AVALANCHE NEWS NO. 32

FEBRUARY, 1990

EDITORIAL NOTE

The intention of AVALANCHE NEWS is to assist communication between persons and organizations engaged in snow avalanche work in Canada. Short articles cover reports of accidents, upcoming and past events, new techniques and equipment, publications, personal news, activities of organizations concerned with avalanche safety, education and research.

The editor welcomes and expects contributions; all reasonable comments and discussions will be printed. The articles in AVALANCHE NEWS reflect the views of the authors, and only when it is specifically stated do they represent the opinion of the Canadian Avalanche Association.

No paid advertisements are carried. Suppliers who wish to draw attention to their products should send information to the editor who will publish a note when the equipment has value in avalanche work and safety.

AVALANCHE NEWS is issued three times per year, usually in February, June and October. There is no subscription fee. Requests for copies and notifications of changes of address should be sent to the publisher.

Editor:

Peter Schaerer

Institute for Research in Construction National Research Council of Canada

3650 Wesbrook Mall Vancouver, B.C.

V6S 21.2

Telephone: (604) 666-6741

Publisher:

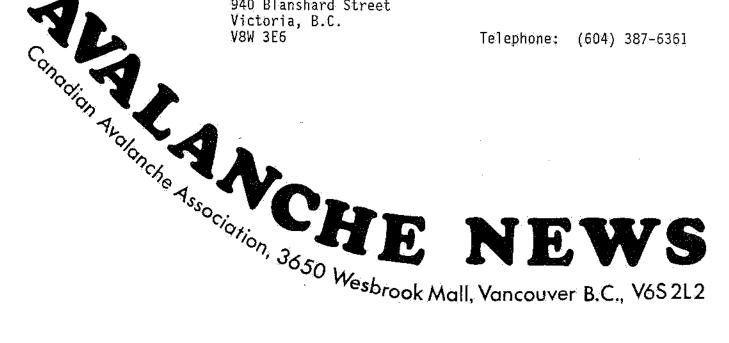
Jack Bennetto

Manager, Snow Avalanche Programs

Ministry of Transportation and Highways

940 Blanshard Street

Victoria, B.C.



			,
			Ą
	÷		
		,	
		·	

AVALANCHE INVOLOVEMENT REPORTS

by Peter Schaerer Institute for Research in Construction National Research Council of Canada

The Avalanche Research Centre of the National Research Council continues to collect information about all encounters of persons, equipment, and structures with avalanches in Canada. The objective is to obtain statistics about the extent and type of avalanche problems in Canada. Summaries of the data draw attention to avalanche dangers and make management personnel of governments and industry aware of the need for safety and control measures. Although fatal accidents receive most attention and make the media, it is equally important to know the number of close calls and the circumstances of lucky escapes. Summaries of avalanche involvements are published annually in the June issue of <u>Avalanche News</u>. A summary of the involvements 1969-1987 was printed in the Canadian Alpine Journal, Vol. 71, 1988.

The collection of information on avalanche involvements requires the cooperation of everyone in the avalanche business and those travelling in terrain subject to avalanches. We wish to request that anybody who has been involved with an avalanche, or has witnessed or heard about an avalanche encounter, transmit the information in writing or by word of mouth to the Avalanche Resource Centre of the National Research Council of Canada. A short form has been designed for this purpose and is attached to this issue of Avalanche News. The form, together with explanations on how to fill it out. was also printed in the <u>Guidelines for Weather</u>, <u>Snowpack</u>, and Avalanche Observations. For reporting an involvement, detach the form or copy it. may request additional copies - simply write down the information on a piece of paper and submit it, telephone, or mention it during a conversation. The message is important, but not the format.

No names need to be mentioned, not even the location needs to be specific. All the information is kept confidential and will be released in summary form only.

For reporting an avalanche, the following are addresses of the National Research Council:

P.O. Box 2759 Revelstoke, BC VOE 2SO

<u>Telephone</u>: (604) 837-2435 (Paul Anhorn)

3650 Wesbrook Mall Vancouver, BC

Telephone: (604) 666-6741 (Peter Schaerer) V6S 2L2 (604) 666-8046 (Dave McClung)

TRAINING VIDEOS

The Canadian Avalanche Association has produced video tapes as training aids. The videos provide valuable assistance in courses by summarizing and illustrating selected topics. Avalanche safety operations (for example, skiers, roads, heliskiing) will find them useful as refreshers of the techniques for staff training.

Presently the following tapes are available:

1. Avalanche Terrain (Length: 9 minutes)

The video depicts, with the aid of still pictures, the features of terrain that favour the start and motion of avalanches. Safe routes for travel and protected areas on roads are explained.

2. <u>Snow Profile Procedure</u> (Length: 9 minutes 30 seconds)

The techniques for the observation of snow profiles are illustrated with the aid of still pictures. The techniques are those described in the <u>Guidelines for Weather</u>, <u>Snowpack</u>, and <u>Avalanche Observations</u>.

The cost for each copy is \$50 (U.S. \$45), including handling and postage. Orders should be sent with payment included to the address of the Canadian Avalanche Association, 3650 Wesbrook Mall, Vancouver, BC, V6S 2L2 - Telephone: (604) 666-6741.

Copies in VHS are on hand. Copies in other systems (Beta, 3/4 inch. PAL) can be made on order.

A third video on avalanche control by explosives is in preparation. It employs motion pictures.

PUBLICATIONS

D. M. McClung, A. I. Mears, and P. Schaerer

<u>Extreme Avalanche Run-out: Data From Four Mountain Ranges.</u>

Reprint from <u>Annals of Glaciology</u> 13, 1989. Publication NRCC 31059.

Abstract by Authors:

Avalanche run-out distances have a prominent statistical character which is not usually featured in calculations

derived from avalanche dynamics models. In order to predict run-out distances in a rational manner, the statistical element should be included. Here, we present and analyze data on extreme run-out from four mountain ranges. When the data are fitted to extreme-value distributions, we are able to show how (and why) extreme-value parameters vary with terrain properties of the different ranges.

P. Schaerer

The Avalanche Hazard Index.
Reprint from Annals of Glaciology 13, 1989. Publication NRCC 31060.

Abstract by the Author:

The avalanche-hazard index is a numerical expression of damage and loss, as the result of an interaction between snow avalanches and vehicles on a road. The index is determined by multiplying the frequencies of moving and waiting vehicles being hit by various types of avalanches by a weighting which indicates the severity of the consequences. The avalanche-hazard index has proved to be a useful decision-making tool for identification of those avalanche paths where control would be most beneficial, for evaluation of options for control measures, and for comparison of the risks for different roads.

Both publications may be obtained for the price of \$4 each from Publications Sales, National Research Council, Ottawa, Canada, KIA OR6. Payment in the form of a money order or cheque must be enclosed with the order.

SHORT REPORT OF AVALANCHE INVOLVEMENT

DATE			TIME	
LOCATION	-			
AVALANCHE	Size	Dry	Moist	Wet
NUMBER OF PERSONS	Total nu Caught_ Number	imber of personal Partia of those who	ons in party Ily Buried B were Injured K	uried illed
ACTIVITY OF	THE PERSO	ONS	· · · · · · · · · · · · · · · · · · ·	
NUMBER OF V	EHICLES	Damaged	Partially Buried	
STRUCTURES	DAMAGEE)		
			C	ost
ESTIMATED DI COMMENTS _	EPTH OF E		STIMATED DURATION	
NAME AND AD information).	DRESS OF	REPORTER	(Who can be contacted	for further
Insert the form	in an enve	lope or fold the	e form and tape the ed	ges. Mail to:
		Avalanche National I	e Centre, Research Council	

Avalanche Centre, National Research Council 3650 Wesbrook Mall, Vancouver, B.C. V6S 2L2

		á.

AVALANCHE RESOURCE AGENCIES

- 1. AVALANCHE CONDITIONS, SEARCH AND RESCUE
- 2. SEARCH AND RESCUE
- 3. EDUCATION
- 4. WEATHER OFFICES

		ş- *
		¥

AVALANCHE RESOURCE AGENCIES

JANUARY 1990

Prepared by Snow Avalanche Section B.C. Ministry of Transportation & Highways

1. AVALANCHE CONDITIONS, SEARCH AND RESCUE

The following agencies and individuals maintain continuous observations of the snow stability and avalanche hazards in their areas. They are also equipped for search and rescue work.

Canadian Parks Service

Banff National Park

Correspondence:

The Chief Warden
Banff National Park
P.O. Box 900
BANFF, ALBERTA TOL OCO

Information concerning avalanche conditions:

Taped message on telephone:	at Banff	403-762-3600
	at Calgary	403-292-6600
Banff Warden Office (open 24	hours per day)	403-762-4506
Lake Louise Warden Office		403-522-3866

Avalanche control offices at:

Sunshine Village	Telephone:	403-762-2693
Lake Louise Temple Research	Telephone:	403-522-3982
Mt. Norquay	Telephone:	403-762-2640

Emergency: 403-762-4506 (same as Banff Warden No.)

Jasper National Park

The Chief Warden
Jasper National Park
P.O. Box 10
JASPER, ALBERTA TOE 1EO

Warden Office (during office hours) Telephone: 403-852-6155 (24 hrs. - all departments) Telephone: 403-852-6161

Mount Revelstoke and Glacier National Parks

Correspondence:

The Superintendent

Mount Revelstoke and Glacier National Parks

P.O. Box 350

REVELSTOKE, B.C. VOE 2SO Telephone: 604-837-5155

Information concerning avalanche conditions:

Taped Message - Revelstoke 604-837-6867

Information Office at Rogers Pass Telephone: 604-837-6274

Search and Rescue:

The Chief Warden, Revelstoke Telephone: 604-837-5155

Warden Office, Rogers Pass Telephone: 604-837-6274

The Chief Park Warden Yoho National Park

Box 99

FIELD, B.C. VOA 1GO Telephone: 604-343-6324

The Chief Park Warden Kootenay National Park Box 220

Box 220

RADIUM HOT SPRINGS, B.C. VOA 1MO Telephone: 604-347-9361

Waterton Lakes National Park

Correspondence:

The Superintendent Waterton Lakes National Park WATERTON, ALBERTA TOK 2MO Attention: Chief Park Warden

Information concerning avalanche conditions:

Warden office (office hours)
Taped Message
Emergency (24 hours)
Telephone: 403-859-2475
Telephone: 403-859-2435
Telephone: 403-859-2636

Backcountry Avalanche Hazard Forecast for Banff, Jasper, Yoho, Waterton, and Kananaskis Parks, made available by Alberta Avalanche Safety Association.

Taped Message: at Edmonton 403-466-4636

in Alberta outside Edmonton 1-800-772-2434

The Chief Park Warden Kluane National Park Haines Junction YUKON YOB 1LO.

Telephone:

403-634-2251

British Columbia Ministry of Transportation and Highways

Jack Bennetto Manager, Snow Avalanche Programs 940 Blanshard Street

VICTORIA, B.C. V8W 3E6

Telephone:

604-387-6361

Janice Johnson Snow Avalanche Section 940 Blanshard Street

VICTORIA, B.C. V8W 3E6

Telephone:

604-387-6361

Snow Avalanche Technicians:

Gordon Bonwick Snow Avalanche Section 940 Blanshard Street VICTORIA, B.C. V8W 3E6

Telephone: 604-387-6361

Nic Seaton Snow Avalanche Section 940 Blanshard Street VICTORIA, B.C. V8W 3E6

Telephone:

604-387-6361

o۳

604-987-9311

District Avalanche Technicians:

Scott Aitken P.O. Box 206

PEMBERTON, B.C. VON 2LO

Telephone:

604-932-7285

Ed Campbell Box 579

HOPE, B.C. VOX 1L0

Telephone:

604-869-2401

Simon Walker Bag 4500

MERRITT, B.C. VOK 2B0 Telephone:

604-378-9359 (winter only) 604-378-4648

(winter only) 604-378-6449

John Tweedy P.O. Box 580

CRESTON, B.C. VOB 1GO

Telephone:

604-428-3242

(winter only) 604-428-3270

سنبغ Bruce Allen

Telephone: 604-837-7646 Box 710 REVELSTOKE, B.C. VOE 2SO

or 604-837-7685

Tony Moore P.O. Box 127

Telephone: 604-636-2625 STEWART, B.C. VOT 1WO

Regional Avalanche Technicians:

Dave Smith Regional Avalanche Technician

Kootenays Region 310 Ward Street

NELSON, B.C. V1L 5S4 Telephone: 604-354-6429

Al Evenchick Regional Avalanche Technician

North West Region 400 - 4546 Park Avenue

TERRACE, B.C. V8G 1V4 Telephone: 604-638-3334

British Columbia Ministry of Parks

Parks & Outdoor Recreation East Kootenay District

Box 118

WASA, B.C. VOB 2KO Telephone: 604-422-3212

Parks & Outdoor Recreation West Kootenay District

RR #3 NELSON, B.C. V1L 5P6

Telephone: 604-825-4421

Parks & Outdoor Recreation

(Alice Lake) Box 220

BRACKENDALE, B.C. VON 1HO Telephone: 604-898-3678

Alberta Recreation and Parks

Kananaskis Country Region

Box 280

CANMORE, ALBERTA TOL OMO

Lloyd Gallagher - Alpine Specialist,

Public Safety Co-ordinator Telephone: 403-678-5508 George Field - Alpine Specialist Telephone: 403-678-5508

Jock Richardson - Snow Study Observer Telephone: 403-678-5508

Gavin More - Environmental Management

Specialist Telephone: 403-678-5508

Peter Lougheed Provincial Park

(7 days a week - 0800-1630) Telephone: 403-591-7222

Emergency Telephone: 403-591-7444

Bow Valley Provincial Park

(M to F 0800-1630, weekends on call) Telephone: 403-673-3663 Ribbon Creek Emergency Center Telephone: 403-591-7767

Elbow District

(M to F 0800-1630, weekends on call) Telephone: 403-949-3754

Emergency Telephone: 403-932-2211

Telephone:

Avalanche Hazard Forecast

Taped telephone message Telephone: 403-591-7788

<u>Ski Areas</u>

Brian Leighton

Whistler Mountain Ski Corporation

Box 67

WHISTLER, B.C. VON 1BO Telephone: 604-932-3434

Terry Miller

Red Mountain Ski Area

P.O. Box 670

ROSSLAND, B.C. VOG 1YO Telephone: 604-362-7114

Dave Aikens

Fernie Snow Valley Ski Ltd.

Box 788

FERNIE, B.C. VOB 1MO Main Office 604-423-4655

Niko Weis

Mt. Washington Ski Resort Ltd.

P.O. Box 3069

COURTENAY, B.C. V9N 5N3 Telephone: 604-338-1386

Robert Hemming Whitewater Ski Resort Ltd Box 60 NELSON, B.C. V1L 5P7

IELSON, B.C. V1L 5P7 Telephone: 604-354-4944

Wayne Flann
Blackcomb Mountain
P.O. Box 98
WHISTIFR B.C. VON

WHISTLER, B.C. VON 1BO Telephone: 604-932-3141

Peter Amann, Avalanche Forecaster or Ed Robert, Assistant Avalanche Forecaster Marmot Basin Ski Lifts Ltd. P.O. Box 1300

JASPER, ALBERTA TOE 1EO Telephone: 403-852-3816

Helicopter and Snowcat Ski Operators

Hans Gmoser, Mark Kingsbury, Kobi Wyss Canadian Mountain Holidays Inc.

Box 1660

BANFF, ALBERTA TOL OCO Telephone: 403-762-4531

Ernst Buehler

Canadian Mountain Holidays Inc., Cariboos

Telephone: 604-565-0378

Stefan Eder

Canadian Mountain Holidays Inc., Valemount

Telephone: 604-566-4487

Dominic Neuhaus

Canadian Mountain Holidays Inc., Monashees

Telephone: 604-834-7223

Buck Corrigan

Canadian Mountain Holidays Inc., Revelstoke

Telephone: 604-837-2107

Colani Bezzola

Canadian Mountain Holidays Inc., Bobbie Burns

Telephone: 604-348-2226

Kris Newman

Canadian Mountain Holidays Inc., Bugaboos

Telephone: 604-346-3391

Nelson Detachment

Cpl. C. H. Brandt (Cec) Telephone: 604-354-4104

Prince George Sub/Division

Cst. B. J. McLellan (Bruce) Telephone: 604-562-3371

<u>Terrace Detachment</u>

Cpl. L. Bretfeld (Lothar) Telephone: 604-638-0333

<u>Vernon Detachment</u>

Cpl. R. T. Boal (Tim) Telephone: 604-545-7171

The following Detachments will take information and pass it on to the Alberta Provincial Parks:

R.C.M.P., Kananaskis Telephone: 403-591-7707

R.C.M.P., Canmore Telephone: 403-678-5516

R.C.M.P., Banff Telephone: 403-762-2226

<u>Dogs for Avalanche Search - B.C. Provincial Emergency Program</u>

Russ Hendry Telephone: 604-342-4225 (Bus)

INVERMERE, B.C. 604-342-3894 (Res)

Anton Horvath Telephone: 604-932-3434 (Bus)

WHISTLER, B.C. 604-932-1110 (Res)

Tim Quinn Telephone: 604-673-8273 (Res)

BLUE RIVER, B.C.

Yvonne Thornton Telephone: 604-932-3434

WHISTLER, B.C. Loc. 338 (Bus)

604-932-5196 (Res)

Bruce Watt Telephone: 604-932-2300 (Bus)

PEMBERTON, B.C. 604-894-6262 (Res)

Canadian Avalanche Rescue Dog Association

Doug Fenton Secretary-Treasurer 25153-124th Avenue MAPLE RIDGE, BC V2X 4K6

Telephone: 604-979-6628 (Pager,

Voice/Digital Message)

604-467-0393 (Res)

Pat Coulter WHISTLER, BC

Telephone: 604-932-3434 (Bus)

604-932-5068 (Res)

Provincial Emergency Program (Ministry of Solicitor General)

The British Columbia Provincial Emergency Program co-ordinates most local search and rescue groups in the Province. Enquiries can be directed to:

Dave Brewer
Provincial Co-ordinator
Search and Rescue
Provincial Emergency Program
1257 Lucking Place
NORTH VANCOUVER. B.C. V7J 31

NORTH VANCOUVER, B.C. V7J 3L5 Telephone: 604-984-4915

Dean Monterey, Manager Search and Rescue, Coastal Sector Provincial Emergency Program 207-815 Hornby Street

VANCOUVER, B.C. V6Z 2E6 Telephone: 604-660-3725

Emergency Toll-Free

Provincial Government Emergency

Operations Center Telephone: 1-800-663-3456

(24 hours)

Zone Managers are located at:

<u>Victoria Zone</u>

Mr. N. Coward 3287 Oak Street

VICTORIA, B.C. V8X 1P8 Telephone: 604-387-5956

Vancouver Zone

Secretary Telephone: 604-660-3723

Chilliwack Zone

Mr. F. Clegg (Frank) 403 - 9200 Mary Street

CHILLIWACK, B.C. V2P 4H6

Telephone: 604-795-6408

<u>Kelowna Zone</u>

S. Patch

1917 Tenth Road

KELOWNA, B.C. VIY 7S6

Telephone: 604-861-7328

Kamloops Zone

Mr. M.E. Dyer (Murray)
455 Columbia Street

KAMLOOPS, B.C. V2C 6K4

Telephone: 604-828-4357

<u>Nelson Zone</u>

G. Hartley 310 Ward Street

NELSON, B.C. V1L 5S4

Telephone: 604-354-6395

Prince George Zone

Mr. B. Kelly (Bob)

505 - 280 Victoria Street

PRINCE GEORGE, B.C. V2L 4X3 Telephone: 604-565-6115

Terrace Zone

Vacant (Secretary during morning hours)

203 - 3219 Eby Street

TERRACE, B.C. V8G 4R3

Telephone: 604-638-3514

Courtenay Zone

Mr. B. Akehurst (Barry)

368B 11th Street

COURTENAY, B.C. V9N 8H5

Telephone: 604-334-2778

3. <u>EDUCATION</u>

Canadian Avalanche Association Training Schools

Box 2759

REVELSTOKE, B.C. VOE 2SO

Telephone: 604-837-2435

Courses for professional personnel

Federation of Mountain Clubs of British Columbia

336 - 1367 W. Broadway VANCOUVER, B.C. V6H 4A9

Telephone: 604-737-3053

Awareness courses: a) Avalanche Safety 1 (Introduction) b) Avalanche Safety 2 (Refresher)

Basic Avalanche Safety Manual

Canadian Ski Patrol System

T. Simper

National Avalanche Training Officer

RR2 Okotoks, Box 1117

OKOTOKS, ALBERTA TOL 1TO

Telephone: 403-938-2101 (Bus)

403-938-2131 (Res)

Alberta Avalanche Safety Association

Jack de Bruyn

8711-62nd Street

EDMONTON, ALBERTA T6B 1N5 Telephone: 403-466-6485

Backcountry Avalanche Forecast

Information Reports

Telephone: 403-466-4636

1-800-772-2434

Nordic Ski Institute

Box 1050

CANMORE, ALBERTA TOL OMO

Telephone: 403-678-4102

Awareness courses.

Ptarmigan Tours

Box 11

KIMBERLEY, B.C. V1A 2Y5

Telephone: 604-422-3270

604-427-2838

Awareness courses.

National Research Council Avalanche Research Centre

Peter Schaerer Dave McClung

3650 Wesbrook Mall

Vancouver, BC V6S 2L2

Telephone: 604-666-6741

604-666-8046

Research and University Education

Avalanche Films and Videos

Avalanche - 50 minutes

Ministry of Health Audio-Visual Library 1515 Blanshard Street

VICTORIA, B.C. V8W 3C8

Telephone: 604-387-6468

<u>The Snow War - 25 minutes</u>

National Film Board 1412 Douglas Street V8W 2G1

VICTORIA, B.C.

Telephone: 604-388-3868

National Film Board 100 - 1045 Howe Street VANCOUVER, B.C. V6Z 2B1

Telephone: 604-666-3838

(Production & Marketing Dept.)

<u>AVALANCHE</u> - 12 minutes (Video)

Kananaskis Country Recreation and Parks Box 280

CANMORE, ALBERTA TOL OMO

Telephone: 403-678-5508

<u>Avalanche Terrain - 9 minutes (Video)</u> Snow Profile Observation - 8 minutes (Video)

> Canadian Avalanche Association 3650 Wesbrook Mall

VANCOUVER, B.C. V6S 2L2

Telephone: 604-666-6741

4. WEATHER OFFICES

Atmospheric Environment Service

Correspondence and Equipment:

P. Pender Regional Director 1200 West 73rd Avenue VANCOUVER, B.C. V6P 6H9

Telephone: 604-666-8090

G.E. Wells Pacific Weather Centre 1200 West 73rd Avenue VANCOUVER, B.C. V6P 6H9

Telephone: 604-666-0523

Correspondence and Equipment (Cont'd):

E. Coatta Climate Information 700-1200 West 73rd Avenue VANCOUVER, B.C. V6P 6H9

Telephone: 604-666-2980

The Regional Director Atmospheric Environment Service 4999-98th Avenue Edmonton, ALBERTA T6B 2X3

Telephone: 403-495-3143

LIST OF WEATHER OFFICES IN BRITISH COLUMBIA

<u>LOCATION</u>		TELEPHONE (604)	OPEN HOURS (local time)
Vancouver		666-1083 666-1081 (Mtn. Fcst.) 666-1087 (Public Fcst.)	24 hours
Victoria	Tape	356-6629/6630 656-3978	24 hours
Prince George	Tape	963-7710, Office 963-7552, Office 963-9330	0215-0515 0515-2115
Kelowna		765-6598 765-1881 (Mtn. Fcst.) 765-4027	0445-0015 Seasonal
Kamloops	Tape	376-0727 376-3044	0630-1700
Fort Nelson	Таре	774-2302 774-6461 (With voice instri for tape or fax	
Fort St. John		785-6322 785-4304	0700-1500 1500-1700
Castlegar		365-3131	0630-1600
Port Hardy		949-6559	0715-1715

List of Weather Offices in British Columbia (Cont'd)

LOCATION	TELEPHONE (604)	OPEN HOURS (local time)	
Penticton	492-0539	0700-1700 (M-F) 0800-1600 (S&S)	
Terrace	635-3224	0710-1710	
Pacific Weather Centre	666-2728	24 hours	

(The Pacific Weather Centre is the main contact during hours when the local weather offices are closed. Unless otherwise indicated, all taped messages are for a general forecast.)

LIST OF WEATHER OFFICES OUTSIDE BRITISH COLUMBIA

BANFF, ALBERTA	Tape	403-762-2088	0600-1700
WHITEHORSE, YUKON	Tape	403-668-2293 403-668-6061	24 HOURS
ALBERTA WEATHER CENTRE	Tape	403-468-7931 403-468-4940	24 HOURS
CALGARY WEATHER OFFICE	Tape	403-275-3300	

CHANGES

Changes, additions, or deletions to this list should be reported to the Snow Avalanche Section, British Columbia Ministry of Transportation and Highways.

				:1
	•			
				÷
				:
				:
X				