CANADIAN SKI PATROL SYSTEM'S PUBLIC EDUCATION PROGRAMS IN
AVALANCHE AWARENESS

Peter B. Spear
Canadian Ski Patrol System, Calgary, Alberta

Introduction

The Canadian Ski Patrol System (CSPS) in Alberta and British Columbia helps to educate downhill and nordic skiers, ski mountaineers, outdoor club members, snowmobilers, various government employees, and rescue group members in the various aspects of safe winter travel in avalanche terrain.

The CSPS is celebrating its 40th year of service to the Canadian skiing public since its inception by Dr. Douglas Firth. At present there are over 4,000 active members in more than 50 zones across Canada. In addition to our extensive training and experience in first aid and accident handling, we are involved in accident prevention by promoting safe skiing practices in downhill and nordic areas, operating free binding testing clinics, and providing educational programs in avalanche safety.

The avalanche safety program in the CSPS started in the Calgary, Alberta area in the early 1960's under the leadership of Brad Geisler, a National Ski Patrol System (NSPS) member from Arapahoe Basin, Colorado. He combined his talents with Russ Bradley of Calgary who had extensive ski mountaineering experience. These two men developed their snowcraft knowledge and shared this with many of the present CSPS avalanche instructors with the assistance of Parks Canada personnel and Peter Schaerer of the National Research Council. One or more of the avalanche instructors in the CSPS has attended all major avalanche symposiums in North America held during the last ten years to further increase the CSPS base of knowledge on avalanche research programs pertinent to our needs.

The major thrust of the public education programs of the CSPS is centered in Calgary. Although avalanche fatalities have occurred in Quebec and Ontario, they were under unusual circumstances, and the rest of the Canadian fatalities have been in British Columbia, Alberta, or the
Yukon Territory. With nordic skiing on the increase in many avalanche-prone mountain areas, winter climbing becoming more popular, and non-commercial helicopter skiing increasing, public education programs in avalanche awareness can help reduce avalanche accidents and fatalities.

Public Short Programs

In addition to training CSPS patrollers in the two western provinces, short public education programs and information are available:

1. Avalanche hazard warnings are broadcast on a Calgary radio station twice a week. Every Monday and Friday during the ski season, CHQR radio broadcasts a ski program hosted by two CSPS members, and concludes with the avalanche hazard forecast obtained from Parks Canada by Brian Weightman, the Calgary Zone Avalanche Training Officer. This program has been operating for several seasons, and at any given time, has a potential listening audience of over 500,000 people.

2. A one-hour avalanche awareness program is offered to many groups to stimulate interest in avalanche safety and to encourage persons to acquire more in-depth knowledge by taking the CSPS basic course. This program was pioneered by Paul Stewart, Mountain Division Avalanche Training Officer of the CSPS. It is presented to service clubs at noon hours and to various youth groups such as Boy Scouts and Girl Guides in the evenings. This program is presented an average of once per week to an audience of 30-50 persons. A series of 35 mm slides and a short 10-minute film are used and combined with a talk on recent avalanche accidents, lessons to be learned from these accidents, and the complexity of snow, metamorphism, and hazard forecasting. The audience is encouraged to attend an introductory course.

3. Special presentations on specific topics are given to outdoor groups. Clubs such as the Alpine Club of Canada, University of Calgary Campus Recreation, and nordic ski clubs often invite CSPS avalanche instructors to present talks during regular meeting nights. These talks, of approximately 30 minutes duration, deal with a variety of short topics such as the use of transceivers, party management in avalanche terrain, and the reasons for recent avalanches. Two or three programs of this type are presented monthly.
4. Ski show displays are an opportunity for many people to develop an awareness of avalanche problems. A short film is run on a regular basis and equipment such as avapoles, transceivers, and snow kits are displayed.

5. Participation in general winter outdoor educational seminars exposes more members of the public to avalanche problems. The one-hour awareness program is presented on a specific topic such as avalanche rescue. Such groups as the Alberta Camping Association and the YMCA Yannuska Centre make use of our services.

6. CSPS patrollers offer avalanche warnings to the public in ski areas. Patrollers receive a current avalanche report in the morning before the lifts start operating, and pass this information to the skiing public or direct skiers to snow research personnel if more detailed information is required. Patrollers might also assist in closure of areas when control programs have to take place.

7. The CSPS has an information phone number in Calgary for information about the patrol and a current avalanche report that is collected from the Sunshine, Lake Louise, and Kananaskis areas.

In summary, the CSPS broadcasts avalanche warnings on a regular Friday radio program as well as giving warnings and information to the public through person-to-person contact on the ski hill and through telephone inquiries; presents one-hour avalanche awareness programs to service clubs and youth groups as well as to persons attending outdoor education seminars during the winter; prepares detailed presentations on specific topics for clubs; and participates in ski shows by showing films and displaying equipment.

**Longer Public Programs**

In addition to these short programs, the CSPS offers to the public an introductory course on snowcraft, hazard evaluation, and rescue that involves 10 hours of classroom work (4 lectures) and 6 hours of field experience. This course is the result of the work of Brad Geisler, Tony Daffern, and Peter Spear over the last 15 years and includes 150 slides of 35 mm size and 4 VTR tapes. Program details are as follows:
1. Lecture 1. This introductory lecture concentrates on the mountain snowpack with particular emphasis on snow metamorphism, as the temperature gradient process is so important in the Rocky Mountains. Two VTR tapes on metamorphism and avalanche dynamics conclude the avalanche characteristics section.

2. Lecture 2. This lecture deals with meteorological conditions leading to avalanches, terrain and vegetation features, testing of existing snow conditions, and travelling in avalanche terrain.

3. Lecture 3. The 45-minute CBC VTR tape "Avalanche" is shown to serve as a review of the course to date and as a lead-in to the rescue section—the following lecture. A verbal review of the course is done to date and then hazard evaluation problems are posed to the class and worked through to a conclusion. Case studies provide a good synthesis of all these factors.

4. Lecture 4. This is an avalanche rescue session. Organized ski area rescues are discussed, along with backcountry rescues and the use of transceivers.

5. Field Trip. A maximum of 40 students and five instructors are involved. Students in groups of five to seven spend an hour in snow pits, an hour on transceiver practice, and an hour on terrain recognition and route finding. A three-hour session is spent on avalanche probing practice, a walk-through avalanche rescue without use of transceivers, and a visit to the local snow research station to view snow plots and meet the personnel involved. If an avalanche trained dog is available in the ski area, a demonstration takes place. These field trips are held in a recognized ski area close to warming facilities in case of severe weather.

6. Examination. A take-home exam of approximately 40 questions evaluates the students' understanding of the material covered.

These courses are often organized and administered by recreation agencies or CSPS groups in centres other than Calgary. The CSPS avalanche instructors are then scheduled to handle these courses. Groups that wish to have CSPS courses in British Columbia are required to pay the instructors' travel and accommodation expenses. Since
courses of this type are usually held on weekends, the lectures and fieldwork are divided into two eight-hour days. Courses of this type have been held at Westcastle and Banff, Alberta, and in Fernie, Nelson, Penticton, and Revelstoke, British Columbia. A CSPS patroller, George Evanoff, is now offering courses in the Prince George, B.C. area.

People enrolled in these introductory courses include Ministry of Highways crews, R.C.M.P. officers, provincial Emergency Program (PEP) volunteers, members of the British Columbia and Alberta Forest Services, rescue teams in Alberta provincial parks, and outdoor club leaders. Most of these courses train nordic skiers and downhill skiers, many of whom have been involved in avalanche accidents and want to learn more about the avalanche phenomenon.

Limitations of CSPS Educational Programs

Due to the fact that the CSPS is a volunteer organization, and educates the public on avalanche safety on a part-time basis, we have limitations. The CSPS has tried, but has rejected, teaching advanced avalanche training courses, because we feel we cannot do justice to courses of this type. As a result, members of the public are encouraged by us to register in British Columbia Institute of Technology courses that suit their purposes. Our introductory course provides a strong base for further education.

At present the CSPS is not as extensively involved as the National Ski Patrol System (NSPS) of the U.S.A. in avalanche and ski mountaineering courses as we feel that our present involvement in public education is a great enough strain on our time and manpower. We are gratified that persons such as Peter Schaerer (NRC), Bill Hotchkiss (NSPS), Dale Marino (R.C.M.P. Dogmaster), Peter Fuhrmann, Clair Israelson (Parks Canada) and Tony Daffern, have had the time and patience to work with us and to provide knowledge, materials and expertise to our program. All of this benefits the CSPS avalanche programs and the public we serve.