

BRENT KOZACHENKO

Oral History Project

March 31, 2015

Interviewer: Edwin Knox

Waterton Lakes National Park

Cultural Resource Management



Wall – Forum Divide, February 2008 – E. Knox photo

Brent Kozachenko oral history interview

Interviewer: Edwin Knox, WLNP – March 31, 2015

Edwin: It is the 31st of March 2015 and I'm here 14 kilometers south of Pincher Creek on the Christy Mines Road in Brent Kozachenko's new "post and beam house" ...a beautiful place.

Brent: "warden station" (laughs)!

Edwin: "warden station" yes it's very much like a "warden station" Brent. Brent was our "Visitor Safety Specialist" in Waterton Lakes National Park for 25 plus years.

Note: Brent's last snow study profile was in the Rowe Valley north aspect above the meadow on January 31, 2012 with Anders Hawkins and Edwin Knox. He retired May 26, 2012 ...27 years employed in Waterton.

Brent: Yes different names the whole time (Visitor Safety versus Public Safety).

Edwin: We are going to talk a little bit about the avalanche safety program in Waterton Lakes for the purpose of documenting this history, and in the near future, to share with members of the Alpine Club of Canada Southern Alberta Chapter in their spring newsletter. Brent and I have looked at the permission and consent form to use this oral history recording and transcript as is outlined in the agreement form (no restrictions noted). Brent, I'd like to start off the interview with an overview of your career working for Parks Canada. When and where did you start your career Brent?

Brent: I started in May 1977 in Prince Albert National Park as a ...not sure if I was a Park Warden or a Patrolman, perhaps a Patrolman. And I spent 3 seasons of varying lengths (4 to 6 months) in Prince Albert and a bit of winter extension a few times. I was posted full time to Wood Buffalo (as a Park Warden) in early 1980. I was up there for a little over a year and then transferred to Nahanni Park in about May 1981 and living at Nahanni Butte until December of 1984 and started in Waterton in January 1985.

Edwin: And when did you get in to skiing? Can you tell me a little bit about some of your first forays in the snow-clad Rockies?

Brent: In Waterton in particular?

Edwin: You ended up running the Visitor Safety Program in Waterton with the winter avalanche safety program but you did not start out in the Rockies.

Brent: Well I kind of did start out in the Rockies. I'm from Saskatchewan and I took a resource program in Saskatoon and while I was there I met Will Devlin (also worked with Parks Canada for a full career in Banff and Yoho National Parks) ...kind of two things came together ...Will Devlin and also Caron's uncle and aunt from Calgary who always had a condo or cabin in Banff or Lake Louise. They offered us the use of it and we took advantage of that several winters and

went up and ski toured and stayed at their cabin a little bit and also stayed at the hostels. The second year I was in the resource program in Saskatoon ...Will Devlin was a Rockies type guy ...he is from Ontario but he loved the mountains and he had friends and contacts in Field and he proposed a ski trip once or twice, pretty much driving out Friday night, skiing all weekend, maybe Monday too and then coming back to school whenever. We did that once, maybe twice, I can't remember. So kind of introduced to skiing that time ...mostly downhill but also ski touring on really lousy old gear. That's all anybody had you know.

Edwin: Had you cross country skied before?

Brent: Yes. I'd done quite a bit of cross country skiing. Not a lot but I found that skiing wasn't that hard to pick up. I skated lots, played hockey lots and I think people find the balance and the motion similar.

Edwin: And when you came out on the foray from school where did you end up skiing with Will?

Brent: Lake Louise ...he had buddies out here, he'd have passes arranged. We'd just ski our legs off. The objective was to be at the hill at 9AM Saturday morning. We made that. We'd ski all weekend and if the skiing was real good we'd ski Monday too. And I remember skiing the back side a lot and the back side wasn't open back then. It was uncontrolled country so that was an introduction for me to some big terrain.

Edwin: And did you get in to some touring other than the ski resort? Did you go up in to the Bow Hut area?

Brent: With other friends over the years went up to Bow Hut. Once again on the "misery sticks" ...the skinny skis, I was up to places like Molar Pass and skied out of Hilda Creek. We did use the hostels for touring and actually you know Caron was getting in to it too and you know we enjoyed the touring more than we enjoyed the ski hills.

Edwin: And what years were these?

Brent: This was the late 70's ...the early 80's.

Edwin: And when you started with Parks Canada ...in Prince Alberta and Wood Buffalo did you get out skiing those years in to the mountains?

Brent: Oh yes we'd take holidays and go do that plus I was seasonal in Prince Albert and I'd usually have the winters off and we spent a fair bit of time "out west". Also one winter ...Prince Albert had quite a system of cross country trails ...we ran a little ski shop for a guy, renting out cross country equipment ...just to pass the winter by.

Edwin: And when you would take these trips up the Icefields Parkway would there be a sense of avalanche awareness on your part ...a day when perhaps you shouldn't be going out (in to avalanche terrain)?

Brent: Well you know what it was ...it was the mentor system. A guy like Will who had learned from his buddies I think out there. He was fairly careful although we skied some aggressive lines. We skied places that avalanched close by but the actual lines that we skied on the backside didn't go so I think these guys knew what they were doing more or less ...as much as you can in that game. And we'd get information from the youth hostel house parents. They would let you know. At Parker's Ridge (Hilda Creek Hostel) they were really good at warning everybody – where to go and where not to go as the area has a real history (of avalanche involvements) – it still does. The other part of it for me was just some of the people I travelled with. You know going on to the Bow Glacier with lousy gear and everything. Just talking to the guys. We talked about the risk. The guys I was travelling with they were older fellows and they'd done quite a bit of this. They were from Calgary. And they said oh you know you are at way more risk just driving down the highway ...driving down the Trans Canada – then you are up here. They knew a bit about where you should move fast and where you shouldn't. Although the gear was lousy. There really was no avalanche safety equipment. Once we were up there we were talking about crevasses and the guys said don't worry about it - just stay in somebody else's tracks and you will be fine. I didn't think that was quite right. Interestingly I met a warden group ...a warden coming up with a couple of guys. I remember John Fla. I think he was leading it. They were doing everything right – even back then. Big heavy gear on but all the safety equipment. Probably beacons. And a rope for sure. This was just below the Bow Hut where it drops over and gets steep. I'm looking at these guys and thinking maybe that's the right way to do things.

Note: As early as 1960 Park Wardens in the mountain parks were receiving annual training in ski technique, avalanche science, and avalanche rescue. Leaders of these schools included Walter Perrin, Jim Sime and Bob Hand (WLNP Archives Box 120 item 5 "Winter Ski & Rescue School 1960 to 1965).

Edwin: Eventually your career took you down to Waterton. What was the avalanche safety program like at that time in Waterton and the other mountain parks? Perhaps you can get in to (describing) your role then that became part of that safety program.

Brent: You know I was brought down to Waterton in 1985. Max Winkler hired me. And he was pretty specific that he didn't want me to do too much that first year or two. He said your job is to get out there and learn that park, learn about the systems, learn about the public safety stuff but you know that's not how it works out. Max's health wasn't that good so he wasn't around too much. He retired about the end of 1986. But Derek Tilson and maybe some other guys ended up acting (for Max) as Max was having "ticker" (heart) problems. I'll get in to what it was kind of like when I got there. My memory is imperfect. I had a lot going on in my head back then. There were lots of other concerns. It wasn't just a public safety job. I was brought in to be a Park Warden and the Park Warden had a whole bunch of goals and activities. It (Public Safety) was just one of the things I did. The avalanche program when I got there was documented through Superintendent's Reports. There was a little bit of an avalanche atlas, perhaps

compiled by Larry Harbidge or Evan Manners ...guys like that who seemed to take an interest. They actually started naming some of these slide paths up the Cameron Lake Road, Red Rock Road and even the ones behind the Townsite. And they kept a few records. There wasn't a whole lot but there were a few paper records of avalanche activity. I think it stemmed back to the late 1970's ...a big avalanche at Cameron Lake that threw lake ice up on to the lakeshore quite a ways. It actually punched out the whole lake. And the operating system then ...I think the road was open then but what they would do was keep the road open until the Chief Warden felt it wasn't safe anymore from an avalanche or other point of view and he would close it. So for the most part the road would be closed fairly early in those bigger snow years, like they were, and it would stay closed from what I understood. And that did happen I think the first year I was there. Max closed the road when he felt it wasn't safe anymore ...there was a threat from some of the slide paths and there was no access. And I don't think we even went up on skidoos. I can't recall spending any time doing that in those years. So that went on for the first year. The second year I don't recall it really happening. I don't think Max was around that much and Derek was more open minded ...more progressive and we discussed the risk. We'll just watch and see what happens. We started actually documenting things and issuing public notices ...avalanche bulletins and maybe we can manage the risk differently and provide a greater skiing experience for everybody – more access up there.

Note: refer to Appendix 1 – “Issue Analysis – Alternatives for Winter Public Access to the Cameron Valley, WLNP – Resource Conservation, November, 1986” (WLNP Archives Box 121 item 15).

Edwin: Were they issuing bulletins like that in the other parks ...like Banff? Were they ahead of Waterton?

Brent: I expect they were. There was no computer contact back then. So in order to find out about that you would be talking to guys. We would phone. I remember talking about some avalanche concerns a few times. It wasn't too long after that – maybe a year or two, that we started issuing bulletins regularly ...maybe 1986 or 87.

Edwin: How were avalanche bulletins distributed in the early days ...who were you distributing them to?

Brent: You are taking me back quite a long ways! I think we had trail head signs. First of all I remember guys ...I remember doing it myself - writing up occurrence reports ...“the avalanche hazard appears high”. They were these paper copies. You know everybody looked at them. One copy went to the Chief Warden. It was a way of getting information around before computers. So if someone felt ...or if someone was assigned to do it ...nobody was assigned to do it when Max was here. That changed when (Al) Sturko showed up. That's when it became more formalized. We started issuing regular bulletins. And how we did that ...we'd write something up and we'd send it away to Regional Office – in Calgary. And they were receiving bulletins from Banff and Jasper and Roger's Pass, which was probably the lead in all this. Thinking back on this

I think it was probably Roger's Pass that was the first on to get in to regular bulletins. And we'd post them at the trail heads. And we had an "avalanche indicator sign" and we would use that. That may even have been there when I got there ...I can't remember. It was at the warden office entrance (...same spot as the sign is today communicating avalanche information). Used (to communicate) "Fire Danger" in the summer and "Avalanche Danger" in the winter. So again my memory is not perfect on this stuff. We would send these reports off and often we would read them in to the CAA (Canadian Avalanche Association) ...the Canadian Avalanche Center was just starting up and they wanted to receive these reports. We were already issuing them. They wanted to become the clearing house for avalanche information, which is exactly what happened. And we would read our report in to their data base ...tape machine I guess. People could go through the menu and select which avalanche bulletin they wanted to listen to.

Edwin: That was getting in to the early 1990's because I can remember being tasked with that (reading the bulletin in to the avalanche center telephone) ...perhaps 1992 or 1993.

Brent: Yes ...but it started before that. The other thing we did was ...we started to use the Teletype machine (electromechanical typewriter). Do you remember that?

Edwin: No.

Brent: We distributed bulletins to Calgary (Parks Office) on the Teletype. I would write up a bulletin and I would take it to the Admin Office (the old Admin) and somebody would put it on the Teletype and send it off.

Edwin: Yes ...an instant way to transmit a message.

Brent: And there were some other things that popped up just about the same time. Computers showed up about 1987 ...88, with any real force. It changed quite quickly after that. We went through a whole bunch of different versions of getting information out – a whole lot. It is hard to keep those straight.

Edwin: And it has progressed today to being ...transmitted again through Avalanche Canada ...just new technology communicating the same messages (as was the intent in the early days).

Note: refer to Appendix 2 – "New mode of informing public about avalanche threat" by Susan Quinlan, Prairie Post West, November 25, 2011, page 7 ...excellent article quoting Brent re the new interface for communicating avalanche danger to the public.

Brent: I'm sure the CAA would have some records on this. I remember them coming and asking similar questions. I know when they started issuing their kinds of bulletins it was mainly collecting from the National Parks and redistributing them through a common point which is a good idea you know.

Edwin: So back in 1985 ...86 ...87 it became something that was on your radar on a daily basis through the winter. And like you were saying even before you got to Waterton it was something that was discussed amongst the group as far as avalanche safety ...to visitors.

Brent: Oh yea we were not totally naive even though we were from Saskatchewan! But you know there was a bit of mentorship thing going on. And there still is, for sure. Usually the people you would go out with would have some knowledge of what's happened before and what kind of places could be nasty. In 87 I guess, when I first moved to Waterton it was more of a general warden role. I think I was chosen to take the Public Safety spot but they didn't have any designation back then. (Following Max's direction) I spent a lot of time doing general warden things. Also got sent on many training courses the first number of years for public safety, rescue and skiing and all those various skills ...horseback.

Edwin: Who would have assessed your attributes ...that put you in Waterton's radar (to take the lead in Public Safety)?

Brent: How did I get to Waterton? I think I can thank Willi Pfisterer for that. He was up a couple of times to Nahanni doing basically rock climbing rescue training and he enjoyed himself. I got along good with Willi. Willi and Peter Fuhrmann ...they were the mountain park rescue specialists. Nahanni was one of his (Willi's) parks to look after. He loved coming up. He liked that place. He had a good time up there.

Edwin: And in Waterton Max had a mountaineering background. And perhaps it was seen that you would fulfill a role that was needed in Waterton.

Brent: Max had the background but he had some health issues and really wasn't active anymore. I kind of took over from Larry Harbidge. We crossed over for a couple of weeks when I came in so he kind of showed me the ropes ...some of these programs. I remember him talking about the avalanche program. It was not well documented but it was kind of already there. I didn't walk in to it blindly.

Edwin: So the program evolved then as need was there ...more people coming to the park. You were saying the Cameron Road was closed often in the winter. Where were the other ski opportunities for visitors that would come in to Waterton in those years?

Brent: Cameron Road was only closed for the first couple of years and then we did our best to keep it open. The park had quite an extensive winter program or "winter offer" compared to what is available now as far as road access is concerned. The Cameron Lake Road was open (as far as Little Prairie) as avalanche conditions permitted and the same with the Red Rock Road ...up to the parking lot. And we had a ski trail a few miles up the Chief Mountain Highway "Sofa Mountain Ski Trail" and the Belly River had a ski trail system. There was some expectation after a snowfall to get out there on a sled and get these trails set ...either packing with the skidoo or with the track-setter as well. And that would be a full day, trying to do (pack) all those trails.

Edwin: You were using the same track-setter that we use today?



Brent ...photo showing the old track setter behind the sled March 3, 2006 – E. Knox photo

Brent: Oh yea we had it built in the late 1980's. I remember that. We designed it and had it built by a local welder ...Jeff Watson built it. Previously they had a "commercial" machine that was unbelievably difficult to use ...unwieldy to load and unload. Al Sturko (Chief park Warden) came in and said get rid of that thing ...just build a simple one. He was bang on. We are still using the same one I guess. Good enough.

Edwin: It is understood by yourself and others in the community of snow science that Waterton's snowpack isn't exactly a typical "Rockies" snowpack. Not to make any firm generalities but what is meant by that ...more of a "Coastal" snowpack some winters?

Brent: What's meant by (laughs) ...you know as well as I do Edwin – you're just tricking me here (laughs). We've talked about this a million times! It is kind of a hybrid snowpack, shows elements of both the Continental and Maritime snowpacks. We have the influence of the warm weather and the big winds in some winters and other winters there can be little of that.

Edwin: Unlike Lake Louise which often has a poor base layer Waterton will quite often have a good solid base?

Brent: I'd say ...my experience that it's most of the time ...not all of the time. Not all places for sure but most of the time we have a pretty solid under-base. It certainly isn't like Banff. I used to think that just watching the weather over the winter our temperatures would average 5 degrees warmer ...just due to the Chinook factor. And we're farther south too.

Edwin: That can make a big difference in the quality of the snowthe strength of the base of the snow.

Brent: You bet ...so as a result, we've talked about this too, people can ski scarier, steeper places with regularity and get away with it because avalanches become a little less likely under those conditions.

Edwin: Another thing that we've talked about over the years ...Waterton's forecasting area is primarily focused on the Cameron Lake area along the Continental Divide ...and Brent are their peculiarities in that area that can sometimes influence the snowpack's stability that one should be mindful of ...for instance topography and how the wind isn't consistent "across the board" ...thus surface hoar could survive some wind events.

Brent: Yes we have seen that. We've seen places where the wind ...you would not expect to see surface hoar surviving due to winds and warm temperatures and yet it has been there and has caused avalanches and avalanche accidents ...in places which are lee slopes where the wind is not really curling in. Or even on steep slopes where the wind seems to split like Cameron Lake ...the north south (valley) ...along the Summit Lake side ...the wind seems to split and go over Grizzly Pass ...and then down the Cameron Valley. And it (the wind) seems to leave the center of that area kind of untouched and that's where one of the slide paths is still evident ...that's the one that almost got Keith McDougall. There is some quirkiness to any avalanche terrain in the winter.



Cameron Lake from Forum Ridge February 2015 – E. Knox photo

Edwin: Yes ...related to topography and wind and how it works locally versus the regional ...bigger picture.

Brent: And we get the severe winds and the wind loading and the big cornice formation. And that happens other places too.

Edwin: Have you any incidents of note that you remember from your work that you would like to share? Any near misses or rescues that come to mind? Healey Creek and your participation on the large, organized search from February 11 1990 ...the large avalanche that killed 4 and the 4 day search in very cold temperatures.

Brent: Yea that was an unfortunate incident ...happened on a Sunday during a warm storm and then on Monday it turned very cold. It was a heavy, heavy snowfall. I was up at Roger's Pass with Randall (Schwanke). We drove up on the Sunday (from Waterton) and because of the avalanche incident that happened Sunday everyone was kind of on hold on Monday. We were finally given the notice to drive down to Banff and join the rescue attempt. Our course in Roger's Pass was cancelled and they pulled everyone down to Banff to help out with the rescue. It turned real cold, like minus 25, minus 30C, so that was a mitigating factor right there. We showed up Monday night and we were there two days in the field. I'm not sure if it was the second day or the first day we were there we started finding the first of the victims. I think it was the 2nd day. It happened Sunday ...Monday and Tuesday looking, recovered Wednesday. They attributed some of the success of that recovery to just having teams out there poking holes in the snow. It was so cold it froze up over top, lots of debris from broken trees. And poking a whole bunch of holes with probes ...in organized probes plus random probing opened it up enough that by Wednesday the dogs were able to sniff out a few, but actually the first find was visual. Somebody looked under a bush and saw a ski tip. And the other thing to note about that incident is that the folks got hit when they were in heavy timber along the edge of the slide path, actually a place that most people would think would be safe.

Edwin: It was a huge avalanche.

Brent: Yes ...they weren't really in a spot where we expected to find them.

Edwin: What was your role in the organized search?

Brent: I worked as a random prober working with the dog team ...poking holes around places where the dogs were showing interest. And when we did have a hit the next day I was on the shovel team. Dug one guy out and then shortly after that there were a bunch more hits ...they were all found shortly after. Dug another one out that day. And then they started to scale down and the next day we went home to Waterton. But the cold was certainly a factor in that one. It was very cold out there.

Edwin: It would have been difficult for the teams to work.

Brent: Banff did a great job. (Tim) Auger was in charge. Lots of assistance from Sunshine (ski resort staff) as well as other park staff.

Edwin: 1969 ...December ...the 5 young Montanans who died on Mount Cleveland. Do you remember stories being told around the Warden Office about that event?

Brent: I don't know, I don't recall where I might have picked it up from. Al Sturko again. Coggins may have been around but Sturko certainly was. And Sturko spent his time driving the boat up and down the lake until it got too cold they couldn't do it anymore. And the other guy that was on that was Kurt Seel. He did talk about it a few times as well. You have read the documented reports so I'd just be regurgitating what is in there. These guys were supposed to do the north face. It looks like they tried, found it too difficult so pulled off in to the west bowl and got hit by a big avalanche in there.

Edwin: Early season ...December 26 – 29th about.

Brent: I don't remember any real different revelations from that. I remember some comments, maybe from Kurt Seel about how crazy it was to try and follow track up in to that north face you know. Seems like there was a lot of controversy ...conflict about how to approach this thing. I think one of the Canadian specialists (mountain safety – from Banff) came down. It might have been Pfisterer. They might have had a few other guys down as well. And the US ...had their Park Rangers on the scene as well. They operated until they really couldn't get down there anymore with the boat. They had helicopter access too but this is a long time ago you know. So helicopters weren't as available as they are now and they weren't the same kind of machines too. And then they just pulled off. Again a controversial decision for them for sure. It was obviously the right one.

Edwin: And the bodies (of the victims) were retrieved in the summer?

Brent: July.

Edwin: That was a tough rescue and like you say well documented. It is part of the Waterton cultural history ...of the winter safety program (WLNP archives Box 121 item 5).

Brent: I just remember Sturko talking about how difficult it was to get that boat up and down that lake. The ice would build up on it. It would get heavy. That big steel hull. It would just wallow. They probably pushed that farther than they should have. Using the boat for access. The lake started to freeze up and then they just couldn't (boat) anymore. Crazy.

Edwin: Any other recollections of avalanches or near misses that come to mind?

Brent: Well I've been pretty lucky myself. I can't really relate to getting actually caught in an avalanche myself. Remember that wet sausage roll got me once ...on Forum Ridge? That just knocked me over and stole my ski (laughs).

Edwin: Well you approached things very carefully ...as you should, over the years.

Brent: There is an element of luck in everything you do. But an element of calculated risk I guess ...if you can make a risk decision based on the best knowledge you can get. Using your head ...then you're a little farther ahead. But ...I don't know, accidents ...they are not that common in Waterton. Not reported ones at least. We were lucky up until last year. There was an old report that I always found interesting of an avalanche in the time of Lineham oil wells operating and they were trying to freight something in there in the winter time and an avalanche came and took about three or four freight horses – pack horses out (laughs). I dug that one (story) out somewhere. Have you seen that one?

Edwin: No. It doesn't come to mind. I'll have to look for that record (in the archives).

Brent: There were a few horse fatalities prior to anything else.

Edwin: They moved around ...all through the winter related to the oil industry at the turn of the last century. Quite a thing. Near starving to death too up at Oil City, apparently near running out of food and (in the winter) having quite a time getting to Pincher Creek, or I suppose Twin Butte for grub.

Brent: Probably shot everything in sight. It would be all gone in no time. Not much in there anyway.

Edwin: Brent, you met a few interesting people during your career, your time with Parks Canada who were involved in mountain safety. Can you tell me any stories of time spent with, or incidents surrounding Willi Pfisterer? Where did you travel with Willi?

Brent: Well up north originally. And when I came down to Waterton ...he wasn't assigned Waterton. It was Peter Fuhrmann's responsibility. I saw Willi on the odd training school. And the last one I really recall is the trip up the Gong Glacier (just north of the Columbia Icefields) we made in the summertime with the group. He ran it differently you know. Instead of having a big group exercise he broke us up in to small teams and sent us on pretty challenging objectives. It was four or five days of climbing like that, you know. Basically on your own and doing some snow and rock ascents in the area of the Gong Glacier. And you know he talked about it too ...about "leadership", and you know I wish I would have had one of those little machine like this (pointing to the recorder) because he gave quite a good lecture on his thoughts about leadership and what it means and what works and what doesn't. And he talked about the setup of that particular course and why he wanted to try something different. Instead of just the leader with all the followers ...it was like, OK, we'll do alpine ascents in small teams and different objectives. But an interesting fellow you know.

Edwin: Willi Pfisterer ...came over from Austria to help out with the Parks Canada program. Did you travel with Hans Feurer from Kootenay National Park?

Brent: Yes, on quite a few of these courses. He was on this Gong Glacier trip and we ended up travelling together, I think, most of that week on some of these objectives. He was a good guy. Another European talker (laughs).

Edwin: He worked for years in Kootenay (National Park).

Brent: Yes ...he was Kootenay, and back in those days each park had a "Public Safety Warden" ...would be the term for it. It was always the big parks which was Banff and Jasper. And the small parks which was everybody else ...Kootenay, Yoho, Glacier and Waterton. And the odd time we'd have some participation from Kluane, up north, but not often. Too expensive I guess.

Edwin: And Glacier (National) Park, south of us in Montana, they would participate locally in some of the Waterton training.

Brent: Yes we did ...over the years. That would kind of wax and wane but it was something we tried to pursue and keep going as much as we could. Inviting them up to our courses and trying to attend the odd session they might have down there. It is still one of the most interesting, rewarding parts of that job, was working with the Glacier Rangers. And I might say, B.C., at the time too. B.C. Parks, when they established Akamina ...were pretty active for a while, until they got to the point where they couldn't really have any staff around anyways ...so, the joint training was kind of done at that time.

Edwin: Did you know Peter Schaerer?

Brent: Yes, I did. I met him on an avalanche course - CAA Level 1, I think 1988 I took it, or 87. It was at Boulder Pass west of Kimberley. Who was the guy that owned that hut ...he and his wife? He (Art Twomey) got killed in a helicopter accident flying in to the place.

Edwin: Yes, I remember hearing you mention the name. And his wife (Margie Jamieson) who worked in the avalanche safety industry for years afterwards.

Brent: Yes, a real good guy.

Note: Brent is reflecting on a crash that occurred on Jan 11, 1997 where all 5 people on board died. They were flying to the hut in the Purcell Mountains for a similar avalanche safety course that Brent attended with Peter Schaerer ten years earlier. No cause of the crash was definitively determined. Weather conditions were felt to be a factor.

Brent: Anyway, Peter was an instructor on that course. We did seven or eight days out there ...nice travelling. A good guy to be with. And we talked about avalanche problems, for sure, and we talked about Waterton too quite a bit. So I got him to come down. He was working with the National Research Council which was the only snow science group back then and he agreed to come to Waterton and do some initial avalanche zoning ...of the Townsite, the maintenance compound and the Cameron Lake Road. So we had him down the next summer.

Edwin: And that work is still referenced today.

Brent: Yes ...well you know it was challenged at one time after we had it done by some of the cabin owners, and the point was made that it is probably the best report you will get by the best avalanche guy in Canada at the time. And I don't know if that's really changed much. There

may be different standards for how they do it now. There is, but really the basics haven't changed much from what I've seen. But anyway Peter was a good guy ...good to work with.

Edwin: And he is still a healthy, active man. He is part of the "veteran guard" of Avalanche Canada. He participates in a lot of annual get-togethers.

Brent: Good for him.

Edwin: Reflecting on the town (Waterton Park townsite) ...are there stories on occasional closures over the years because of big snow events ...the south end of town?

Brent: I remember doing it once ...we may have done it one other time when we were worried about a big build-up up there. But you know the tools are so imprecise. I tried to come up with some criteria to help make that decision. It was pretty hard to do. We just don't know what is going on up there ...at the top of those ...Bertha Peak. Cameron Lake gives us an indication but it's not quite the same. You know the idea there is just to be more, you know ...if we feel there is a big build-up that is conducive to a big slide just to be more proactive. Perhaps close (the road in to the south end of town) earlier rather than later. But over the years it has turned out that we haven't had to do it too often. We haven't had too many concerns. But there have been a few surprises pop up ...spring snow over the trail.

Edwin: Anyone from Glacier National Park of note that you have worked with over the years in the winter mountain safety program. How does it compare?

Brent: It's a different game for them. They are not doing formal assessments or issuing bulletins. They are collecting information for the regional bulletins ...Northwest Montana Avalanche Association (Flathead Avalanche Center). That's park policy. Just having discussions with the guys over the years it seems to be driven more by liability concerns than anything. They are not saying much so they don't get hammered for saying something. That's kind of sad if you ask me. That's what happens when the lawyers run the world. A bunch of good guys (the rangers) and many of them have quite a bit of knowledge. Some have taken extensive avalanche courses through the American Avalanche Association and some have also taken some of the Canadian courses. Guys that stand out ...let's see ...you know back in the days when it was Wardens and Rangers and we all got out it was ...you know we had some big trips up through Goat Haunt and out to Lake McDonald with a dozen guys ...six Rangers and six Wardens. And you know that's pretty impressive, that's a pretty big group of all pretty decent travellers. Now we apparently have trouble getting a few guys out to do a few days. But that's the nature of the game ...that's the nature of our positions now. They talk about some of the older fellows ...Jerry DeSanto, Dick Matson and there were some other names that I can't recall that were well known down there as well with rescue and avalanche work. There are lots of guys that are active still and do get out but apparently that's tougher and tougher to do down there as well like it was for us.

Edwin: Brad Bliken and his circumnavigation of the park retracing the old patrol of Norton Pearl (circa 1910).

Brent: Yes Brad's been active for 15 years or more. And new guys like Brett Tim. A paramedic (Rich Browne) there who was very keen on summer and winter work (mountain safety) ...he ended up in California ...Yosemite or Kings Canyon.



Brent, Rich Browne and Waterton wardens practising on Bear's Hump April 2007 – E. Knox photo

Edwin: Over the years Waterton has had a great relationship with ...the work back and forth (Glacier National Park).

Brent: We have and you know that has been fostered by good Superintendent's and good Chief Wardens who have taken the time to make it a priority. Some of the meetings and some of the trips that we did have. And the "joint agreements" that were in place for ...were created for fire and search and rescue ...other things ...a good way to manage a big piece of land like that. They had skills, had things that we couldn't do and we could offer them some of the rescue ...the helicopter sling work that they couldn't do for other reasons. In the end it balanced out. Bill Dolan (Chief Park Warden) and I used to talk about this, how things balance out. We provide some rescue services. Maybe we don't bill them for it ...the whole thing. Maybe we don't bill them at all. But they provide us (for example) with the native tree nursery and lots of plants for

“rehab”, and other services we get from them. At one time we could do that. I don’t know if we can do it anymore.

Edwin: It is a wonderful working relationship (still is).

Brent: Well keep it up then!

Edwin: Have you any reflection of the sport of ski touring and boarding as you have seen it evolve over the years in Waterton? People often ask.

Brent: Well the gear has changed so much Edwin. You know when I got to Waterton I was given a pair of incredibly heavy skis and told to borrow somebody’s ski boots for the first two years you know (laughs). And I’d killed my feet. The old red “Hanwags” ...those big heavy boots. And I finally went ...I think after a year and a half ...I made a trip in Banff. I said screw this. I went to Monod’s and picked out a pair of boots and I brought them back and I gave Max the bill. I thought I was going to be in big trouble. He paid it. He didn’t give me too much trouble. I said I’m not doing this anymore (poor boots) ...it is ridiculous (laughs). So the gear has changed hugely and that was the first pair of plastic ski boots ...type of touring boots that were out there ...and they were Hanwags as well. But things have gotten lighter and easier to ski on. And what more could you ask for. The board stuff, the split-boards, that’s just people being inventive. I don’t have a problem with that at all.

Edwin: They are having fun out in the mountains.

Brent: They are getting out ...they are doing it!

Edwin: And numbers ...do you see it.

Brent: Oh, way more! For years. And even since you were around. You know as well as I, many winters there weren’t a whole lot of people out there. The Chinook Outdoor Club in Lethbridge has been one of the main users for years. They were basically a once a week, Sunday type shot. And they went to pretty much designated places. And usually on light gear so they were telemark or cross country type folks, so people pushing in to bigger terrain with usually heavier equipment, started to happen in probably the late 1980’s, early 90’s. And we went lots of places ourselves just to see what they were like. It was partly gaining confidence and getting out there more we started issuing regular forecasts. We started out once a week by the late 80’s. So once a week, that meant getting out at least once a week and then we went to twice a week probably by the mid 90’s or so. And there was more and more people getting out there. More demand, so more information is a good thing.

Edwin: But still there aren’t that many people on any given weekend day.

Brent: No, no, it’s never that busy. It’s all relative. It’s not Roger’s Pass. But like you’ve said before you start to see the far end of Forum Ridge getting skied off. We would never ever see that in the early years you know ...so. The other thing I’ve noticed is the gear is good. It’s expensive and people have money. So we’ve got young people with a fair bit of disposable

income and then can afford to buy this stuff, and do it right with good avalanche gear, good ski gear. The outfits are expensive.

Edwin: And hopefully taking good avalanche safety courses.

Brent: But you know back when we started you couldn't buy the gear. You went to the army surplus and got some wool pants and some wooden skis. Whatever you could get going on.

Edwin: Well Brent this has been great to give me the time to tell me this history. It is important that it gets recorded. It is an interesting part of Waterton's history.

Brent: I wish my memory was better for some of these names and places. I think I was lucky to be there at a time when things were quiet there ...I had time to learn about some of the snow safety stuff. It wasn't that busy and it never really will be that busy I guess. Certainly a different game ...certainly a way more professional these days – which is good.

Edwin: Absolutely. Well anything more that we should cover

Brent: Oh God I'm talked out. I might need a beer now (laughs)!

Edwin: Very good (laughs) ...well thanks Brent.

Brent: No problem Edwin.

P.S. Files -
Avalanche

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Appendix 1- B. Kozachenko oral history

Issue Analysis

Alternatives for Winter Public Access to the Cameron
Valley, Waterton Lakes National Park.

Resource Conservation
Waterton Lakes National Park
November, 1986

Issue Analysis:

Alternatives for Winter Public Access to the Cameron Valley, Waterton Lakes National Park

Objective

- options to safely and effectively allow winter public access to the Cameron Lake road and ski trails are presented and analyzed.
- recommendations for future access and avalanche forecasting programs are presented.

Background Information

- road access to the Cameron Lake area has existed since approximately 1921 (Parks Canada 1984).
- winter use of the road and area is not well documented, but certainly has occurred. At times the entire road to Cameron Lake has been plowed (J. Zieffle pers. comm.). No avalanche incidents involving injury to persons or personal property are recorded or known from this area.
- a small ski hill was operated on the slopes of Mt. Lineham in the late 1950's (Parks Canada 1984). Ski races were also being held on the open avalanche slopes of Mt. Custer.
- a 1961 study evaluated the potential for ski hill development and operation at several park locations, including Lineham and Forum peaks in the Cameron Valley. Weather conditions were given as the limiting factor and ski area development was not considered feasible (Parks Canada 1984).
- oversnow vehicles used the unplowed Cameron Lake road from the mid 1960's to approximately 1976. The Park Management Plan (Parks Canada 1978) recommended elimination of snowmobiling due to noise and potential environmental damage. The activity was discontinued also because of decreasing usage, avalanche hazard, and potential adverse effects on wildlife populations (M. Winkler, pers. comm.).
- crosscountry skiing became an increasingly popular recreational pastime in the early 1970's. The Red Rock Road was initially kept open in 1975-76 to allow skier access to the Snowshoe Fire Road (Parks Canada 1978).

- other ski trails have been developed near Sofa Mountain and near the Belly River campground.
- the present criteria for winter use of the Cameron Road are as follows;
 - 1) Road plowed as far as Little Prairie picnic site when time and weather permit (low priority)
 - 2) Road closed when avalanche hazard is high or extreme
 - 3) Ski trail set to Cameron Lake from Little Prairie following old and new road, creating approximately three kilometres of easy trail
 - 4) permanent snow study plot maintained near Cameron Lake by Warden Service. Snow profiles and down avalanche survey recorded weekly, avalanche hazard forecast issued at least once a week (Parks Canada 1985)
 - 5) Warning signs placed on highway and ski trail near existing avalanche run-out zones.

Factors

- 1) Backcountry and Crosscountry Skier Usage
 - the best and most consistent snow conditions for skiing in the park are in the upper Cameron Valley (Parks Canada 1984).
 - statistics on skier usage have been collected since 1974 and are shown in Table 1. The figures quoted have been collected by several different methods, but in all cases should be regarded as minimum estimates only.

Table 1 Annual skier use estimates, Waterton Lakes National Park, 1974 to 1985 (compiled from Visitor Services files, Warden Service Annual Reports).

<u>Winter Beginning</u>	<u>No. of Skiers</u>	<u>Comments</u>
1974	168	actual count from weekend registrations
1975	534	"
1976	702	"
1977	1140	"
1978	1073	"
1979	1008	"
1980	849	numbers extrapolated from weekend vehicle parking lot counts,
1981	757	"
1982	866	"
1983	1136	"
1984	1864	"
1985	1083	"

Factors continued

- analysis of the actual use of the Cameron area is difficult. Road closures in particular bias collection of annual data, however when skiing conditions are good and the road is open up to 75 skiers per day have been using the area on weekends. Many venture off the track-set ski trail and tour in the Summit Lake and Akamina Pass/Wall Lake area.
- the Chinook Outdoor Club from Lethbridge is a frequent user of the area when the road is open.

2) Avalanche Hazard and Control

- figure 1 depicts the existing avalanche slide paths that may affect the Cameron road and/or trail
- historical records are few, but indicate the following;
 - 1) slidepath 2 and 4 have thrown snow dust and branches across the creek canyon onto the road on one occassion (M. Winkler, pers. comm.)



Figure 1. Existing avalanche slidepaths which may affect the Cameron road or ski trails. Cameron Valley, Waterton Lakes National Park,

- 2) slidepath 10 has covered and burried the road twice in the last 25 years (J. Zieffle, pers. comm).. The path in normal snow years can be expected to regularly run at least as far as the road (Warden Service files).
 - 3) slidepath 13 has run as far as the road on one occassion (J. Zieffle pers. comm.)
- slidepath mapping was done with the help of aerial photo vegetation analysis and historical records. When unusual snow or weather conditions exist other slopes may harbour potential avalanches.
 - detailed assessment of the potential avalanche hazard in the Cameron Valley is beyond the scope of this paper. However a preliminary analysis, based on criteria from Perla and Martinelli (1976), has been done;
 - 1) High-hazard zones - all known slidepaths, but in particular where paths 10 and 13 cross the road.
 - 2) Potential-hazard zones - in the Cameron Valley runout areas of most large slidepaths may be enlarged when unusually large (but infrequent) slides occur. Paths 1 to 4, 8 and 9 may potentially run close to or extend an airblast to the existing road.
 - 3) No-hazard zones - the remaining majority of the existing road.
 - avalanche control for slides that release naturally and cross a road less than once in 10 years is usually uneconomical (Perla and Martinelli 1976). "Explosive control of such infrequent avalanches could offset tree growth, increase the frequency of activity on the path and build a significant hazard where one did not exist before." Slidepath 10 is the only one known to run to the road on a frequency approaching once in 10 years.

3) Parks Policy and Zoning

- few references exist for the establishment of ski trails, however the following select reference is made;
 - a) Management Directive 2.6.5, Grooming and Tracksetting of Cross-Country Ski Trails, gives a specific definition of cross-country skiing as "Skiing on well-defined, low hazard trails...". It further states tracksetting may be done in zones 3, 4 or 5 but also in zone 2 in exceptional circumstances. The Cameron highway corridor is zone 4 (Parks Canada 1978) with the surrounding valley zone 3.
- defined and track set ski trails should not be subject to avalanche hazard (W. Pfisterer, pers. comm.).
- the Moraine Lake Fire Road ski trail in Banff National Park is track set and is exposed to a minor degree of avalanche danger in one area (B. Gilmour, pers. comm.).

4) Climate

- the rigorous climatic conditions which Waterton experiences may be the most important factor limiting winter use and visitation (Parks Canada 1984).
- the amount and depth of snowfall increases with elevation and closeness to the Continental Divide.
- chinooks occur frequently during the winter, and have been observed to be a major factor causing avalanche release (Warden Service files).

5) Legal

- travel by any means in avalanche terrain will involve a degree of risk. The only way to eliminate the risk is to close the road for the winter.
- liability is reduced by setting professionally acceptable standards for any evaluation, control or public information programs.

6) Political

- continuing pressure to maintain winter access to the Cameron Valley comes mainly from local business persons.

- several members of the Chinook Outdoor Club have expressed their desire to have the road open more frequently.
- complete road closure would likely create strong local and regional displeasure, and is not considered a reasonable option.

Alternatives * Note: Training costs for Warden Service personnel are not included.

Alternative #1: "Status Quo"

- road plowed as far as Little Prairie
- trackset, three kilometer ski trail from Little Prairie to Cameron Lake
- avalanche hazard evaluation and forecasting weekly
- complete road closure during high or extreme hazard
- public warning signs at slidepaths 10 and 13.

Cost: Capital - no significant costs are evident
O&M - costs of snow removal and sanding are difficult to estimate (J. Zieffle, pers. comm.)
- ski trail tracksetting and maintenance = 0.5

Manpower: - avalanche evaluation and forecasting, ski trail tracksetting by Warden Service, approx. two days/week for six months = .2 p/y
- road plowing by General Works, as required when road is open
- two wardens minimum with BCIT level 1 Avalanche training.

Advantages

- easy track-set skiing is available to Cameron Lake
- public exposure to avalanche hazard along the road and ski trail is eliminated by road closure during high and extreme hazard
- vehicle driving through high and potential hazard zones minimize their exposure time to danger.
- involves no increase in money or p/y to implement.

Disadvantages

- Cameron road is closed for varying amounts of time, often for significant portions of the winter
- Little Prairie is not a good parking spot or turn-around location for the speedplow or public vehicles (J. Zieffle, pers. comm.)
- vehicles travel through the runout zone of slidepath 10, which is the most frequent path to reach the road
- the designated ski trail crossed the bottom runout of slidepath 13.

Alternative #2: "More Trail, Less Road"

- road plowed to Rowe parking lot
- trackset or designated ski trail routed around high hazard areas, approximately length seven kilometres return
- avalanche hazard evaluation and forecasting weekly
- complete road closure during extreme hazard only
- public warning signs at Cameron road/townsite junction.

Costs:

- Capital - formal hazard evaluation by Parks Canada Alpine Specialist (cost absorbed by 86/87 training budget)
- ski trail construction, including two bridges = 4.0
 - (optional) upgrade, protect or relocate parking area = (10.0)

- O&M - snow removal and sanding costs should not change significantly, less road will need to be cleared but will be open more frequently
- ski trail tracksetting and maintenance = 1.0
 - long distance access charges to weather data from Akamina remote weather station = 0.5

Total 1.5

Manpower

- road plowing, no significant increase over Alternative #1
- avalanche evaluation and forecasting, ski trail tracksetting by Warden Service, approx. two and a half days/week for six months = .25 p/y
- two wardens minimum with BCIT level 1 Avalanche training.

Advantages

- high-hazard zones (slide 10, 13), which are traversed by road or ski trail under alternative #1, are avoided
- road can remain open the majority of the winter. Closure at the townsite during extreme hazard will further reduce avalanche hazard
- tracked skiing of moderate difficulty will be available from Mile 7 to Little Prairie, then to Cameron Lake. Preliminary examination of the route indicates the trail will be of high quality esthetically, and should maintain good to excellent snow conditions. The skiing public and local business will likely enthusiastically support this alternative
- environmental impact should be minimized, particularly if the trail and bridges are built for winter use only.
- implementation and O&M cost increases are modest.

Disadvantages

- ski trail and road will be exposed to minor but potential avalanche hazard from slidepaths 1 to 4, 8 to 10, and 13
- the ski trail from Mile 7 to Little Prairie traverses good grizzly bear summer habitat. Summer use of the trail should not be allowed.
- will be more difficult for novice skiers to reach Cameron Lake
- Rowe parking lot is a potential avalanche hazard zone. Relocation or protective structures may have to be considered.

Alternative #3: "Road Open, Full Avalanche Control"

- road plowed to Cameron Lake
- no trackset ski trail
- avalanche hazard evaluation and forecasting daily
- road closure during extreme hazard and during avalanche control operations
- public warning sign at Cameron road/townsite junction
- explosive avalanche control using avalauncher and helicopter bombing

Costs: Capital - avalauncher, truck mount 5.0
(may be possible to obtain a surplus unit)
- upgrade or replace explosives storage shed 2.5

Total 7.5

O&M - extra plowing costs, approx. one trip/month with large snowblower, extra 30 minutes/trip for speed plowing (J. Zieffle, pers. comm.)

- helicopter rental (2.0/trip, 6 trips/season) 12.0
- ammunition and explosives 10.0
- long distance access charges to weather data from Akamina pass remote weather station 1.5
- avalauncher operation (compressed gas) 0.5

Total 24.0

- Manpower
- road plowing, p/y increase over alternative #1 or #2 0.05 p/y
 - daily avalanche evaluation and forecasting, control if required, four wardens assigned to program full-time for six months 2.0 p/y
 - two wardens minimum with BCIT level 2 Avalanche training (preferably with three years previous experience in avalanche control)

Advantages

- all potential avalanche slopes which threaten park facilities can theoretically be stabilized, including those on the Cameron road, Red Rock road, Bertha Peak, and behind the maintenance compound
- Cameron road will be open during most of the winter
- better avalanche hazard information will be available to backcountry skiers
- positive response from the motoring, non-skiing public is expected.

Disadvantages

- increased capital and O&M costs
- tracked skiing will be eliminated in the Cameron Valley
- effective control will be difficult due to temperature fluctuations and wind conditions during storms (W. Pfisterer, pers. comm.)
- will take at least two years to train present Warden staff to operate system
- increased p/y requirements
- shell misfires on any slidepath will require closure and signing of the area until a spring search is conducted, which would be difficult and time-consuming
- avalauncher will not likely have the range to reach the starting zones of all slidepaths. Larger guns (75mm or 105 mm howitzer) are much more costly to

buy and operate. Helicopter bombing of upper starting zones will be somewhat unreliable, given the wind conditions often present.

- designated shooting stations may be required along the Cameron road, involving tree removal and construction
- major environmental problems, including adverse impacts affecting vegetation succession and wildlife are expected
- negative response from the skiing public may occur, as the existing trackset trail is eliminated.

Recommendation

More trail, less road (Alternative #2) is recommended for the following reasons:

- 1) Avalanche hazard exposure is minimized to the skiing and motoring public. Full avalanche control (Alternative #3) will reduce but not eliminate avalanche hazard along the road. Status quo (Alternative #1) exposes persons to high hazard from slidepaths 10 and 13.
- 2) Alternative #2 is cost and manpower effective, particularly when considering the low historic skier usage.
- 3) The length of good quality trackset trail will be increased, as well as the periods of access to the trail. The skiing public will react positively.
- 4) Road and parking lot maintenance will be reduced and easier.

Note: Any change from Alternative #1, "Status Quo", (what has been done the last few winters), will require testing and/or funding before it can be implemented. We suggest that if Alternative #2 is accepted, that the new section of trail be monitored this winter to be sure that the terrain and snow conditions are adequate and no unforeseen problems arise before this alternative is implemented.

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New mode of informing public about avalanche threat

By SUSAN QUINLAN

WATERTON LAKES NATIONAL PARK

According to The Weather Network, winter has come early and quickly to higher elevations in western Canada, putting smiles on the faces of many skiers.

However, along with huge amounts of snow comes the threat of avalanche, prompting avalanche alert centres to come up with an even more immediate way of informing those in the backcountry of potential risks.

"(Parks Canada) has redesigned our interface with the public. We used to issue a bulletin with a lot of writing. Now there's far less writing and more visuals, so it's more suitable for twitter feeds. Hopefully, it'll reach more people," said Brent Kozachenko, public safety specialist at Waterton Lakes National Park.

In a recently-issued press release, Parks Canada stated together with the Canadian Avalanche Centre, Canada's national public avalanche safety organization, they've developed bulletins accessible through social media and smartphone technology that are heavy on graphics and light on text.

Kozachenko said Parks' staff has issued public avalanche bulletins out of Waterton for 30 years.

"We're in the field every day looking at conditions. Snow's a dynamic thing," so conditions can change rapidly.

There are different kinds of users entering Waterton National Park, said Kozachenko, including those who will stay on the roads and others who cross-country ski on defined trails. Although trails were set up in areas with low risk of avalanche, major slides occur once in awhile.

There are those park visitors who want to enter steeper areas, where they find the best skiing. Kozachenko said it's those areas that are of greatest concern.

"People really need to check the bulletins and develop their own skills about avalanche awareness."

As well, if intending to travel in avalanche terrain, Kozachenko said it's essential users pack the proper equipment and know how to use it.

"Getting prepared is the key. If it's been awhile since you took a safety course, make sure you update your knowledge."

As a recognized world leader in backcountry avalanche awareness and safety, Parks Canada operates a full-service avalanche risk control program in the mountain parks and spends



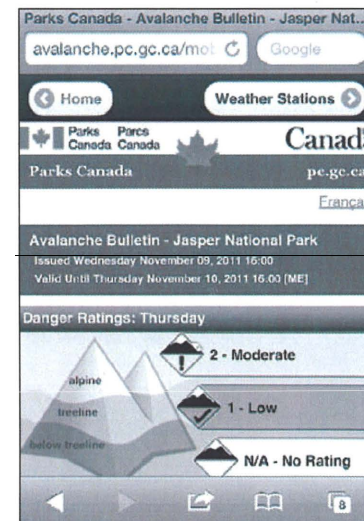
Photos submitted by Parks Canada

Parks Canada employees Brent Kozachenko (left) and Edwin Knox dig a pit on a mountain in Waterton National Park, to assess the risk of an avalanche. This testing is repeated twice a week throughout the winter. By November 18, Cameron Lake had received 20-centimetres of snow, with far more expected on that date as well. Janice Smith, communication spokesperson for Waterton, said the ski season has definitely started.

approximately \$1.7 million annually on avalanche-related activities in Western Canada, including highway avalanche control, a 24/7 capacity search and rescue program and regular avalanche bulletins in both official languages.

During avalanche season, Parks Canada produces daily public avalanche bulletins for Banff, Jasper, Yoho, Kootenay and Glacier National Parks, and twice weekly bulletins for Waterton Lakes National Park.

Avalanche bulletins are among the most visited pages on Parks Canada's website (www.parksCanada.gc.ca). In addition, the bulletins are shared with the Canadian Avalanche Centre (www.avalanche.ca).



Those who access the Parks Canada or Canadian Avalanche Centre's websites for avalanche information, or receive the twitter feed from either of those sources, can expect to see the graphic illustrated above. Designed to pack a lot of information in an easily understood format, the graphic and its ease of access were developed by Parks Canada and the Canadian Avalanche Centre to reduce the likelihood of individuals being caught in an avalanche.

