's a very interesting dilemma at times when you consider that five board members of the eight in each organization are currently on the boards of both. It may be both beneficial in some instances, and a clear conflict-of-interests in others. How do you objectively represent the interests fairly for each when you wear both hats?

This brings us back to the question at hand: while the principal missions and objectives for each organization are clear, is there a separation between the "recreating public" and the "working public"? Are they one and the same, and do both organizations provide complementary services? Or are there real or imagined conflicts between how each of the two

organizations may represent facets of public interests and services, now and into the future?

The board is very interested in your input on these challenging questions. We need to define some clear guidance for the road ahead. Please let either the executive director or president know your thoughts. We wear the same hats for both organizations, and we need your help in getting the next steps right. At the May AGM this spring, we plan to propose a new framework and potential structure for the growth in years ahead, and critical member input for both organizations is essential. Let us know how you feel the public activities surrounding both should be considered and the division of responsibilities determined.

As always, you can email me at president@avalanche.ca. I'll be pleased to share any member and outside input with board members as we work towards finding the best way ahead for both organizations.

All the best for 2011 and the season ahead.



The background of the advertisement is a black and white photograph of a massive avalanche cascading down a steep, snow-covered mountain slope. In the foreground, a circular graphic represents the DVD cover. The cover features the Avalanche Association logo at the top, the title "Avalanche Control Blasting Instructional DVD" in a white box, three small images showing avalanche control operations, a "DVD VIDEO" logo, the text "For Training Purposes Only Please Do Not Copy", "Version 1.0", and the website "www.avalanche.ca".

Now Available
Avalanche Control Blasting Instructional DVD
To order call the CAA or get it online at avalanche.ca

Marmot Basin Patrol

AvSAR Response Beta Seminar

The CAA's newest course combines experience and expertise for cutting-edge learning

By Kristin Anthony-Malone and Emily Grady

What do you do when you receive a report that says "there's been an avalanche with up to 100 people involved"? That question was put to many who were involved with last year's Boulder Mountain incident and as a result, organized avalanche rescue was in the forefront of many avalanche professionals' minds.

The CAA's Avalanche Search and Rescue Response seminar is now complete and outlines best practices for organized avalanche search and rescue in Canada. This course is one of the outcomes of the "eTraining" project that launched in 2007 with federal funds from the National Search and Rescue Secretariat.

The beta version of the AvSAR Response seminar ran in mid-November, and given the wide range of backgrounds and experiences of the participants, it was an ideal setting for class discussion and idea sharing. Seminar instructors included Mark Bender, Jordy Shepherd, Dr. Renata Lewis and Garth Lemke. Instructors observing on this seminar who also contributed to the course delivery were Sylvia Forest, Kyle Hale and Ryan McLarty. Guest speaker Jeff Honig also greatly contributed to the course by sharing his experiences with the Boulder Mountain avalanche.

The CAA is happy with the feedback we've received, and we would like to thank the students who took part in the beta seminar. Their feedback indicated that participants got the most out of the field day, and the application of the Incident Command System to avalanche rescue. We will use their comments to refine and focus the curriculum for the next session. With incidents such as Boulder Mountain in the recent past, it's important to continue learning and developing skills related to organized avalanche rescue. The CAA's AvSAR Response seminar is one of the first steps.



Jordy Shepherd

Feedback on the course:
"The hands-on outside scenarios were by far the most interesting for me."
"The AvSAR manual is a very valuable resource."
"The practical scenarios were awesome."



Jordy Shepherd

AIRBAGS

UNDER THE MICROSCOPE

New CAA study will examine the use of floatation devices in Canada

In early December, the CAA received notice from WorkSafeBC that our application for an Innovation at Work grant for \$48,717.50 has been approved. The proposed study aims to develop a detailed overview of the current use of avalanche floatation devices among Canadian avalanche workers and explore their benefit, challenges and possible barriers for their adoption at the work place within the complete picture of risk management.

The main components of the study include a broad survey of the current use of floatation devices in Canada, detailed reviews of recent accidents involving avalanche floatation devices and the development of a central data system to better facilitate the capture of this important information in the future. Together, the knowledge generated through this project will offer the necessary foundation for making educated choices about the future adoption of these safety devices in the Canadian avalanche workplace.

The CAA will conduct this study in collaboration with Pascal Haegeli, who will be soliciting your input on the nature and extent of use of floatation devices in your workplace and asking you about your experiences with them. If you have any strong opinions for or against the use of floatation devices or if you have been involved in an accident where an avalanche floatation device was deployed, please contact us directly to make sure your perspectives are included in our assessments.

We would like to thank the Association of Canadian Mountain Guides, BC Ministry of Transportation and Infrastructure, Canadian Mountain Holidays, the Canadian Ski Guide Association, HeliCat Canada, the BC Commercial Snowmobile Operator Association, and the Canadian Avalanche Centre for their strong support of this study, and we are looking forward to working with you and the entire community over the next year.

If you have any questions or suggestion about this study, you can contact Pascal directly at pascal@avisualanche.ca.

ICAR 2010

Annual Conference of the International Commission of Alpine Rescue. Vystoke Tatry, Slovakia, October 5 – 8, 2010

By Ian Tomm

ICAR had its genesis at a meeting in Austria in 1948 and was formed to promote greater dialogue between alpine nations that deal with mountain rescue. Since its inception it has grown to an organization of numerous members from around the world, with new members added every year. ICAR is nothing new to readers of this journal, as many reports have been filed over the years on the events of the annual congress. This year I found myself thinking a lot about what we do in Canada, specifically with avalanche prevention, and how that fit into this year's meetings in Slovakia.

The programs of the CAA and CAC are rooted in prevention. For Canadians who have developed their careers through the CAA and the Canadian avalanche industry, prevention is just how we think. I'm often reminded of the differences between the attitudes of prevention and rescue when I attend a meeting where mainly rescuers attend.

I've had the pleasure of attending several of these over the past few years and have always learned a great deal from

them. Rescuers think about rescue, its techniques, challenges, equipment and problem solving puzzles. In these settings, prevention is what other people do. This is not a criticism, it is merely a personal observation.

But what is certain is that at the international level of ICAR meetings, very few rescuers identify themselves with the prevention element of mountain safety. This conference brings together the very best mountain rescue teams in the world but over the years, prevention-focused organizations such as the Swedish Mountain Safety Council and SLF have joined. As I wrote last year, the CAA isn't an actual member of ICAR. We're appointed by Parks Canada to sit on the avalanche commission. Regardless, the CAA is there with prevention first and foremost on our minds.

I told one delegate this year that prevention should be everyone's primary goal; our focus should be programs that will hopefully one day result in no accidents. This may seem simple to us but the response was bewilderment. My colleague had never thought that way

before. He was there to hear about the rescues—what went right, what didn't, and how organizations are trying to get better in terms of rescuer safety. The focus at this conference is very much on the people doing the heroic act of search and rescue. None of the presentations or case studies concentrates on the victims, or the learning that needs to come out of tragedy.

I don't mean to say this is not interesting. On the contrary, it's fascinating to learn of the expanding use of helicopters, Swiss mountain rescue teams in Himalayan mountain rescue initiatives, the rules-based systems to manage rescuer safety, and stories of survival after 17 hours buried in an avalanche.

I was asked to do three presentations at this year's conference. Canada is increasingly being looked upon as the leader in prevention. Add to this new government regulations and a snowmobiling avalanche accident that made headlines around the world and you have a lot of people asking questions about what's going on in this country.



Bill Mark, Bob Sayer, Joan Mauthner, Rocky Hendersen, Kirk Mauthner, Marc Ledwidge and Jim Phillips getting ready for the field trip.

Ian Tomm

My first presentation was to the Avalanche and Terrestrial Commissions, and was an overview of the past winter focusing on the surface hoar instabilities we were challenged with in western Canada, the general trends and patterns in the six skier and six snowmobiler fatal accidents, and a summary of the CAC's prevention programs.

After I present, I always take notes on what I liked or didn't like about my talk. What struck me about this time was that, in the context of last winter's highly anomalous and challenging conditions, we didn't have more fatalities. Our prevention programs were contrasted against the conditions and what emerged was a strong message on the value and utility of a comprehensive approach to public safety through numerous, integrated prevention programs.

The second presentation was on the WorkSafeBC regulations that went into effect late last year. During his time on the avalanche commission, our past Executive Director Clair Israelson led the group through a benchmarking exercise, where they developed Best Practices in Avalanche Prevention Programs. They can be found on the CAA website under the "Resources" tab (click on International Committee of Alpine Rescue).

Training, certification and standards for people who work with avalanches (prevention, rescue or otherwise) is a part of this document and Hans-Juerg Etter, the Chair of the Avalanche Commission, encouraged many to focus their presentations on this aspect. My 20-minute presentation covered the background (why we have the regulation), the process of its development with industry and WorkSafeBC and its implementation.

I reviewed the Qualified Avalanche Planner requirements and discussed the many challenges in its implementation. While being more focused on those who work with avalanches for a living and not necessarily rescue, the presentation was well received and many questions were asked in breaks and over the course of the next few days regarding what is happening in BC. Some see similar regulatory action in their future as well and want to learn from the Canadian

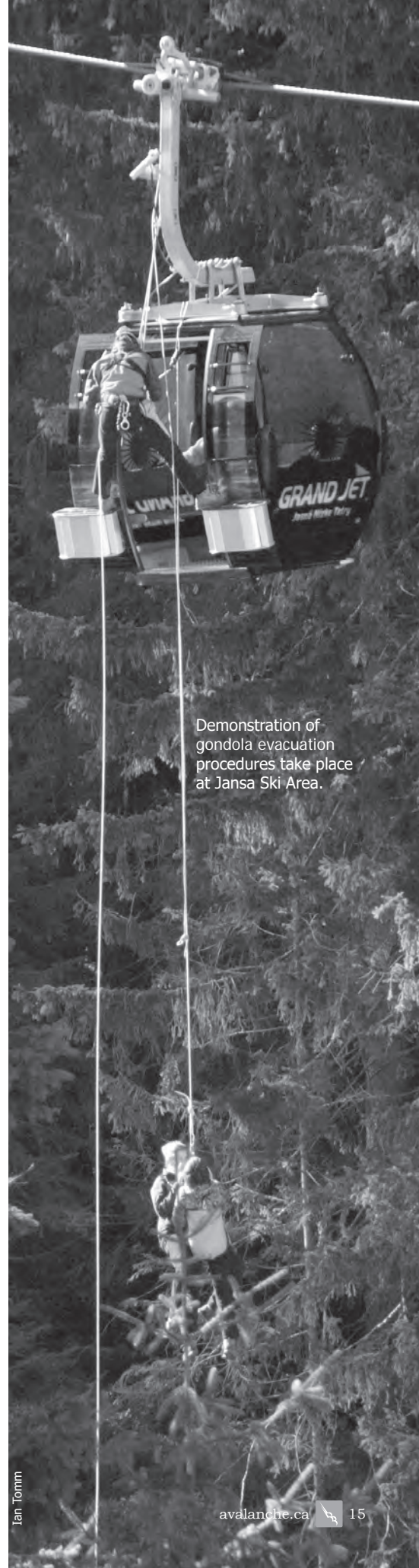
experience.

The third presentation was on the Boulder Mountain snowmobile accident that I made jointly with Parks Canada's Marc Ledwidge. This presentation was to the entire delegation—all countries, all committees (Air, Terrestrial, Avalanche and Medical) with real-time translation into French and German. Marc began with a review of the sport of mountain snowmobiling, with a few images to illustrate the nature of the activity occurring in western Canada. He then reviewed the callout and response, ending on the last day of cleanup with photos of snowmobiles being slung out of the accident site.

Mountain rescue isn't just about process, it's also about the people being rescued—why they got there in the first place, and how we as a society can prevent future loss. I spent my time talking about the Boulder accident in that context, and the examining the response that was nothing short of remarkable—from the emergency response of professional guides and avalanche workers, the coordinated response by the local hospital and BC ambulance, to the political response culminating in a visit from BC's then-Solicitor General Kash Heed.

I spoke also of the impact of that accident on the snowmobiling community, and touched on the wide ranging action we are seeing. As John Kelly notes in his article "Good News from the Snowmobile Sector" on page 36, the CAC is on the receiving end of a tremendous amount and variety of initiatives from that community, all of which are aimed at accident prevention.

There are tremendous opportunities to see cutting-edge rescue technology at ICAR meetings, and it is always instructive to learn from any individual or organization considered the best in their field. Here in Canada, we are increasingly seen as the leaders in avalanche accident prevention. I'm looking forward to showcasing our world-leading approach at the ICAR Avalanche Commission's field sessions in Revelstoke in March. I hope you can join us.



Demonstration of gondola evacuation procedures take place at Jansa Ski Area.

ICAR AVALANCHE COMMISSION MEETINGS

Revelstoke, BC
March 21-25, 2011

The first North American meeting of the International Commission of Alpine Rescue's Avalanche Commission will be hosted by the CAA in Revelstoke, BC. This conference will be conducted in three languages—English, French and German—and will highlight the prevention-focused work of the CAA and its members.

Schedule of Events

March 21

Check-in and welcome. Meet and greet in an evening session, with an overview of events during the field days.

March 22

Morning classroom session will focus on education, with presentations on how professional and recreational avalanche search and rescue techniques are taught in different countries.

Afternoon field sessions will take place at Revelstoke Mountain Resort.

March 23 & 24

Participants will be assigned into two groups. Each group will do a day of heli-skiing and a day of snowmobiling.

- Heli-skiing with Selkirk Tangiers will highlight on the mechanized skiing industry in Canada. Different countries will present on their unique challenges to search and rescue, followed by a tour of the CAA/CAC office.
- Snowmobiling on Boulder Mountain will highlight the mountain snowmobiling industry in Canada, followed by a tour of the Search and Rescue office in Revelstoke.

March 25

Check-out

Avalanche Accidents in Canada

By the time you are reading this journal, *Avalanche Accidents in Canada Volume 5* will be published and available to purchase. More than two years in the making, this most recent volume of the series is the largest one by far—440 pages! The size of the book reflects both the dramatic improvement in the quality of avalanche accident reporting and the quantity of information contained in those reports. The three authors—Bruce Jamieson, Pascal Haegeli and Dave Gauthier—sifted through reams of data to describe the 105 avalanche accidents that led to 155 fatalities between 1996 and 2007.

For lead author Bruce Jamieson, this book hit especially close to home. “I lost one of my best friends in one of these avalanches; he was the best man at my wedding,” he writes. “For eight years I have avoided any information on the weather, snowpack, the avalanche, and especially the decisions that put him on the slope that day. For this book, I was finally able to dig through the records and reports to write an objective case history about his avalanche accident. But every one of the accidents in this book was equally emotional for the many people who provided facts about the conditions and decisions that led to the loss of their friends. While writing this book, I was moved by the willingness of friends and witnesses to share information—all to help others avoid similar conditions and decisions.”

Pascal Haegeli reports similar impressions. “During this work, I had to opportunity to talk to numerous individuals who were personally involved in these tragic accidents,” he says. “I was tremendously touched by their willingness to share their stories and their determination to get the details right so that other backcountry travellers can learn from their mistakes.”

Volume 5 includes many features new to the series, designed to help readers get the most from the information. Included are terrain ratings, tabulated warning signs, and extensive use of relevant text from the public avalanche bulletins. In addition, seasonal weather and snowpack summaries aim to help readers to better understand the link between the specific weather of a winter and the resulting accident patterns.

Tom Pawlowski with the BC Coroners Service had a preview of the book before it went to print. “My single overall comment is a round of accolades going out to the authors for their vast and skilful effort, and to the Canadian Avalanche Association for taking on this task,” he writes. “I hope that this book receives the widest possible readership as it contains a wealth of information that for a motivated student of the subject will provide ample opportunity for gainful self-study and reflection.”

Mr Pawlowski also noted that he found particularly valuable the analysis of each winter’s snowpack and weather conditions. He writes that, “...a multitude of learning opportunities is contained in those season overviews....there is clearly a lot to be gained from having a methodical look at the historical patterns. It is quite enlightening to see the cause-and-effect of the different weather phenomena so clearly outlined.”

Dave Gauthier is the youngest of the three authors, and remembers well how the previous volume in the series affected his own experience. “There is no doubt Volume 4 had a huge impact on my progression and fast-tracked my learning curve,” he writes. “I think it’s fair to say that in part because of the new features in Volume 5, I learned as much in helping to research and write this book as I did reading previous ones.”

Looking to the future, Dave sees this volume having a similar effect on a new generation of readers. “A segment of our target audience were born during or just before the decade covered in this book, and they will be venturing out on their own before the next book is written. I hope the next generation can benefit from this volume as much as I have.”

It’s a big responsibility to assess these tragedies objectively and all three authors felt the weight of the task. “Initially, I had many expectations about this book,” writes Bruce. “But early in the process, I realized that objectively summarizing the facts was the primary goal. Sure, we included obvious interpretation of the facts. Would more probing interpretations have made the book more educational? Perhaps, but objectivity was critical. People had died in these avalanches.”

The mandate of the series has always been to share learning from the experiences of others, and the authors report the readers are not the only ones benefiting from the process. “Even though I work in the avalanche field all the time, researching these accidents and trying to understand the circumstances that led to them has been a tremendous personal learning experience,” adds Pascal. “All three of us hope the book will provide the same learning experience to the reader and help prevent similar accidents from happening in the future.”



Avalanche Accidents in Canada—the Complete Series

- *Avalanche Accidents in Canada Volume 1: A selection of case histories 1955 – 1976*
By Chris Stethem and Peter Schaerer, 114 pages
- *Avalanche Accidents in Canada Volume 2: A selection of case histories 1943 – 1978*
By Chris Stethem and Peter Schaerer, 75 pages
- *Avalanche Accidents in Canada Volume 3: A selection of case histories 1978 – 1984*
By Peter Schaerer, 138 pages
- *Avalanche Accidents in Canada Volume 4, 1984 – 1996*
By Bruce Jamieson and Torsten Geldsetzer, 197 pages
- *Avalanche Accidents in Canada Volume 5, 1996 – 2007*
By Bruce Jamieson, Pascal Haegeli and Dave Gauthier, 440 pages

**Real avalanches.
Real rescues.**

**Fernie, BC
January 2008**

“Our rescue was fast and efficient because I had the right beacon, probe and shovel and knew how to use them. Get out and take an avi course. It could mean the difference between life and death.”

Janina Kuzma

>> Tracker. Ease of use when it matters most.
Tracker avalanche transceivers are always reliable and easy to use. Instantaneous, real-time display. Simple user interface. Technology grounded in reality, developed with input from real backcountry riders like you.

For more Tracker success stories, go to www.backcountryaccess.com/rescues or visit our blog.

Backcountry Access, Inc.
Boulder, Colorado USA
backcountryaccess.com

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From our extraordinary partners – to the high performance clothing and equipment we design – to the measured steps we're taking toward global sustainability, this is Marmot for Life®

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AVI-SMART UPDATE

By Julie Timmins



Patrick Fricker

Julie talks snow safety with a Grade 9 class.

Now heading into its fifth year, Avi-Smart will be presented this fall to students in grades 7-10 students in the Bow Valley. Created in 2006 by Banff National Park's Resource Conservation/Public Safety Specialist (RCPSS) Julie Timmins, the program has been offered to communities in or adjacent to the mountain national parks (Banff, Kootenay, Yoho, Waterton, Jasper and Mt. Revelstoke/Glacier National Parks). Avi-Smart is now also delivered by Parks Canada RCPSS staff in Pincher Creek, Invermere, Edgewater, Canal Flats and, in partnership with the Canadian Avalanche Centre (CAC), in Revelstoke.

Avi-Smart is an avalanche awareness program only and is not intended to replace professionally-developed avalanche safety courses. Parks Canada believes that basic avalanche knowledge is a life skill for youth in mountain communities, and that efforts should be made

to ensure they receive this important message. The CAC has been successful in getting avalanche awareness education to other communities within Alberta and British Columbia.

We chose to target students between the ages of 12 and 15 because kids in this age group are on the brink of independence, if not insisting on it. They venture further from the guidance of their parents and engage in a wide variety of outdoor winter activities which may expose them to avalanche danger.

We stress to the students that the program is for awareness only and that they should take an avalanche skills training course before venturing into uncontrolled avalanche terrain. We also stress that avalanche knowledge is an ongoing process. We hope that this type of program will help students understand the potentially fatal consequences of being caught in an avalanche and

decide to stay in-bounds until they have the knowledge and training necessary to explore beyond ski area boundaries. The program does not just target those using ski areas but includes all backcountry users, whether they are travelling on skis or sleds.

Last year, Parks Canada delivered the program to approximately 2,000 students thanks to the support of administrators and teachers who also believe in the value of this program. In our mountain communities, over eighty per cent of students engage in some kind of winter sport. Even those that do not are encouraged to pay attention in order to inform friends and relatives who may visit with the intention of skiing, riding and sledding. Every student has the ability to save lives by passing on our basic avalanche safety messages.

What are our messages?

- What is an avalanche and when can they be expected to happen.
- Ski area boundaries and the difference between controlled and uncontrolled avalanche terrain.
- The risks of entering uncontrolled avalanche terrain.
- The importance of carrying rescue equipment. Rescue equipment is not optional.
- The serious consequences of being caught in an avalanche.
- The utmost importance of a fast, efficient companion rescue.
- A professionally developed avalanche safety course should be taken before skiing/riding out of bounds or skiing/riding/sledding in the back country.

Will Avi-Smart make a difference? If the trend continues, more and more youth will be interested in skiing, riding and sledding. We all know that participating in outdoor winter activities has incredible rewards such as fitness, fresh air, fun with friends. Some youth envision skiing or riding like the pros for free gear, sponsorship or fame. Extraordinary stunts often mean going into uncontrolled avalanche terrain emulate extreme skiers without understanding the possible consequences of doing so. We hope that these kids will understand through Avi-Smart that there is critical learning necessary before living their backcountry dreams.

Julie Timmins is a Resource Management Public Safety Specialist in Banff National Park

The advertisement is a vertical rectangular panel. At the top, there is a logo consisting of a stylized lightning bolt with the letters 'ABS' underneath it. Below the logo is a black and white photograph of a skier in a crouched position, moving down a snowy slope. The skier is wearing a helmet and a backpack. In the lower half of the advertisement, there is a white rectangular box containing the text 'YOUR WHOLE LIFE FITS INTO THIS BACKPACK.' followed by a photograph of an inflated avalanche airbag, which is a small, cylindrical device with two long, vertical airbags extending from its sides. Below the airbag photo is a block of text: 'The ABS® Original Avalanche Airbag is the only airbag that can boast more than 25 years of experience and innovations for greater safety. The real pros – people like Freeride World Tour competitors, mountain rescue teams and mountain guides – put their faith in quality “made in Germany” for a very good reason: 97% of avalanche victims with an activated ABS® Avalanche Airbag survived.* www.abs-airbag.com'. At the very bottom of the white box, there is a small footnote: '*Source: SLF, documented avalanche accidents with ABS® Airbag, August 2010.'



YOUTH GUIDELINES

What do kids need to know
about avalanche safety?

By Bridget Daughney

In early 2011, the CAC will introduce new Youth Guidelines to the public. The purpose is to provide educators and teachers with a place to start when talking to students about snow safety and avalanche awareness. There will certainly be wiggle room, as many factors play a role in providing winter safety education, including regional interests, the educator's own knowledge and education from the previous year. These Youth Guidelines are not to be confused with an AST course. The aim of the guidelines is to promote avalanche and snow safety awareness by helping educators and teachers deliver this message.

For several years, issues of when, what and how to teach youth have been debated at the AGM. Last winter season, in an effort to formalize these ideas and opinions, the CAC put together a panel consisting of teachers, ski patrollers, educators, professionals and representatives from Parks Canada. Concrete guidelines were put down on paper and then discussed, debated, revised and then discussed some more. In the spring of 2010, a final draft was presented at the AGM Youth Meeting in Penticton to an overwhelmingly positive and excited reaction.

While presenting to students, many questions come up time and again: "How big do avalanches get?" "Have you ever been caught in an avalanche?" "Do you know anyone who has died in an avalanche?" Sometimes finding an appropriate answer is a challenge, and leads to even tougher questions: Is it right to tell a kindergarten

that people die in avalanches? How will I convey to the reality of ducking a ski resort boundary to a high school student? Can I assume that grade eight students understand avalanche closure signs? How do I tell a student that modern snowmobiles are much different than those their parents may have used?

These are questions that others have also struggled with. The CAC holds annual youth meetings to discuss the hot topic of youth education, which have led to including youth in AST policy. This then led to helping AST instructors learn to teach youth and Appendix H of the AST curriculum: Teaching AST to Youth.

The push for Youth Avalanche Education has found momentum—schools are welcoming presenters to talk about winter safety, AST courses are being run for youth, teachers are contacting the CAC for School Kits and educational information, and last year the CAC ran its first Level 1 Operations course to educate teachers in order to pass on more knowledge to their students. Great ideas are coming out of all these educational avenues, and more are being added each year.

The Youth Guidelines are set up in an easy-to-use format. A graph shows the flow of topics pertinent to each grade in a broad overview. Each grade then has several key priority messages. These range from "tell an adult when you go outside to play" for kindergarten to "high marking, terrain choice, and other snowmobile dangers" for Grade 12 students.

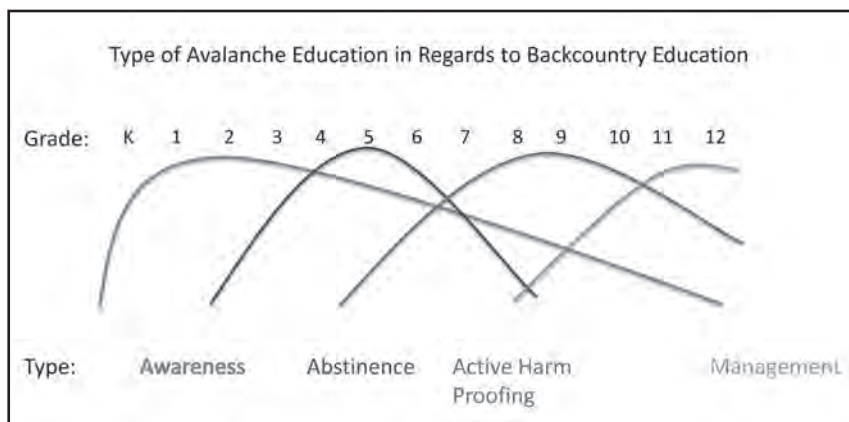


Key messages are then divided between either resort/ski hill or backcountry information. We separate so as to not overwhelm educators and teachers, who may not be backcountry enthusiasts themselves, and are looking to educate their class about going to a resort. Basic avalanche awareness and necessary equipment to carry if they choose to duck the rope is considered part of resort/ski hill education.

The categories are then divided into topics, which can have a basic, intermediate, and advanced component. Topics are divided in order to create building blocks for teachers to advance with based on maturity and probable activities. The CAC has created age guidelines for each topic as well: for example, snow pack is discussed at a basic level to Grade 4 students, at an intermediate level to Grade 6 students, and at an advanced level to Grade 9 students.

Educators will have a list of topics to choose from. They may focus heavily on one topic while only briefly touching on others, depending on their audience and comfort level with the subject matter. An influencing factor will be the knowledge and experience of the educator. There are some topics that the CAC feels the teacher or educator needs to have taken a course themselves in order to be able to teach them; these are clearly marked.

In the future we hope to facilitate the delivery of these guidelines with a library of curriculum ideas and games ready to use for each topic. We have started this process by making online tools available, which educators



and teachers are already using in the classroom. Look for some great new ideas to be added with the Guidelines later this year. If you have some effective teaching tools that you use, we would love to hear about them.

It is great to see the youth education community growing stronger and larger. Years ago, the idea for Youth Guidelines would not even have been a blip on the radar. Now we have an active group of people sharing ideas, trying new things and bringing forward concerns to be addressed. If you would like to become more active in this community or be added to the newsletter e-mail list, please contact me: bdaughney@avalanche.ca.

The way of the future is to raise awareness and educate youth going into the backcountry. In this age of machines and mountains, we cannot stop youth from going into the backcountry, but we can arm them with knowledge of possible consequences. These new Youth Guidelines will make that goal one step easier to achieve.

Bridget Daughney is the CAC's Youth Program Coordinator

Avalanche awareness poster contest winners from Mt Begbie Elementary in Revelstoke.



Bridget Daughney

South Rockies Observer Program

CAA Professional Member Gord Ohm joins the team

The South Rockies Observer Program is entering its third season and the CAC is pleased to announce that long-time Fernie resident Gord Ohm will be the CAC's technician on the team. The program is a collaboration with the University of Calgary that supports a two-person field team in the area. While the goals for this program are different for the CAC and the U of C, there is much to be gained by working together

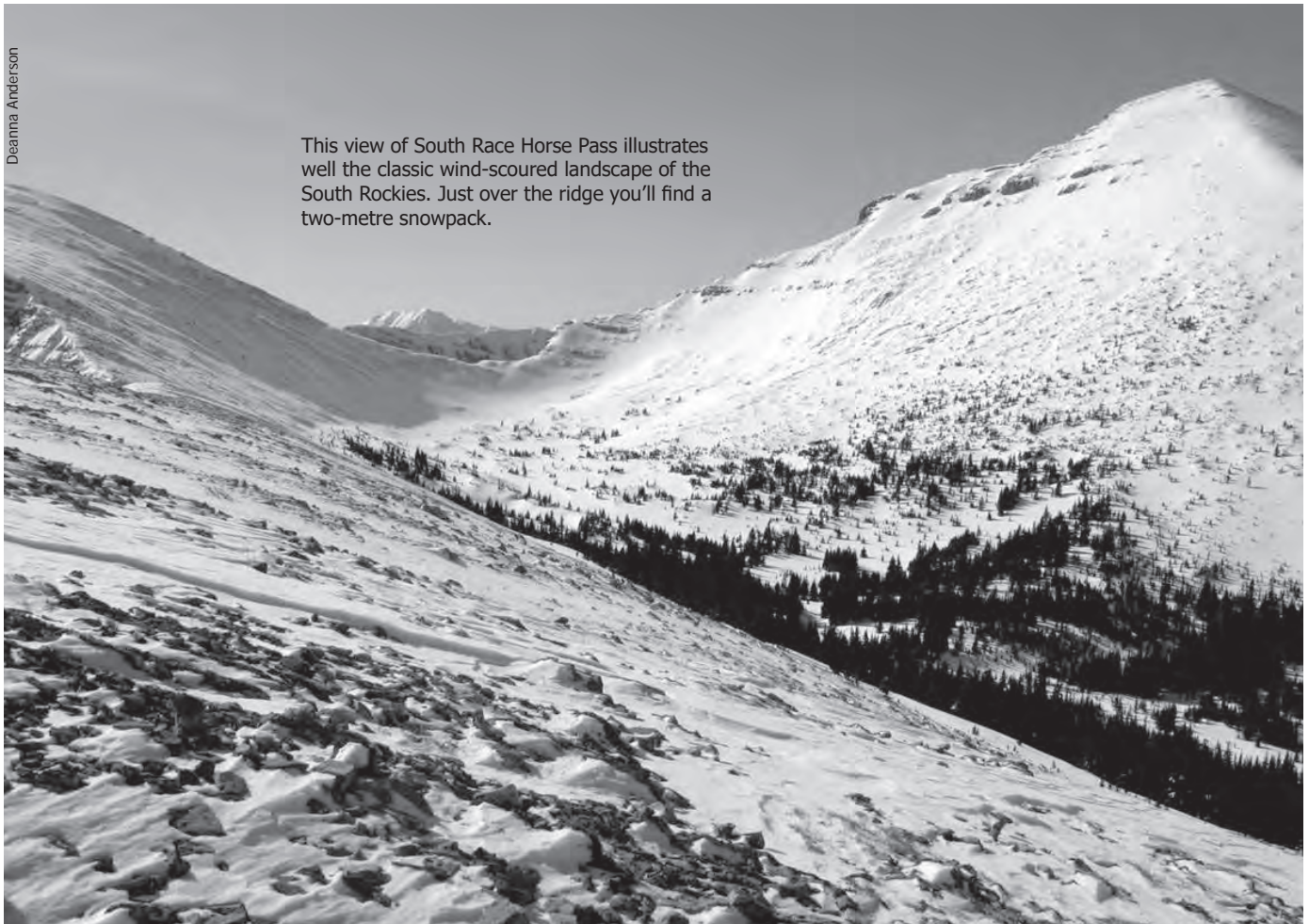
For the CAC, the main goal is to supplement data collection in areas where there is little reliable snowpack and weather information—the Crownest Pass, the east slope of the Rockies between Kananaskis Country and Waterton National Park, and in to the upper Elk Valley. We know that there is a lot of backcountry recreation in this area, especially by snowmobilers, so accurate data is essential for public avalanche safety.

The University of Calgary is involved in two ongoing research projects in the area—snowpack modeling and recreational snowpack observations. The modeling project is focusing on the application of the Swiss program called “Snowpack,” which models the evolution of snowpack layering. University researchers are measuring how well the program performs in Canadian climates. The Recreational Snowpack Observations project is aimed at determining the best sets of observations that recreationists can use to verify whether local conditions match the information presented in the avalanche bulletin.

Gord and a researcher from the University will be going into the field together, two to three days a week from January 1 through to the end of March. Gord will phone into the CAC forecasting office after each field day, as well as posting his observations on InfoEx and on the CAC's discussion forums.

Deanna Anderson

This view of South Race Horse Pass illustrates well the classic wind-scoured landscape of the South Rockies. Just over the ridge you'll find a two-metre snowpack.



High Marks

Bombardier takes outreach to a new level with a fall program of awareness and education

By Carole Savage

Wow, what a road trip! This fall BRP (Bombardier Recreational Products) funded an avalanche outreach program as part of their role in promoting avalanche awareness in the snowmobile community. “We recognize our role as the industry leader to also lead in safety awareness” stated Vice President of Sales and Marketing Bob Lumley before the program commenced. “This outreach program will help bring the avalanche safety message to many more of our customers quickly and effectively.”

The three hour outreach presentations took place at 15 BRP dealerships in various communities throughout BC and Alberta. The presentation was structured to be basic and was intended to raise snowmobilers’ avalanche awareness while providing some fundamental tools, and inspiration to take an AST 1 course as a bare minimum if they are going into the mountains to ride.

As I am sure members of the avalanche industry are aware, snowmobilers access and travel the back country in a completely different manner than hikers or skiers, and they cover much more ground in a day. This brings a unique challenge in educating users.

When the call came in from BRP that I was to be their presenter for the program, I had six days to put together a presentation that was engaging and met the goals of the program—so much to cover in so little time! I certainly had my work cut out for me to ensure that I didn’t turn them off of taking more training. My thought process was, “If we can get them in the door, it’s up to me to get them hooked on absorbing the information and committing to taking more training.” Being “green but keen” compared to the many great minds in the Avalanche industry, I felt a big responsibility to make this presentation really hit home for the snowmobile community. I achieved it through a creative thought process, bouncing ideas off of my peers and mentors in the avalanche industry (thank you to all of you who helped me in the endeavour, I am truly grateful), knowing my audience and their culture, and balancing the serious moments with my trademark personality of high energy, quick wit, and a slightly off kilter sense of humour.

I kicked the night off with an enthusiastic welcome and introduction. Because I can still remember the days in the late nineties when “I didn’t know what I didn’t know” regarding safe travel in avalanche terrain, I felt that I could relate to how many of participants felt about avalanche awareness. This built a connection to my audience without appearing condescending.

My humble yet often humorous approach really helped to engage the crowd so that they could see that while there is much to learn, and it takes time, it is possible to be more avalanche aware and make better decisions when playing in the mountains.

To set the tone for the evening, I showed a short extreme sled video clip, and then a highly interactive situational awareness exercise. These first 15 minutes had them chuckling, sitting up at attention, and wondering what that short, spunky, slightly crazy blonde at the front of the room was going to throw at them next.

I found that snowmobile based case studies were very effective for getting the key messages across and keeping the audience engaged. The BRP presentation utilized several case studies, and yes, the Boulder Mountain/Big Iron Shootout accident was one of them.

Throughout the presentation I seeded the need to take further training and touched on numerous key messages that the CAC noted earlier this fall as well as ideas from the CAC Snowmobile Committee.

The result? Between October 14 and November 19, over 850 people were reached directly through the presentations. The feedback was very positive from the participants and dealer representatives alike. The participants left the events realizing that “they didn’t know what they didn’t know” regarding avalanche awareness. They were also excited about the gems of knowledge they gained through the presentation and were enthusiastic about taking more training.

From my interactions with the participants of this program I could really see that we are creating positive change toward greater avalanche awareness in the snowmobile community. This shift in thinking is coming not only from this initiative but from other initiatives that have occurred in the past and are occurring as I write this. I think we can all agree, this awareness still has a ways to go, but the point is, we are making progress. Let us all keep the momentum going; we are onto something here!

Thank you to BRP, the CAC staff, various Professional Members of the CAA, and the members of the Snowmobile Committee for all of your help in this endeavour. I see this as an excellent example of what can happen when people with often very different backgrounds work together with a shared vision, and are passionate about what they do.


Carole Savage is on the CAC’s Snowmobile Outreach team

Inset photo: Gerry Dusessoy, Carole Savage and Dave Norona at the Greater Vancouver Powersports night. Gerry is a district sales manager for BRP and Dave Norona is an adventure athlete. Main photo: A packed house at the Kelowna show.



Online Course Gets a New Look

By Cam Campbell



Opening image for the online training course. Do you know where to travel to be safe?

I am happy to report that the new and revitalized CAC online avalanche course reported on last fall is now complete, and the course is live on avalanche.ca/cac under the Training tab. Some of the biggest changes happened behind the scenes. We developed an entirely new content management system that makes it easy to add and update curriculum, including photos, videos, quizzes, and exercises. We also severed our ties with the Justice Institute of BC and started hosting the course on our site. Not only does this save us money but it also makes the course more nimble with respect to updating content and integrating existing CAC web-based tools, such as the Trip Planner and Incident Reporting System.

The original content was updated based on AST curriculum, ADFAR2 material, and CAA AvSAR manuals. Many of the diagrams and photos were also updated, and several videos were added, including clips (known as “Avy Snacks”) from The Fine Line and Sherpas Cinema, online resources from Doug Latimer’s Shadowlight Productions, and vintage Beating the Odds footage.

The course has seven modules. New to Module 1 are definitions and formation processes of the eight avalanche problems that CAC forecasters and the ADFAR2 project have identified as most critical for backcountry recreational safety: persistent slabs; deep persistent slabs; wind slabs; wet slabs; storm slabs; dry loose; wet loose; and cornices. Much of the content in this section was developed in collaboration with the ADFAR2 project, and is also part of the AST 2 curriculum. Techniques on managing the risk associated with each of these problems are outlined in Module 4.

Module 2 boasts a new content management system for the interactive ATEs exercise, allowing for easy addition of new terrain photos to keep it fresh and interesting. Module 3 is highly interactive, with content based on user-selected answers to questions on objectives, companions, risk propensity, equipment, experience, group size and so forth. There are also exercises with free-form answers that are shared with other users, and the soon-to-be-implemented ability to discuss the answers on our online forum. Content for Module 5 is based on current best practices in avalanche rescue, developed through the CAA eTraining AvSAR project.

I would like to acknowledge Kelvin Luck for web development and Leigh Kayley for design. Thanks to RECCO, the presenting sponsor of the original course, for supporting this valuable public awareness initiative. Try it out and send any feedback to ccampbell@avalanche.ca.

Cam Campbell is a CAC Public Avalanche Forecaster



The CAC Gets Social

By Karilyn Kempton

Suggest to Friends

As backcountry recreation only gets more popular, the CAC is striving for new ways to reach audiences, both self-propelled and sledders. Currently, the focus is on how best to use social media tools like Facebook and Twitter to distribute information to the public. Engaging with followers will be an ongoing goal. The CAC has recently developed interim Twitter and Facebook guidelines to ensure the organization remains true to its professional brand identity, but also keeping posts personal and friendly.

The overall communications goal of the CAC is general awareness and outreach through education, programs, resources and research; social media fits that mandate by providing another popular avenue for information. So what exactly does the CAC want to use Twitter and Facebook for? Options include regional bulletins, Special Public Avalanche Warnings, incident reports, significant condition changes, promoting avalanche safety events, promoting AST courses, user input, and interesting/relevant links from other news sources or organizations.

A large number of backcountry users—primarily sledders and out-of-bounds skiers/boarders—are still unaware of the CAC's services, including avalanche bulletins and avalanche training. Social media could be a successful means of reaching some of those users given the incredible popularity of Facebook. Building up a large, enthusiastic base of social media followers will help the CAC create more and more connections to new, computer-savvy audiences. Launched in January 2010, The CAC's Facebook Page (facebook.com/canadianavalanchecentre) has more than 3500 followers, and the organization is looking at ways to leverage those followers. The Twitter account, introduced in late November 2010 (twitter.com/avalancheca) gained over 200 followers in less than a month.

A primary benefit of social media is its ability to create dialogue between an organization and its users. The CAC's goal is to foster that dialogue by encouraging trip and snowpack reports on Facebook, asking and responding to questions, encouraging photo and video uploads, maintaining a friendly and personal tone, and providing timely, consistent and relevant updates. The objective is not to take people away from our avalanche.ca website but rather to provide yet another way to distribute information. Updates on the Facebook and Twitter pages will be more anecdotal than the bulletins posted on the

website, and followers will be encouraged to visit the website for full details.

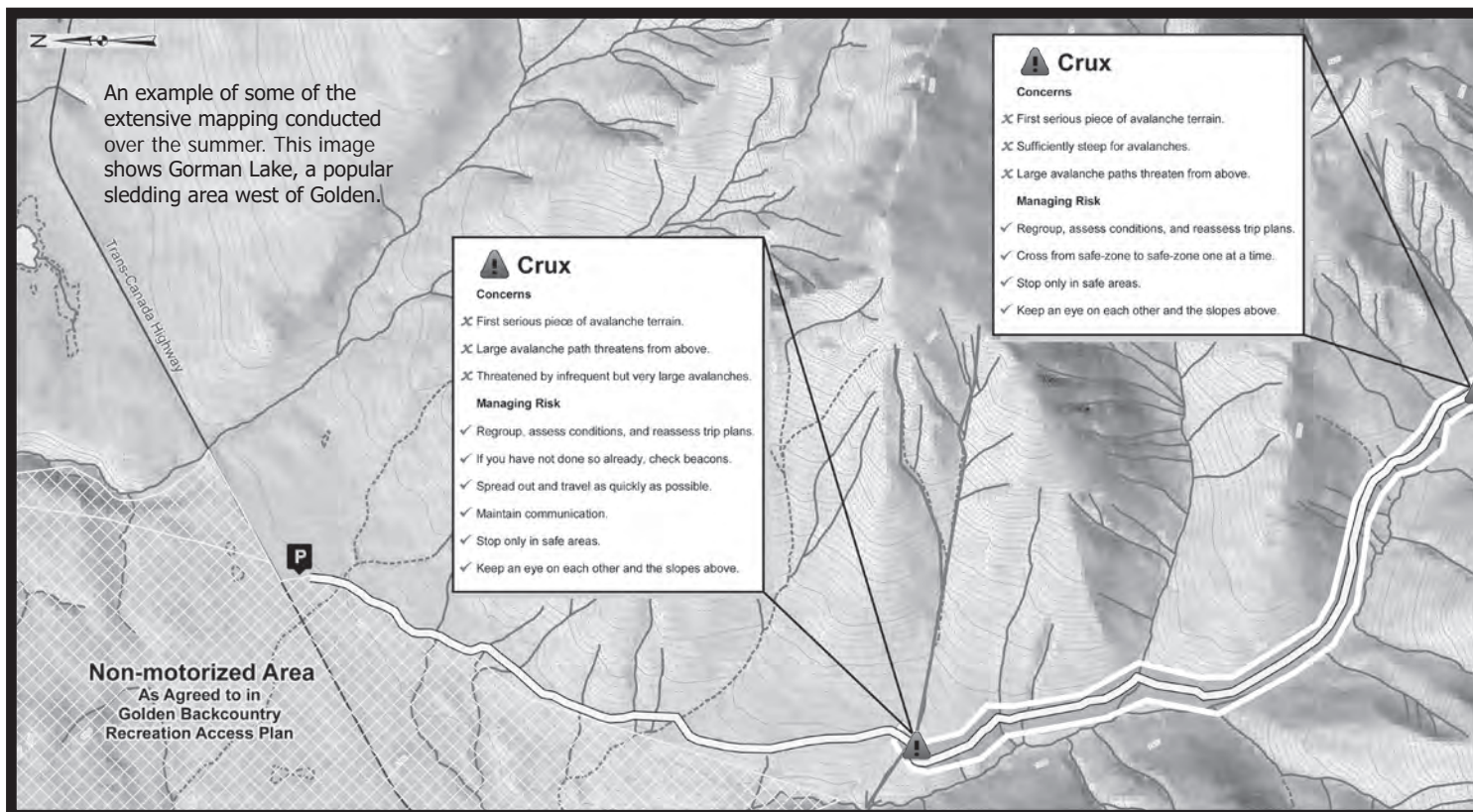
Nearly half of the Canadian population has a Facebook account. According to Facebook's statistics, nearly half of active Facebook users log on to the site in any given day. The average user is connected to 80 community pages, groups, events and community pages. The CAC hopes to engage with users without overwhelming them. When users interact with CAC content, their friends and followers will see that on a news stream. The more user engagement, the more visible the brand will be.

Operations Manager John Kelly admits that he worries about bombarding followers with bulletin information on the Facebook page. The CAC began publishing avalanche bulletins to the Facebook page via RSS, but there was a concern the updates were getting overwhelming. "They were starting to bother people," notes John, and the CAC is now deciding on the best strategy to provide relevant, timely updates without spamming fans.

Of the more than 17 million Canadians with a Facebook account, just over half are between the ages of 18-34. The CAC's target audience includes backcountry skiers and snowboarders, snowmobilers and out-of-bounds riders. "Out-of-borders are usually younger," adds John, "so our social media will likely be more toward that crowd, without alienating sledders." The CAC has been focusing on regular media such as rock music stations when trying to reach sledders. However, Facebook may also be a way to reach snowmobilers by creating and posting snowmobile-specific content.

There is a growing social media precedent being set by other avalanche forecasting organizations. During the 2009/2010 winter season, Revelstoke Mountain Resort began posting daily avalanche reports from their avalanche forecasters each morning by 7:00 am, and feedback was positive throughout the season. Many users admitted to checking Facebook rather than the Resort's homepage. What's important is consistency—providing the same information at the same time encourages users to make it a habit to check the Facebook feed as part of their morning routine.

Karilyn Kempton is the CAC's Social Media Consultant. She comes armed with a history of social media marketing experience and a passion for ski touring. Find her online at: thestoke.ca.



Mapping for Mountain Sledgers

By Steve Thomson

The Province continues to take action to further improve backcountry safety and avalanche awareness in British Columbia. There are now avalanche awareness signs targeting mountain snowmobilers posted at 23 key locations along highways travelled by backcountry enthusiasts and at all 85 managed snowmobile areas in the province. New for this winter are Avaluator signs posted at nine of BC's most popular snowmobile trail access sites.

In addition to the \$150,000 the Province provides annually to the Canadian Avalanche Centre (CAC), we have approved additional funding this year of \$235,000 to improve forecasting and public awareness of avalanche risks in BC. (150k gaming, 45 TCA, 40 trail sign project)

The Province cannot improve backcountry safety and avalanche awareness alone; individuals must also take action and be accountable for their safety and the safety of those around them. The Province and the CAC are working together to ensure there is information and support for mountain sledgers across the province, so they know what they're getting into when they recreate in the BC backcountry.

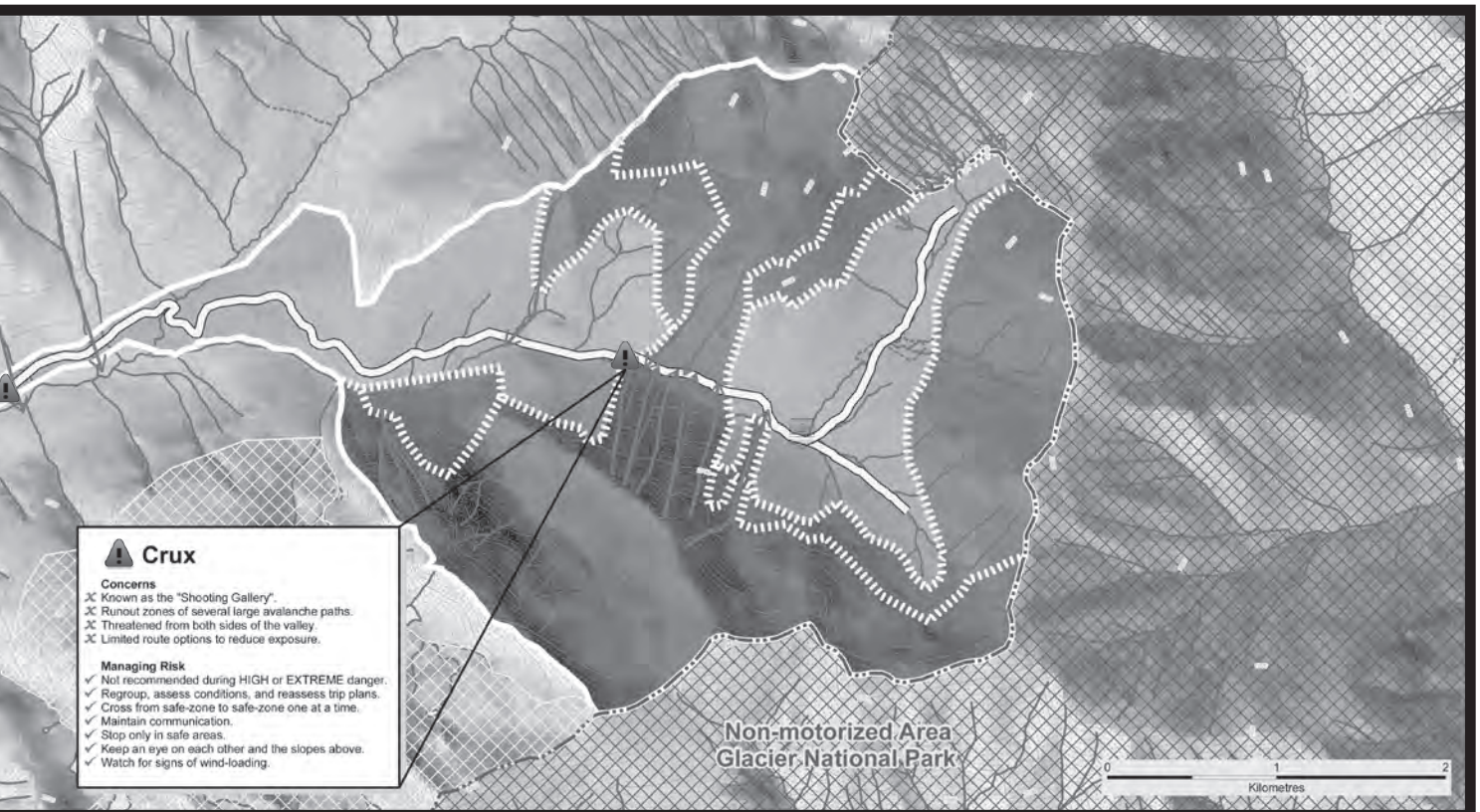
The Avaluator signs show users step-by-step how to assess the avalanche dangers of their route. These three questions are asked:

1. What type of terrain are you heading into?
2. What is the Avalanche Danger Rating today?
3. What does the Avaluator recommend?

To help the users answer these questions, the signs provide a map of the area, which provides a visual representation of how risky the terrain is in relation to avalanches.

These maps have been created using the Avalanche Terrain Exposure Scale (ATES). Prior to this year, ATES mapping was restricted to point-to-point routes, for example, from trail head to cabin. But we know that sledgers travel extensively over the terrain. With these new signs, mapped snowmobiling terrain in the province has quadrupled—complete drainages are now mapped so sledgers can see clearly where the risk of avalanches changes.

The process to apply the ATES scale to such vast terrain has been a challenging one. This past summer, Sites and Trails BC commissioned a pilot project to develop this process in order to map the vast areas of terrain in BC that are accessed by mountain snowmobiles. The CAC began with these nine high-profile areas (see sidebar) that are now ready for the 2011 season.




The ultimate completion of this project involves 85 sledding areas. The CAC's goal has been to make this mapping process efficient and standardized. Once that is finalized, the Province will pass these mapping jobs over to the community of BC's avalanche professionals.

Avaluator signage is educational and takes a few minutes to digest. It is best suited for warming shelters or where people are relaxing. Input from snowmobile groups is that people are in too much of a rush to review at trail heads.

Remember that avalanche safety begins with the individual – before you go into the backcountry: get the training, carry the right gear and check the bulletin at avalanche.ca. Beacons, probes and shovels are not enough to protect you in an avalanche – the best protection is to have the proper avalanche safety training and plan your trip accordingly. Common sense is the most important avalanche safety tool for individuals to use – know the risks before you head into the backcountry.

Steve Thomson is BC's Minister of Natural Resource Operations



Locations of the Nine New Avaluator Signs:

Near Golden: Gorman Lake, Quartz Creek, Silent Pass

Near Revelstoke: Frisby Ridge, Boulder Mountain

Near Sicamous: Owl Head, Blue Lake, Eagle Pass, Queest Mountain

The decision on where to locate these signs was based on these priorities:

- Number of fatalities within 50km
- Amount of open alpine terrain
- Amount of use
- Amount of club support
- District recreation officers input
- Past classification work
- Ease of classification
- Is there avalanche bulletin coverage?

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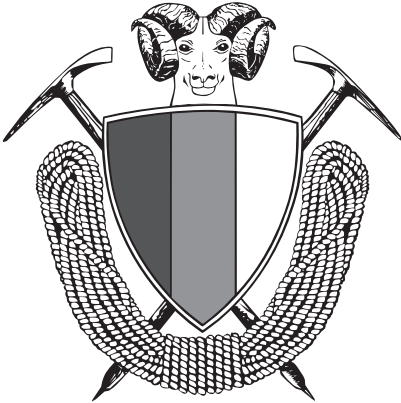
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Photo: Vance Shaw Skier: Joe Lammers, Mt. Mackenzie, 2009

Cranes Come Home

David F. Rooney



More than 17,000 cranes were folded as part of the 1910 Rogers Pass Avalanche Memorial. This fall, Parks returned the origami creations to more than 20 communities in BC. On December 1, 2010, Parks Canada's Rob Buchanan (left) and Alice Weber (right) presented CAC Executive Director Ian Tomm with 1,000 of the origami cranes folded by the CAC and its members. Parks Canada also presented a commemorative poster and an engraved section of rail, to say thank you for the CAC's support and participation in the memorial ceremonies in Revelstoke in March 2010 March and in Rogers Pass in August, 2010.

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PHOTO: CHRIS FEIGENHAU

Backcountry Avalanche Workshops 2010

By Nancy Geismar

Thanks to our sponsor Columbia Brewery, we had another successful round of Backcountry Avalanche Workshops in BC and the Yukon. The CAC changed the format this year to better accommodate the snowmobile community: we had a half-day workshop for skiers and boarders and a half-day workshop for sledgers. There were pros and cons to this format but we felt that it was worth trying to gather more of the snowmobile community to these events.

Each venue had a review of new CAC materials: the Avaluator 2 and the fieldbook, "Decision Making in Avalanche Terrain." Pascal Haegeli, the primary designer of these products, presented at each of the BAWs. Each venue also had presentations on companion rescue and equipment, "10 commandments" for both skiers and sledgers (10 "must do" travel rituals) and case studies, both local and of major significance. The new North American Danger Scale and snow science were also a part of each workshop.

The Whitehorse community showed their thirst for knowledge once again as they crowded the venue with a record 185 participants. We had a reasonable turn-out in Prince George but would have liked more participants in Terrace and especially Fernie. The day of the BAW was opening day at Fernie Alpine Resort, which definitely affected attendance. Audience numbers notwithstanding, the presentations brought enthusiastic and positive comments from the participants. Here are a few:

Whitehorse:

- It's a great way to start the season. It reminds you of all the work you constantly need to do to equip yourself for the year.
- Eye opening and informative; it's a valuable session for any backcountry user who wants to travel safely.

Prince George:

- This workshop offered lots of good, specific advice on how to avoid being caught in an avalanche and how to survive if you are caught.
- Very informative; I learned a lot of things I had never considered about the backcountry.

Terrace:

- Great overview and good common sense presentation all backcountry users should attend.
- Very informative; great range of expertise and knowledge.

Nancy Geismar takes care of Program Services for the CAC

New Sponsor: Prior

The CAC is pleased to welcome Prior, the Vancouver-based ski and snowboard manufacturer, as a new sponsor. Prior is world renowned for making dependable, high performance backcountry boards and skis. In their news release announcing the sponsorship, they say they are "excited to be supporting the CAC, an organization whose mandate is centered around providing our customers with information to make the backcountry a safer playground to recreate in."

Watch the CAC website for an auction of a pair of Prior skis or a splitboard, coming soon!



New Sponsor: ABS

The CAC is pleased to announce ABS as a new Supporting Sponsor. ABS is the original avalanche airbag manufacturer, with over 25 years of experience and innovation.

When you choose ABS for your avalanche safety system, you also support the CAC.



Parental Guidance for AST

We all know teenagers who think they're expert drivers once they've earned their driver's license. That same phenomenon can be seen with AST courses. AST providers who teach classes for younger people have noted that many students view their AST certificate as a permit for pushing their limits, and even leading their friends into the backcountry. That couldn't be farther from the truth.

All instructors tell their students that AST 1 is a first step in life-long learning but sometimes that message is lost on the younger ones. So, with input from instructors and the AST committee, the CAC has created an informed consent brochure for parents, to inform the adults responsible for these kids of the limits of an AST 1 course.

In bold print, the inside text reads: "Certain risk-seeking youth interpret completion of the AST course as a license to aggressively pursue high-end activities in the backcountry." The pamphlet goes on to say that an AST course needs to be followed by mentorship, and encourages the parents to pay close attention to what their child is doing in avalanche terrain.

Other tips for the parents include a suggestion to take the AST course with their child. At the very least, they should ensure the instructor is well prepared for teaching youth and continually supervise their child's use of the backcountry.

Teenagers who have the initiative to enrol in an AST course are often extremely proficient at their sport. It can be a real challenge to convince them that their skills at skiing, boarding or snowmobiling are far superior to their ability to assess avalanche terrain. Humility can be a tough lesson, both to teach and to learn. By informing the guardians of these young people, we hope to help avoid the harshest lessons of all.



Data Courtesy of:
canadianavalanchecentre

Southern Rockies GO

REPORT	MON 8	TUES 9	WED 10
ABOVE TREELINE	CONSIDERABLE	HIGH	EXTREME
AT TREELINE	MOD	CONSIDERABLE	HIGH
BELOW TREELINE	LOW	MOD	HIGH

Provided by:
powdercanada.com

Avalanche Warning Widget

Dan Savage of Savage Marketing of Fernie, BC has developed an avalanche bulletin internet widget in partnership with the CAC. A widget is a compact application designed to display information on a website or web-based media device.

The widget is available to webmasters to embed on highly visible locations on their websites. It is also formatted to function on Digital Signage networks. The widget presents the danger ratings in an easy to recognize format. Presenting the danger ratings in high traffic locations will reach those people who may not make an effort to click through and read the bulletin.

To generate the html code for your website, visit powdercanada.com/CAA and select your location as a default view. Savage Marketing is a strategic marketing, publishing and internet company based in Fernie BC. For more information, email dan@savage-marketing.com.

Good News From the Snowmobile Sector

By John Kelly

Tyler Riddell

As far back as 2006 I wrote that avalanche safety among snowmobilers would not succeed until it is being done by sledders, for sledders. Even at that time it was clear there were key influencers in the sled community who believed the same. The situation has evolved considerably in four short years, and a brave few innovators has turned into a substantial group of doers.

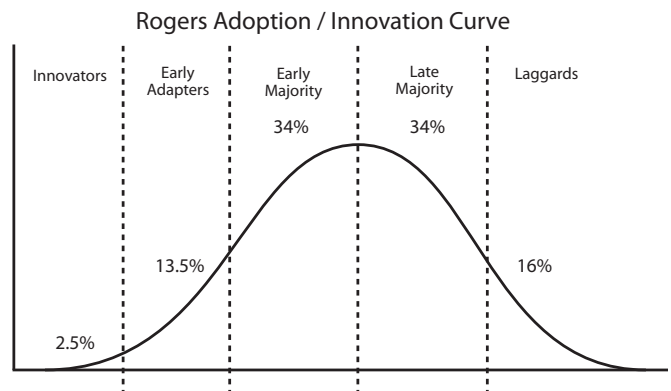
How do people adapt to change and adopt new ideas? What we are talking about here is adapting to new ideas of avalanche safety much the same way as people adapt to new technology in their lives. While learning how to be safe from avalanches is not the same as buying a new iPhone, maybe there are some similarities in how the marketing of ideas in both realms takes hold. In technology marketing, the Rogers Model for the adoption and diffusion of innovations illustrates how people buy-in to new technology. Essentially, people buy into a given idea at different times in the adoption process.

Innovators are the brave people pulling the charge. Early Adopters quickly latch on to new products and try out new ideas but in a careful way. Early Majority buying into the concept are the first sign that the concept has legs and provide hope for the success of the product or initiative.

In snowmobile avalanche safety I was reflecting that the same progression is occurring. Our Innovators are people like CAA Professional Member and educator Lori Zacaruk,

Louise Sherren of the Alberta Snowmobile Association and Randy Swenson of Yamaha Motor Corporation and Team Thunderstruck. These individuals have long been convinced of the need for specific targeted avalanche safety initiatives for sledders. Each recognized and championed the CAA and CAC, sometimes even before the avalanche safety community was aware of them. For example, the CAC has been collaborating with Lori Zacaruk and the ASA since 2005, bringing avalanche seminars to some 600 Albertans every year.

Next, numerous Early Adopters latched on to the need for something serious to be done for snowmobile avalanche safety.



This was still years ago, back when we were looking south of the border and wondering why the rising trend in snowmobile avalanche fatalities there was not being duplicated here in Canada. The ability to see where this trend was going was a particularly strong point of the Early Adopters. These folks pressed us to do things like engage snowmobile stakeholders at the CAC meetings, attend snowmobile shows, and be present at conferences and annual meetings.

Both the Innovators and Early Adopters have been pushing us to act urgently to focus on avalanche safety and snowmobiling. For a long time they have been engaged in influencing their snowmobiling peers to take the situation seriously, even before the last three years made that urgency clear.

If we continue to follow the Rogers Model, the interesting and new phase of the adoption process is the transition to Early Majority phase. The number, quality and scope of the initiatives underway in the interest of avalanche safety for snowmobilers is increasing rapidly in many directions, driven by a variety of stakeholders and advocates. Avalanche safety is swiftly becoming a preoccupation of the majority of stakeholders in the snowmobile sector, grassroots, commercial and public sector.

I am pleased to share some of these advances with you but I am a bit daunted. I'm daunted because there is no doubt in my mind that even in a substantial survey of what is going on will leave out some vital and important initiatives. I have written a number of articles in recent years on snowmobile avalanche safety issues. For the first time in a long time I am very much looking forward to writing the next one. It will be a follow-up to fill in the avalanche safety events and programs that I have left out.

Singled out for special mention are the folks at Recreation Sites and Trails, a department of the BC Ministry of Natural Resource Operations. This group of people is charged with the public trust in administering snowmobile trails and tenures on public land. They deserve recognition for their leadership and commitment to providing information on the type of terrain users can expect when they visit these areas. They are providing advice to snowmobile clubs, furnishing information on how exposed terrain is to avalanches and even providing assistance to install avalanche beacon checkers at trailhead locations. Even more, they are engaged in the development of best practices for land managers related to snowmobiling in avalanche country.

The Association of British Columbia Snowmobile Clubs (ABCSC) is also providing ample proof of a commitment to avalanche safety and stewardship. We are honoured to be the recipient of the "dollar-a-day" initiative first proposed and championed by ABCSC. This idea, conceived in May of 2010, was that a reasonable contribution from the sledding public would be a dollar-per-day levy on the trail use fee. The funds would go directly to the CAC for use in creating products that help mountain sledders deal with avalanches.

This idea has become a reality in an astonishingly short time owing to the collaboration between Recreation Sites and Trails, ABCSC and others. All member clubs and even some clubs not under the ABCSC umbrella have agreed to participate. The amount to be generated is estimated at \$30,000 – \$40,000 annually, and will help with increased programs specific to snowmobilers and their concerns.

From the commercial sector there have been some really great initiatives that also indicate a quantum leap in the level

Rating terrain in the Eagle Pass area, west of Revelstoke.

Greg Pallinger



of engagement in avalanche safety. The sled manufacturers—Yamaha, Bombardier, Polaris and Arctic Cat—are sponsors of the CAC's avalanche bulletin program. On an equally important level, they have been using their marketing savvy to engage their core snowmobile clientele in outreach seminars designed to encourage sledders to pursue avalanche education and use the bulletin. Carole Savage, in partnership with Bombardier Recreational Products, put on fall seminars that reached 820 sledders in 15 communities in Western Canada (see the article on page 26). This kind of activity more than doubles the number of clients reached through three-hour teaser seminars.

Yamaha Motor Corporation continues to show leadership by offering a beacon, probe, shovel and balloon pack to anyone who buys a Yamaha mountain sled. Long-time snowmobile educator Amber Wood also offers a free AST course to those same buyers.

In the Elk Valley, Teck Coal needs recognition for its commitment to its employees and their families. Teck is a long-time sponsor of the CAC and in recent years has been working hard to bring avalanche awareness directly to the workplace. They have an exciting initiative for January 2011 that you can read about on page 51.

In Revelstoke, the Revelstoke Snowmobile Club and their fundraising arm, the Snowmobiling Revelstoke Society have long been supporters of the CAC, and before that, the CAA. These organizations have increased their activities this season with some important fundraisers that have already raised significant amounts of money. And there are other exciting projects in the works. I won't reveal the details just at this moment but we are looking at a joint venture that will help increase the amount of data collection coming from Boulder Mountain.


In the Yellowhead, the Valemount Area Recreational

Development Association (VARDA) has always been a strong proponent of avalanche safety. Taking their activities several steps further, a new initiative there will see every client who purchases an annual membership on the VARDA trail system get a free AST weekend course as part of their membership fee.

In the Shuswap, Crowfoot Snowmobile Club is purchasing a CAC Friends membership for each club member as part of membership fees. They are also sponsoring an AST course for all members who want to attend.

To close, there is one initiative that I think about a lot and galvanizes my personal resolve to make inroads in the issues surrounding snowmobile avalanche safety. A single person acting with dedication can have an impact on any matter. The Candles 2 Remember program begun by Sherry Waldroff in memory of lost loved ones who died in avalanches has resulted in over \$10,000 in donations to the CAC. This initiative is up and running for a second year with hopes of duplicating that success. We are all in awe of the trust and responsibility placed in us by Sherry to use her donations wisely. The CAC trip planner will be the fruit of that effort.

We are just about at the point where adoption of an avalanche safety culture is becoming routine and normal in snowmobiling, just as it is in other backcountry activities. Many of the emerging efforts support the CAC directly. Equally, we are grateful for the parallel efforts of all the stakeholders who are pulling independently towards the goal of increased sledder awareness, using their own strengths and resources. Though the road to reduced harm from avalanches may still take some time, and Mother Nature doubtless has some tricks to throw our way, I am confident that what we are laying down today will result in more people coming home from the mountains safe and sound tomorrow.



Ripping it up in the Big Mouth area north of Revelstoke.

RIGHT NOW THE VIEW IS SPECTACULAR.



*TM/MC Columbia Brewery

IT'S ALL ABOUT NOW.

A Message from the President

By Gordon Ritchie

As the new president of the Canadian Avalanche Foundation, I'm excited and privileged to be part of a terrific organization that's making a difference. I have been a member of the Board of Directors since the Foundation's inception in 1999. Thanks to Chris Stethem's leadership, we've created a great foundation for the future.

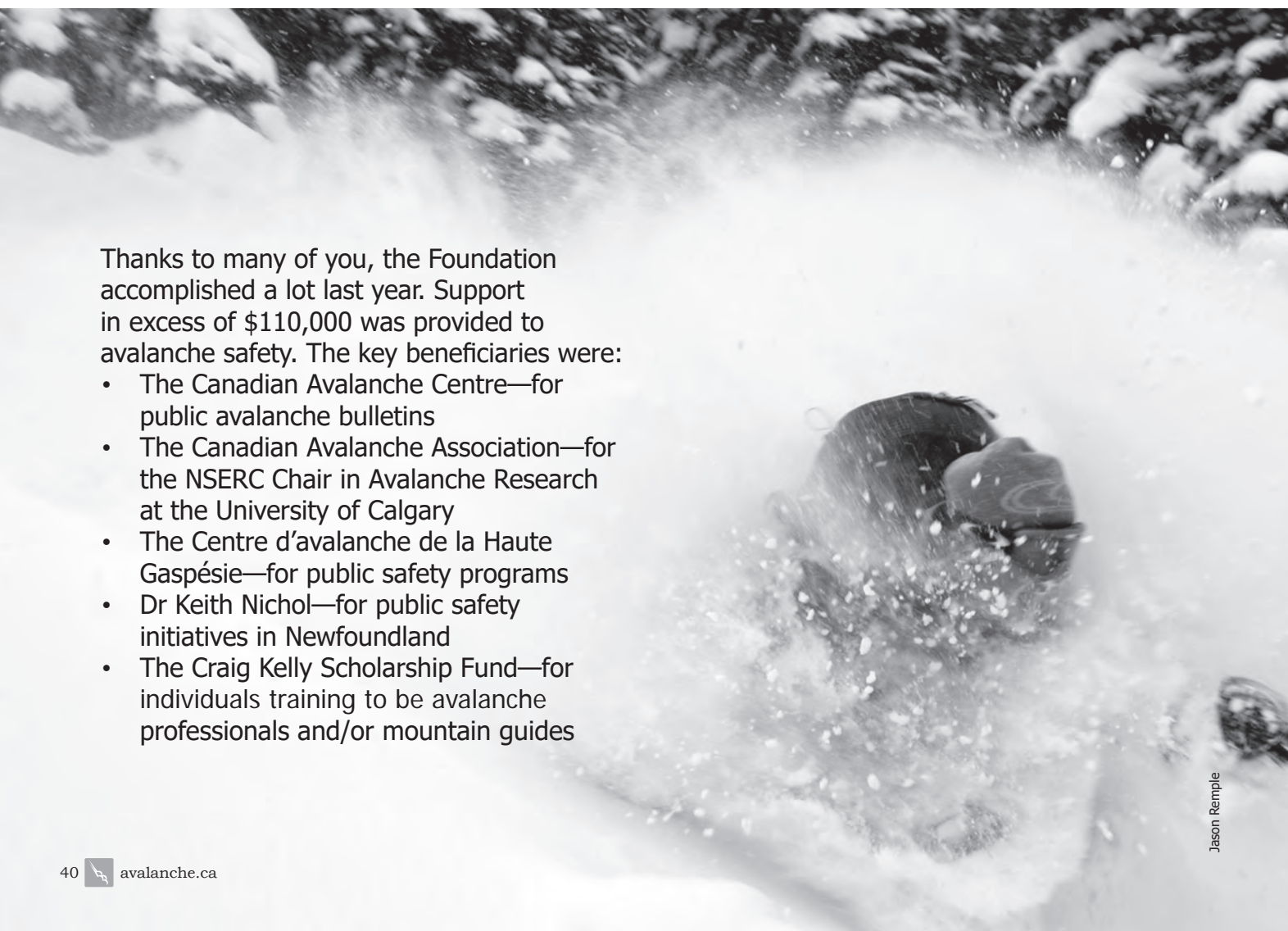
As I take over the reins at the Foundation, the time is right to go over the fundamentals: The Canadian Avalanche Foundation (CAF) is an arm's length organization, separate from both the CAA and the CAC. It is run by a volunteer Board of Directors with the assistance of a part-time administrator, Pattie Roozendaal, in our Canmore office. As a federally registered charity, the Foundation can provide receipts for income tax purposes for the donations we receive.

Our mission is straightforward—to reduce the number of avalanche related injuries and fatalities in Canada. What's our strategy? To provide needed funding for public avalanche bulletins, public education and research to improve avalanche safety. CAF fundraises and grants funds for public safety initiatives. The Foundation does not engage in any operational activities other than those related to fundraising and granting.

We had ten different fundraising events last year. As I look to the future, our top priority is to develop new and exciting fundraising initiatives to support of our mission. Work is well underway for a Calgary fundraiser this spring. Watch for the date! If you have an idea for a fundraiser, please get in touch with one of our board members.

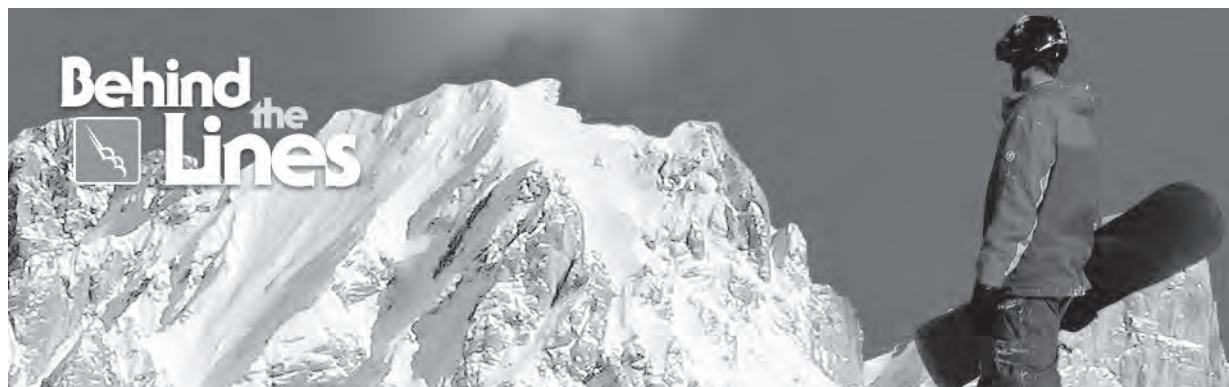
On behalf of the avalanche community, I would like to personally thank our outgoing administrator, Mary Jane Pedersen. MJ has worked tirelessly for many years keeping the Board on track and Foundation rolling along. I'd also like to thank the outgoing members of the Board of Directors: Donna Broshko, Peter Schaerer, Scott Flavelle and Margaret Trudeau. All have made absolutely tremendous contributions. They are joining the ranks of our Honourary Directors: Peter Furhmann, Peter Spear, Geoff Freer and Jim Gray.

A safe and enjoyable winter to all!



Thanks to many of you, the Foundation accomplished a lot last year. Support in excess of \$110,000 was provided to avalanche safety. The key beneficiaries were:

- The Canadian Avalanche Centre—for public avalanche bulletins
- The Canadian Avalanche Association—for the NSERC Chair in Avalanche Research at the University of Calgary
- The Centre d'avalanche de la Haute Gaspésie—for public safety programs
- Dr Keith Nichol—for public safety initiatives in Newfoundland
- The Craig Kelly Scholarship Fund—for individuals training to be avalanche professionals and/or mountain guides



Behind the Lines Meets Facebook

By Kevin Williams

Behind the Lines was launched a year ago to inspire a younger generation to share their stories and adventures from the backcountry. The site was intended to foster an environment that encourages learning and sharing about avalanches, both from successes and (hopefully uneventful) failures. The key is growing, sharing, communicating and learning.

In order to gain greater traffic and keep pace with social media developments, Behind the Lines recently moved to Facebook and is now accessible by a variety of computer and smart phone devices. Kevin Hjertaas and Brent Thumlert of the Sunshine Ski Patrol were at the centre of adapting the site and establishing its content.

Being on Facebook doesn't change the intent of the site—it's still interactive, a place where users are encouraged to upload their own videos and photos. The central concept, however, will be videos and interviews with pro riders who will talk about the preparation and avalanche risk management that goes into their work

You can find the most recent version on Facebook by searching "Behind the Lines." Go online and share your latest big lines, tips and trips. Contributions from the avalanche community will really help. Talk up the website with adolescents and young adults you know. Tell them to spread the word amongst their friends—now is the time to promote the site.

Behind the Lines combines the best of two well-known approaches to prevention education – peer and celebrity testimonials. By revealing some of the mystery behind those extreme images, the new website hope to encourage those aspiring big line riders to find out more about avalanche and backcountry safety. As the home page says: "Behind the Lines is about saving your life so you can ride the gnarliest lines, huck the hugest air and be blissfully stoked as you drop into the deepest pow 'til the far off end of your days."

Kevin Williams is a member of the CAF Board of Directors

The Mission of Behind the Lines

This website is about saving your life so you can ride the gnarliest lines, huck the hugest air and be blissfully stoked as you drop into the deepest pow 'til the far off end of your days.

We love the backcountry. We believe backcountry big line riding is more exciting than sex. In fact big line riding is actually just like sex, because in both cases you better take precautions or you can end up with some seriously unwanted consequences.

We know better than to try to tell you not to have sex. And similarly we won't try to tell you not to ride big lines. People have been riding big lines since the beginning of time, which in our opinion was 1966, when Craig Kelly was born. But the point is you're gonna do what you're gonna do and we can't and don't want to change that.

What we do want to do - and what this website's all about, is to say "hey - if you're going go big then don't go big and stupid". Because Big + Stupid = R.I.P. but Big + Smart = the cover of Powder Magazine. Get it?

So what does it mean to go big and smart? It means learning everything you can about your craft. Not just how to carve ribs and drop off cliffs but above all how to use your head. The best riders aren't the best riders because of what their bodies can do but because of what their minds can do. Understanding your environment is the only way to be great. And maybe more importantly, it's also the best way to stay alive.

So hang out, check out our videos. Upload some of your own if you like. Leave a comment. Tell your friends. This site is for lovers of big lines and big living. And when you leave, just remember: go big, go smart, and come back in one piece.

We know too many beautiful riders who haven't.

1910 Committee Receives Award

In late October, the 1910 Rogers Pass Snowslide Commemoration Committee won a “Museums in Motion Award of Merit” from the BC Museums Association. The award was given to the committee for their work in organizing events and exhibits relating to the 100th anniversary of the 1910 Rogers Pass avalanche that killed 58 people – the deadliest avalanche in Canadian history. “It’s the most amazing project I’ve been involved with in all my years here,” said Cathy English, curator of the Revelstoke Museum & Archives.

The committee was made up of representatives from Parks Canada, Friends of Mount Revelstoke & Glacier, the Canadian Avalanche Centre, the Canadian Avalanche Association, Canadian Pacific, the Revelstoke Railway Museum, the Revelstoke Museum & Archives, local Parks Canada historian John Woods, and Roy Inouye of Kamloops representing the Japanese-Canadian community and the Jodo Shinsu Buddhist Temples of Canada.

The plaque on the award, a bronze trophy designed by Kelowna sculptor Geert Maas, specifically recognizes the work of committee members Tomoaki and Yuko Fujimura for their efforts researching the lives of the 32 Japanese workers who died that day and organizing the Japanese aspect of the commemoration. “It really was the collaboration that made it special,” said English, who accepted the award on the committee’s behalf at the conference in Nanaimo.



Some members of the 1910 Rogers Pass Snow Slide committee gather to celebrate an Award of Merit from the BC Museum Association. The Award of Merit recognizes outstanding and innovative achievement in the museum or heritage field in BC. The CAC and CAA were part of this committee but are not in the photograph. From left, Alice Weber (Parks Canada), Yuko Fujimura, Tomo Fujimura, Taiki Fujimura, Karen Tierney (Parks Canada), Cathy English (Revelstoke Museum & Archives), Jennifer Dunkerson (Revelstoke Railway Museum), John Woods and Neills Kristensen (Friends of Mount Revelstoke & Glacier).

Avalanche Knitters

By Karilyn Kempton

What do you say to two beautiful people who saved your son's life?" asks Mary Weselake. She's saying thank you in her own special way with a new non-profit group called Avalanche Knitters, based in Fernie, BC. Mary's son Todd was caught in an avalanche on Mt. Proctor on January 7, 2008, and she used the incident as a fundraising catalyst.

Todd had recently completed his CAA Level 1 and his touring partners Janina Kuzma and Ian Bezubiak had recently completed AST courses. When Todd was buried 2 m deep, they were able to use new shoveling techniques to uncover him and save his life (see "Research and Results" in vol 84, Spring 2008).

Mary started Avalanche Knitters several months ago, and is selling knitted and crochet wares to raise money for the CAC. "I hope the CAC can continue with their courses and give other people the knowledge to save lives," says Mary, because "without the avalanche courses [the CAC offers] would they have been able to save a life?"

In cooperation with Heaven Stitch and Design Company in Fernie, Mary now has display space and generous support. The display at Heaven Stitch and Design features a large basket for yarn donation where donors can either drop off leftover yarn, or buy a ball or two at the store to donate. Donated yarn will be turned into items for sale, with all profits going to the CAC.

Interested in purchasing a knitted or crocheted item? Heaven Stitch and Design Company is selling a variety of knitted items, and Big Bang Bagels in Fernie is also selling knitted coffee cup cozies. Mary has also designed "snow pals," small knitted dolls wearing sweaters and scarves with the

avalanche symbol on them—they will fit into a pocket or hang on a pack or jacket as a reminder to be safe in the mountains.

Mary was recently wowed by a generous donation by Al Hilchie of Lumsden, Saskatchewan. Hilchie recently lost his wife, but "he set his own grief aside and thought of others," says Mary. Familiar with Todd's rescue story, Hilchie donated all of his wife's yarn and craft supplies to Avalanche Knitters. "He felt it would have made his wife happy to know her yarn was being used for a good cause and it made him happy he could help," smiles Mary. Hilchie sent ten boxes of yarn to Mary via Greyhound, and it is now well on its way to its new purpose. "What an amazing thing to do," says Mary, "to help save lives and keep her memory alive." She sends specific thanks to "a man with a heart of gold," and is knitting heart sachets in Hilchie's wife's memory. The hearts are a reminder that "someone, somewhere loves you."

She's hoping that Avalanche Knitters develops into a lively group of knitters and crocheters who get together each month to share ideas and work together. She would also like to see it expand into other shops around Fernie, and around the province. If you're interested in helping out with Avalanche Knitters, leave your name at Heaven Stitch and Design or email weselake@telus.net.

Search!

Part 8: FAQ for CARDA handlers

By Jay Pugh

As Avalanche Dog handlers we are frequently asked many questions. Some of the most common questions have been covered previously, but there are still a few that are pertinent that have not come up. Here is a list which any potential handler must be prepared to answer.

Can I pet your dog?

This is the most frequent question we get and it highlights the difference between working dog and pet. A working dog is just that - a dog with a job - while a pet's primary function is to offer comfort. CARDA handlers often have to balance both sides. While we work with our dogs they are also part of our family. This is different from professional working dogs such as a police service canines. Those dogs are the constable's partner, period. They have a strict hands off policy from the public and interact solely with their handlers. They are trained to protect their partner and respond only to them. Needless to say, they should not be approached.

As CARDA training is based heavily on the RCMP, we all subscribe to the working dog attitude to some degree. Certainly there are many benefits to it, especially for the high drive dogs. Working dogs are kennelled, which means that when the dog is unattended they are safe in their crates and not causing problems in the work area or to the owner's vehicle, for example. Anyone who has had a puppy can tell you that there will be a certain amount of destruction to home and property as the dog learns the rules. With a high drive search dog, this is doubly true and expands to the workplace. A properly kennelled dog saves time and money.

Working dogs need to be highly focused on their job and people can be a distraction to the more social dogs. Having a hands-off policy in the early developmental period reinforces that the search game is the only one the dog should be fixed on.

Every handler is different and there are some of us that allow our dogs to be approached and to socialize with other people. Those of us with spouses and children have to balance the family's expectations with the needs of the job. The dog has to understand its place in the family and that can be a problem given the dog sees the handler as the Alpha and may try to put itself above the rest of the family. Consistent treatment by the handler and the family is the key.

Dogs can be utilized as a PR tool in the workplace as many of our dogs are friendly, social animals. People tend to be drawn to dogs and it is an excellent way to promote interest in avalanche awareness. During the CAA Avalanche Awareness Week, CARDA dogs are front and center for demonstrations and are a valuable asset in this function.

No matter the amount of socialization allowed, there is one single determining factor: how well does the dog perform when searching? Nothing or no one else can exist to the dog other than the handler and the victim when it is time to search. If a dog tries to interact with people when it is supposed to be searching, then there is an obvious problem. CARDA handlers must always be one hundred percent certain that their social dog can perform as well as a working dog when it hits the fan.

The handler also has a responsibility to be professional, and in this we follow a working dog's lead. Ropes and carabineers are not leashes and are actively discouraged. Our dogs do not wear scarves, and wear a proper identification harness. They must be well groomed and well behaved. Handlers have to clean up after their dogs and ensure that the workplace does not suffer for the presence of the animal. For a more detailed discussion of professionalism, see Glossary.



The author and his dog Cruise demonstrate the shoulder carry at Marmot Basin Resort, circa 1993

In short, the answer to this question is “thanks for asking first” and then either yes or no depending on what is best for you and your dog.

Do the dogs wear booties?

No. Booties take away the dexterity and tensile sensation. The dogs must be able to feel what they are working on and be able to spread and dig in their claws. Wearing booties is distracting and uncomfortable to a dog especially at first. It would be roughly equivalent to a person trying to climb a cliff face with mitts that are too small.

Don't their feet freeze?

Well, they can when it gets really cold. Just like humans, when a dog's feet freeze then they are that much more susceptible to freezing in the future. Handlers simply have to understand the limitations of the dogs. The colder it gets, the less effective the dog will be and the greater the risk of frostbite/cold injury.

How do you ski with them?

There are three main methods:

- Snowplowing with the dog running between the handler's legs.
- Follow command
- On the shoulders

With snowplowing we can pace and protect the dog from other skiers. It is good for groomed runs and long, flatter sections (caution is advised for a male handler with a large dog with a hard head).

The follow command is when the dog stays while the handler starts down a steeper pitch. After a few turns the command is given and the dogs runs down after the handler. Often this is the only way to get down a steep slope. The older the dog gets, the harder this is on them.

Teaching a dog to straddle the handler's shoulders and ride on them is difficult but very useful. This is very handy for long travel times where the dog would become exhausted. This is obviously more efficient with the smaller dogs.

In the first two methods, the handlers have to be very aware of the proximity of the dog to the back of their skis. More than a few dogs have been cut and it is a potentially career limiting injury if tendons or ligaments are involved.

How do they ride the lifts?

Some jump up on their own, others jump into the handler's arms and some require the lift to be slowed or stopped. For the dogs that are part of a ski patrol, this quickly becomes routine.

What do you feed them?

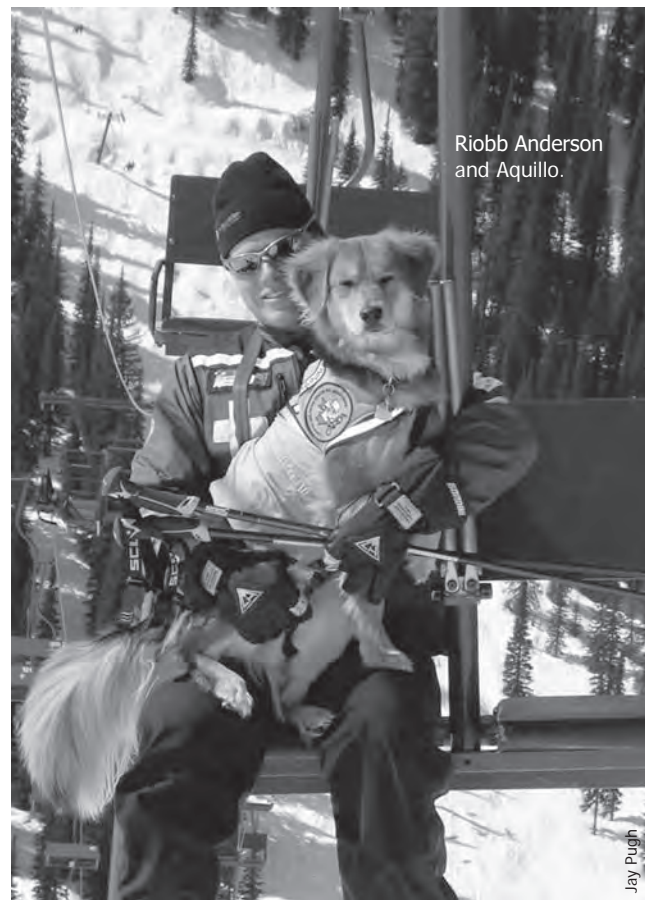
It varies with every team and is the source of much debate. Some prefer the raw food and others differ between canned and dry. In every case it has to be high nutrient and high energy. Handlers make their choice by evaluating the coat and the energy level of the dog in particular. Without going into detail, another very efficient way of knowing how your dog is doing on the food is to keep an eye on the bathroom area.

Where's the brandy keg?

Unfortunately, this has gone out of style. The truth behind that is that the famous Berry the St. Bernard did carry a brandy keg around his neck. Back at that time in the late 1700s, alcohol was thought to be helpful in warming hypothermic patients. Anyone who was at the last Grey Cup can tell you this thought has not fully died out.

What is the best kind of dog?

People don't really need to ask this one when they see what kind of dog the handler is with. If you ever want to have fun, wait for two handlers with two different breeds and ask this question.



Riobb Anderson
and Aquillo.

Jay Pugh

Terms used by CARDA

Leash • A proper one with a good clip (preferably one that does not ice up) can be either nylon or leather. Specifically NOT a length of climbing rope with a carabineer knotted into it, which is unprofessional, dammit (instructors are sensitive to this issue!).

Collar • Flat nylon type with a diver's buckle not a belt style. Used for association with the search

Choke Collar • Many do not like the idea of this device but it is essential to CARDA obedience training and when used properly it is not in any way cruel.

Wire • Plastic covered length of wire with clips on either end that is used for tying the dogs up while they wait their turn for search training. Very important when one considers how many leashes get chewed through by the excited dogs watching others do what they most want to do. Saves on time and unseemly knots in the leash.

Kennel • Kennel or crates are very important to the health and sanity of both the dog and handler. For example, if the author had been more diligent with this there would not have been a \$500.00 bill for a new seatbelt.

Cleaning up • The nice way of saying that the handler has to pick up anything "left" by the dog. All the PR in the world will not overcome the bad impression made by droppings on a pristine snowy hill

200 Metres • The minimum distance between the dog and the handler on a steep hill when said person looks back up the hill and notices that the dog is doing "business" which requires the handler to walk back up the #\$\$%*@ slope to clean up.

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Steve Blake Honoured

Past President of CAA awarded Medal of Bravery for 2008 Mount Robson Rescue

By Karilyn Kempton

The morning of Sunday, June 8, 2008 provided just enough of a break in the clouds for Jasper National Park Visitor Safety Specialist Steve Blake and helicopter pilot Dale Brady to come to the rescue of two stranded climbers on the south face of Mount Robson. In October, 2010, Blake was awarded the Medal of Bravery by Governor General David Johnston, recognizing acts of bravery in hazardous circumstances. Brady also received a Medal of Bravery for his part in the rescue, making this his second decoration for bravery.

The rescue was over in a matter of minutes, but Blake calls it exhilarating. Planning for a two-week trip, the climbers had been out for nearly three weeks before the rescue. Two-thirds up the north face,



Steve reports that he and his family were able to get this non-official photo from the event because of his daughter. "Jordan goes to the University of Waterloo and Governor General Johnston used to be the President of that school," Steve reports. "When I mentioned that Jordan attends Waterloo, he opened right up and stayed and chatted with us for quite a while." From left, Steve's mother Mary-Anne Blake, wife Ange Blake, Governor General David Johnston, the man of the hour and his daughter Jordan Blake.

they were stormed in and spent a few snowy nights in a bivy before successfully reached the summit. Through a mix of circumstance and accident, they lost some gear and jettisoned other items to lighten up; when another storm caught them on the summit, they spent seven full days in a tarp-covered snow cave on the south face, eating only snow to stay hydrated.

Blake was alerted to the possible rescue on the Friday before, and prepared for a few scenarios, including avalanches and crevasse rescues. After a few days of storm, he noticed a clear band coming through on Sunday morning, and assembled a rescue team that waited in the rain until it began to clear over the Cariboo Range.

Flying above the fog and low-lying cloud, he and Brady popped out into bluebird skies. “We flew across Emperor Ridge at about 11,500 feet, looking at ascent and descent routes. We actually saw them on our first fly-by,” he recounts. “They were at about 12,700 feet, just under the summit, sitting on a piece of ice that stuck out of the south face like the dormer on a roof.” Here is a recount of the rescue in his words.

“We decided to stage up high, at the base of the north face at the Dog Buttress. They both looked ok enough to sling in under the helicopter on a long line, so that was the plan. I got all kitted out with the extra lanyards, and the last thing a colleague asked was if I had a knife handy. Mine was buried under some layers of Gore-Tex, so he gave me his.

We came across the south face and managed to fly right in and clipped the first guy in; he was on his feet and looked most capable. Rotor wash was creating an isolated blizzard where we were and communication with the pilot was a bit hampered. The other guy was lying horizontally on a mushroom of ice, but just as I clipped into him with the harness, the helicopter dropped five feet. That’s not usually a dramatic drop, but it was for us because the first guy and I dropped, and the second guy cartwheeled over us. He smashed his face on my helmet, and then he was even more dazed.

So then all three of us are hanging from the rope, but in the fall the climbing rope tied between the two of them wrapped around the snow mushroom, so we were all tied to Mount Robson. It was definitely a tenuous position, but I was able to cut the rope with the knife my colleague gave me, and we flew away free and clear down to the staging area. All in all it took about six to seven minutes in total, but it was pretty exhilarating.

While we were over Kinney Lake, I couldn’t remember exactly what the second climber was clipped into, since we dropped right after I clipped. I was thinking that if I’ve cut anything integral when I cut their climbing rope, it wouldn’t be good. As it turns out, I did hit the target but gave him another carabiner to clip to himself just to make sure.

By the time we reassembled our gear and packed the trucks, it was raining again and the window had closed. That was why the rescue strategy had to be clip and go as quickly as we could. In this line of work, you come across a lot of hazardous situations. Though it was a short duration, it was a very intense one, and the pilot did a great job working near the limit of the machine. “

Both climbers emerged relatively unscathed, apart from frostbite on feet and hands. They rehydrated, told their stories, and then got dropped off at their vehicles. “They didn’t even go in the ambulance,” Steve laughs.

How does he feel to be awarded a Medal of Bravery for what he did? “Well, it’s always nice to be recognized for your work,” he admits, “but I accept the award keeping my colleagues in Parks and other mountain safety organizations front and centre in my mind. “

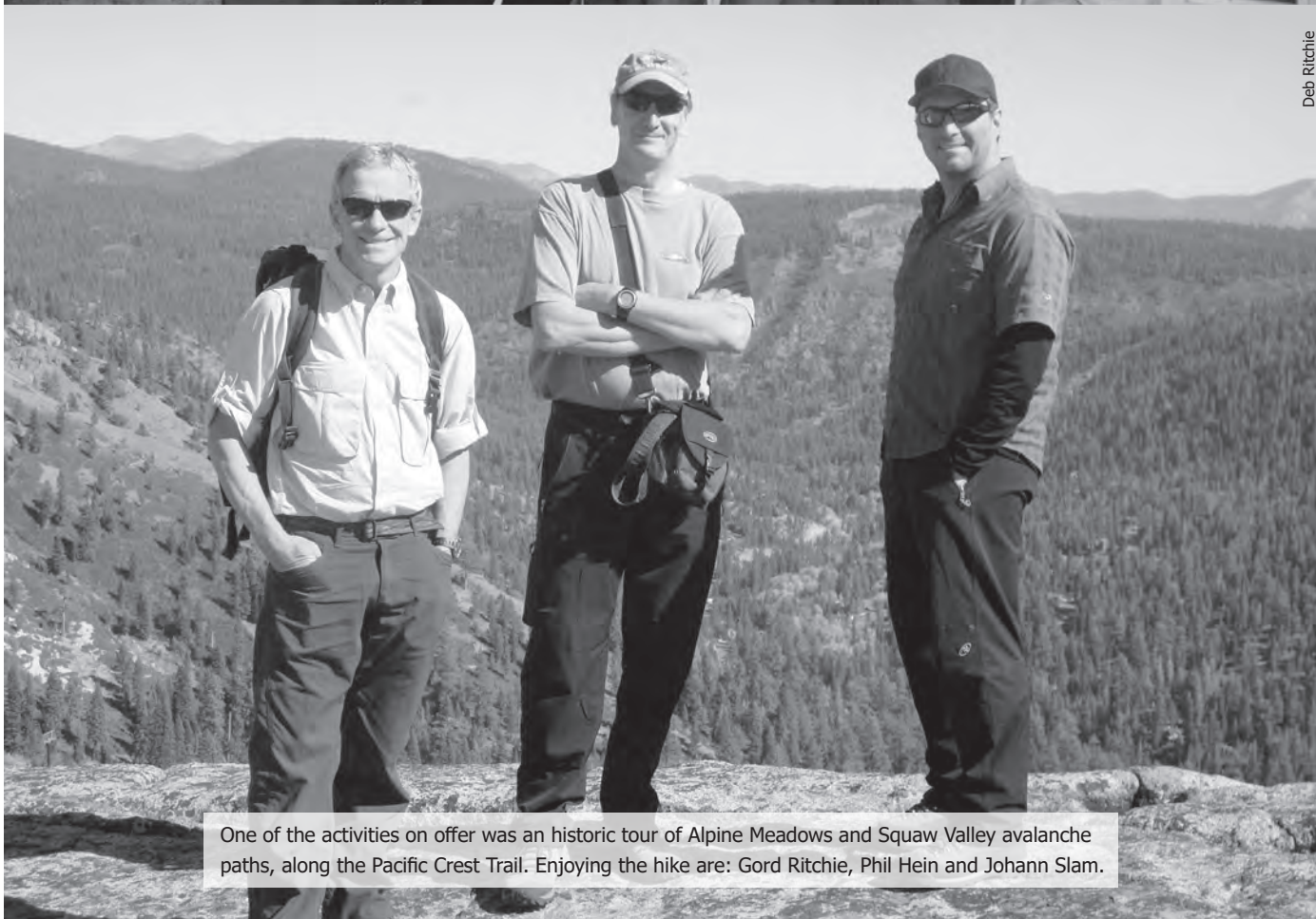
“I know I’m speaking to the whole avalanche community in this interview,” he continues humbly. “While that rescue was a significant one, it fits into a long line of rescue efforts that have taken place over the years that so many members of our community have been a part of. It doesn’t stand out too much from other efforts I’ve seen.”

ISSW 2010



Divas Night, the gathering to honour female avalanche professionals, was once again a big hit. This year, two CAA Professional Members were honoured—Lori Zacaruk and Sylvia Forest. Congratulations to them both! Pictured from left: Debbie Ritchie, Lori Zacaruk, Sylvia Forest, Jos Lang and Emily Grady.

Deb Ritchie collection



One of the activities on offer was an historic tour of Alpine Meadows and Squaw Valley avalanche paths, along the Pacific Crest Trail. Enjoying the hike are: Gord Ritchie, Phil Hein and Johann Slam.

Deb Ritchie

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Sledhead Think Tank

Teck Coal hosts a series of backcountry snowmobile safety forums in BC's Elk Valley

It's all about sledding safety. That's the message being sent during Teck Coal's Sledhead Think Tank sessions. These sessions will be held over two weekends in four communities in BC's Elk Valley—Ferne, Sparwood, Elkford and the Crowsnest Pass.

Joni Kratz is the Communications Coordinator for Teck Coal and has been the driving force behind this initiative. "We want to bring our company's approach to values-based safety to the broader community," she explains. "The evenings will include an open forum for local sledders to discuss the issues. What we're trying to do is bring safety to the very core of this community."

Along with the open forums, the sessions will include a slide show of local terrain analyzed by a CAC forecaster, and avalanche survivor Jeremy Hanke will be on hand to tell his story. There are many great prizes including a beacon, probe, shovel and airbag, all from Backcountry Access. All proceeds will go to the CAC's snowmobile safety outreach work. Look for a report from the Think Tank in the spring issue of this journal.

Schedule of Coming Events

March 10, 2011

Canadian Avalanche Foundation Annual Fundraising Gala

Where: CP Pavilion, Calgary

Info: www.avalanche.ca/caf

March 21 – 25, 2011

ICAR Avalanche Commission Meetings

Where: Revelstoke, BC

Info: www.avalanche.ca/caa

April 3 – 8, 2011

European Geosciences Union, General Assembly

Where: Vienna, Austria

Info: www.meetings.copernicus.org/egu2011

April 18 – 21, 2011

Western Snow Conference

The theme for the 79th annual conference is: "Satellites and smart instruments—the trend from established instrumentation toward distributed SWE estimation in watersheds."

Where: Lake Tahoe/Stateline, Nevada

Info: www.westernsnowconference.org

April 30 – May 3, 2011

Canada West Ski Areas Association Spring Conference and Trade Show

Where: The Delta Grand Okanagan Resort, Kelowna BC

Info: Phone 250.542.9020 or e-mail office@cwsaa.org

May 2 – 6, 2011

CAA & CAC Annual General Meetings

Mark your calendar! You won't want to miss any of the presentations, meetings or discussions at this year's AGM.

Where: The Ramada Inn, Penticton, BC

May 6, 2011

HeliCat Canada Annual General Meeting

Where: The Ramada Inn, BC

Info: Phone 250.542.9020 or e-mail info@helicatcanada.com

connecting backcountry operations
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Photo by Francis Jolin



For over 125 years, Canadian Pacific has been a pioneer of backcountry exploration, operations and safety in Western Canada. Building the railway opened up the west and helped form a nation. It also taught some difficult lessons about avalanches, and how to manage the risk in mountainous areas. CP and the Canadian Avalanche Centre are proud to continue this legacy, working together to raise avalanche awareness and making the backcountry a safer place for people to work and play. To support the Canadian Avalanche Centre, visit www.avalanche.ca

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www.cpr.ca

Arfi: Avalanche Research Forecasting Interface

Cora Shea¹ and James Floyer²

¹ASARC – Applied Snow and Avalanche Research Group, University of Calgary

²CAC – Canadian Avalanche Centre

Introduction

New for this year is a program named Arfi, which is short for the Avalanche Research Forecasting Interface. It is a visual collection of resources relevant to avalanche forecasting (Figure 1). The user is able to assess at a glance the resources available for a given geographic location in southwestern Canada and instantaneously bring up the desired resource in a browser window. Arfi is written using a Google Maps interface but Arfi is more than just Google Maps. In the background, the program contains geographical data across western Alberta and almost all of British Columbia. This allows you to filter the web cams, weather stations, and so on by elevation, aspect, and slope.

Additionally, Arfi can use this geographical data to run some simple models right in the interface. The models that Arfi currently contains are: (1) SWarm, the sub-surface snow warming model developed by Laura Bakermans with ASARC in 2006; (2) GSWarm (currently limited to specific regions), a map version of SWarm, and (3) A point reader for the GEM weather model, which is one of the tools that Environment Canada uses to forecast the weather.

This type of geographical data browsing has a lot of power, and can save a lot of time. Its power is immediately and intuitively obvious to people, including us as developers.

Resources available

The majority of the resources in Arfi are publicly available. In addition to the model outputs listed above, available resources include: webcams; BC Highways weather station sites; Parks Canada and private weather dataloggers; River Forecast Centre snow pillow sites; and ski hill weather reports. Environment Canada forecasts are available for certain towns. Additionally the user may bring up the current CAC or partner avalanche bulletin.

One resource that is not publicly available (although there is a case that it should be) is the Remote Weather Information Service (RWIS) high elevation weather station data. Access to this resource is password protected by the BC Government, although the login procedure is somewhat streamlined through the Arfi interface.

With many resources available, methods for selecting desired resources are required. Layers can be selected or

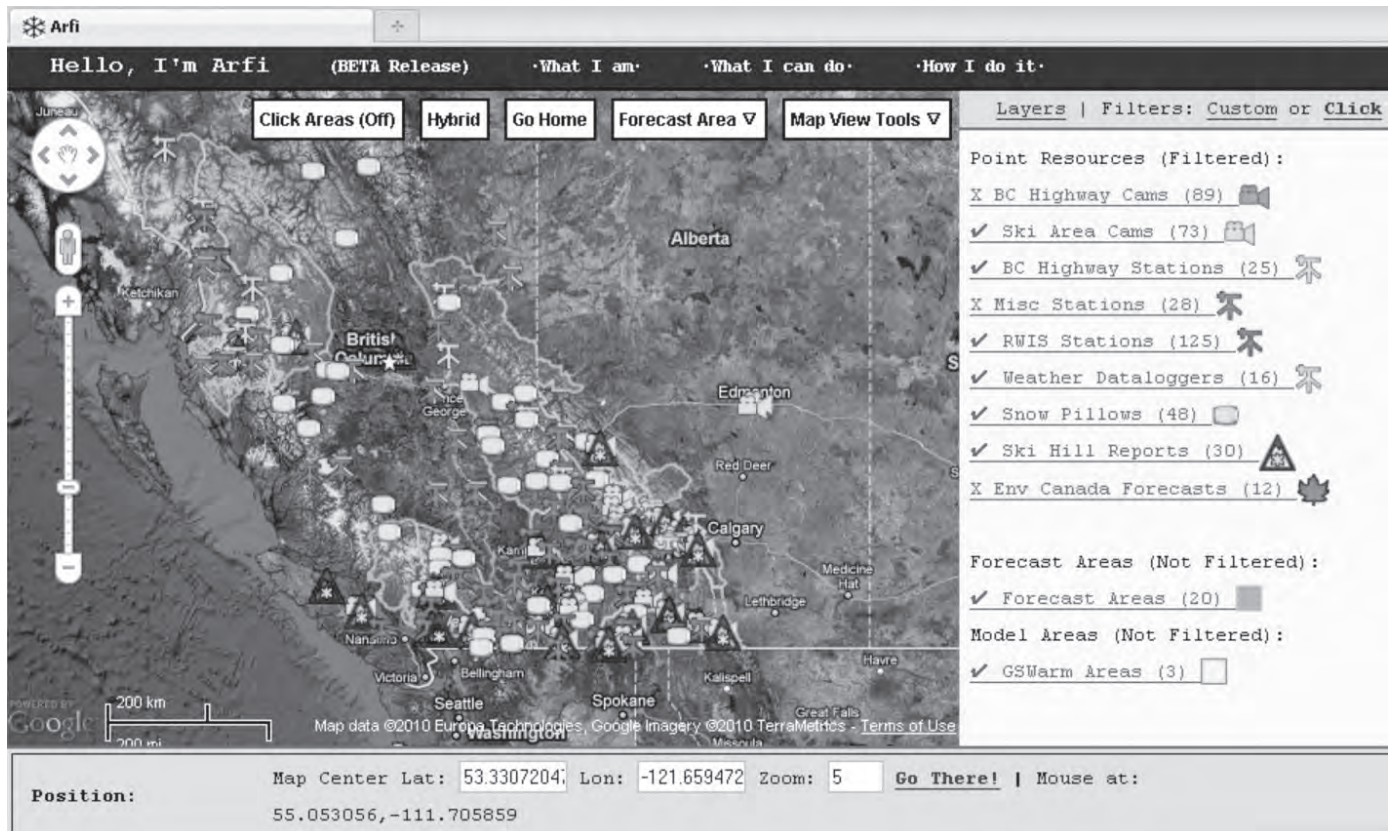


Figure 1. Arfi presents a visual collection of resources to the user. Arfi is available at: www.ucalgary.ca/asarc/arfi

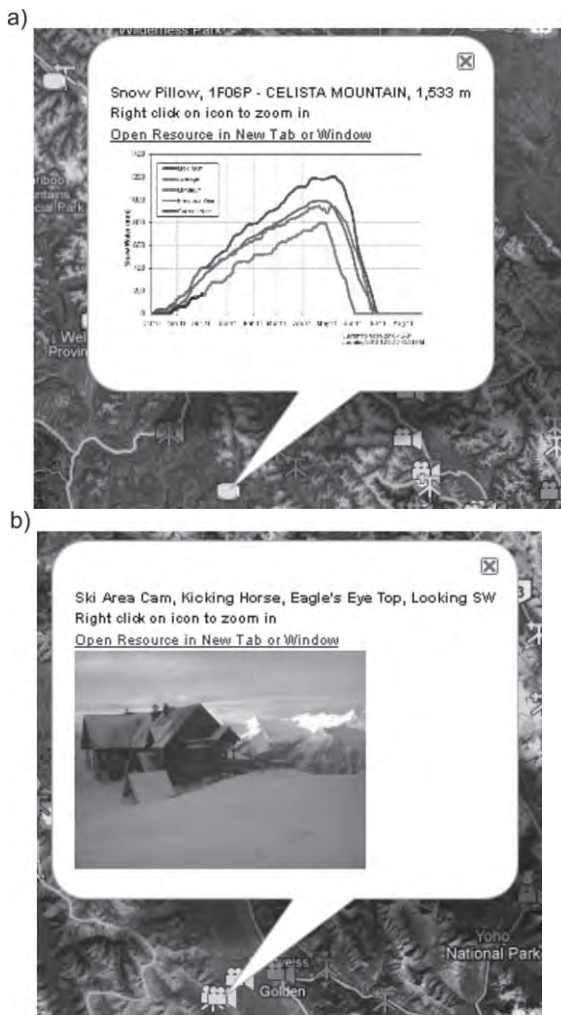


Figure 2. Preview pane for a specific resource: a) Celista Mountain snow pillow site and b) Kicking Horse ski area webcam.

unselected. Mouse-over text and a preview box (Figure 2) further help the user identify the correct resource.

CAC uptake and use

Arfi has been integrated with the Canadian Avalanche Centre (CAC) forecaster workflow. It is particularly useful during the data gathering phase of forecast production. Arfi offers time saving over previous ad-hoc collections of resources (usually stored as favourites in a forecaster's browser) as everything is available in one single location. Arfi still runs within a browser, and so it needs no special software other than Firefox or Chrome. Quality of information for the public bulletins is assured, as the forecaster can readily assess the data sources available for a given forecast region.

Uptake amongst the forecasters has been universal and initial response has been extremely positive. New forecasters particularly like Arfi as it instantaneously provides them with knowledge of the resources available for a given forecast area. Even more experienced

forecasters are finding there are resources available they either didn't know about, had forgotten about, or simply were not using due to the effort required to track down the link to that particular resource.

The use of the warming models in Arfi (SWarm and GSwarm) has yet to be fully assessed, since knowledge of how the model information relates to avalanche stability is not currently well developed. Initial response for the GEM point reader is that it is useful for more remote regions (such as Bighorn country) where the forecaster's knowledge of weather patterns for that region may not be as honed compared with, for example, the Columbias. As a general statement, it is exciting to have a place where research models can be assessed as part of the forecasters' daily data stream. Future possibilities include modeled snowpack profiles and surface hoar coverage overlays. Ready access to these models can only help to strengthen links between forecasters and university researchers.

Future development

There are many things we'd like to do with Arfi. Right now, some of those things raise more questions than we have answers for. For example, we would like to keep much of Arfi publicly available, but in the future we would also like to include some protected and private data, like selected snow observations. One of the challenges will be figuring out how we can design Arfi to have the public and private pieces work side by side.

We would also like to display polygons of snow layers, but organizing, maintaining, and displaying this kind of data is quite complex. Once we start drawing lines on a map to indicate snowpack conditions, those lines should have meaning and be drawn with care. Furthermore, the sheer amount of data now accessible through Arfi raises additional philosophical questions about filtering, selecting, and keeping these resources current.

It is great that the CAC has agreed to adopt Arfi for use in avalanche forecasting this winter. Many of these development questions can probably be answered by some extensive practical use and figuring out where additional development time will come from. And even now, Arfi provides a useful geographic resource tool to forecasters and backcountry users alike. Try it yourself: www.ucalgary.ca/asarc/arfi

Acknowledgements

Karl Klassen provided the initial inspiration for Arfi by aptly grousing about the obscurity of some weather stations. The supporters of the ASARC program at the University of Calgary provided the initial support for the development for this project, and within ASARC Bruce Jamieson provided extensive guidance.



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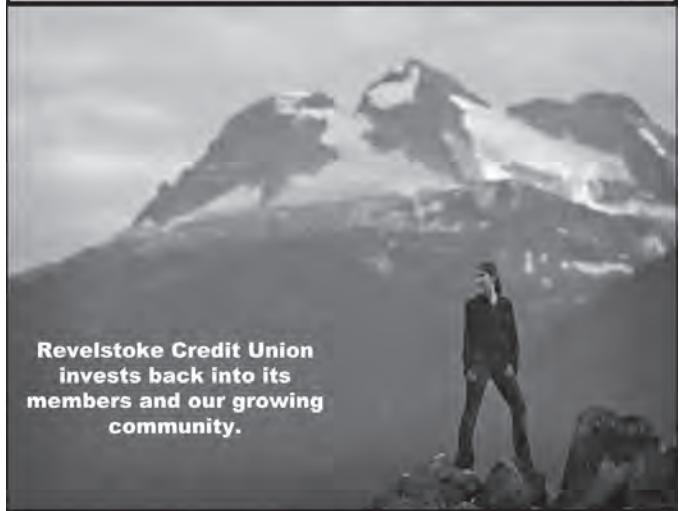
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Report from ASARC

The University of Calgary's avalanche research team announces some new projects

Dr. Bruce Jamieson's Applied Snow and Avalanche Research Group have discovered that infrared camera technology can offer readings of snowpack temperatures. The researchers are particularly interested in the melt-freeze crusts, explains Dr. Jamieson, NSERC Research Chair in Avalanche Risk Control at the Schulich School of Engineering.

"Infrared cameras allow us to measure changes in temperature right next to the melt-freeze crusts, and this is something people have been trying to measure for decades without success," he explains. "Avalanches that are very hard to forecast tend to release on top of these layers, so we're very interested in how the weak grains grow on top of the melt-freeze crusts."

Computer models of popular backcountry areas—such as Alberta's Crowsnest Pass in Alberta and Rogers Pass in BC—are also in the testing stage. "We generate terrain maps of where the snow might be warming up and these maps can help people choose the safest routes on a given day," says Cora Shea, a PhD candidate in the Department of Geoscience with a background in computer science. "We're working to make these models able to display and compare a lot of data in a short time so professionals such as ski hill operators and backcountry guides can make the most of their snow forecasting time."

Another area of avalanche research involves field observations during the summer months to understand the potential impact of extreme avalanches. Katherine Johnston, a master's student at the Schulich School of Engineering, spent much of last summer in the wilderness inspecting damage to trees and other vegetation.

"This gives valuable information about the destructive potential of the path and magnitude of avalanches that have taken place in recent decades," explains Johnston. "This information is vital for land use planning and future industrial, residential and recreational development in the mountains."

"We are very fortunate to have research of this calibre conducted with front-line avalanche workers in mind," says Ian Tomm, executive director of the Canadian Avalanche Association. "Dr. Jameson's work has given the community of professional avalanche workers some of our most valuable and effective tools. We follow his work and that of his team very closely, and we look forward to applying their findings to our work of public avalanche safety."



Bruce Jamieson and students Cora Shea and Katherine Johnston, take a look at the infrared camera that has been designed to detect snowpack temperatures, especially around melt-freeze crusts.

The New North American Danger Scale

Based on the research paper "North American Public Danger Scale Revision"

By Grant Statham et al,

presented at the 2010 International Snow Science Workshop, Lake Tahoe, California



Troy Grant

The Avalanche Danger Scale is a cornerstone of public avalanche information. The five-level warning system was first introduced in Europe during the winter of 1993-94. It was adopted the following year in the US and Canada, with minor changes. Fifteen years of use revealed numerous deficiencies in the scale, most notably a lack of clarity during low probability/high consequence avalanche conditions.

In 2005, a working group of leading North American avalanche forecasters began to revise the system, with the goal of improving clarity and developing a single standard for North America. However, initial work revealed an almost complete absence of formal underpinnings for the danger scale. This caused a revision of the project's objectives, which were clarified in 2007 as: 1) definitions of avalanche hazard, danger and risk; 2) methodology for assessing avalanche danger; and 3) revisions to the danger scale as a public communication tool. This paper concentrates on the third objective.

The primary purpose of the avalanche danger scale is

public risk communication. Historically, it has also served an important secondary purpose—as primary guidance for professional forecasters to determine a danger rating. These two purposes, technical analysis and basic communication, are often at odds. The revision aimed to improve the scale as a public communications tool for all users, from recreationists through to forecasters.

The initial work of this committee focused on developing relevant definitions of avalanche hazard, danger and risk (Statham, 2008), and the design of a conceptual model of avalanche hazard (Statham et al., 2010) with the intent of developing a consistent forecasting model. Establishing these preconditions was absolutely necessary for a solid foundation of the revised danger scale. In 2008, development of early prototypes began.

Consultation was extensive during the design process, including numerous presentations and workshops in both Canada and the US, as well as discussion with the European Avalanche Warning Services. There was also extensive end-user

testing. This included a two-week period in March 2009 where the polling firm Ipsos Reid ran an online survey. The 4423 respondents were asked to evaluate scenarios in relation to the danger rating, and then tested on their comprehension of the situation and their ability to choose appropriate courses of action. The results of that survey revealed that the original danger scale was largely preferred over the proposed prototype.

From those findings, the committee concluded that improving risk communication, rather than avalanche forecasting, was the key to improving the danger scale. Expertise in risk communication, technical editing and graphic design was sought out at this penultimate stage, and was the key to completing the final version of the danger scale.

Since 2004, the European and North American avalanche warnings have evolved to a tiered approach in order to deliver information appropriate to different types of user, from simple danger levels and keywords to more complex travel advice. The new scale builds on this approach.

Some of the greatest debate surrounding this project centred on how many levels of avalanche danger are necessary. While there is significant argument for the use of four levels (McClung, 2000), the decision was made to stick to five levels, based on its ubiquity. Also, it was felt that changing the levels would be detrimental to the key objective of consistency and comprehension between nations.






Other debate surrounded the use of the signal word “Considerable.” The other signal words— Low, Moderate, High and Extreme—are unambiguous and interpreted correctly by most of the target audience. The same cannot be said for “Considerable,” which, when used alone, continues to demonstrate its ineffectiveness at communicating the danger. This term is subject to wide variation in comprehension, as

demonstrated clearly in nearly all consultations and product testing (Ipsos Reid, 2009).

An initially attractive suggestion was to replace the five signal words with Low, Moderate, High, Very High and Extreme. After much research and deliberation, the committee felt such a dramatic redefinition of established terminology had too much potential for confusion. The decision was made to maintain “Considerable” as the third level of danger, with a pronounced effort on clearly defining the term, and an emphasis on its seriousness. It is hoped that through education, comprehension of this term will continue to improve, as this level is when the greatest percentage of fatal avalanche accidents occur (Greene et al., 2006).

Numbers are used to indicate the danger level, an important consideration where the users are multilingual. The new North American scale includes numbers 1 (Low) to 5 (High) matched to each signal word. However, avalanche danger doesn’t increase in a linear fashion, as the numbers would suggest. Uneducated users may infer that level 3 is an average level and conditions are “not that bad,” whereas there is a significant difference in danger between levels. Although the progression is obvious, using a good signal word conveys more meaning about the conditions. Colours are another method of communication and are particularly effective on maps, signs and web sites. The colours used on the old scale remain with minor variations

In 2005, Parks Canada and the Canadian Avalanche Centre implemented a new warning system called the Backcountry Avalanche Advisory (Statham and Jones, 2006). This introduced the concept of a tiered warning system, and provided graphical icons for Tier 1 audiences. The Swiss then modified the icons slightly, added one more and linked them to the danger scale.

North American Public Avalanche Danger Scale				
Avalanche danger is determined by the likelihood, size and distribution of avalanches.				
Danger Level		Travel Advice	Likelihood of Avalanches	Avalanche Size and Distribution
5 Extreme		Avoid all avalanche terrain.	Natural and human-triggered avalanches certain.	Large to very large avalanches in many areas.
4 High		Very dangerous avalanche conditions. Travel in avalanche terrain <u>not</u> recommended.	Natural avalanches likely; human-triggered avalanches very likely.	Large avalanches in many areas; or very large avalanches in specific areas.
3 Considerable		Dangerous avalanche conditions. Careful snowpack evaluation, cautious route-finding and conservative decision-making essential.	Natural avalanches possible; human-triggered avalanches likely.	Small avalanches in many areas; or large avalanches in specific areas; or very large avalanches in isolated areas.
2 Moderate		Heightened avalanche conditions on specific terrain features. Evaluate snow and terrain carefully; identify features of concern.	Natural avalanches unlikely; human-triggered avalanches possible.	Small avalanches in specific areas; or large avalanches in isolated areas.
1 Low		Generally safe avalanche conditions. Watch for unstable snow on isolated terrain features.	Natural and human-triggered avalanches unlikely.	Small avalanches in isolated areas or extreme terrain.

Safe backcountry travel requires training and experience. You control your own risk by choosing where, when and how you travel.

research and education

In 2009, the icons became common across Europe and they are now included in the North American danger scale for an international standard.

The Travel Advice column was previously known as “Recommended Action.” This column has been significantly improved to give strong, unambiguous statements on what the conditions are and how to travel safely. The statements, such as “Dangerous Avalanche Conditions” at level 3, are designed to be clear and concise. This column can also help avalanche forecasters determine the danger level by asking themselves the question “what travel advice would I give today?”

The Likelihood of Avalanches column communicates the chance of an avalanche occurring, both natural and human-triggered. The term “probable” has been eliminated, and the term “likelihood” corresponds more closely with a spread of numerical probabilities. The following five terms are now used: unlikely, possible, likely, very likely and certain. For forecasters this was always the most important column for determining the proper rating and there was always much debate over the words “possible” and “probable.” The new terms, combined with the avalanche size, mean less room for debate; combined with Travel Advice, they provide a more complete method of determining and understanding the danger level.

The new scale now provides definitions for avalanche size and distribution. By linking these definitions with danger levels, this introduces a significant piece of information for all audiences. Avalanche danger is defined as a combination of likelihood and size (Statham, 2008), so the addition of size and distribution makes the system risk-based by introducing consequence into the danger scale.

The new scale is now used in Canada and the United States and will be adopted in New Zealand for the coming southern hemisphere winter of 2011. We believe this new scale and its underlying framework is already having a significant impact on public avalanche risk management. It provides a clearly

defined avalanche hazard, danger and forecasting model and is based on best available information on snow science and risk communication. We expect this to pay dividends in the form of better education for both professionals and the public.

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Transitions

John Tweedy is the newest member of the CAC Board of Directors, taking over from Jack Bennetto as the CAF representative. As an avalanche forecaster for 35 years, John is one of the best-known names in the business. He is recently retired as program manager for the BC Ministry of Transportation's avalanche program at Kootenay Pass.

Born in southern New York State, John says mountains remain a passion that is as strong today as when his Dad first strapped skis on him when he was five years old. "I remember those days of late autumn when a light dusting of new snow would cover the Catskill Mountains," he recalls. "Excitement would run high that skiing was just around the corner. I still get that same rush when the first snows come to the high country of the Kootenay-Boundary."

By early 1970, John was part of the Canadian ski scene, and started taking avalanche operations courses from Peter Schaerer, Paul Anhorn, Norm Wilson and Willi Pfisterer in the mid 1970s. He began his avalanche career at Whistler, with a brief stop at Westcastle (now Castle Mountain) before joining the BC Ministry of Transportation in 1980. He has taught recreational and professional avalanche courses in New Zealand, Alaska, and Chile, and has consulted on avalanche risk assessment projects in Russia and Chile.

As a former member of the CAA board of directors in the 1980s, John says he appreciates the outstanding work the CAA, CAC and the CAF are doing with respect to avalanche safety for all users of the backcountry in Canada. He hopes to offer positive input to this organization in the coming year.



Good bye Jack

After many years on the CAC Board of Directors, Jack Bennetto is stepping down. Jack was the original CAF representative on the board and was always known for his ability to see the "big picture." Many thanks Jack and best wishes for the future.



Shane McCallum collection

Shane McCallum

Web Developer

With a BSc. in Computer Science from the University of Northern BC, Shane McCallum is the CAC’s newest nerd. As the CAC Web Developer, Shane comes to us with a lot of experience and looks forward to expanding his skills as a developer and systems designer. Shane is also the president of Rev Software Ltd., a web development company in Revelstoke.

Shane grew up in Rossland, and has been calling Revelstoke home for two and a half years. An avid hockey fan, Shane is also fascinated by all things electronic. He loves hiking, biking, camping, skiing, and spending time with his family.

Why did he want to work the CAC? He is impressed by the “creative, dynamic and highly skilled individuals” he works with, and is happy to be working at an organization that encourages him to play outside and also lets him geek out at his computer.

Tom Riley

CAC Public Forecaster

Tom Riley brings 30 years of ski industry experience to his new position as CAC Public Forecaster, including Ski Patrol Director at Sunshine Village. He has a BSc in Computer Science from Dalhousie University, and professes a passion for weather telemetry, radio systems and public safety.

Tom was born in Montreal but quickly learned that the mountains were calling him. He moved to Revelstoke from Banff just over a year ago, and has fallen in love with the place as most seem to do. Some of his other interests include hiking, sailing, SCUBA, surfing, and stand up paddling.

Tom volunteers with Revelstoke's Search and Rescue team, and he's looking forward to the unique challenges involved with educating the public on avalanche safety. "I would like to get involved with the snowmobile community and some of their challenges," he says. "I'm very interested in public safety and I hope I can help."



Tom Riley collection



Shannon Werner

CAC Junior Avalanche Forecaster

Shannon Werner “started skiing as soon as I could walk,” and has made a career of it. Born in Banff, Shannon spent several years patrolling at Lake Louise before moving to Revelstoke where she has been a patroller and avalanche control route leader at Revelstoke Mountain Resort since 2007. She also spent a season as Lead Forecaster for Craigieburn Ski Field, NZ, in 2008.

She currently divides her time between Lake Louise and Revelstoke. In the summers she works trail crew for Parks Canada in the Lake Louise, Kootenay and Yoho field unit. Shannon has a diploma in Adventure Tourism from the College of the Rockies, and is a CAA Level 2. She also teaches AST courses in Revelstoke. Shannon says she spends most of her time outdoors. When she’s not skiing, she loves mountain biking, fishing, boating, surfing, travelling, and “fun, summertime, redneck camping expeditions,” she laughs.



Penny Goddard

CAC Public Forecaster

Penny is coming to us from New Zealand and will be working as a forecaster for the 2011 season. A full bio will appear in the spring issue.

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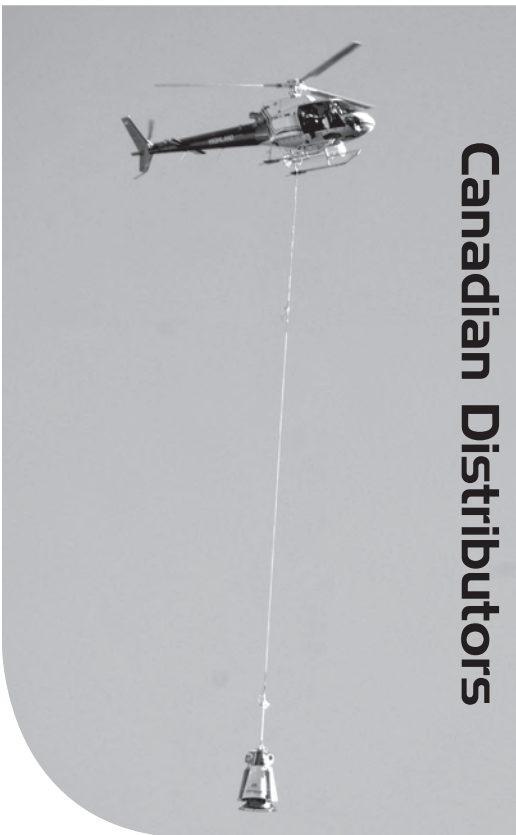


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