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The journal of Canada's avalanche community

New board members,
Reading Monty Atwater, Chris
Stethem interview and more...

Volume 93 Summer 2010
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LESSONS FROM BOULDER MOUNTAIN

WHAT HAVE WE LEARNED? WHAT
NEEDS TO CHANGE?

GAME STRATEGY

BATTLESHIP—A NEW IDEA FOR
TRACKING THOSE DEADLY SURFACE
HOAR LAYERS

A CURE FOR THE SHALLOW SNOWPACK

HERE'S HOW THEY TAKE CARE OF IT
IN THE ROCKIES

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Lessons from Boulder Mountain

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Rocket Miller writes about his team's approach to dealing with faceted snow—and those rabid Rocky Mountain skiers.

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Playing Battleship

It's no game out there when pockets of surface hoar are just waiting to fail. Scott Davis has some strategy to share.

Cover shot: The aftermath of the size 3 avalanche that ripped through a crowd of snowmobilers gathered on Boulder Mountain near Revelstoke on March 13, 2010. Photo: Chris Armstrong



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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 welcomes 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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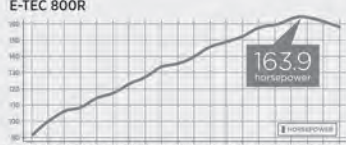
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Expertise

That riveting image from our cover will bring back a lot of memories for many readers. The accident on Boulder Mountain on March 13, 2010 is proving to be a watershed event on many fronts. In regards to the work of the CAC, awareness of public avalanche safety has increased. Along with that comes a wider realization that the demands placed on Canada's national public avalanche safety organization far exceed our means. That fact has been recognized by funding agencies and stakeholders.

On the professional side, the CAA is honoured to recognize the many members who were directly and indirectly involved in the rescue response. In turn, there has been a heightened awareness of the demands placed on professionals in the field to respond to public avalanche accidents. As CAC Operations Manager John Kelly notes in this issue (page 20), few locations in Canada could have fielded a response equal to Boulder—in terms of size, speed or quality. We have much to be thankful for.

I'm thankful that so many avalanche professionals in our community make the effort to share thoughts and ideas on the challenges they face. It's always one of the highlights of our AGM, when front-line practitioners present their experiences from the field, and this year was no exception. Who will forget Kevin Fogolin's story of a heli-avalanche control mission gone so terribly, almost unimaginably wrong? Or Grant Statham's highly personal account of a day that came close to changing his life; instead, it changed his approach to guiding. And after Jeff Honig and Brad White stood up to tell their story of responding to the Boulder accident, we all stood up too—and gave them a standing ovation.

Avalanche workers in Canada have made, and continue to make, a proud history. And, judging by the growing ranks of CAA professional members and increasing levels of participation in CPDs, we have an even-prouder future. The expertise of CAA members has been recognized by government and this year's CPD on the new Occupational Health and Safety regulations affecting work in avalanche terrain in BC was a great way to learn from each other, comparing experiences and sharing wisdom.

But on the more practical end of things, dealing with persistent weak layers requires more than wisdom; sometimes, a person needs all the help they can get. In our last issue, long-time member and IFMGA/ACMG Mountain Guide Larry Stanier proposed a new idea for handling surface hoar in a guiding context. In this issue on page 48, the former President of the ACMG Scott Davis presents another angle on the problem. Operational experience combined with a desire to improve and help others learn is something we can all value. While many things are changing in our world, let's hope that the core value of our colleagues sharing experiences, research and new knowledge isn't one of them.

But change is in the air these days. You've probably noticed this issue is a bit slimmer than normal. It's not because we're out of ideas; we need to cut back for economic reasons. Making a smaller journal means lower printing costs, a cost-saving we need right now. This may be the look of the future. A lot depends on talks that are going on over the summer. As you'll see in the reports from the Executive Director and our new President, both the CAA and CAC are entering a time of change.

The ties that bind the two organizations are stretching beyond capacity. The CAA continues to grow, and the CAC is coming into its own as a distinct body. The structural model upon which the CAC is based served us well for the early years, since incorporation in 2004. Now, just six short years later, we've outgrown it. At the past AGM there was much discussion on this fact, and the membership has shown its support for exploring new ideas for the structure of the CAC and its relationship with the CAA. You'll be reading more about this in the coming issues of the journal.

Lu Clayton



Strategic Planning and the "Social License"

On the eve of our 30th anniversary in 2011, CAA members have discussed and ratified a series of bylaw amendments that will position our association well in moving forward through the next 30 years. I've written extensively over the past year on the changing expectations of society, the obligations we have assumed by being named in government regulation and what it means to be a professional association. The board of directors has dedicated themselves over the past year to addressing these many issues and, while many challenges still exist, the path ahead is becoming clearer.

This spring the board presented a series of bylaw amendments that are one of the numerous outcomes of this work. Extensive discussion was tabled at our AGM during the bylaw amendments, but one thing was for sure—there is wide conceptual agreement that the CAA needs to move forward. That's the reason why all the bylaw amendments were approved with significant majority votes.

Integral to this evolution is an understanding of our "social license" and how it is changing. Our social license, our credibility with the public, has been earned through the professionalism of our members. We need to ensure that it remains intact through our evolution from a fraternal organization to a professional association, where our obligations and responsibilities involve far more stakeholders than just our membership.

At the beginning of June the CAA Board of Directors convened in Golden for a three-day board development workshop. Our goals were lofty: renewed vision and mission, development of a values statement, operating principles and, important operationally, the establishment of a three-year strategic plan to guide the organization's priorities into the future.

You will read about our mission and vision in Phil's first Presidents Report. I want to focus on the outcomes of the workshop that will guide the CAA operationally over the next period—our values, principles and strategy.

What are our organizational values? Effective organizations identify and define clear, concise values so that everyone understands and can contribute to the core purpose of the organization. Once defined, well developed values impact every aspect of the organization. Historically we've always talked about core values, but they were never written

CAA Core Values

Respect for all
Integrity
Accountability
Transparency
Inclusiveness
Innovative and Responsive Leadership

CAA Organizational Principles

- Respect the dignity and privacy of all
- Act reasonably and in good faith
- Ensure fairness and due process
- Be transparent regarding process and procedures while respecting individual privacy
- Provide informative and timely communications
- Incorporate stakeholder feedback into operating review and changes

down, leaving them open to interpretation. The CAA board is currently working on a Values Statement (see draft version on previous page) that will be complementary to a renewed vision and mission. Operationally, these distill into operating principles and guide strategic plans.

So what does our strategic plan look like? At the time of writing we're still refining it, along with development goals and performance measures. But the highlights are complementary to our discussions at the AGM, and to the few motions tabled for our board to investigate over the course of the year and report back to the membership next May. Here's a list of the high points:

- A. Reconciliation of CAA/CAC organizational linkages and relations
- B. Renewed governance/management operating framework
- C. Effective collaboration with key stakeholders for implementation of OHSR
- D. Intellectual Property Policy and data management systems review
- E. Establish communications and stakeholder relations strategy

In all my years, we've never had a long-term strategic plan before. Annual strategic plans yes, but nothing for the long term. It's analogous to riding a bike by only looking at your front wheel instead of down the road. Once organizations start to look a little more long term, the path becomes a little straighter and it becomes easier to overcome the inevitable dips and turns in the road.

At the time of writing, the new CAA bylaws have been submitted for registration in BC and AB. Once we have received confirmation of their registration, our website and associated documents will be updated. For those members involved in QAP related work, please familiarize yourself with the updated bylaws. If you are acting as a QAP, you are now obliged to register yourself with the CAA as per the QAP Registration Policy and Bylaws.

What about the CAC?

The CAA and CAC are organizations that work very closely together. We share board members, an executive director and operational staff. The CAC board also met and focused on vision, mission, values and strategic plans. At the time of writing, these are still in development, along with the CAC's operating principles and strategic plan.

As we work on refining and clarifying these documents for the CAC, it is becoming clear that the changes to this organization will be more profound than those at the CAA. Some work has already begun in reconciling the relationship between the CAC and CAA, as it has become increasingly clear that we have outgrown the current model. As a non-government organization tasked with providing public safety, the CAC's roles and obligations are complex and unique. We are working on the next step in this evolution with guidance and advice from people familiar with the issues.

One thing that won't change is the CAC's focus on efficiency. Few can argue about the level of service the CAC provides compared to its cost. Truly, a value for dollar ratio only a select few can claim to have! We'll have more information on the CAC's guiding documentation by this fall.

"Change is the only constant in life." These profound words from Greek philosopher Heraclitus (535 - 475 BC) remain true to this day. In order to maintain their "social license," organizations must change. 2003 was a key time of change, with events that motivated the incorporation of the CAC, and the establishment of a dedicated public avalanche safety organization in Canada. Since that time the CAC has grown and diversified, from infant to adult in just a few short years. Now, amendments to BC's Occupational Health and Safety regulations are motivating equally profound changes at the CAA.

As always it is both my pleasure and honour to work on your behalf as Executive Director of the CAA. Globally recognized for excellence in avalanche safety, the CAA has come a long way since its modest beginnings in 1981. On the eve of the 20th year anniversary of InfoEx, the 30th anniversary of the CAA, and the 40th anniversary of the first professional-level avalanche training programs, let's reflect on our past challenges and accomplishments, and look with excitement and anticipation to what lies ahead.

Have a great summer everyone,

Ian





First Words

Following on Steve Blake's fine "Last Words" message as out-going President, I'm here to report on my "First Words" as the new guy. Certainly they're big shoes to fill and a tough lead to follow—a huge thank you here to Steve for six years of serious rowing across the mountain ranges of Canada, as well as collaborating with many in the international community. Thanks to John Hetherington and Dan McLellan as well, for their years on the boards of the CAC and CAA.

Please bear with me as I get my feet wet on this first input to the journal's President's Message. As I write this, the Spring CAA/CAC AGM 2010 has recently ended—another great "gathering of the clan" as Clair Israelson and others have well described this annual event going back several decades now. It's our traditional week of catching up, in person, with avalanche folks and the community, sharing stories, exchanging views and coming up with new ideas on improving the work that we all do. At this point, I feel like reflecting a little on the season just melted.

Yet another "interesting and challenging" winter has passed by, beginning with early-season record snowfall and rain-events in many places (November

in Whistler, 562cm). Then, perhaps a winter most challenging for those operating in the higher places near treeline this season, where the snowpack existed at near or below normal in depth, but was constructed by nature throughout the season as a veritable "persistent-weakness smorgasbord" of weak-layer sandwiching. Meanwhile, many of the lower elevation valley regions experienced a very shallow snowpack by mid- to late season, from the effects of generally warmer temperature periods, coupled with a few serious rain-event periods that significantly settled or removed the snow cover across many areas.

Thus, it was a season for some where low elevation avalanche impacts were below average in many areas. Meanwhile, backcountry activities such as skiing, snowboarding and snowmobiling, involving people that often visit and travel across the treeline elevation band, were confronted with a significantly challenging season of avalanche risk—one that didn't disappear until the problem layers were melting away.

Back to the spring AGM—a great primer for the week began on Monday with a day and a half continuing professional development session focused on sharing experiences in the past year and winter,

with the new WorkSafeBC Avalanche Safety Planning (ASP) regulations. This was open to everyone interested, and having almost 250 people attend the session pointed to the wide interest and importance of sharing ideas and experiences, as we progress through the implementation period of the new “avalanche risk in the workplace” regulatory environment. The positive contributions from all those involved during the sessions are bound to be helpful to our colleagues.

Day three was loaded with the usual range of community and organizational reports, administrative review, and discussions on structural changes as the organizations mature. At the AGM, the members learned that we are at another serious juncture on our organizations' paths. As we survey the landscape to determine our path, we must review the foundations supporting all of the diverse activities that surround the avalanche community.

This review period is integral to moving ahead. Both boards will have a key role in bringing forward further information to the membership and community at large as the process of review moves ahead. The board is made up of several who are veterans in the role while others are newly elected, resulting from the ongoing and essential renewal process. Thanks to the membership for your vital participation at the AGM, and to all the active and new board members including the many committee members who help further the work of both organizations.

On the first weekend in June, members of the CAA and CAC boards got together in Golden for an annual face-to-face meeting. Great faces, I might add, and a great opportunity for board members to meet with key management staff and review the status of both organizations before the groundwork of the next season is underway. We were supported in our meetings and organizational reviews by Frances Picherack, a nationally active consultant in the realm of organizational governance and strategic planning, involving government, NGO's and professional associations of many kinds. Frances has met with our boards on a number of occasions over the years, and brings a wealth of present-day insights and advice to our own specific development requirements.

Reviews and planning were the key goals for the weekend—for governance structures, responsibilities and duties of board members, and the key organizational objectives of each entity. This helped familiarize our new board members, as well as to clarify and solidify for all involved. The process of reviewing the missions, visions and core values of both the CAA and CAC turned into a key opportunity to reflect on the principal goals of both organizations, with a view to the direction received from the membership at the AGMs.

For those of you weren't able to attend, one of the big topics of conversation at this year's AGM was

the structure of the two organizations. At the time of the CAC's creation, its dependence on the CAA made sense; the interoperability between the two organizations—shared staff, shared board members—was the logical and most workable approach. Now, as the CAC matures into its role, we need to rethink that relationship.

In his Executive Director's report, Ian

reflects on the how this recent opportunity for review and re-visioning has led to forming a better multi-year strategic planning approach for the road ahead. The June meeting provided a clear governance foundation for all board members. As we surveyed the options for future structures and management of both the CAC and CAA, we all agreed the process and outcomes provided a strong basis for moving forward.

The work that both the CAA and CAC do for the benefit of all people in Canada is maturing, and moving both organizations to the next level is on the way. We look forward to everyone's input and ideas on the best options forward, and encourage your participation. Please forward any of your thoughts to pres@avalanche.ca; we appreciate your input at this road-head.

Have a great summer and enjoy the change of seasons everyone, and keep up the remarkable work.

As the CAC matures into its role, we need to rethink our relationship.



Making the Grade

Prior Learning Assessment for the CAA Level 3

By Ian Tomm

During the AGM this past spring in Penticton there was a Qualified Avalanche Planner (QAP) meeting where, among other things, we talked about options for a prior learning assessment (PLA) for the Avalanche Operations Level 3. The purpose of this short article is to explain what those options are, what the CAA can reasonably do at this time, and what lies ahead for those who are affected by the new WorkSafeBC requirement to meet the QAP designation.

The intent of the discussion at the QAP meeting was to present “best practices” in assessing prior learning, implementing the Level 3 into the ITP training pool, and options in implementing the new program for the community of professional avalanche workers. Prior learning assessment is a complex issue, and the CAA’s industry training program’s limited resources are an important factor in this discussion.

So how do interested students gain the Level 3 credential? After summarizing the best practices in prior learning assessment, the following options were considered:

- Option 1 – PLA for exemption
- Option 2 – PLA for equivalency
- Option 3 – PLA + seminar for the purposes of granting equivalency
- Option 4 – take the course

As noted above, the CAA has limited resources and capacity to address all of these options. After the QAP meeting, Level 3 instructors and CAA management met to discuss practical, cost-effective options going forward. Here are the results of that discussion.

It was determined that Option 1 isn’t practical. To be a QAP and be granted an exemption for the Level 3 course creates a weakness in the standard and liability for the CAA. We don’t want that.

At the time of writing, Option 2 will soon be in place. The difficulty in applying for straight-across equivalency is recognized, unless the applicant comes from a strong academic background in hazard/risk theory and has extensive industry experience. To manage this a little more effectively, and in the best interest of fairness and respect to the high level of expertise and professionalism present with many experienced practitioners, ITP will take a slightly different take on this option.

Candidates interested in the PLA for equivalency will be able to apply providing they meet a predetermined set of prerequisites. Option 3 will allow candidates to challenge the evaluation component of the L3 without taking the course. The criteria for documentation to support this challenge are currently being worked on. So far, this approach meets all the fundamental demands of a PLA—recognition of prior expertise and learning, enabling a quality control mechanism that ensures the course and its credential continues to meet the high standard we, as a community, have set.

Option 3 is an option, but not with the time or resources we have available in the short term. In addition, the cost of developing a Level 3 seminar would be as much, or more than the development costs to date for the Beta course. This would likely result in a costly seminar that would be close to the same length as the full course.

Option 4 is the best option at this point in time. Based on feedback from the 20 beta course students and the 40 students already enrolled for the fall, taking the course appears to be the preferred option.

The CAA and its instructors were, and continue to be, under a considerable amount of pressure to roll out this new program effectively. It is only through the commitment and involvement of instructors and the development team that we were able to launch this program and move it out of beta. Based on student feedback the new Level 3 is another huge accomplishment of the CAA, ITP instructors, stakeholders and resource specialists who have contributed to the program. It is unlike any other professional avalanche training program in the world—rooted in the theoretical principles of hazard and risk, and encompassing real-world professional avalanche risk management.



Continuing Professional Development Session

This year's highly successful CPD session focused on the new WorkSafeBC regulations and the need for avalanche safety plans. Over 250 members gathered for the day-and-a-half session. At left, Shawn Mitton from WorkSafeBC addresses the crowd. Below, Brad Harrison facilitates the break-out session for non-mechanized guiding. There were seven break-out sessions in total, each addressing different sectors of the industry. Bottom: The speakers from the first day of the CPD participate in a panel discussion, taking several interesting and challenging questions from the floor.



Level 3 Report

By Emily Grady

The CAA Operations Level 3 - Applied Avalanche Risk Management beta course has come to a successful close, with the final component of the evaluation process wrapped up by the end of May. Four years after its inception, feedback from students and instructors indicate strongly that we have many things to celebrate in the new Level 3 curriculum.

Students were especially positive with regards to the evaluation process, which involves two components—a written report and an oral presentation. The goal of the Level 3 evaluation is for candidates to demonstrate that they are able to write and orally present a well-reasoned year-end report, integrating and applying Level 3 principles, concepts and theoretical frameworks into an operational context. Many called the exercise of compiling this information at the end of the winter one of the “most useful elements of their season.” In fact, most course participants found that while the classroom time was worthwhile, creating the written report brought it all together.

Likewise, the reactions to the five-day classroom session in Canmore this past fall have been very encouraging. Overall, the feedback affirms that the tremendous amount of input from the Level 3 development team—Level 3 Beta Course instructor team, ITP instructors, academics at Simon Fraser University, UBC and University of Calgary, CAA executive and CAA Education Committee—has been a hit. Several students noted the concepts presented during the classroom session were already in place at their respective operations, and that the Level 3 has provided both consistent terminology and structure.

Overall, it is with a sense of accomplishment that we see the conclusion of the Operations Level 3 beta course. Although there is still a great deal of work to be done in terms of continued curriculum development, it is good to know that this course is on the right track. A big thank-you goes to all those who have contributed to the creation of this program.

>>Emily Grady is the Manager of the CAA Industry Training Program

Level 3 Student Feedback:

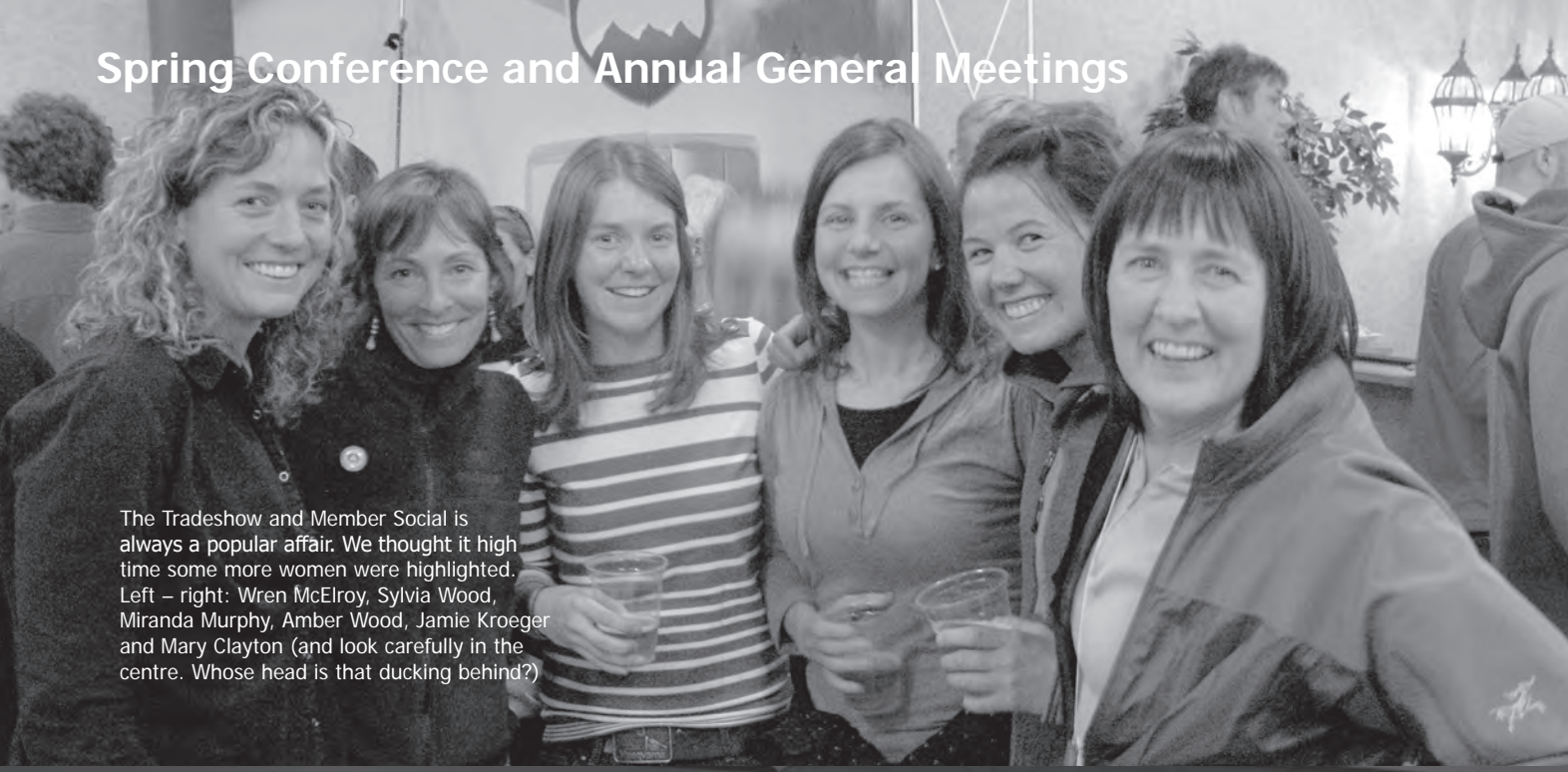
“I found the evaluation and assessment methods to be challenging, which I think it should be. I definitely experienced some positive stress in trying to meet the requirements and, in turn, I learned a lot from the process.”

“There is noticeably a lot of knowledge and experience that has gone into the development of this course and its quality reflected this. This course is a great opportunity to explore the objectives, dimensions and processes within avalanche risk management decision-making. There are a great deal of real world applications here; one cannot walk away from the concepts presented without a finer-tuned perspective on how you or your program manages risk.”

“The concepts of this course represent the new standard in Avalanche Forecasting and Practical Risk Management Decision-Making.”

“A lot of work has gone into this course and I would say that it is a great success. I am confident that this course as with other CAA offerings will become industry standard as this course becomes more refined and focused. I truly believe this is a big step forward for the new generation of your forecasters. I look forward to seeing the future refinements that will make this course a must for anyone moving in this career.”

Spring Conference and Annual General Meetings



The Tradeshow and Member Social is always a popular affair. We thought it high time some more women were highlighted. Left – right: Wren McElroy, Sylvia Wood, Miranda Murphy, Amber Wood, Jamie Kroeger and Mary Clayton (and look carefully in the centre. Whose head is that ducking behind?)



Greg Johnson, Lee Usher and Uwe Gramann share a joke.



Tom Riley, Troy Leahy and Amber Wood (again!)



Gord Burns from RECCO chats with Rudi Gertsch, owner/operator of Purcell Heli-Skiing



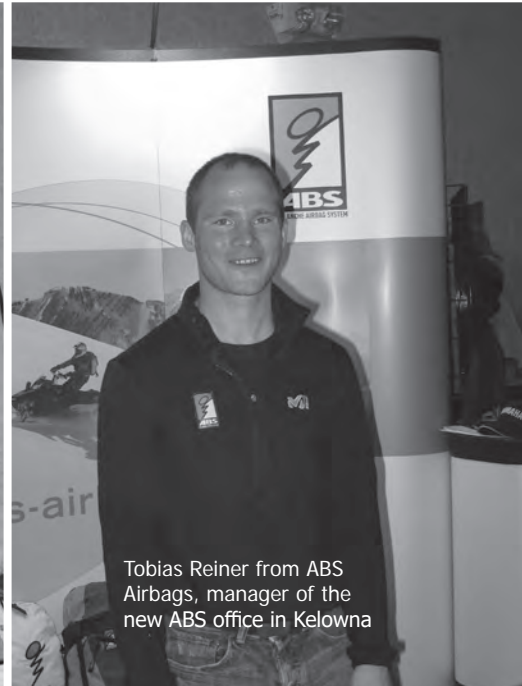
Marc Vasily from Explosives Limited and Robert Onstott from Orica Explosives



Dave Usher and Daniel Curry show off some new features of the Avert online snow science system



CAA Associate Member and long-time advocate of public avalanche safety, Brian Kelley of Kelley's Sports International



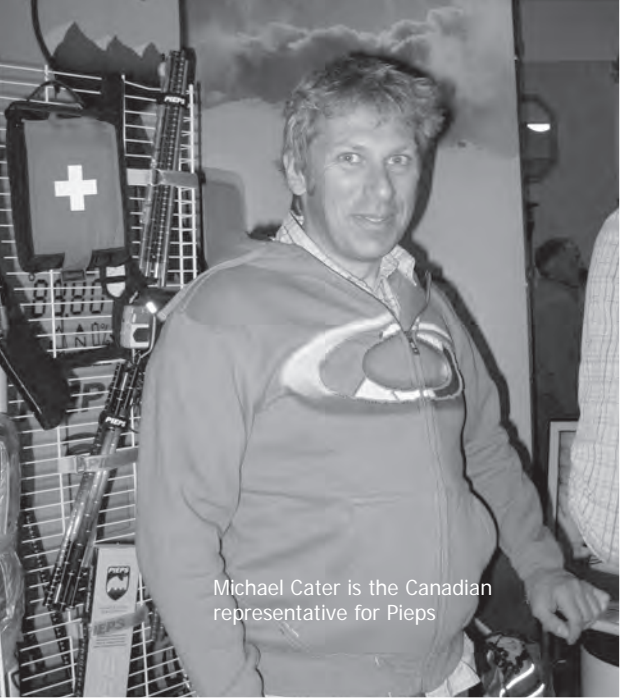
Tobias Reiner from ABS Airbags, manager of the new ABS office in Kelowna



Arc'teryx designer Mike Blenkarn gives us the "thumbs-up"



Chuck Gorton from Mountain Sports Distribution demonstrates some new features of the SnowPulse airbag to Clair Israelson. At left is Jocelyn Wilson, also from Mountain Sports Distribution



Michael Cater is the Canadian representative for Pieps



David Sly and Alain Vallée from CIL/Orion discuss explosives with Fernie's Mountain Operations Manager Robin Siggers



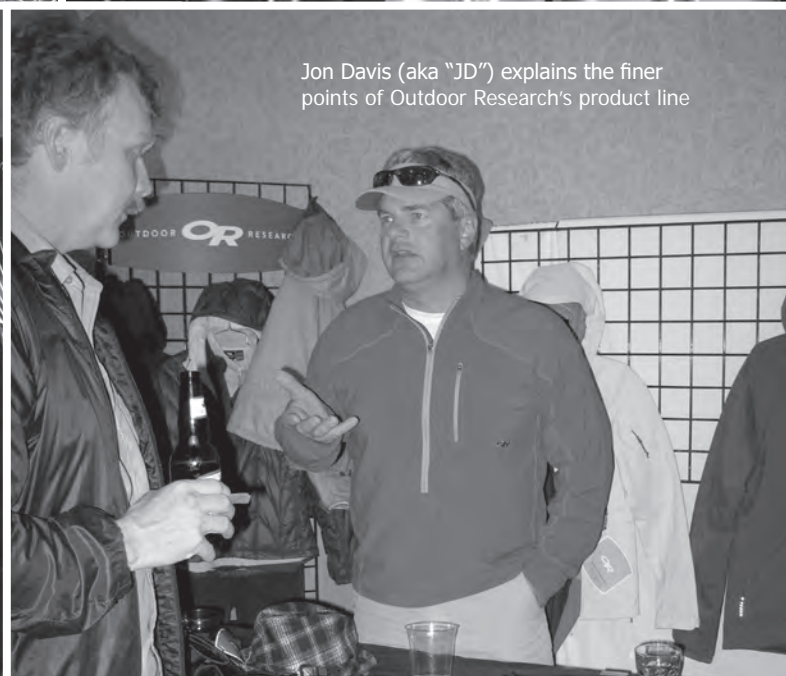
Yamaha had a full-time presence in the courtyard with a couple of new sleds on display



John Kelly shares a laugh with Steve Christie of Backcountry Access



Besides being the Sales Manager for Ortovox Canada, Ryan Johnstone is also a Director for Ski Mountaineering Competition Canada



Jon Davis (aka "JD") explains the finer points of Outdoor Research's product line



Everett Clausen from CIL/Orion presents a cheque to Scott Aitken, Chair of the CAA's Explosives Committee. Each year, CIL/Orion donates a portion of their sales to the CAA, as well as the American Avalanche Association, to further explosives education and training in our industry across the continent. To a valued sponsor and close friend—Thank you!



Putting that money to work: A portion of the many CIL/Orion donations over the years has been put towards the creation of training video for avalanche control blasting. Filmmaker Francois Desrosiers has shot some great footage over the winter and is working hard this summer in post-production. We expect it will be ready for sale by September of this year. Here, CIL/Orion representatives pose happily after a meeting with Francois during the Penticton AGM. From left: Everett Clausen, David Sly, Francois Desrosiers and Alain Vallée.



CAA and CAC Service Awards

Four individuals were recognized for their contributions to the advancement of either professional or public avalanche safety in Canada. The boards of the CAA and CAC received many nominations and, as always, found it difficult to make a selection from the many candidates.

CAA Service Awards

Past-president of the CAA Steve Blake presents a CAA Service Award to Colani Bezzola, who was nominated for his many years of service to the CAA and for being "tireless on the InfoEx advisory group. When new ideas are put forward, he is able to filter the good from the not-so-good at the planning stage..." "InfoEx meets the current needs of professionals partly because of Colani's volunteer work."

BC Highways Senior Avalanche Officer John Buffery presented John Tweedy with a CAA Service Award. The nominations described John as "a leader in Canadian avalanche safety innovation," "his entire career is an outstanding example of dedication to excellence" and "John's enduring legacy is the continuous advancement of BC's avalanche program."

CAC Service Awards

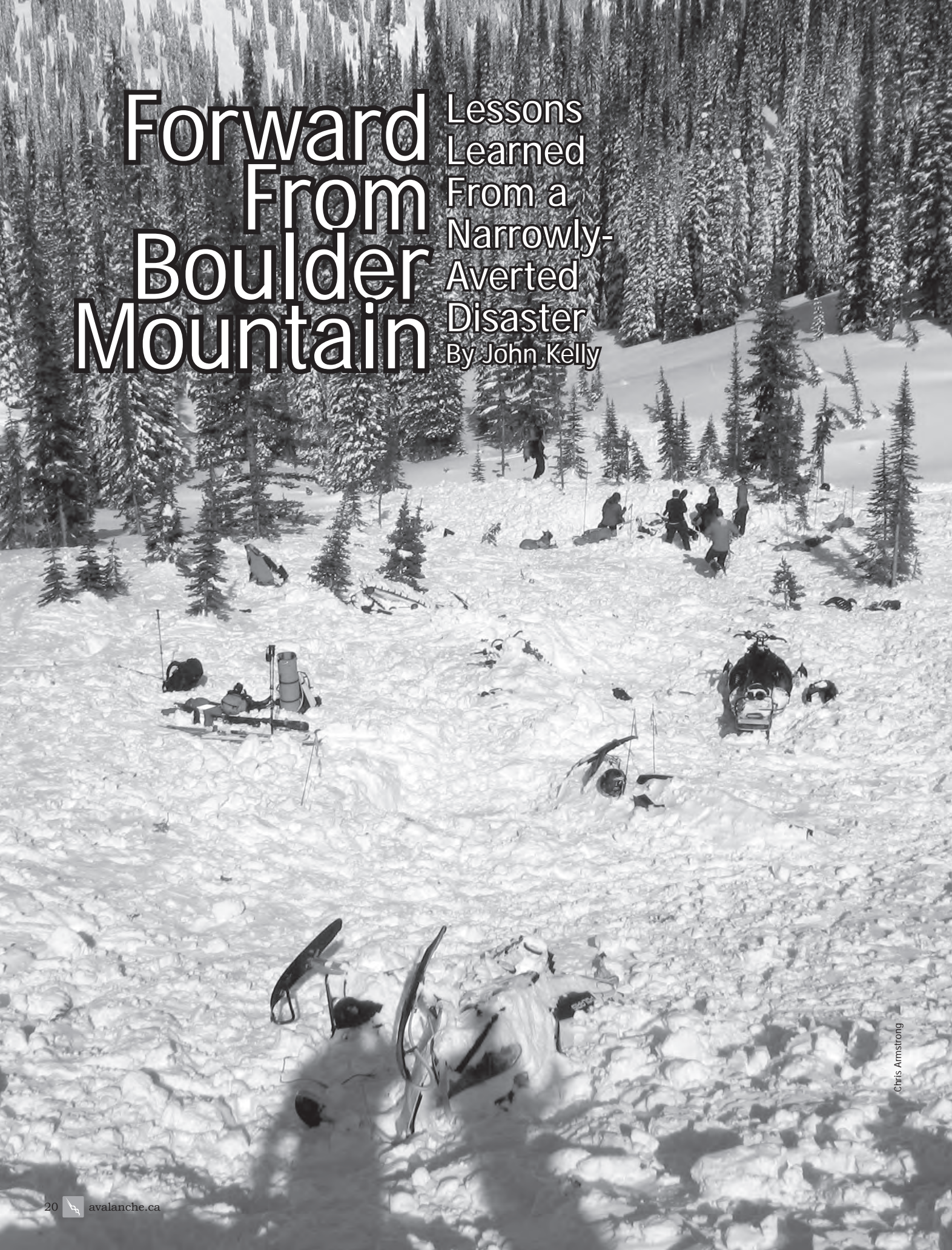
The new President of the CAF, Gord Ritchie, spoke about CAC Service Award winner Donna Broshko. Although not in attendance, Donna was recognized for her work on the board of the CAF, where "she has been the moving force behind the foundation's Calgary fundraisers, raising over \$540,000 for avalanche safety. With Donna's leadership...the Calgary events met with increasing success."

CAC Operations Manager John Kelly presented Ken Gibson with his CAC Service Award. Ken's nomination was based on his leadership to bring terrain ratings to the hundreds of snowmobiling and backcountry skiing areas managed by the Ministry of Tourism, Culture and the Arts. "Through Ken's influence, MoTCA demonstrates vital buy-in to this important initiative."



Forward From Boulder Mountain

Lessons
Learned
From a
Narrowly-
Averted
Disaster
By John Kelly



Chris Armstrong

How can it be that a group of 100 or more people were gathered at the bottom of an avalanche path, in an obvious runout zone, during high avalanche hazard with a well-known persistent weak layer problem? Does this occur at other times and places? How do we stop it happening again?

On March 13, 2010 an avalanche incident occurred on Boulder Mountain adjacent to Revelstoke BC. This incident involved somewhere between 100 and 200 people who were observing some aggressive hill climbing activities on a well-known test piece in the popular Boulder Mountain snowmobiling area called Turbo Hill. A large avalanche release in the prominent avalanche path ran to near normal maximum runout. The avalanche engulfed hill climbers and spectators alike, resulting in two deaths, 32 injured, and possibly more than 60 burials.

Some of the features of the Boulder accident underline its uniqueness and point to the need to regard this incident as a landmark avalanche accident in Canada. It has been 100 years since an avalanche accident with similar potential for loss of life occurred. The size of the rescue effort alone, both the companion rescue phase and the organized rescue that followed was massive, perhaps the largest in decades. Certainly the media uptake was of a magnitude not seen for several years and global in scope. A mass casualty snowmobile avalanche accident from 2008/09 was also still fresh in the collective memory, magnifying concern that a trend is underway. These features mean the events at Turbo Hill will resonate for a long time.

Parsing the details of the Boulder Mountain avalanche incident is an activity that will take years. The learning and lessons will not be complete until all the details have been considered under the cool perspective that time provides. However, in light of the unusual features of this accident, there are critical issues that we need to address immediately. Snowmobile avalanche incidents and issue management is a big topic, with a whole list of action items that have been reported in many previous articles in this journal (see *Patterns of Death*, Vol 92, *Reaching Out*, Vol 91, *The Year of Sledding Dangerously*, Vol 89, *Sleducation*, Vol 87, etc.).

What I present here are the specific insights that the plain facts of Boulder Mountain illuminate—we have a problem with group management.

The CAC is taking this obvious but important finding about group management back to all snowmobile stakeholders and contacts, as an item that deserves our collective attention and action in the short term. Next year's priority is to ensure all stakeholders do things to counter this situation. Groups cannot congregate in terrain that is obviously threatened from above, be it in low danger or high danger situations.

The next obvious finding about the Boulder incident is a positive one. Search and rescue saves lives! This can be said for both the companion rescue phase and the organized search and rescue phase. In the unusually short time between the avalanche and the arrival of outside help, all of the numerous burials were located and uncovered by companions on the scene. Because of their quick actions in conditions that were

described compellingly as “pandemonium,” it is doubtless that the death toll was reduced dramatically.

Likewise, the arrival of organized rescue 35 minutes after the first notification of the accident resulted in saved lives. The immediate evacuation of one critically injured and many other seriously wounded patients was instrumental in their survival. Without the speed and dedication of these volunteers and good-Samaritan neighbours, many more would have died.

Our lesson going forward is to highlight the benefits of companion rescue training to the public at large, and also to avalanche educators. Co-incidentally, the CAC has also received the encouragement of the BC Coroner's recommendation in the Death Review Panel report of January, 2010 to develop a stand-alone companion rescue module that can be taught as a one-day course.

As far as organized rescue, I think we have to recognize that the circumstances of the Boulder rescue were ideal; there was incredible luck involved that the resources and skilled personnel were in place to mount a quick and large-scale helicopter evacuation. Few locations in Canada would be able to scramble that many helicopters, professional avalanche workers and volunteer search and rescuers in a similar time frame.

As we examine this event, it is important for us to underline how well the safety net in Revelstoke worked but also how much that outcome relied on chance, and the selfless spirit of the many rescuers. The safety net deserves support and inspection to see how it can be improved. Other locations for large-scale snowmobile events in BC, such as Atlin or Pemberton, should be examined to see how their safety nets would measure up.

The third notable feature of the Boulder avalanche incident is no surprise to anyone who follows the issues of snowmobile avalanche safety. The terrain selection of the hill-climbers did not fit with what the conditions of the day could allow.

Hill climbing and high-marking are high-end activities. In terms of exposure to avalanches, you could compare them to skiing steep chutes or ice climbing on routes with bowls overhead. All of these activities can take place only when conditions permit. While skiers and climbers are very aware of this fact (though some risk seekers may disregard it) there remains a significant segment of the snowmobile user group who do not understand this fundamental concept.

These preliminary findings from Boulder have been examined by the CAC snowmobile committee and evaluated at the snowmobile stakeholder meeting over the week of the CAC Annual General Meeting. They have already been presented to a wide variety of stakeholders from snowmobile industry to government to educators.

The one outcome that is critical for action in the near future is the problem of large groups congregating in exposed locations. We feel we can—indeed we must—effect change in this area. We are urging everybody to focus on this significant problem, and you can expect to see this message in many different areas this coming winter.

>> John Kelly is the CAC Operations Manager

Government Relations

The CAC welcomes Cam Filmer, the BC Government's New Point Person for Avalanche Safety and Awareness

The CAC is entering a new era in government relations, especially in BC. On our part, we're improving communication efforts and establishing better contacts. On the government's part, Cam Filmer has been named as the point person for all avalanche-related matters. In order to introduce him to our readers, I sent some questions to Mr. Filmer. Below are his answers.

Mary Clayton: When did you take on your new responsibilities for avalanche safety and awareness?

Cam Filmer: In April of this year, I was asked to lead the provincial government's cross-government coordination of avalanche safety and awareness programs and policy. It's important to recognize that there are a number of ministries involved in the province's efforts to improve avalanche safety and awareness including the Ministry of Tourism, Culture and the Arts, Ministry of Transportation and Infrastructure and the Ministry of Public Safety and Solicitor General.

MC: What does this involve?

CF: In this role, I work with other ministries and external partners such as the CAC, federal government, industry and other provinces to find ways that we can work together to enhance avalanche safety and awareness in British Columbia.

MC: What do you see as your biggest immediate challenges?

CF: Given the increase in winter backcountry activities in British Columbia, our priority is to work together with all user groups to find ways to improve avalanche safety and awareness and, ultimately, reduce related injuries and fatalities. British Columbia has a great many recreational opportunities and we want to work with our partners and user groups to ensure everyone enjoys all this province has to offer in a responsible manner.

MC: What made you want to take on this role?

CF: These new responsibilities fit perfectly with my work as Executive Director of Strategic Planning, Policy and Legislation at Emergency Management BC (EMBC). This is another area of responsibility where I have the opportunity to work with partners from all levels of government, other agencies, industry and user groups to find ways to improve public safety in British Columbia.



Cam Filmer is Executive Director of Strategic Planning, Policy and Legislation at Emergency Management BC. During his 17-plus years with the provincial government, Cam has been central to the development and implementation of the BC Emergency Management Structure. He also plays a leadership role on two national committees—Senior Officials Responsible for Emergency Management (SOREM) and the Canadian Council of Emergency Management Organizations (CEMO)—which bring together the directors from each provincial emergency management organization to share best practices.

Virtual Mountains

New website offers a range of resources for instructors and fresh learning opportunities for students

By Doug Latimer

As many avalanche educators know, locating suitable images and video clips for teaching purposes has always been a challenge. Now, a new online resource is here to help. This project provides new video and still image content that can be used by educators, instructors, and the public for avalanche education. All content on this new resource is public domain and can be used by any individual, group, or business for educational purposes. And best of all, this service is entirely free.

The site is currently located at www.virtualmountains.ca and it is divided into two sections: basic avalanche information for the general public, and resources for instructors. There are only two restrictions to the content. The first is that it cannot be altered or edited without consent. This is to ensure the integrity of the content and retain the credits for the organizations and companies that have sponsored the project.

Secondly, the content cannot be broadcast, bundled, or packaged into any form of commercial product. It cannot be sold, shown on television, rebranded, or distributed under a different name or purpose without written consent. Much of the video footage was generously donated on the condition that it be used only for this project.

You will see the content on the site is laid out for the general public to learn basic avalanche information through embedded video, still images, and linked PDF documents. The outline is loosely based on the curricula for the AST courses and is intended to prepare and assist participants considering taking an avalanche course.

Participants can view this content at their discretion, so the site has the luxury of expanding into subjects and content that simply isn't possible within the time constraints of a standard recreational course. Research papers, checklists, the danger scale, rescue cards, etc. are linked to the relevant page for personal and professional reference. This also allows instructors who are faced with students who just have to know more about the persistence of poorly bonded crusts in the Columbia Mountains can refer them to the website and move on.

Instructor resources are found on the last chapter of the website. This section has high-resolution still images and video content that can be downloaded and used by the instructor. A short description of each clip is provided, along with a low-res version that can be downloaded to preview. High-res video will generally be 16:9 aspect (854x480) mpg4 files. This quality should be more than adequate for most data projectors up to wxga. There are many free players that will show these files from a computer, including QuickTime and Real Player. The only standard player that will not run this format is Windows Media Player. We will be putting content on YouTube or Vimeo for embedding into web pages. This will permit content use on other web sites.

The scope of this endeavor has been substantial to say the least; it represents more than three years of work to secure funding, footage, and feedback. I would like to thank the major sponsors Mountain Equipment Co-op, Western Economic Diversification, and the Canadian Avalanche Foundation for their generous support. Our production company, Shadow Light Productions, has also put in far more time and energy producing content than the budget allowed for. And finally, thank you to the many individuals and organizations that have provided time and expertise. There are simply too many people to thank within this article, but the Canadian Avalanche Centre and CMH in particular deserve recognition.

>>Doug Latimer is a Ski Guide and Project Manager with Shadow Light Productions Ltd.



The North Shore Avalanche Advisory

A history of avalanche awareness in an urban mountain range

By Cam Campbell

The North Shore Mountains are a small sub-range of the Coast Mountains that overlook Vancouver. The region poses a unique challenge to public avalanche forecasters—it is a vast wilderness close to a major urban center, where the average recreationist tends not to be mountain-savvy. And it is the first mainland mountain range to intercept intense maritime storms approaching from the Pacific Ocean, which makes avalanche conditions particularly dynamic.

The terrain here is characterized by rounded ridge crests and horn-shaped summits around 1500m in elevation, surrounded by deep glacier-cut valleys draining into long inlets. Treeline is around 1400m and below is generally steep and heavily forested terrain with numerous gullies that lead to 100-300m valley bottoms or coastlines to the east and west. Only two public roads extend out of the valley bottoms, and hundreds of kilometers of wilderness surround the north side of the range.

The average winter (Nov-Mar) precipitation total is greater than 2400mm and precipitation intensities of greater than 10mm/hr aren't uncommon. Above freezing treeline temperatures occur several times per winter, so not all of this precipitation falls as snow. But it's hard to forget the winter of 1999 when we had over 10m of snow at treeline!

The North Shore Mountains are home to two provincial parks, three ski areas, an abundance of snowshoeing trails, and out-of-bounds and backcountry terrain. In winter, these mountains can see thousands of backcountry skiers, climbers, snowshoers, or hikers every day. The rugged terrain and severe weather conditions are often in marked contrast to the mild conditions in the city, regularly catching uninformed travelers off guard. Recent trailhead surveys confirmed the majority of North Shore winter recreationists are unaware of and/or unprepared for avalanche hazards.

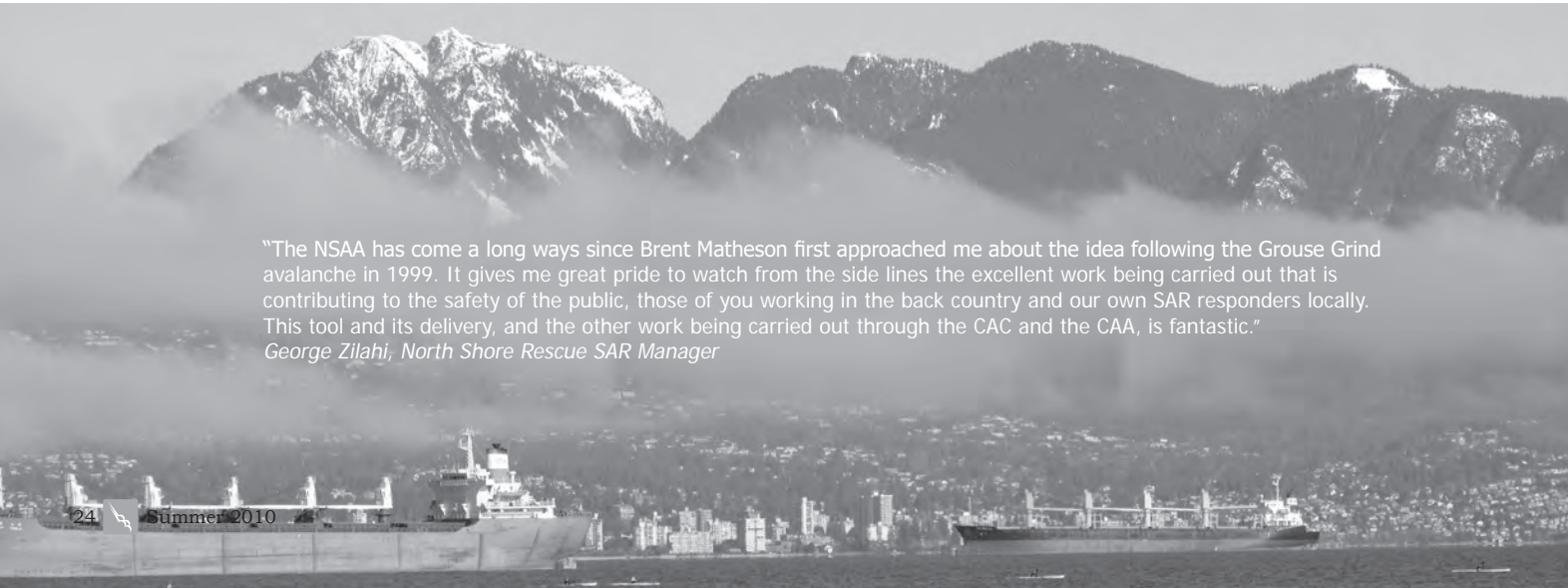
There have been six recorded avalanche fatalities, and several serious incidents, on the North Shore Mountains. The first recorded fatality was in 1948; details are limited except for that it involved city employees who were surveying in the upper Capilano watershed. The next recorded fatality occurred in 1955 when loggers were working in the Seymour Inlet. The crew dislodged a stump on a steep slope, which triggered the late March isothermal snowpack. The ensuing avalanche entrained a considerable amount of vegetation and killed one logger on the slope below.

The next recorded avalanche fatality didn't happen until 1992 when two people were skiing in Australian Gully outside Cypress Mountain ski area. Both were caught, but one managed to hold on to a tree while the second went for a longer ride and was buried. Search efforts were hampered by very poor weather. The next winter a solo skier was partially buried in the same gully.

Two more avalanche fatalities occurred in consecutive years, 1997 and 1998, outside Cypress Mountain ski area. In 1997 three young snowboarders decided to venture out-of-bounds unprepared. The first person to drop into a gully from the ridgeline triggered a small avalanche and was swept down the entire 300m length of the upper gully, before the avalanche came to rest in the meadows below. Amazingly the victim survived the slide and the remaining two members went for help. The victim continued down the gully's drainage path and was eventually found in a severely hypothermic condition, and died within a few hours of arriving at the hospital from hypothermia-induced cardiac arrest. In 1998, a solo snowboarder was buried in a terrain trap by a relatively small avalanche.

The most recent was on the famous Grouse Grind trail in late January 1999. Five hikers triggered an avalanche, which slid on well-preserved stellar crystals. Four were partially buried; the fifth was fully buried and killed.

Brent Matheson, a ski patroller and SAR team member, recognized the need for collaboration between North Shore operations. Around the same time as the Grouse Grind fatality, Brent formalized weather, snowpack and avalanche information sharing



"The NSAA has come a long ways since Brent Matheson first approached me about the idea following the Grouse Grind avalanche in 1999. It gives me great pride to watch from the side lines the excellent work being carried out that is contributing to the safety of the public, those of you working in the back country and our own SAR responders locally. This tool and its delivery, and the other work being carried out through the CAC and the CAA, is fantastic."
George Zilahi, North Shore Rescue SAR Manager

amongst the groups involved, which became known as the North Shore Avalanche Advisory (NSAA).

Twice weekly, or more often if conditions dictated, NSAA members would phone in their observations to BC Park rangers, who would compile and summarize the observations. This was preliminary a rescue planning resource for North Shore Rescue (NSR), who would access the information before mounting a rescue.

Tragically, Brent died in a car accident a few years later, and the NSAA was without direction. There was also a heightened public awareness of the need for public bulletins. North Shore Rescue (led by George Zilahi) was proposing to produce an avalanche bulletin for the North Shore, in partnership with BC Parks and the three ski areas. That's when Clair Israelson, then the Executive Director of the CAA, visited the North Shore to discuss how to best do this. Clair offered the CAA's website as a distribution portal for this product, and resources to help train and mentor the avalanche forecasters producing these bulletins.

In 2007, the CAC adopted the North Shore public bulletin as a partner and, among other things, hosted the bulletin on the CAC website. In 2008, the NSAA teamed up with the CAC and the Provincial Emergency Program to fund the development of an independent avalanche forecast region. BC Parks provided office space and the CAC positioned two forecasters on the North Shore. The CAC committed forecasters to relieve some of the workload from the NSAA partners by taking on the administration and coordination of the program. In addition, the CAC forecasters provided training and mentorship opportunities to all partners, and improved the data collection and sharing system.

This project is meant to be a sustainable initiative for the North Shore and a model for creating other independent avalanche forecast regions. The success of this program could certainly not be achieved without the mutual commitment and support of all its partners (see sidebar).

Since my involvement with the NSAA as a CAC forecaster there has been vast improvements to the information exchange system. This includes a field book with accompanying dynamic PDF form for daily OGRS compliant observations. Observations are automatically submitted to the CAC forecast office via email, then immediately uploaded to an FTP site that all NSAA members have access to. NSAA members also have direct access to CAC forecasters, virtually 24 hours per day, seven days per week, for the latest conditions reports and forecasts.

The CAC forecasters have provided NSAA members with several mentorship opportunities including field sessions with local ski patrollers and parks rangers, as well as bulletin writing opportunities for the rangers. In fact, the rangers have written more North Shore bulletins in the past couple of winters than the CAC forecasters have.

Being in Vancouver, there are plenty of media outreach opportunities, and a number of stories promoting avalanche awareness in the North Shore Mountains have been done. This winter, in collaboration with BC Parks, we created five different Avaluator signs for the most popular trailheads on the North Shore. These include a 3D image of the area with ATES terrain classifications as well as current danger ratings and advice for backcountry recreationists.

>>Cam Campbell is a CAC Public Avalanche Forecaster who works out of the North Shore office.

Partners in the North Shore Avalanche Advisory

- BC Parks
- Canada West Mountain School
- Cypress Mountain
- District on North Vancouver
- Grouse Mountain
- Metro Vancouver
- Mount Seymour
- North Shore Rescue
- VANOC





The Canadian Avalanche Centre gratefully thanks the Columbia Basin Trust (CBT) and the Revelstoke Credit Union for their financial contribution to the 2010-11 Youth Avalanche Education Initiatives. CBT Community Initiatives grants will help fund youth programs in Revelstoke and Golden. Together with the CBT grant, the Revelstoke Credit Union's Community Giving Grant will fund the Revelstoke youth program. Thanks to their support, CAC Youth Educator Bridget Daughney will continue to deliver age-appropriate avalanche safety curriculum to K-12 students in both communities.



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

Lighting a Flame for Snowmobile Safety

By Karilyn Kempton

During the winter of 2008-09, Canada experienced a record number of avalanche fatalities among snowmobilers. Sherry Waldroff lost her father and a close family friend in two separate avalanche incidents that winter but Waldroff, an active member of the Alberta snowmobiling community, decided to put her grief to a productive purpose.

In the weeks leading up to the anniversary of her father's death, "I had lots of emotions and energy," admits Waldroff, "and I wanted to use it for something good." That energy helped Waldroff start Candles to Remember, a charity organization whose mandate is to donate all profits to the Canadian Avalanche Centre, conditional upon the CAC using the money for snowmobiling-specific safety. "I was tired of snowmobilers never having a good news story," she said.

With lots of support from the website "Snow and Mud" and equipment vendors such as Power Merchants in St. Paul, AB and Avalanche Safety Solutions, Waldroff launched Candles to Remember on February 26, 2010. Selling candle sets to raise money provided a convenient, simple way for Waldroff to make that good news story happen.

Over four weeks, Waldroff's candle drive raised \$8643.50, including \$6268.50 from candle set purchases, and all profits raised were donated to the CAC. "Snowmobilers need to raise money to give back into the safety of our sport," Waldroff insists.

CAC Operations Manager John Kelly explains that the funds raised will go towards rating more snowmobile terrain. Of the approximately 735 snowmobile routes around British Columbia and Alberta, fewer than 200 are mapped using ATEs ratings. "We'll



Sherry Waldroff lives in Edmonton but splits her backcountry time between Alberta and BC. She particularly loves sledding in McBride, Valemount and Blue River.

be producing more maps,” says Kelly, “but we’ll also be giving people more and better information about those maps.” Map-based information will be available in online trip planners, and those maps will be linked to avalanche bulletins, incident reports, and information from discussion forums.

Using Google Map technology to classify terrain allows for increased terrain mapping without the associated costs of GIS experts. Professionals will assess terrain from the ground, and transfer information to Google Maps. “We also plan to have those files available for download directly,” adds Kelly.

The build-out for this program is expected to take longer than one year, but Kelly is committed to working with Waldroff to ensure the funds she raises go to wherever they can benefit most snowmobilers. “I’m really looking forward to this program,” admits Kelly. “We’re way ahead of the world on terrain ratings.”

While Waldroff did not achieve this year’s fundraising goal of \$20,000, she has committed to turning Candles to Remember into an annual fundraiser, which will run from November until March. Waldroff is happy to report that on top of the vendor support from this year, new vendors have already signed up to support the cause in the coming years.

Waldroff also found it helpful to meet other individuals who have been personally touched by snowmobiling avalanches. “Hearing their stories...was really amazing,” she notes. Candles to Remember “helped me immensely” with the grieving process, says Waldroff, particularly because it allowed her to give back to the community and help others from going through the same loss that she and her family did. “While efforts like this will not bring these men back perhaps our activities will save other families from a similar loss,” said Waldroff in a press release from earlier in the winter.

“The support from the snowmobile clubs was amazing,” says Waldroff. She challenged clubs across the country to raise money for the cause, and awarded prizes based on top-selling groups and individuals. The top-selling snowmobile club won a custom avalanche workshop courtesy of Zac’s Tracks. This year the prize was awarded to the Fort Saskatchewan Snow Angels, and the Blue River Powder Packers were close behind. She hopes to continue increasing club support in years to come, as they have such a stake in the future of the sport.



Karilyn Kempton is a freelance writer who has called Revelstoke home for several years. An avid skier, backcountry touring enthusiast and mountain biker, Karilyn is happy to be working with the CAA and CAC to help make the backcountry safer for everyone.



The Canadian Avalanche Centre is sincerely grateful to the Calgary Snowmobile Club for its recent donation of \$5,000.00. President Joel Wasnidge is also on the CAC's Snowmobile Committee. Thank you for your dedication to public avalanche safety!



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Foundation Building

A look back at some of the career highlights of former CAF President, Chris Stethem

After 12 years of President of the Canadian Avalanche Foundation, Chris Stethem is stepping down. “I need more recreational time, more ski touring, more cycling,” he explains. “I’ll still work on the odd fundraiser, I just won’t be answering the day-to-day questions anymore.”

If it seems like the end of an era, it’s because it is. Chris is a founding director of the foundation and has played a central role in most, if not all, of their projects over the years. But he’s quick to point to the contribution of others for the organization’s success: “the CAF exists because of the volunteers, the people who work in the fundraisers,” He says. “All I did was manage. Things won’t change.”

While managing may be “all” he did, Chris can give a first-hand accounts of some of the foundation’s pivotal moments, from rockin’ on stage with Bryan Adams, to befriending the Trudeau family, rubbing shoulders with Calgary’s elite, and influencing one of the best avalanche movies to come along in many years. It’s been quite a career.

“The idea for the CAF all began in the late 90s, when the CAA was having trouble raising funds because of the perceived conflicts between professional and public,” he recalls. “A few people came up with the idea of a charitable foundation as a means of creating access to bigger funding sources.” Over the summer months of 1998, Chris and Gord Ritchie, Jack Bennetto, Hans Gmoser, Peter Schaerer and Peter Furhmann began to put the foundation together. Then tragedy struck—and opportunity.

The foundation’s charter had been put together and submitted. In November of that year, the youngest son of Pierre and Margaret Trudeau, Michel, was killed in an avalanche. “John Tweedy brought Margaret to the accident site and facilitated our introduction,” remembers Chris. “We then got together in Ottawa and went to dinner. She is a wonderful woman, and was very enthusiastic about the idea of a charitable foundation to support public avalanche safety.”

Margaret became an active director in the CAF, adding a star-power that could never have been imagined. Through her connections, the singer Bryan Adams agreed to do a concert in support. “(CAF administrator) MJ Pedersen got to attend all the Canadian concerts on the tour, and got the band to wear CAF t-shirts,” laughs Chris.

Margaret was instrumental to that first injection of money for the CAF, as well as building its profile. Her oldest son Justin soon became involved as well, and their influence and ability to attract other funders played a crucial role in the foundation’s early years.

The CAF began holding annual fundraisers in Calgary and Vancouver. In the fall of 2003, Chris met another woman who would affect the foundation’s destiny: “we were holding a fundraiser at the Calgary Zoo, and Donna Broshko approached Gord and I and said, ‘we can do better than this,’” he recalls.

Donna’s son Scott had been one of the victims of an avalanche that killed seven students in the spring of 2003. The students were all from Strathcona-Tweedsmuir, an exclusive private school south of Calgary, where many of the city’s elites sent their children. As with the Trudeau accident, media attention was immediate and extensive. The focus on public avalanche safety was intense, creating an opportune time to raise money for the cause.

“Our Calgary fundraising dinners became hugely successful when Donna got involved,” says Chris. “It was definitely a different deal to step into the world of fundraising with someone like her driving the process. At the same time, Gord was ever steady in ensuring the CAF goals were met. I think those events opened the door for another great fundraiser in Calgary, the Miles for Mountains campaign associated with the Calgary Marathon. Tanya Ritchie came forward as the organizer and brought the support of Calgarians who wanted to achieve a personal goal of the run, hand-in-hand with the community goal of fundraising for the CAF.”

Another pivotal contribution has been made by the family of Hugh and Helen Hincks, a Calgary couple who lost their lives in an avalanche in Austria in 2005. Led by daughter Morgan Hincks and her two brothers, the family has staged fundraisers in Calgary or Panorama each year. “One year a very generous supporter donated his place in Palm Springs for a long weekend, plus a private plane to get there and back,” Chris notes.



Fundraising triumphs aside, those involved never forget these events are all born from tragedy. The responsibility of approaching someone who has experienced such a profound loss weighs heavily. “Going to that first meeting is always tough, always very emotional,” Chris explains. “For me, that’s always been the most challenging thing, trying to respect and understand the degree of loss those people have had. You’re trying to turn something so sad into something positive.”

And indeed, many positive things have arisen from these tragedies. More recently, the CAF funded the making of “The Fine Line,” an award-winning avalanche awareness movie. Taking a plunge into funding this project was definitely a risk. “I didn’t know anything about film making,” Chris says, but it seemed a good way to reach a younger demographic—the “hard-core teenagers” who are taking big risks unknowingly.

While CAF board member Scott Flavelle had some involvement in the production, the bulk of the project was in the hands of the Rocky Mountain Sherpas, a small team of young filmmakers. Recalling the first time he saw the film, Chris admits, “I was terrified. I remember thinking after the first 20 minutes, ‘oh my God, we’ve spent 100 grand on a ski movie.’ But by the end I was ecstatic.”

He wasn’t the only one. The film went on to rave reviews and its drawing power continues. “We’ve had some hits and misses, and that was definitely a hit,” Chris says with a smile. “My youngest son and his friends loved it. When half of the Canmore high school is in my living room watching that movie, I take that as a good sign.”

Reflecting on his 12 years at the helm of the CAF, five as President of the CAA and three as a founding director of the CAA, his satisfaction is clear. “No regrets,” he says. “I’m proud of it. It’s been a natural progression, all these pieces. It’s so interesting when you watch organizations develop—incremental changes, then big stuff comes along.”

Chris has a lot of praise for those who have influenced the foundation’s development, as well as his successor. “We got a lot of direction from Hans Gmoser,” he says. “Hans was the chief promoter for developing the public bulletin. He and Peter Furmann were very big on supporting that. Jack Bennetto has always put a huge effort into being the liaison between the CAC and the CAF. And (new CAF President) Gord Ritchie was always very good at managing the money, ensuring we have a stable base of funds for managing our projects. The CAF is in good hands.”

Looking to the future of the foundation, Chris says, “We’ve got traction now. The CAF plays an important function, bringing a wide range of people together for this cause. A lot of them are not quite the mountain community, may not know much about it, but they have a peripheral interest in it.” Casting such a wide net has paid off. “A few times a year, we’ll get donations out of the blue—for anything from 20 dollars to 10 thousand dollars—from someone with a connection. We will always need a place for that individual supporter, who believes in what we’re doing.”

Changes to the Board of the Canadian Avalanche Foundation

President: Gord Ritchie

Secretary-Treasurer: Ken Little

New Directors: Morgan Hincks, Kevin Williams, John Tweedy, John Hetherington

Honourary Directors: Donna Broshko, Margaret Trudeau, Peter Schaerer

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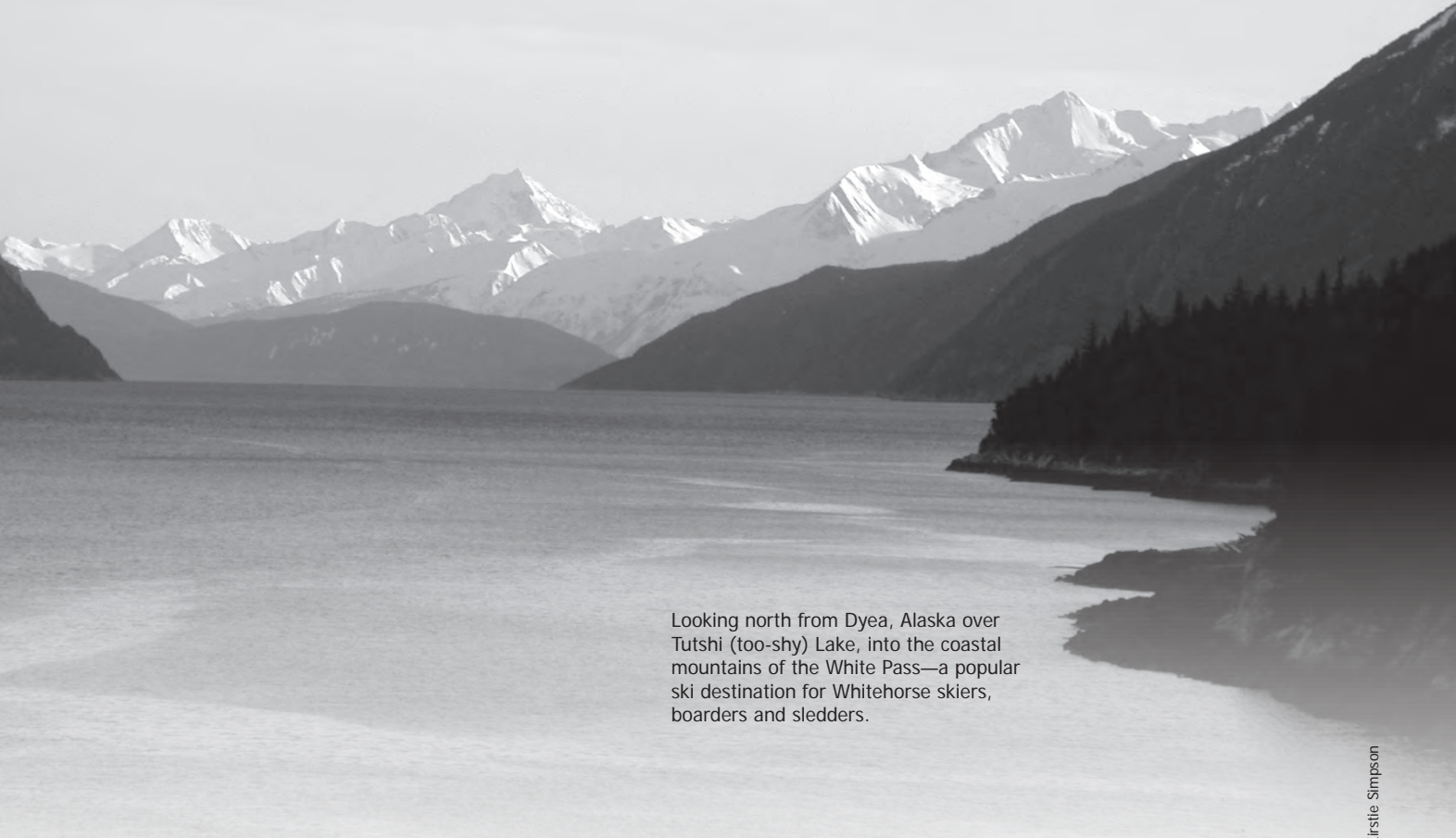
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Looking north from Dyea, Alaska over Tutshi (too-shy) Lake, into the coastal mountains of the White Pass—a popular ski destination for Whitehorse skiers, boarders and sledders.

Kirstie Simpson

The Yukon Avalanche Association

Canada's first "North of 60" avalanche organization forms in Whitehorse

By Kirstie Simpson

Some of the best backcountry skiing, boarding and sledding in the world can be found out the back doors of Yukon residents. Every spring, mountaineers from all over the world ski up the flanks of the highest mountain in Canada, Mt Logan, as well as other equally impressive peaks in the St. Elias Range. Skiers and sledders flock to the coastal passes accessible from Whitehorse and Haines Junction to enjoy the cold powder supported by our long cold winters. National cross-country ski team members take advantage of both our early and late snow to train on the flats in our big U-shaped high elevation valleys, and a keen backcountry skier can find a few turns any day of the year.

The past 20 years has seen an increased use of these areas, by locals and visitors alike. With that use, comes a growing problem and an increase in expectation that we should be following our fellow backcountry community in BC and Alberta towards the development of public avalanche safety programs. On March 18, 2010, the Yukon Avalanche Association (YAA) was formally incorporated. Hopefully, a new era of problem solving has begun.

The first AGM of the YAA was held on May 25, and a board of directors was elected. An important principle for the board is that it is a representative board. This means the backcountry community as a whole—sledders and skiers alike—are represented on the board as are professionals, recreationalists, and government.

The other important principle of the YAA is a continuation of the strong and fruitful relationship already established between Yukoners and the CAC. The CAC has been generous in its support of us collectively as a community and as individuals striving to provide avalanche services in the Yukon. CAA backcountry avalanche workshops in 2008 and 2009 had well over 150 people in attendance, not bad given the population of the territory. The turnout at community avalanche events run through the Yukon Science Institute, in connection with other ski events and at Avalanche Awareness Days, has shown that Yukoners are hungry for information. The CAC has been instrumental in many of these initiatives and has put in a lot of "off the side of the desk" help as the need for avalanche warnings have arisen and incidents have occurred.

In part, it is that reliance on the CAC that has given us the friendly shove towards a certain amount of self-sufficiency up here. We cannot continue to grow our needs for public avalanche safety programs without taking on the responsibility ourselves. We cannot continue to rely on a publically funded organization such as the CAC without providing something back in return. A stand-alone association will allow us to become a partner with organizations both in the Yukon and outside. As well, we can now seek the funding needed to establish Yukon-specific programs, and to help move Yukon needs onto the centre of the desk at the CAC.

While this is all very exciting, it is also a bit daunting. Expectations can be scary things. The service quality of the CAC will be a hard act to follow as we take our first steps forward towards the first “north of 60” avalanche organization in Canada.



Kirstie Simpson is a biologist and avalanche educator who lives in Whitehorse. She has been a CARDA dog handler for 20 years and last year, she won a CAC Service Award for her work in public avalanche safety.

Kirstie Simpson collection

READING MONTY ATWATER

The inventor of the Avalauncher was also an accomplished author
By John Brennan

For well over a half a century, Monty Atwater has been recognized as a pioneer in the field of avalanche safety, mitigation and education in North America. What the casual observer may overlook though, is that Atwater was a prolific writer of both fiction and non-fiction books. As this year marks the 50th anniversary of Atwater’s key involvement with the avalanche control for Squaw Valley’s 1960 Olympics (not to mention this year’s ISSW at the same location) I felt I had to elaborate on his literary achievements.

Atwater graduated from Harvard in 1926 with a degree in English Literature. A chronological list of his books can be seen in the sidebar. Besides his books, there are an almost innumerable number of articles that Atwater also published. What I find particularly interesting is the number of fiction books that he wrote during his career as an avalanche specialist. His fiction writings delve into outdoor specialties such as forest fire fighters, snow rangers and ranging cattlemen—trades that Atwater not only knew well but also lived at various times.

While all of these books hold interest for Atwater devotees, some are particularly tricky, if not pricy to track down. While most Atwater books can be found through rare book web sites such as Biblio for under \$30, I paid almost ten times that for the Flaming Forest. Fortunately I picked up almost exactly that amount for writing a piece on Atwater for an industry periodical—it was destiny!

My final and most lengthy search was for the 1949 Alta Avalanche Studies—the precursor to the 1953 Avalanche Handbook (a piece of work that has been updated periodically to the present time). When I tracked down the piece in the National Agricultural Library they found the manuscript significant enough to warrant digitizing it and making it available for all. Feel free to contact me for help in your quest to find these works. Happy reading!

>>John Brennan is a patroller at Snowmass Ski Area in Colorado and a self-proclaimed Monty Atwater fan. He can be reached at jb@avalanchemitigationservices.com



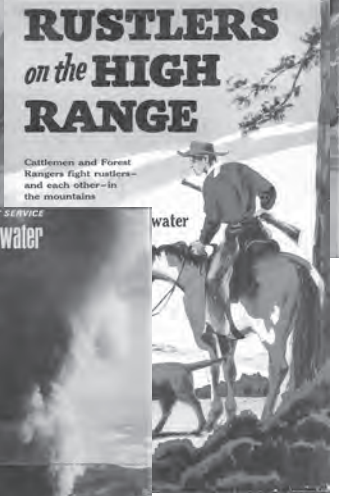
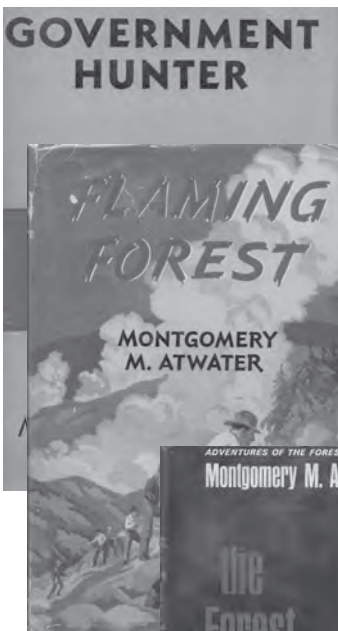
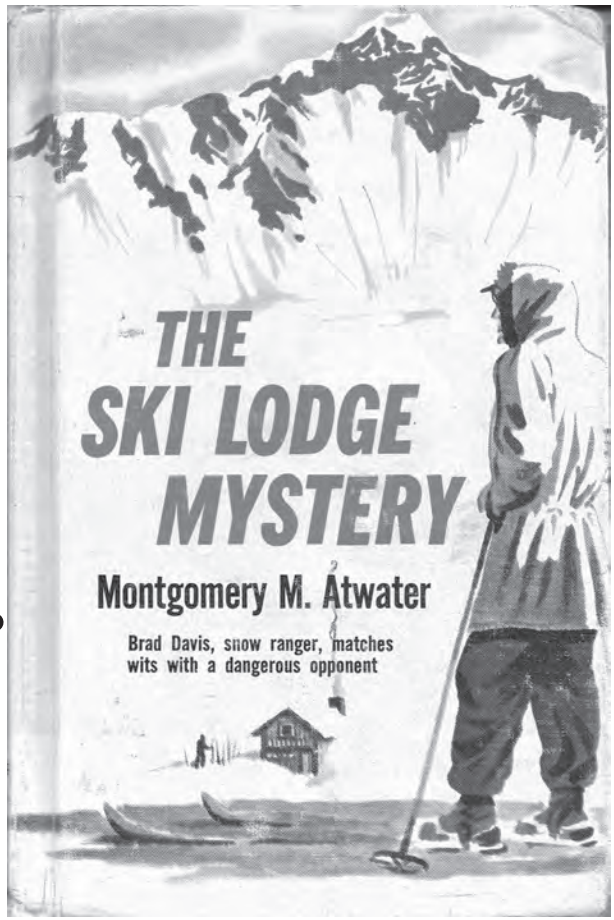
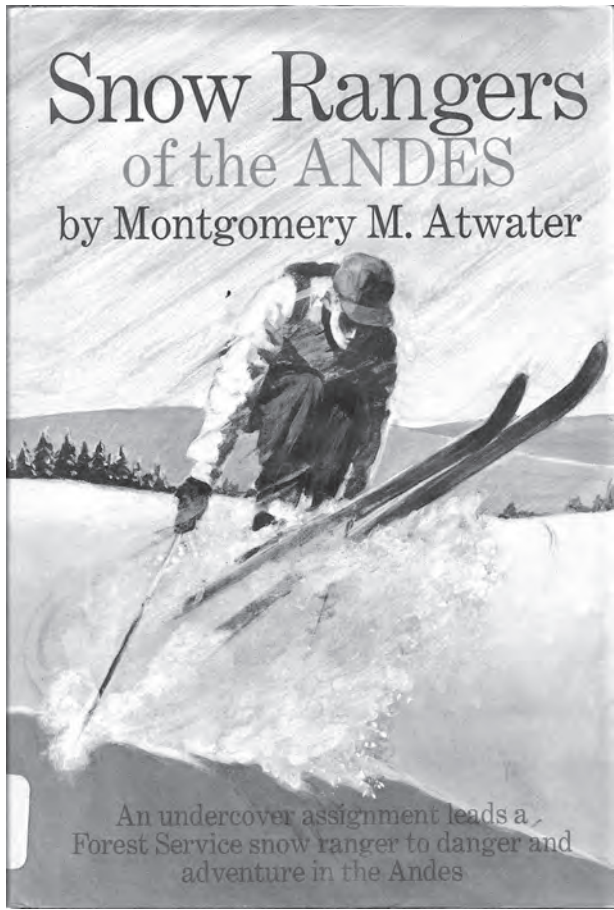
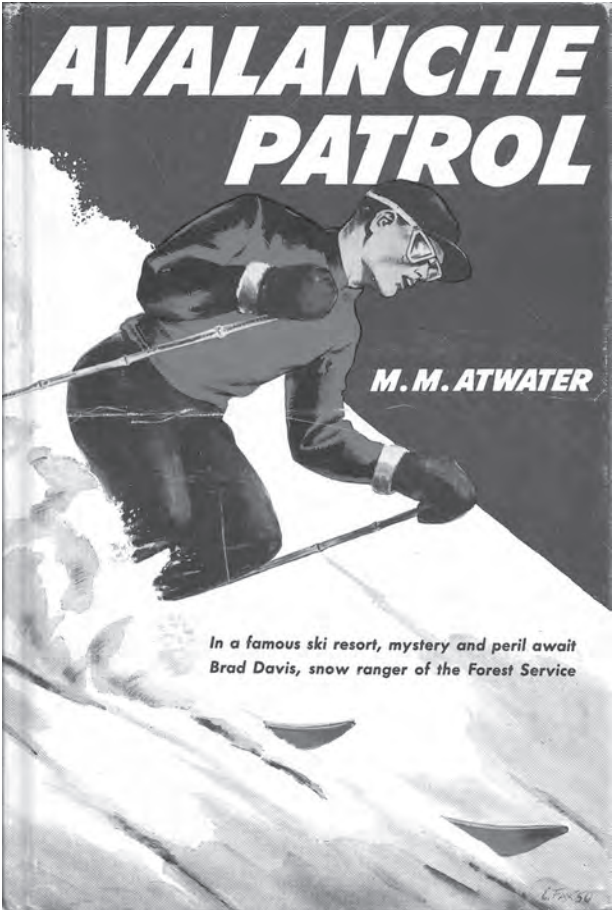
Monty Atwater’s Library:

Non-Fiction

- *Ski with Sverre: Deep Snow and Packed Slope Ski Technique* (1947, with Sverre Engen)
- *Alta Avalanche Studies* (1949)
- *Avalanche Handbook* (1953)
- *The Avalanche Hunters* (1968)

Fiction

- *Government Hunter* (1940)
- *Flaming Forest* (1941)
- *Ski Patrol* (1943)
- *Hank Winton: Smokechaser* (1947)
- *Smoke Patrol* (1949)
- *Rustlers on the High Range* (1952)
- *Cattle Dog* (1954)
- *The Trouble Hunters* (1956)
- *The Ski Lodge Mystery* (1959)
- *Snow Rangers of the Andes* (1967)
- *The Forest Rangers* (1969)



Schedule of Coming Events

Oct 3 – 4, 2010

HeliCat Canada Fall General Meeting

Where: The Hillcrest Hotel, Revelstoke, BC (dates to be confirmed)

Info: Call (250) 542-9021 or e-mail info@helicatcanada.com

Oct 4 – 6, Oct 13 – 15, 2010

Canada West Ski Areas Association Zone Meetings and Safety & Risk Management Seminars

AB, SK & MB Zone, Oct 4 – 6

Where: Canyon Ski Area, Red Deer AB

BC & YT Zone, Oct 13 – 15

Where: Silver Star Club Resort, Silver Star Mountain, BC

Info: Call (250) 542-9020 or e-mail office@cwsaa.org

October 5 – 10, 2010

ICAR 2010

The International Commission of Alpine Rescue is once again hosting an open forum to discuss ideas and share information on mountain rescue. ICAR represents 30 mountain-rescue organizations from Europe and North America.

Where: Vysoké Tatry, Slovakia

Info: www.ikar-cisa2010.org

October 14 – 16, 2010

Wilderness Risk Manager's Conference

This annual conference focuses on risk management and practical skills for the wilderness adventure and education industry

Where: Colorado Springs, Colorado

Info: www.nols.edu/srmc

October 17 – 22, 2010

International Snow Science Workshop 2010

Join a wide range of snow scientists and avalanche practitioners at this biennial international conference celebrating "A Merger of Theory and Practice."

Where: Squaw Valley, California

Info: www.issw2010.com

What is Compaction?

A Rockies veteran shares some wisdom on how to handle the unique challenges of a Continental snowpack.

By Richard "Rocket" Miller



Chris Moseley

This past winter in January, around Avalanche Awareness Days, I received a text from my good buddy Dave Iles, a comrade of the continental snowpack and a Lake Louise Forecasting Forefather. "You hear about Big Wally?" I replied, "No." He came back with something that hit me hard: "He died in an avalanche, on the job."

This year, Big Wally's workplace at Jackson Hole has more or less the same snowpack as ours at Lake Louise, perhaps with a little more load stressing the weak layers. You can still read the report of this accident on avalanche.org, (20100106). I was saddened by the news, feeling for all those involved and for Big Wally's family and friends. Dave and I had shared a jar or two with Big Wally at a party in Telluride back in 1994, and I skied with him in 2000 at Jackson Hole.

But the news also hit me in an operational sense, as we continued our efforts to open terrain at Lake Louise Ski Area. In

typical fashion, we were beating the heck out of the slopes until we were comfortable enough to let the public have at them. My question to myself was: "Are we being thorough enough?" For ourselves first, and for those who would follow.

Preparing slopes for public use in the Rockies requires artificial stabilization—compaction. Our typical snowpack is characterized by deep persistent weak layers, crusts, facets, and their big brother, depth hoar. As early as we possibly can get into the terrain, we get in. Timing is everything. Sometimes Mother Nature presents an opportunity that allows ski compaction without explosives but the norm may as well be: "Let explosives tell us a tale or two first." Gain enough confidence to make that first ski cut, then more and more and more and more.

It weighs heavy on a forecaster supervisor—worker safety, public safety, a ski area's reputation, my own reputation. There

“It weighs heavy on a forecaster supervisor—worker safety, public safety, a ski area’s reputation, my own reputation.”

are so many variables. What layers exist already—crusts, DH, facets, new snow? Notice the absence of settled snow (wouldn't that be nice!)? How will the weather play out? A cold snap will kill your efforts and return that age-hardened snow back to weak facets. A little help from Mother Nature is truly appreciated and frequent light snowfalls allow us the best opportunity to keep up. Luckily the Rockies only produce light snowfalls; frequency is the issue (yuk yuk yuk).

Providing snow compaction to any given piece of avalanche terrain is tough work. Reading the archived materials left here by the area's forefathers will tell anyone the job is not for the weak at heart. Those first ski cuts are often on thin snow cover and rugged ground cover. Days are long and the calories burn as fast as det cord. We recommend a high level of fitness when you show up for work in the fall, and a plethora of CMH Volk Explosives or the equivalent.

There are times when the entire early-season snowfall avalanches on a particular slope and we are forced to start again. As the season unfolds and our snowpack continues on its merry way, producing basal facets even in compacted terrain, we reconsider all this again in the spring as the temperatures reach zero.

We have come to know that skiers and riders in the Bow Valley have a high tolerance for early season conditions. They are in the ride-able lines as soon as they emerge in November-December. Perhaps that sort of acceptance of marginal conditions isn't the same elsewhere in the ski hill world. Minus 20, a few rocks? No big deal, dude!

So, at what point can we let the public help us out? They can be a big help, providing more compaction than the six guys on our control team but there needs to be some reasonable lines to ride and rescue efforts can't be compromised. We also know they will go everywhere and will likely hit every trigger point. If there remains even a little uncertainty, we may try a Hershey's Kiss (better known as ANFO) which simulates the heavy load of a group of skiers. Good for the big picture but doesn't help us in the micro-terrain.

At the ISSW in Whistler, a comrade of the continental snowpack south of the border gave a presentation on "carpet bombing" for effective snow stabilization. Take a slope, and place hand charges on an evenly spaced grid pattern, kind of like what graph paper looks like. I have no doubts of the effectiveness of this technique, as the explosives would interrupt slab uniformity and provide a measure of compaction. However I do have doubts of passing the explosives budget past my superiors. Besides, this is not the wisdom passed down to me by the Forecasting Forefathers of Lake Louise. Don't get me wrong, sometimes a slope does look like Dunkirk when we finally get into it on skis, but this is not always the case.

Compaction is a word to live by at ski hills in the Rockies. Without it, we're dead in the water, so to speak. If I had to summarize, I'd say compaction needs to be thorough, like putting your campfire out!

Richard "Rocket" Miller has been working on the ski patrol at The Lake Louise Ski Area for 22 seasons, 16 of those on the avalanche control team. His collected wisdom comes from having worked under the likes of Clair Israelson, Will Devlin, Mark Klassen, Todd Nunn, Dave Iles and, of course, the result of many days afield. Rocket instructs with the CAA's Industry Training Program and is on the CAA Membership Committee.



Chris Moseley

How to Prepare for Your Next Course

Some thoughts on setting yourself up to perform at your best on a mountain skills course

By Bill Mark

Here are some personal observations and opinions that I thought worth sharing from my experience as both a candidate/participant and as an instructor on CAA and CSGA guides courses. The first and probably most important is this: be prepared! I like to think of it as the 6 Ps: Prior Planning Prevents Piss Poor Performance.

Be prepared, practice and train well ahead of the course. Get a training buddy and make a regular schedule. Ideally it is someone who is going to the same course so there is some additional motivation. It might be someone who is training for a lower or higher level course. That's OK too, as the sharing of information will help. Often more experienced folks like to participate and assist, (see mentorship below).

Make sure you are training on the right things, to the right standard for the course you are about to take. Find out exactly what is required, in terms of standards and course objectives. Talk to someone who has just taken (and ideally passed) the course, or talk to a current instructor (one who has worked in

the last 12 months). Find out who you need to talk to ensure you are training to the correct standard and methods or techniques for that course.

Certain organizations have certain standard ways (techniques) of doing things. Be it the CAA, CSGA or ACMG, find out and learn those standard systems. Practice and perform this method so you can do it in your sleep, then perform during the course and, most importantly, on the exam. This is especially relevant for hard skills such as rope systems.

Even the best prepared person might get corrected or shown a different way by an instructor when performing the skill in a non-exam setting. Don't be defensive or make excuses; you've been given a gift on how you can pass the course, so shut up and listen. Listen, observe and make that correction when you perform the skill next time.

Yes, I know your way might be a way better tool, you might be quicker or more efficient, but by doing it the way the organization and instructors want it done, you increase the chance you'll pass. If you really hate the method, once you've

A CAA Level 2 in the Quartz Creek area, with a size 2 in the background.



passed the course you can volunteer to be on the standards or technical committee—then you can contribute to the change. Different methods often achieve the same goal but on a course, do what the examiner wants. It will help you pass. Examiners want you to pass.

Get a mentor early. If you know you are going on a course, find someone (or a few folks) you can talk to. It is worth finding someone with whom you can share your mistakes and be open. You may want to debrief your day of work in the mountains from time to time, especially after significant events.

Don't wait until the month before the course; start the season before. Mentors are a great way to become a better mountain professional, and to successfully pass courses. Experience has shown that those who find experienced mentors often perform better at courses (and make better decisions). You may have a number of mentors on different topics. They can be at your workplace, in your home town or on the phone. Try using your spouse as a sounding board.

Take the opportunity to look at your work day in the mountains and reflect on what you did well and what you might have done better. For some, making notes helps. During the CAA L2 Module 1 program, students are urged to use learning journals; this works for some and not others. The key is to think and learn on a daily basis. Debrief your day with others.

On an exam there are often rote skills you will need to perform to a standard, such as transceiver tests, snow observations, profiles and crevasse or rope rescue skills. You need to make time to practice and have these hard skills wired before the course starts. There is nothing more frustrating for the instructor team than to see someone flailing on a transceiver test because they just got a new device and have not practiced adequately on it. Once on the course, you can spend your valuable time and energy on learning, watching and refining the "soft skills" like mountain travel, awareness and

the elusive "mountain sense."

While I'm on the subject of mountain sense, I have some thoughts on this age-old question for both candidates and instructors: How can you demonstrate mountain sense as a student, and how can you mark it as an instructor? It's my opinion that you can go some way towards learning it through mentorship and experience, but I strongly believe that it's in a similar vein to music. You can teach anyone to play the guitar but you need an innate ability to be really good at it, no matter how hard you practice or how much you're coached.

If you know you are going on a course, look at all your gear—from skis, bindings and skins, snow safety gear, rescue equipment, even your clothing. Does anything look close to being worn out, do you have any pieces missing, does anything need replacing before the course? If so, replace it and familiarize yourself with it. Break in those new touring boots before well before the course.

Where is the exam being conducted? Is it in your back yard, or is it in a different snow pack and climate zone? No matter where the course is, it's always good to broaden your experience by taking a trip away to train in other areas. Travel in terrain and snowpacks you are not familiar with.

Arrive a few days early near the course venue so you can learn more. Find out what you can from the locals about the weather, snow and terrain, then take a day or two to get in the field and see for yourself.

If you don't have the benefit of training buddies or mentors close by, think about hiring an instructor from the program you are taking. If you know some others taking the course, get a group together to reduce cost. Have a list of questions that you want answered so you get the best value for your day out.

This is by no means an exhaustive list, just a few ideas, but above all: be prepared, train and practice. This is the personal opinion of the author and not of any organization such as the CAA or CSGA.



Bill Mark has been working in the winter skiing and snow safety business since the mid-eighties. He began his career as a ski patroller in New Zealand, then at Blackcomb Mountain where he was the Ski Patrol Director until 1999. Since then he works full-time as a ski guide for Mike Wiegele Helicopter Skiing where he is now a lead guide. Bill recently attended the Beta CAA L3 course. He is a CSGA L3 certified guide and an internationally certified ski instructor. He also instructs on the CAA's ITP L1 & 2 programs and on Canadian Ski Guide Association Guides courses.

Bill Mark collection

Who's Got Your Back?

Choosing a partner for a backcountry adventure is about more than finding someone who can keep up—it's about trust

By Renata Lewis-Arnott



Troy Grant

Let's say you are about to take off your skins after a grueling four-hour ascent, and ski your favorite line with your best ski buddy—the one who insists that he always goes first on those 30cm powder days. Or how about this: it's your third week in a row of guiding clients, and the helicopter just dropped you all off on top of "Frog in a Blender" (your favorite run, ever). What if you were a ski patroller: it's 5pm, Joey hasn't shown up at the lodge to meet his parents after skiing today, and you and Dave are asked to go do another sweep in a blizzard?

These are pretty "routine" situations. No big deal—when things go right. But what happens if something goes wrong? Injuries, getting lost in a snowstorm, avalanche involvements (apparently being late for après-ski also fits into this category)—these are only a sampling of what can turn a remarkable day into a memorable day (and not for the better). When placing ourselves in such situations, it is vital to be aware of our own and others' abilities to deal when things don't go according to plan.

As an avalanche professional, there are a few key questions you should ask yourself before heading out: if something goes wrong, can your partners trust you to help them? And if you are the one in trouble, can you trust them to help you, or even potentially save your life?

It somehow feels selfish or condescending to ask, but knowing who has your back, and how well they have it, could be just as important as a first aid kit, a cell phone or radio, or all the professional training courses you've ever taken. In other words, you may have the means, but not the way. Think about it—what use is that first aid kit if your partner doesn't know anything about first aid (especially if you didn't know that about them)? What if you trusted that they always carried a first aid kit, when yours is buried in the avalanche, your arm is severely broken, and they just told you they didn't bring one? Knowing how well prepared your partner (and you) is to deal with an emergency situation is among the best things to have in your "backpack."

If you really think about it, so much of our day involves trusting others, and having them trust us. In fact, most decisions are based on trust. I trust that my snow pit showed me fairly typical results for the area I am about to ski. My ski buddy trusts that I know how to dig and interpret a proper snow pack analysis, and that when I say "it looks pretty good," it really is. We trust that if

one of us did get caught in an avalanche, the others would be able to dig them out quickly and do the necessary immediate steps to start breathing, stop the bleeding, or keep warm and get help. He trusts that if he is the one digging me out, I owe him a cold Tall Timber Ale, times, like...a thousand.

What happens when what you believe, what you trust, doesn't happen or isn't true? Many critical or fatal decisions, when looked back on in retrospect, have been rooted in bad or blind trust. It's a domino effect—one bad decision leading to the next. The examples are endless, but just from last season alone I can think of several that ended up catastrophically. Meeting someone on a chairlift for the first time and going out of bounds touring together ("he looked like he knew what he was doing, so I went with him"). Thinking that a snowmobile can outrun a large avalanche ("If I see it coming, I'll just turn the machine and giv'er"). Assuming that everyone in the group knows how to use their beacon efficiently, just because they own one (a very common misconception). Thinking that just because you have been here a hundred times before, today it won't happen to you.

So, have you thought about how you play your own trust game while you are in avalanche or wilderness terrain? Next time, just stop for one moment and answer the above questions before going out in the snow. Paying careful attention to who and what you trust and making decisions based on reality, is a necessity. Trust me.

>>Renata Lewis-Arnott is a Revelstoke-based physician, mom and all-round wicked skier who can be trusted.

“Knowing who has your back could be just as important as all the professional training courses you’ve ever taken.”



March 5, 2010: Although the guide had just skied a line to the left of the photo a short time prior, this vehicle-controlled size 2 (the snow-cat road is on the crest of the moraine) failed on the Feb 8 SH, stepping down in some spots to the Jan 30 SH.

PLAYING BATTLESHIP

DOING BATTLE WITH BURIED SURFACE HOAR CALLS FOR SOME INNOVATIONS IN STRATEGY; HERE ARE SOME IDEAS TO GET US STARTED!

By Scott Davis

I am not sure who remembers that childhood game called “ Battleship.” It’s a game where you call out letter/number combinations, hoping they correspond with a square on your opponent’s grid that contains one of their battleships—it is basically a hit-or-miss kind of thing. I am reminded of this game every time I trounce around in terrain with a buried surface hoar layer that I never observed while it stood proud in the light of day.

You know it always seemed it would be easier to win at Battleship if you could somehow get a peek at your opponent’s layout before you started, but of course that would be cheating! I suggest the same is true for us “avalanche poodles.” Remember, this is a game we all want to win, even if we cheat a little bit.

Canadian avalanche professionals are pretty good at recording to standards and disseminating endless streams of information and data, and we should congratulate ourselves for that. But we also need to acknowledge how lame we are at tracking and mapping surface hoar in a meaningful and useful way.

Currently, to the best of my knowledge, this is the state of affairs. Observations of surface hoar formation are noted in personal field books, perhaps commented on in the InfoEx snowpack summary (amongst all those endless CT results), recorded as the surface form in the weather plot observations and seasonal time profile (if you have one). Perhaps you put a bright red line on the time profile when they are buried. But where exactly are they buried?

After the layer is buried, we cast about doing pinpoint sample-sized snow profiles, always with that niggling thought in the back of our mind: is this truly a representative site? It is hardly a thorough approach to tracking and communicating what is obviously a pretty big question, when it comes to risk management of these PWLs. I bet we can do better, and I hope this gets some of those really smart people thinking of ways to do just this.

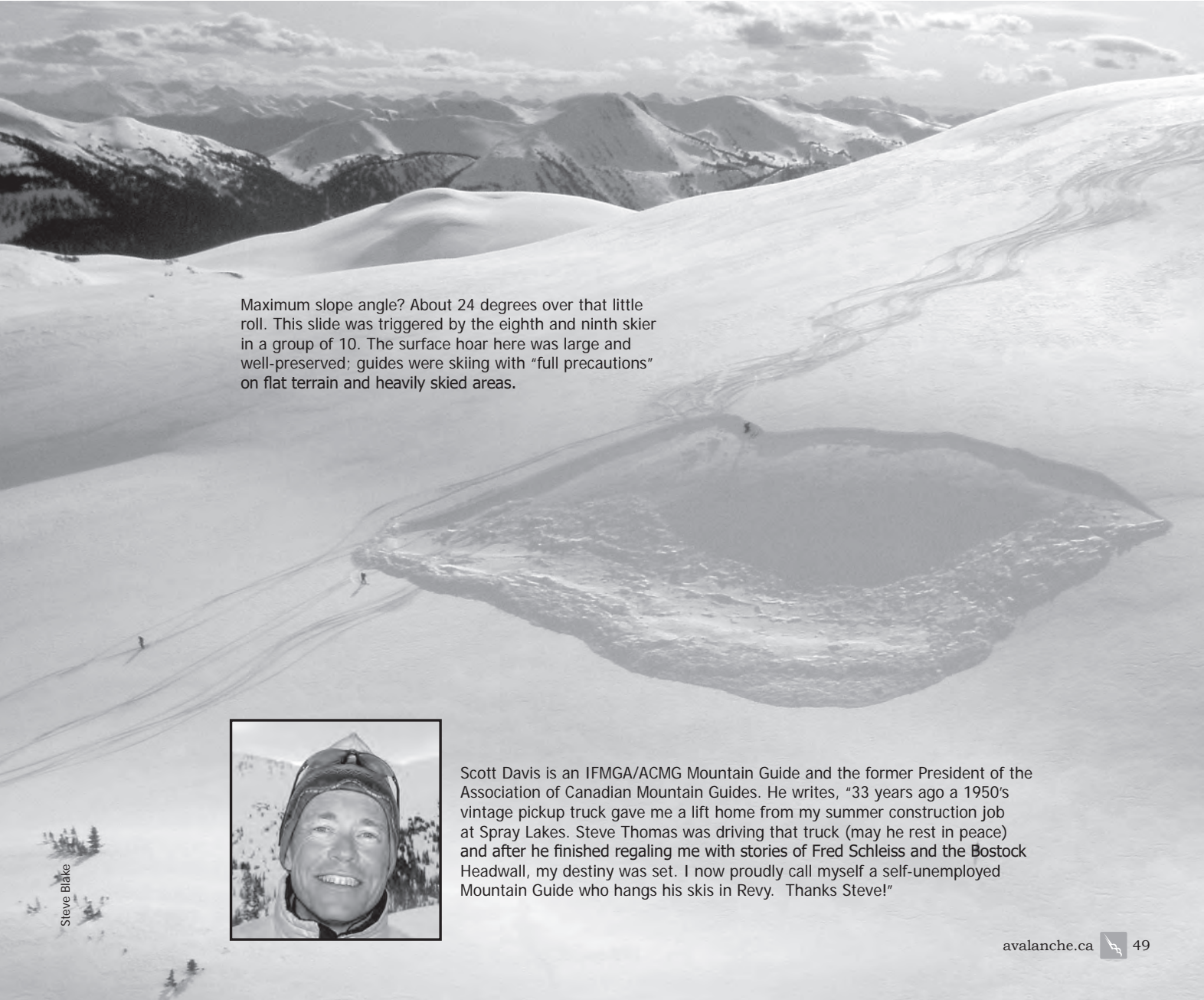
I suggest we start with the following simple changes: better note-taking that accounts for distribution, size and terrain, and accurately describes what we saw in the field. Maybe we should spend a bit more time on this and less on non-critical temp and wind observations? It all has to start with field observations.

With this data, we can start mapping these daily observations on a large, small-scale map with a clear plastic overlay. This overlay allows you to draw observation boundaries, noting within that polygon the date, the observer, and the size and character of the crystals in a pen colour specific to that layer. Once the surface hoar is hidden, this allows someone coming on shift a quick glance of some pretty useful info.

I had a situation this season where I had noted some isolated surface hoar at a ridge crest in early December. Later, another guide triggered that same isolated pocket and went for a ride. Yes, it had been noted during guides meetings etc., but that critical piece of surface hoar distribution was lost in the fog of time, and the forest of info we thrash through on a regular basis. We need to go graphic on this one—the key being that it must be quick and easy to do, as we all have enough data to cope with already.

InfoEx summaries could also be more descriptive, or at least more accurately descriptive. My pet peeve is reading the usual: “Observed SH to 25mm.” What the heck does that mean? Was that the stuff at the creek bottom pickup, was it widespread, was it isolated, if so where and why, and what percentage of the surface hoar is 25mm? We can do a way better job on that one too. How about something like this: “Observed isolated SH on N and NE aspects between 1800-1500m, 80% 2-3mm, 20% 10mm (limited to valley bottoms).”

We all know this is important, and know how vulnerable we feel when making a call without a clue where those striated battleships are lurking. Better mapping and communication techniques would, at the least, give us a peek—even if it is cheating a bit!



Maximum slope angle? About 24 degrees over that little roll. This slide was triggered by the eighth and ninth skier in a group of 10. The surface hoar here was large and well-preserved; guides were skiing with “full precautions” on flat terrain and heavily skied areas.



Scott Davis is an IFMGA/ACMG Mountain Guide and the former President of the Association of Canadian Mountain Guides. He writes, “33 years ago a 1950’s vintage pickup truck gave me a lift home from my summer construction job at Spray Lakes. Steve Thomas was driving that truck (may he rest in peace) and after he finished regaling me with stories of Fred Schleiss and the Bostock Headwall, my destiny was set. I now proudly call myself a self-unemployed Mountain Guide who hangs his skis in Revy. Thanks Steve!”

Steve Blake

Transitions

Phil Hein President



The name of the new President of the CAA and CAC will be very familiar to members. Phil Hein has been actively involved in avalanche safety, education, standards and training for close to 30 years. His influence on the CAA and CAC is wide-reaching and longstanding.

To say Phil has mountain cred is an understatement. Raised in Yoho Park where his parents ran the Cathedral Mountain Chalets, he was a four-year-old helper to his dad at the freshly cut Lake Louise ski area in 1962. “Lift operators knew that they could launch me a good 30 metres through the air on the original Eagle Poma lift, by holding back the platter until take-off,” he recalls. “The original ski-out from Whitehorn lodge was a bit of an expedition for wooden bases with no edges and short legs.”

Mountains were in his blood. Growing up in the family mountain-lodging business in the early 60s, he helped load sleds with fuel and supplies for Hans Gmoser and Leo Grillmair’s fledgling guiding operation. In 1977, he began full-time work in the winter ski industry at Lake Louise and by 1981 he had become a fully-certified Mountain Guide.

Phil’s guiding career began in 1979 with CMH, where “the learning curve was extreme, like the skiing. Sepp Renner and Colani Bezzola were the lead training gurus and by January the new Canadian guide recruits were knee deep, or deeper, in powder country. I was forced quickly to swim, or sink.”

Phil spent seven “very educational seasons” with CMH, guiding from the Bugaboos to the Cariboos. He then moved on to help develop the newly created Kootenay Heliskiing. He has lived near Golden since 1981, where he and his wife Leslie have raised their two children, Jordan and Sarah.

In 1988, Phil and a partner established Mistaya Lodge and Alpine Tours north of Golden. In the early 1990s he was consulted for a number of BC Government land-use study projects, forestry avalanche control and planning, and by several clients looking to establish new commercial backcountry recreation operations. In 1993 he sold his interest in Mistaya Lodge, and in 1996 he took on the part-time role as CAA Training Schools Program Coordinator, while maintaining his independent guiding and avalanche consulting work.

He stepped down from the CAA Training Schools (now ITP) in 2002, and in 2005 established Ava Terra Services Inc with partner Jim Bay in Revelstoke, while developing a comprehensive operational avalanche program for Canadian Pacific. More recently, Jim and Phil purchased the distributorship for the Gazex and associated avalanche control products manufactured by the French technology company TAS, and operate now as AvaTek Mountain Systems Inc.

When asked about his passions, the answer is simple: “Life, love and good wine.” Looking forward to his new position, he points first to the members. “The people who all work in this community are enthusiastic, committed and passionate. When we all participate, our work is remarkable.”

Steve Brushey

Secretary Treasurer

Steve Brushey is the Supervisor of the Northwest Avalanche Program for BC's Ministry of Transportation and Infrastructure. Based in Terrace, Steve brings some "northern flavour" to the Boards of the CAA and CAC, along with his extensive operational experience. He also has a strong background in forestry, having worked in that industry for 18 years.

Steve was born on Québec's Gaspé Peninsula and was skiing from the age of five. His first ski tours were in the Chic Choc Range and when he moved to Terrace in 1989, he brought that love of wild places with him. "Skiing is my biggest passion followed closely by extended river trips," he explains. "I am a board member of a local backcountry society in Terrace that advocates responsible backcountry skiing and manages local backcountry huts. I also love spending time in the northern part of BC, the Yukon and Northwest Territories."

Steve is also an AST provider for the CAC and also works for the Justice Institute of BC, where he teaches Organized Avalanche Response courses to Search and Rescue volunteers. He recalls how impressed he was when he first joined the CAA as an Affiliate Member. "The mission and vision of both the CAA and CAC represent ideals and values that I feel are important," he explains. "I want to be part of both these organizations. These are interesting times in the avalanche world, and I have a lot of energy and drive to take on this position. I look forward to the various challenges along the way."



Steve Brushey collection

Aaron Beardmore

Director for Associate Members

Aaron is an IFMGA/ACMG Mountain Guide who grew up in Revelstoke where his father was the Superintendent of Glacier and Mt. Revelstoke National Parks. Active in the mountains from a very young age, Aaron says, “Revelstoke is where it all started for me.”

Aaron has been working as a guide since 2000 and has a diploma in Adventure Travel from Thompson Rivers University. He currently lives in Canmore and since 2007 he’s been with Parks Canada as a Visitor Safety Specialist. He’s also an avid cyclist but says his primary interests are still climbing and skiing. “I hope that never changes. I love being out there every day. In particular I try to create opportunities for myself to go to places and mountain ranges I have never been before.”

As a new member of the CAA and CAC Boards, Aaron says he’s looking forward to working with a large cross-section of the avalanche industry. He adds, “It is exciting to be working with the CAA when things are very dynamic in the industry.”



Aaron Beardmore collection

It’s with a heavy heart that we say goodbye to Steve Blake and John Hetherington, who have each reached their limit for time on the board and stepped down at the 2010 Spring Meeting. Steve and John both came to the board in 2004. Steve spent a year as Treasurer, and has been President of the CAA and CAC since 2005. John became President in 2004, and took on the role of Treasurer in 2005. Many thanks to both of them for their hard work and dedication to the CAA and CAC.



Mary Clayton

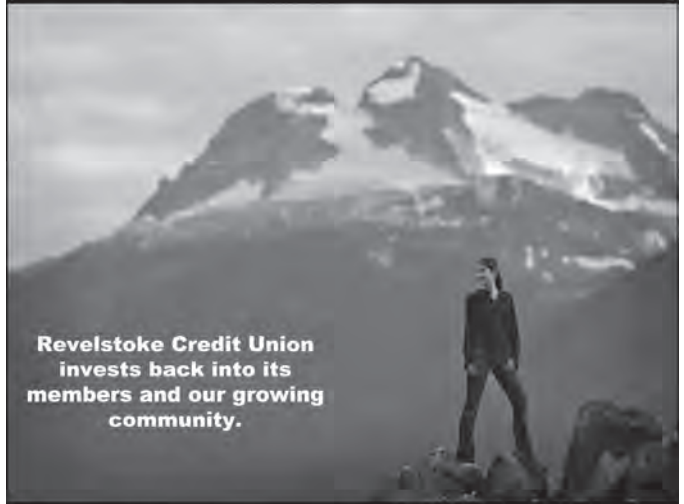
Dan McLellan collection



Thank you to Dan McLellan, who has stepped down as CAA Director for Associate Members. Dan held that position for two years, and was a valued member of the Board of Directors. Thanks for your contribution Dan!

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