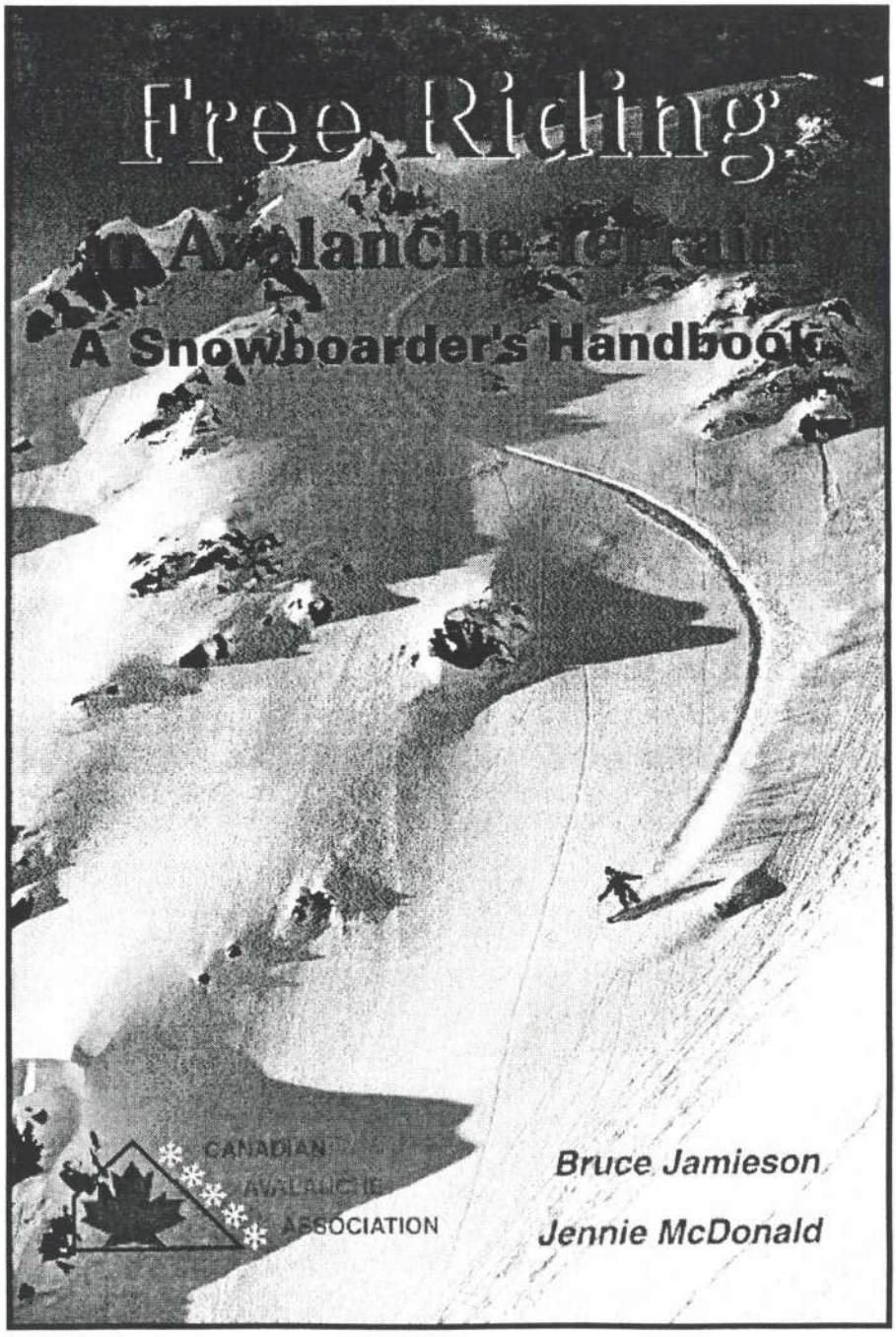
CANADIAN AVALANCHE ASSOCIATION

Avalanche News

Fall 1999 Volume 59



Avalanche News

Fall Issue **Volume 59**

Message from the President

If there is no rest for the wicked than we must be. Much is happening with the CAA.

The Bruce Jamieson/ Jennie McDonald "Free Riding in Avalanche Terrain" book has just been released. This excellent publication is directed toward the newest winter sport enthusiasts who, unfortunately, are also becoming the latest avalanche statistic group.

Our Snowsmart initiative, to be done in partnership with the CSPS, Parks Canada and The Smart Risk Foundation, has been given funding by the NSS to the tune of $1.1 million. This is our chance to make a significant contribution to public safety by influencing decision-making habits of Canada's youth.

The Canadian Avalanche Foundation has been given its Charitable Tax Number. This obviously opens numerous options for the Foundation in terms of funding sources. It gives the public a conduit to funnel their donations to general or specific avalanche related projects. For the CAA and its members it presents a body to which we can apply for funding for those projects outside other agency's mandates.

Clair Israelson and our VP, Diny Harrison recently attended the Sarscene conference in St. Johns, Newfoundland, to further the cause of the Eastern Canada Avalanche Project and the CAA. They and their message were very well received and interest in the CAA and our mandate of avalanche safety is growing. Further courses are planned for this winter in Newfoundland and requests for training in Quebec are now being entertained.

It has also become evident that there is a need for Avalanche search and rescue training outside our immediate circle of associates. A debate is presently raging within the association as to the value of developing a specific Search and Rescue course. Let us know what you think.

The committee of John Tweedy, Terry Willis, John Heatherington and Evan Manners has been endeavoring to come to an agreement on how the members of the CAA can assist the Provincial Emergency Program. All indications are that the policies and procedures clearly outlining expectations and responsibilities will be in place for the next winter.

As you may be aware the Explosives Committee's efforts have paid off with an assured source of reliable safety fuse now in place. The same company who produces that fuse has also stepped in to supply Avalauncher rounds as well as other explosive products.

Mike Boissonneault and I traveled down to Vancouver, Washington in September to attend the International Society of Explosive Engineers Regulatory Conference. This was a special conference put on by the ISEE to bring American regulators, users and manufacturers together to discuss common concerns. The panel discussion, which raised the greatest interest and debate, was the one addressing Explosive Avalanche Control. In brief, the regula-

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tions with regard to licens ing and use south of the line vary from none in some states to very good regulations in others.

With Paul Orr, of the WCB, we presented our procedures and a brief overview of how they were developed through the cooperation of the regulators, manufacturers and users. We then encouraged the creation of a standard set of North American education and use procedures. We presented this concept as a method of addressing the grave concerns among those present, regarding the use of explosives in avalanche control. As well as it may help eliminate the looming crisis in some states where programs are presently being forced, by manufacturers' recommendations, to operate illegally. I again presented this concept to the Directors of the Association of American Avalanche Professionals in Alta, Utah in October. The AAAP has realized the necessity of accident prevention through Explosive Avalanche Control Training and are planning to run some initial courses this winter. Although there are obstacles to standardize training and procedures there is common ground as well and we will continue with discussions. In regard to that issue, the Executive; in conjunction with the Educational Committee and the Explosives Committee have decided to proceed with the preliminary planning for an Explosive Avalanche Control course. Discussions with Paul Orr have indicated support, within the WCB, for this project with the desired end result being an inter-provincial certification.

During the Alta visit Richard and I also attended an Education seminar put on by the AAAP as a Continued Professional Development initiative for it's members. Two things were readily apparent. Our American compatriots hold our association and it's educational programs in very high regard. The second is that there are numerous providers of avalanche training in the states giving a wide variety of courses. This fall the AAAP has introduced guidelines for recreational avalanche courses. These are not standards but guidelines. The American avalanche scene, although having many intelligent and very competent people running excellent operations, has no national standards or certification. This and their love of independence make consistency in training much more difficult. Getting back to the CAA, we have submitted a proposal to the National Search and Rescue Secretariat for funding a redevelopment of the level 2 course. This is a major initiative which we are concerned is overdue. Cross your fingers on this one.

The funding for the Public Avalanche Bulletin looks better for this season and although the cash isn't in the bank yet, we are fairly optimistic about eliminating our seasonal deficit.

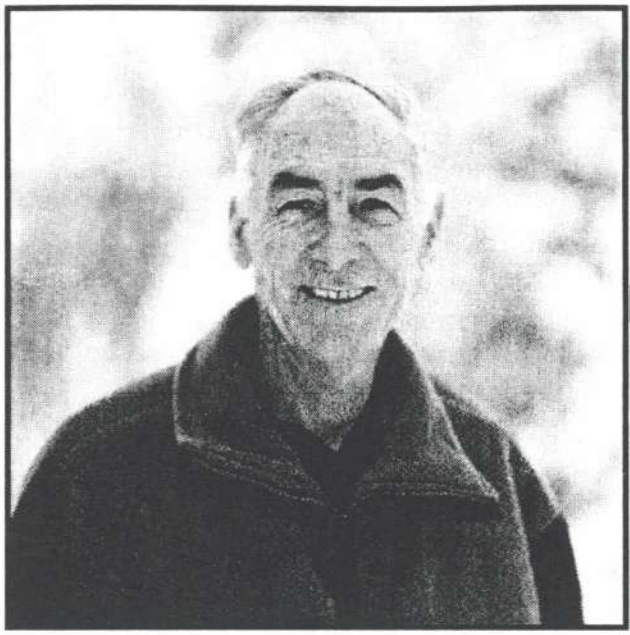
As I presented at the AGM one of our major endeavors of this fiscal season is to protect our financial resources from further depletion. Our staff have been very diligent in this regard and the present financial projections look reasonably good. I'll be one happy president if we finish my term in the black.

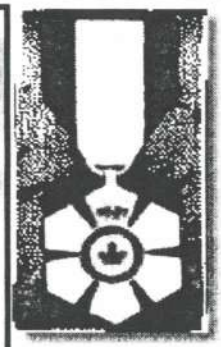
So, that was a not too brief overview of the main issues in which our association is involved. From my perspective it seems like a tiger ride, but it sure is a FUN tiger ride.

Have a safe winter,

Bruce Allen

The Order of Canada for Peter Schaerer





On April 15th, 1999, Peter Schaerer received the Order of Canada for his contribution to avalanche safety.

Peter's contribution to avalanche safety in Canada involves avalanche hazard evaluation and mitigation, avalanche research and avalanche education. Except for 1961-64 when he worked in Switzerland as a highways engineer, Peter has lived and worked in Canada since 1957.

Avalanche Safety for Highways

In 1957-60 while seconded to the Dept. of Public Works from the National Research Council, Peter Schaerer surveyed avalanche zones for the proposed Trans-Canada Highway through Rogers Pass. On the basis of this survey, he advised Public Works on the best location for the highway and for defence structures including the avalanche sheds. This resulted in a safe public highway–now heavily used–through the pass that had previously claimed the lives of over 200 people, including many railway workers. The placement of the avalanche sheds allows the highway to remain open to traffic except during major storms when closures are necessary for avalanche control.

Peter Schaerer was one of the major participants of the 1974/75 Avalanche Task Force which was created to identify and control avalanches which threaten facilities adjacent to highways in British Columbia. The Task Force was established as a result of an avalanche accident that killed seven people on January 22, 1974. The majority of the recommendations in the Task Force's report were implemented resulting in the establishment of a provincial Snow Avalanche Program for the Ministry of Transportation and Highways in British Columbia. Since his involvement with the Task Force, Mr. Schaerer has continually provided avalanche and engineering expertise for Highways projects in areas prone to snow avalanches. He has been a mentor to the avalanche professionals in the Snow Avalanche Programs and still supplies leadership to those developing avalanche hazard analysis and engineering skills for snow avalanche defences.

Avalanche Research

Peter's contribution to avalanche research includes over 90 papers, reports and book chapters! He has studied snow stability tests, avalanche impact forces for defence structures, models for predicting avalanche speeds and runout distances, avalanche accidents, avalanche zoning and snow

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loads for building design.

Avalanche Education

From the 1970's to the mid 1990's, Peter Schaerer was the senior instructor and co-ordinator of training courses for avalanche professionals. He wrote the original student course manual and training materials as well as leading the initiative to produce the 1981 and 1989 editions of the *Guidelines for Weather, Snowpack and Avalanche Observations* that has resulted in uniformly high standards for avalanche safety programs in Canada. Most avalanche forecasters, technicians and mountain guides have, at some stage of their career, been trained by and inspired by Peter.

As well, Peter Schaerer's knowledge has been passed on to backcountry recreationists since many of those who teach avalanche awareness courses have been trained by Peter.

Organization of Professionals

In 1975 Peter Schaerer was a founding member of the Canadian Avalanche Committee, which formed to address public safety issues and initiate communication amongst avalanche safety organizations and workers.
In 1981 Peter was the founding President of the Canadian Avalanche Association (CAA) which succeeded the Avalanche Committee. The CAA now has over 300 professional members, holds annual technical sessions, administers the training courses for avalanche professionals, conducts a daily exchange of snow stability information between over 45 avalanche safety programs in Canada, and prepares and distributes avalanche information bulletins and avalanche safety videos to the public.
(Presently) Peter Schaerer is an ongoing advisor and member of the Education Committee which directs the training schools. In addition, many of the other committees of the Association regularly seek his advice.

Of particular note, perhaps the most enduring contribution of Peter's long involvement in the avalanche safety profession in Canada, was his continual fostering of the collective and co-operative spirit of all persons engaged in the avalanche field. Peter never missed emphasising the importance of promoting and recognising everyone's collective contributions in the avalanche safety community, and in encouraging the high standards of practice that are followed today.

Present Activities

Since his retirement from the National Research Council of Canada in 1991, Peter has remained active in consulting and training. During the winter of 1991-1992, he was the busiest leader and instructor of CAA training courses. He represents Canada at the International Commission of Alpine Rescue and is also an invited speaker at an avalanche conference in Italy to be held in December 1999.

Summary

Canadians, whether driving on an avalanche prone highway, skiing at a mountain ski area, travelling in the mountains with a guide, attending a recreational avalanche course or snowshoeing, skiing, snowboarding, snowmobiling or hiking in the mountains in winter, are benefiting directly or indirectly from Peter Schaerer's extensive contributions to avalanche safety.

Have a Safe and Merry Christmas

Thank You From Peter Schaerer

20 July 1999

Dear Bruce:
The office of the Governor General of Canada has notified me about and publicly announced my appointment as a Member of Order of Canada. This is a great honour, but I am embarrassed, and I wonder why I would deserve it and not numerous other Canadians with greater merit.

I suspect, that the Canadian Avalanche Association was responsible for initiating my nomination, and that Canadian avalanche workers recommended and supported it. With this letter I wish to thank you, the directors, and the members of the Canadian Avalanche Association for their effort and endorsement of my nomination of the Order of Canada. I realize that recognition of my involvement with development of avalanche knowledge and the Canadian Avalanche Association has motivated the recommendation. However, I could not have done my work without the continuous co-operation of all those who are now and once were active in avalanche work in Canada. We were successful because of the mutual understanding and good co-operation that exists in the occupation in Canada.

Thank you and best wishes for the future.

Peter Schaerer

From the Editor's Desk

I hope that everyone had a great fall and is looking forward to another winter. Our winter season has officially started and we are as busy as ever.

There have been a couple of staff changes at the Centre since the last newsletter. First we would like to welcome Pat Cota, our new bookkeeper to the Center. Pat is a local Revelstokian and brings with her years of bookkeeping experience and knowledge.

We would also like to take this opportunity to congratulate Pat Hutchison on her recent marriage and wish her and her new husband all the best. Tara Smedbol is our new receptionist and has recently moved to Revelstoke from South Slocan. Tara is a recent graduate from high school and brings energy and enthusiasm to the Centre.

Tara and I are now working together on the newsletter; Tara is learning to do the layout and I am still working on content. Remember, we are always looking for articles and photographs to be published.

Merry Christmas and Happy New Year!
Heather Buerge

Development of Avalanche Control at Rogers Pass

By Peter Schaerer

Introduction

A combination of control structures, artillery, and closures protects the Trans Canada Highway at Rogers Pass in British Columbia against snow avalanches. I was associated with the development of the avalanche control program in 1957 – 1961 when the highway was under construction. This paper contains my memoirs as they refer to the observations and decisions concerning the avalanche control before the highway were open.

History of Rogers Pass

Rogers Pass, at the elevation of 1347 m (4420 feet), is in the Selkirk Mountains, one of the interior ranges of the Province of British Columbia. Major A. B. Rogers discovered the pass in 1881 when he was commissioned of finding a route for the Canadian Pacific Railway. The railway line was built at the pass in 1884 and 1885. Although the railway link across Canada was completed in November 1885, the Rogers Pass section was closed in the first winter owing to deep snow and avalanches. In the summer of 1886, the Railway Company built timber snow sheds at the most serious avalanche paths and extended them later to other sites. Finally, there were 31 sheds with a total length of 6.5 km. Avalanches at unprotected sites, an avalanche disaster in 1910 (see *Avalanche News* Volume 53, Fall 1997), extensive snow removal work, and the need to replace the aging timber sheds, persuaded the Canadian Pacific Railway to build a 8 km long tunnel below the summit in 1914. The track at the highest part of the pass with the most serious avalanches was abandoned in 1916.

Rogers Pass is in Glacier National Park; therefore, the Canadian National Parks Service is responsible for the maintenance and avalanche safety on the highway. Until the Trans Canada Highway was completed in 1962, the park was accessible by railway only.

Construction of the Trans Canada Highway

The Trans Canada Highway runs the width of the country from the Atlantic Coast of Newfoundland to the Pacific Ocean at Vancouver Island. According to the Trans Canada Highway Agreement of 1949, the Canadian Provinces designated the route and built the highway, but the route was subject to approval of the Government of Canada. Initially, the Federal Government paid half of the cost, but when the Provinces acted too slowly, the senior government increased its contribution to 90% of the cost on one tenth of the length in each province. In addition, the Government of Canada took full responsibility for the construction inside the national parks.

After investigating alternatives for the crossing of the Selkirk Mountains, for example, at Jumbo Pass, Moberly Pass, and around the Big Bend of the Columbia River, the Province of British Columbia chose Rogers Pass. The Canada Department of Public Works built the highway inside the National Park and developed the avalanche control program, then transferred the completed highway to the National Parks Service.

Location studies began in 1953, and a detailed survey of the route in 1956. In the summer of 1957, contractors cleared a 200 feet wide track in the forest along the surveyed route. The contractors, finding it too complicated and costly to remove by railway the logs of the felled trees, burnt the large, first-growth cedar and spruce trees on the spot. In 1958 – 1961, the earthwork was carried out, and

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in 1962, the highway was paved. On 3 September 1962, Prime Minister Diefenbaker officially opened the Trans Canada Highway with a ceremony at the summit of Rogers Pass.

Initial Avalanche Survey

Avalanches were recorded at Rogers Pass well before the construction of the highway began, and avalanche hazards were taken into consideration when the highway was located. At that time, the approach was a novelty in Canada and the U.S.A. when the usual procedure was to build a road first, then to deal with snow problems when they appeared. The factors that induced the conscientious strategy at Rogers Pass were: It was known that the railway had major difficulties with avalanches, and there was considerable political pressure to maintain a year-round open highway. Pressure groups, who would have preferred different routes for the Trans Canada Highway, claimed that the deep snow and avalanches would make it impossible to keep the highway open in the winter.

Noel C. Gardner is the pioneer of avalanche studies at Rogers Pass. He initiated the avalanche observations and introduced snow observations that are still applied there. Born in 1915, Noel grew up at his father's ranch near Bragg Creek, Alberta. In 1940, he began mountain climbing and skiing with the Swiss mountain guide Bruno Engler. Noel quickly developed his skills to the point of being able to teach skiing himself. Being a ski instructor was easy at that time when no certification existed and the clients were undemanding.

Later, Noel Gardner joined the Canadian Parks Service as a warden at Flat Creek in Glacier National Park. He continued to use his skis during the long winters, for example by climbing to Fidelity Mountain, the site of the present-day snow observatory, and by crossing Rogers Pass on the abandoned railway grade. This was an unusual activity for a park warden around 1950, when few skiers climbed mountains in the deep snow of Western Canada. Having learned from Bruno Engler the basics of avalanche safety, Noel noticed the avalanche occurrences during his winter travels. In the summer of 1953, Noel guided the highway reconnaissance party through Rogers Pass and pointed out the hazardous sites.

In order to obtain more knowledge on the location and frequency of avalanches, the Department of Public Works, in 1953, assigned Noel Gardner the task of observing avalanches during the winter. Once or twice per month, Noel traveled on skis along the proposed highway route and recorded avalanche deposits. In addition, the local park wardens made daily observations of snowfall and temperatures. 1953-1954 was a lucky winter for avalanche observations, when the railway maintenance staff measured the greatest total amount of snowfall since 1910, and avalanches were frequent and large.
Noel Gardner continued his avalanche observations for another two years. In 1956, when the decision was made to build the highway, Noel became a full employee of the Department of Public Works with the duty of developing the avalanche safety at Rogers Pass.

His co-workers remember Noel Gardner as a difficult person to work with. He was self-centered and had a strong drive for achievement. He acted best for himself and had difficulty fitting into a large government operation such as the Department of Public Works and the National Parks Service. Consequently, frequent tensions developed between Noel and his supervisors. The tensions came to a breaking point and Noel quit his work with the Department of Public Works in 1957. In 1959, he was re-hired when the National Parks Service assumed the responsibility for the avalanche control. Noel Gardner resigned from the services with the Canadian Government in 1965 and died in 1993 from Alzheimer disease.

Full-time Snow and Avalanche Survey

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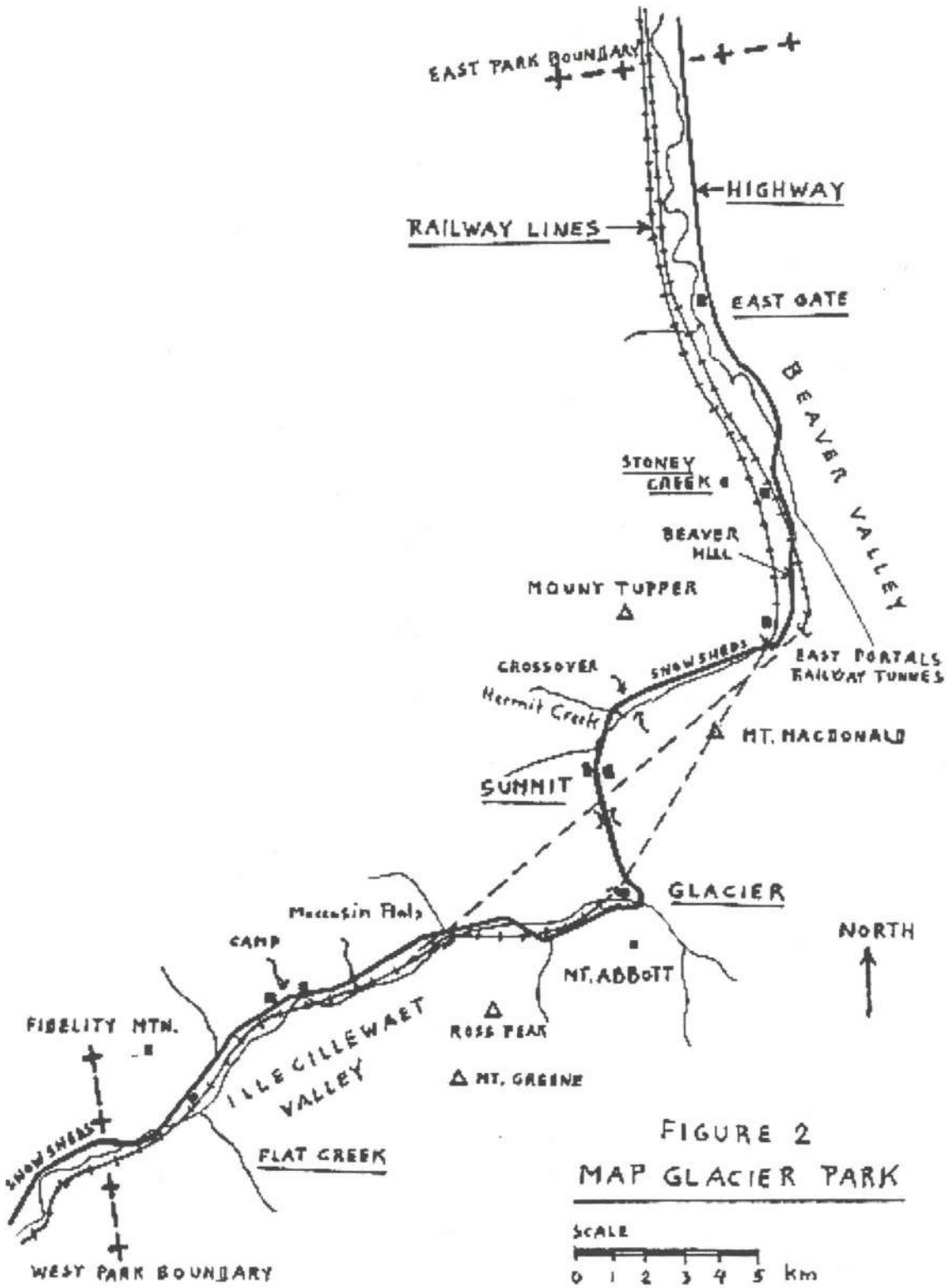

FIGURE 2
MAP GLACIER PARK

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In the summer of 1956, Noel Gardner built a small observatory on Mount Abbott at the elevation of 2070 m (6800 feet) and 4 km south of the Rogers Pass Summit. Mount Abbott was chosen because it was central to the avalanche area, had an elevation similar to the avalanche starting zone elevations, offered suitable snow study sites, and had a good access by a trail in the summer and in the winter. During the following winter, an observer, who was exchanged weekly, was stationed at Mount Abbott. His task was to make daily weather and snowpack observations and to report them by radio to the base in the valley. An additional task of the observer was to scan the avalanche paths for new avalanche occurrences, but this was a wishful objective, because clouds and snowfall usually prevented observations at the times when avalanches did run.

In the winters of 1956-1967 Noel Gardner commanded a staff of six observers, who lived in a camp at Glacier. Glacier was a settlement of railway maintenance personnel at the west portal of the railway tunnel. Noel's crew changed frequently, because of his difficult personality. The observers in the valley made daily snow and weather observations, observed avalanches on frequent trips along the highway, and made ski trips to higher elevations. A Tucker Snocat served as transportation in the valley. Avalanches that had reached the highway line were recorded by measuring the distance of their location from reference markers, which Noel Gardner had nailed on trees during the summer. The place, width, and depth of the avalanches then were plotted on a highway location plan. Together with the observations since 1953, they formed important information for making decisions about the location and design of avalanche control works.

In the summer of 1956, the Department of Public Works (DPW) had asked the National Research Council of Canada (NRCC) for assistance with the weather and snow observations at Rogers Pass. In response to the request, the Snow and Ice Section of the NRCC supplied thermometers, hygrothermographs, anemometers, and snow profile observation kits. In addition, the NRCC promised to make available specialized manpower, and because of this commitment, I was hired and joined the avalanche survey crew in Glacier on 3 April 1957.

I obtained the job because I happened to be at the right place at the right time with the right background. Besides having a degree in civil engineering and a strong interest in skiing and mountaineering, I had done studies on snow and snow removal for highways in Switzerland. From my brother, who lived in Toronto in 1956, I had heard that the NRCC was looking for professionals to do snow research. On my way home from duties with the international truce commission in Korea I visited Ottawa and applied for employment with the NRCC and jumped at the opportunity to carry out the avalanche studies at Rogers Pass.

In the two winters between 1957 and 1959, staff of the Department of Public Works continued the snow and avalanche survey under my direction. We were six avalanche surveyors and lived in the camp at Glacier together with a timekeeper, a cook and a bull cook. The highway contractors and the engineering staff of the DPW had closed their camps and had left the area for the winter.

The responsibilities of the Snow and Avalanche Survey staff were:

- To carry out daily weather, snowpack, and avalanche observations.
- To develop avalanche control methods and to obtain the information that was necessary for the design of control structures and earthworks.
- To develop experience with the avalanche hazard forecasting in the area, and to determine the observations that would be necessary.
- To suggest an organization

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for snow removal on the highway.

- To carry out snow research for the National Research Council, for example a survey of snow loads on roofs, measurements of snow evaporation, and compaction of snow.

The principal and fully equipped weather and snow study plot was at the summit of Rogers Pass, where the maintenance headquarters were expected to be in the future. An observer visited the study plot daily by snocat. In continuing the weather observations in the summer, we had problems with bears that damaged the recording precipitation gauge several times, but the bears seemed to have no interest in the other instruments.

The observatory at Mount Abbott was equipped with a study plot and recording weather instruments. We visited the observatory by climbing there on skis at least once per week, and an observer occupied the cabin during a snowstorm or in warm weather. The observations at Mount Abbott led to the conclusion, that a high-elevation observatory was essential for the daily forecasting of avalanches. A snowstorm on 27-29 April 1959 in particular proved the value. The three-day long storm changed into rain in the valley after the first day, but deep snow accumulated in the avalanche starting zones. The observer at Mount Abbott reported by radio valuable snowfall, snowpack, temperature, and wind observations. It was an experience for the observer. After being alone in a small cabin for four days, in a storm, and surrounded by deep snow, he decided to pursue another career than being a snow and avalanche observer.

When the highway was completed, the high-elevation, manned observatory was moved to Fidelity Mountain, 15 km west of Rogers Pass Summit. The location was changed because there was a need for observations at the west of the National Park and the access was easier.

In the winter of 1957-1958, the snowfall was below average and the avalanche activity low, but the 1958-1959 winter produced a 10-year maximum snowfall and size 4 to 5 avalanches, specifically in April 1959.

Peter Schaerer's memoirs to continue in next edition of Avalanche News.

New Book for Snowboarders: *Free Riding in Avalanche Terrain*

By Bruce Jamieson and Jennie McDonald

Free Riding in Avalanche Terrain is the third book in the Canadian Avalanche Association's series on reducing the avalanche risk for backcountry recreationalists. This is the sister book to *Backcountry Avalanche Awareness* and *Sledding in Avalanche Terrain*, and will also be used as a Recreational Avalanche Course (RAC) student manual.

The book begins with a first person account of an avalanche and rescue, then goes into a key points for reducing risk and continues on with recognizing avalanche danger and supplies technical information.

Free Riding in Avalanche Terrain is a great source of information for any snowboarder, it is available online at www.avalanche.ca

Canadian Avalanche Foundation Announcement

October 22, 1999

Dear Avalanche News Reader:

On behalf of the Board of Directors and the Membership of the Canadian Avalanche Foundation (CAF) it is my pleasure to announce that effective May 29, 1999, Revenue Canada has officially recognized the Foundation as a Registered Charity. The CAF can now issue official tax receipts for the gifts it receives from individual or corporate donors.

The initial target of the CAF is to raise sufficient funds to support the Public Avalanche Information Bulletin, which is provided to anyone, free of charge, by the Canadian Avalanche Centre. At present this Bulletin is provided twice weekly to the public. This service continually operates at a loss and cannot continue without support from outside agencies.

A secondary initiative of the Foundation will be to raise the funds required to expand the public avalanche information bulletin to a seven-day per week service throughout the winter. In the longer term we will also undertake support of public avalanche awareness, minimization of risk to the public and public safety research projects.

The founding Board of Directors of the CAF are Jack Bennetto, Margaret Kemper, Peter Fuhrmann, Hans Gmoser, Gordon Ritchie, Peter Schaerer and Chris Stethem.

Our current fundraising plan focuses on a corporate and individual donation drive. Our target annual membership donation for corporations is $250 and $25 for individuals. We will of course be grateful for support in any amount. Tax receipts will be issued for any donation of $25 or greater.

If you would like to be a trailbreaker and join the Foundation in its first year please send your donation to the Canadian Avalanche Foundation, Box 290, Revelstoke, BC, V0E 2S0.

Yours sincerely,

Chris Stethem
President, Canadian Avalanche Foundation

CAF Membership

Have you ever contemplated contributing to public safety, but were never sure how to go about it? The newly founded Canadian Avalanche Foundation (CAF) just made it as easy as 1 - 2 - 3. The CAF is eagerly extending to you the opportunity to become a Corporate Supporter and Member.

The Foundation's objectives are to:

- Raise and administer funds in support of public avalanche awareness and safety
- Support education in public avalanche awareness and safety
- Support programs that will prevent or minimize avalanche risk to the public
- Support research projects that facilitate public avalanche safety

As you all know it can be a financial struggle to obtain funds necessary for distributing the Public Avalanche Bulletin, which would make your contribution of only $250 greatly appreciated. Supporting the bulletin is the first objective of the CAF as it provides knowledge to the public about current snow conditions.

All you need to do to become a part of this great public service is:

1) Send your fully tax-deductible donation of $250 to the Canadian Avalanche Foundation.
2) Receive your beautiful plaque, and put it on display.
3) Bask in the warm feeling of knowing you are helping reduce the amount of preventable avalanche accidents.

When you decide to become a Corporate Supporter and Member by donating just $250, you will receive an exquisite plaque to hang in your desired area, reminding your customers, staff and you of what a great job you are doing by supporting the safety and well being of the public. Also if you desire, we will send you a convenient and informative Public Avalanche Bulletin Display Centre for your retail counter so you can become a distributor of the Canadian Avalanche Centre's twice weekly Public Avalanche Bulletin.

Yes, I want to support Canadian public avalanche safety programs!

Enclosed is my donation of:

☐ $250 Corporate Annual Membership Donation ☐ Cheque/Money Order

☐ $25 Individual Annual Membership Donation ☐ Visa

☐ $_____ Other Donation Amount ☐ Mastercard

Credit Card Number_____ **Expiry Date**_____/_____

Signature_____

Tax receipts will be issued for donations over $25. Thank you for you support!

Your Name_____

Address_____

_____

_____

_____**Area/Zip Code**_____

Please make cheque/money order payable to:

Canadian Avalanche Foundation

Box 290, Revelstoke, BC V0E 2S2

Charitable Registration Number:

86900 0349 RR0001

Back Country Trip Planning

By Colonel Phil Engstad (RET'D) MSM, CD2

Prior to my retirement, I spent a total of 34 years in Canada's Air Force. During that time I flew all of our front line fighter aircraft and as such "walked the knife edge" of risk taking and decision making on a daily basis. One of the key factors to "longevity" in my profession was GOOD, THOROUGH, CONSISTENT MISSION PLANNING. This applied no matter how familiar the area of execution or how straight forward and apparently easy the mission at hand. A review of Aircraft Flying Accidents shows that a significant number (all too large) of human factor accidents and incidents are traceable to poor planning. All too often the person or persons concerned knew better, and, all too often the result was another widow and kids without a father.

Mission/trip planning and your approach to it is where you make or break your trip. This is where you sow the seeds of success (or) failure. If you don't get it right here it only gets worse. If you get it right here you will have an "enjoyable trip to remember" and an accompanying feeling of "professional pride".

There is no excuse for a lack of proper trip planning and as such you and/or your group must individually and collectively "STOMP" any temptation to shortcut this critical step either because of COMPLACENCY (I know it all; I don't need to plan) or because IT WON'T HAPPEN TO ME (with this attitude it most certainly – eventually will!)

The surest way to get it right is to use a checklist and to involve everyone in the planning process. This will ensure that you don't miss any important areas for consideration, and that you make maximum use of the experience and brainpower of your entire group. This also, "by involvement", spreads "responsibility and accountability" over everyone's back, not to mention the benefits of each and everyone's enhanced knowledge of all aspects of your trip. Finally, detailed planning generates a wealth of "Pre-Launch Decision Making" that makes the downstream decisions you will encounter – that much easier – all BECAUSE YOU ACTED PROFESSIONALLY AND TOOK THE TIME TO PLAN!

With the above mentioned in mind, I sat down and prepared a "Civilian" version of a "Fighter Pilots Mission Planning Checklist" for your consideration, adaptation, and use as you see fit. You alone will discern its applicability to yourself or your operation. As a bottom line – if you add "just one line from mine" to your checklist (you very likely already have one) then this offering will be worthwhile because it is this type of professional sharing and information dissemination that points our individual and collective initiatives and venues whatever they may be "ONWARDS AND UPWARDS"!

A FIGHTER PILOTS PLANNING FACTORS CHECKLIST

By Colonel Phil Engstad (RET'D) MSM, CD2

Back Country Trip Planner

THE GIVENS

- Group/trip participants and experience level/who's the leader/who's the backup leader
- Date/time for departure/ destination/return – (who knows where you are plus route taken)
- Rendez-vous location – date/time
- Weather at destination and enroute (forecast and actual)
- Snow conditions – test and assessment
- Additional information - avalanche forecast – high/ low threat? Changing better/ worse - verbal with anyone who has just returned from your destination area
- Over-riding factors (i.e. Joe has to be home Monday)
- Applicable maps, charts, photo's and other planning material/information
- Additional support (helicopters, snow cats etc.)
- Survival equipment/other equipment/ first aid equipment
- Supplies and clothing

CRITICAL PLANNING FACTORS

- Destination – facilities/ situation/information source and currency
- Terrain – destination/trip in/ trip out
- Routing to destination
- Routing from destination
- Destination area excursions and application of all critical planning factors
- Enroute-procedures/ activities/snow testing and assessment
- Danger areas and obstacles – snow testing and assessment
- Alternate destination and area hazards
- Alternate route and hazards
- Diversion point/points

CONTINGENCIES

- Go/no-go decision criteria
- Abort – where/when/criteria
- Separation – rejoin of personnel/rendez-vous location/ time
- Accidents – actions
- Avalanche – actions – probing techniques – locator beacon procedures – on scene commander
- Safe escape holding/waiting area
- Injuries
- Search and rescue/contact procedures
- Supplies remaining/ rationing
- Equipment breakdown
- Emergencies (other)
- Contingencies (other)

NOTES:

1. The above-mentioned planning factors checklist is not meant to be all inclusive nor to exclude other information deemed to be critical/ important to the trip by any user. (It was produced in isolation by the undersigned).

2. This planning factors checklist if completed in full and briefed by the trip leader to all participants should make the execution of your trip from start to finish smoother and more enjoyable. It should also make pre-departure –enroute and destination area decision making easier and prepare you for any difficulties you may encounter.

3. It is important that any questions and concerns raised by any/all participants be answered and addressed to the satisfaction of the group in total before departure.

HAVE A GREAT TRIP! !

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Fuse News

By Mike Boissonneault
Chair, CAA Explosives Committee

The Explosives Committee continues to actively represent the concerns and interests of CAA members. I believe we are past the season of uncertainty when we did not know whether explosives companies would provide products for us or what the conditions of purchase might be. Our industry now has firm commitments from explosives companies who are keen to develop a "niche" market by supplying explosives for avalanche control.

As many of you are aware, the primary reason for various explosives companies restricting their products from avalanche control use stem from the fatality that occurred at Big Sky, Montana almost three years ago. One of the agencies that has become more involved in the avalanche control industry since that accident is the International Society of Explosives Engineers (ISEE). This Society has been actively involved in the blasting industry for the past 25 years and has made significant contributions to technology used in the blasting profession and in blaster training education.

The ISEE recently put on a two-day conference which dealt specifically about blasting regulations. The president of the ISEE invited the CAA to make a presentation at this conference as he had heard that the Canadian avalanche industry was well regulated and felt that we could share some information of benefit to those who regulate avalanche programs in the USA. Paul Orr of Workers' Compensation Board also attended this conference and made a presentation about specific regulations which apply to avalanche work. Paul and I addressed some of the controversial topics in our industry, such as how to determine whether or not a fuse is burning, whether or not to double fuse, re-lighting a fuse, training and certification.

What became evident during the presentations is that in several of the states where avalanche programs operate, there are no specific regulation for the use of explosives for avalanche control what so ever. Of the three states that do have regulations for avalanche programs, there are significant difference amongst them.

Both myself and Bruce Allen urged the American regulators to develop standard guidelines for ALL avalanche programs, regardless of location. We hope and trust that our presentations will be part of ongoing initiatives towards the development of safe and uniform avalanche control procedures in the USA.

This has been a very difficult and awkward position for the CAA. Our involvement was necessary due to the fuse embargo placed on our industry last year and the fear that another similar accident could place even more severe restrictions against us.

The major initiative being pursued by the Explosives Committee is to develop CAA Explosives Avalanche Control Guidelines and to have an avalanche control blasting course available by next fall. I will keep subscribers informed of progress of this initiative through articles in the News Letter and at a presentation at the Annual General Meeting.

Bernie Protsch
Colanni Bezzola
CAA, Explosives Committee Members

Have a Happy New Year!

New Product Information

Survival On Snow Inc. (SOS), is proud to announce the first ever Avalanche Terrain Access Gate. The "Avalanche Awareness Verified Access

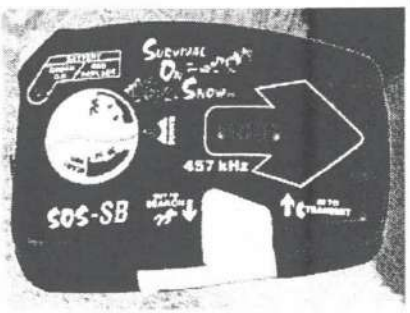
Gate" (AAVA Gate), is opened only by those carrying an operating 457 kHz avalanche beacon.

The AAVA Gate can be used at trail heads or avalanche terrain access points in conjunction with signs and fencing. The AAVA Gate forms a focal point for avalanche awareness messages and addresses your liability concerns. Fully automatic, the Gate latch only opens when a person wearing a functioning avalanche beacon approaches.

The goal of the AAVA Gate is to ensure avalanche rescue equipment is carried and to promote avalanche awareness. Designed for Land Managers such as winter resorts and parks, many resorts are using the "Designated Gates" positioned on their area boundaries to remind users that if they are leaving resort boundaries, it is uncontrolled avalanche terrain, so be prepared and be aware.

Electronically powered, the gate is also available with a solar panel and power pack for remote installations. "If it doesn't open ~ don't go"

Survival on Snow Inc. (SOS), is also proud to introduce a new avalanche beacon for snowmobilers and their machines. The 'SOS SB' Avalanche Rescue Beacon and "Sled Bug' Transmitter and now ready for winter.



The "SOS SB' Avalanche Transmitter enables snowmobilers to search for buried victims and their snow machines. The beacon is different because it searches on two different frequencies, 457 kHz 'The International Standard' for avalanche beacons and The 'SOS Sled Bug' Channel for snowmobiles.

The 'Sled Bug' Transmitter is easy to install on snowmobiles, is fully self contained and uses your snowmobile's electrical system to keep it's rechargeable battery topped up and ready. The snowmobiler never has to worry about turning the 'Sled Bug' transmitter on or off as it works automatically.

Snowmobilers are now venturing nearly everywhere in the mountains, including avalanche terrain. The 'SOS SB' Avalanche Beacon and SOS Sled Bug Transmitter is a huge advancement in avalanche rescue technology for snowmobilers who know "self rescue" is key to their survival.

Saving Time in Avalanche Rescue

By Marc Ledwidge

As avalanche professionals, we regularly teach people, students, and clients or guests how to search during an avalanche incident. We impress upon them how essential it is to be completely familiar with the efficient use of avalanche transceivers. Techniques are geared towards ensuring search times are as short as possible. We encourage people to keep practicing and shave off minutes or seconds off their search times. This is because as everyone know chances of survival decrease dramatically with burial times longer than about 15 minutes.

Speed in uncovering an avalanche victim however, is dependent on more than just efficient transceiver use. We often overlook the necessity for good efficient shoveling. Shoveling in a daily part of our work and it is easy to forget that many people rarely handle this basic tool and do not know how to use it well. I believe that inefficient shoveling, particularly when burial depths exceed a meter, can waste a lot of time. During avalanche courses or in guiding situations, it may be worth spending more time demonstrating how to use a shovel. This would include explaining techniques for different types of snow, how to vary technique depending on slope angle and how to maximize the amount of snow moved with every shovel load. It would also include demonstrating how multiple shovelers should work together to maximize efficiency.

The staff at the

Canadian Avalanche Centre

would like to wish you a

Merry Christmas and a

Happy New Year.

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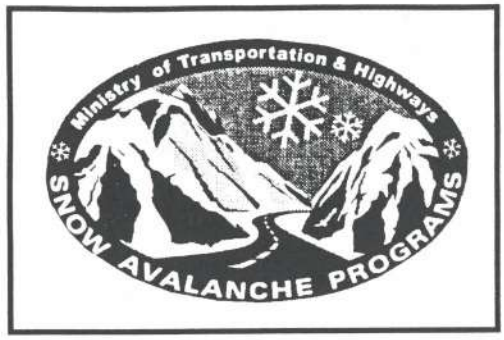

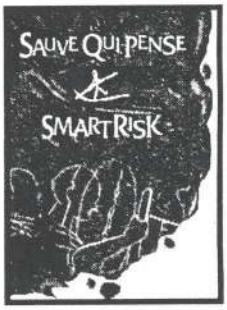

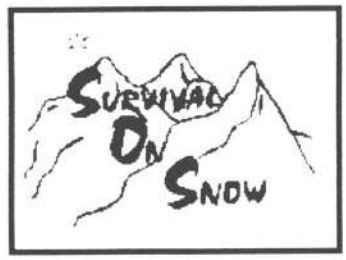

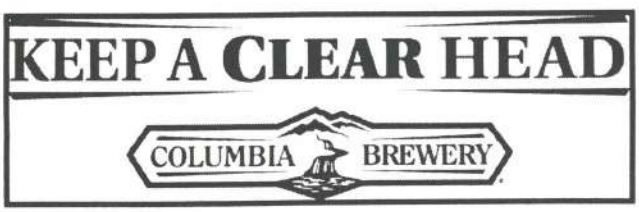

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