



Basic Impact Analysis (BIA)

Canada 2016 - FIS World Cup
Cross Country Test Race
January 15, 2015

Banff National Park

November 20, 2014



Parks
Canada

Parcs
Canada



1. **PROJECT TITLE**
Canada 2016 - FIS World Cup Cross Country Test Race 2015
2. **PROJECT LOCATION**
Banff National Park
3. **PROJECT SITE(S)**
Upper Lake Louise area and adjacent Nordic trails
4. **PROPONENT**
Alberta World Cup Society – Ken Hewitt, Event Chair
5. **PROPONENT CONTACT INFORMATION**

1995 Olympic Way
Canmore, AB, T1W 2T6
403.680.4141
khewitt@albertaworldcup.com
6. **PROJECT DATES**
Planned commencement: 2015-01-01
Planned completion: 2015-01-16
7. **INTERNAL PROJECT FILE #**
2014-031L

8. **PROJECT DESCRIPTION**

The proposed project consists of a NORAM cross-country ski competition, on the Fairview Trail, Lakeshore, and a portion of the Telemark Loop adjacent to Chateau Lake Louise in Banff National Park, a total length of 10 kilometers (K). The race is a test event for a proposed 2016 World Cup cross-country ski event in the same location. The proposed race is an interval start classic discipline event. Two temporary tents with associated parking will be required for waxing and athlete warming. These will be located in the Upper Parking Lot, which although they are cleared, normally remain closed to the public for most of the winter. Areas adjacent to the Boat House will be used for race announcement PA equipment. Snow grooming equipment required for the event (i.e. PistenBully 100) will be housed in existing garages at the Chateau Lake Louise.

PREPARATION: The race will take place on the Fairview Trail, Lakeshore, and a portion of the Telemark Loop adjacent to Chateau Lake Louise in Banff National Park. These trails were walked in October 2014 by Ken Hewitt (Alberta World Cup Society) and Michael den Otter (Parks Canada) to determine the adequacy of the trails for the event. Considerations included slopes, rapid terrain changes and trail width (i.e., need for two parallel classic tracks throughout the course) for the required grooming equipment (i.e., PistenBully 100). Between 10 and 20 trees, varying in size from saplings to mature trees, were identified for removal to allow the grooming equipment safe passage around the 10 K course. Removal of individual trees will be conducted by the Parks Canada trail crew in November 2014.

Notwithstanding these few changes to accommodate the grooming machine, there will be no substantive changes to the existing ski trails. There will be no terrain modifications. The current Parks Canada standard of a maximum trail width of 4 meters (double track) will not be exceeded at any time, and following the race the trails will remain virtually unchanged except for the removal of a small number of trees.

The designated race trails are currently groomed single track as part of the Lake Louise cross-country ski trail system. Grooming specifically in preparation for the event will occur between 5 and 14

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January, 2014. The number of grooming events will be weather dependent, but an estimated 12 grooming events may occur. Given the trail- wide footprint of the PistonBully 100, portions of the designated race trails may be closed to the public during grooming. Fueling on site will be restricted to the snow grooming equipment, a PistonBully 100. Fuel for this machine is contained in the operator's truck bed, and all fuelling will take place in the area of the Chateau maintenance buildings. A Can-Ross Universal Spill Kit 45L containing 10 socks, 10 pillows, gloves, goggles, instruction booklet and 45L pail will be onsite during fuelling operations. In the unlikely event of any incidental spill of fuel, lubricant or hydraulic fluids on snow, the spill will be shoveled and bagged for removal from the site.

Signage will be placed at each of the trailheads that will inform visitors of the event, timelines, and grooming schedule.

Facility set up for the race will occur on 13-14 January 2015. This will include setup of the temporary tents in the Lake Louise Upper Parking Lot including the First Aid tent, the PA system, and the start finish line infrastructure. There will be 2- 100 lb. propane bottles, tent heaters, and two generators to handle the electrical needs associated with the race. The large generator (65 dB(A) LwA) will not require refueling for the 48 hour period it will be in use. The small generator (Honda EU200i, 59 dB(A)) will be fueled offsite, if necessary. Tent setup will be by the tent rental company and weights, not spikes, will be used to anchor the tents. Prior to the official training day, race signage will be placed at entrances to the start-finish area as well as areas where the race course may be accessed warning the public about the presence of racers and race officials on the course. In addition, high traffic areas may be further secured using physical barriers and marshals to funnel foot traffic to designated trail crossing points.

EVENT: The designated official training day is 14 January, 2014 and race day is the following day, 15 January 2015. There will be an estimated 80 racers and a similar number of support personnel and volunteers, totaling less than 150 people on both days. This race is not expected to attract spectators beyond visitors that are already at Chateau Lake Louise. Racers and other event participants will use the Upper Lake Louise parking lot. Disruption of normal vehicular traffic flow is not anticipated, with the possible exception of any public vehicles who mistakenly attempt to access the Upper Parking Lot which will be open to race event vehicles only. The race is an interval start classic race so racers will be starting individually at 30-second intervals. Racers will be evenly spread out along the race course over the period that racing is occurring. Given the 10 km length of the race, the entire race duration should be under two hours for completion by all participants. The entire course, but particularly in front of the Chateau will be marshaled by volunteer hosts in traffic vests and cowboy hats to minimize risk associated with having the general public on the race course during the race day. High traffic areas that have been secured using physical barriers to funnel foot traffic to designated trail crossing points will also be manned by volunteer hosts. In addition, the area from the stone rotunda to the Boathouse will be closed to the public for safety reasons because of racers and equipment on the course.

It is anticipated that the permanent washrooms in Lower Lake Louise parking lot will be opened for the event. Given the small number of participants, only three additional Port-a-Potties will be delivered to the Upper Lake Louise parking lot. Organizers will not provide any public food or drink to reduce garbage associated with the event. Some food and warm drinks will be available for volunteers and race officials, and the Towards Zero Waste criteria will be communicated.

- o This volunteer service will be located in the 20' x 20' tent in Upper Parking Lot, and will be catered by Chateau Lake Louise.
- o Supplementary waste bins (with lids) will be provided in and near tent area, will be monitored by volunteers, and will be emptied and stored each day (Jan 14 and Jan 15).
- o All food and serving materials will be removed from the site around 2:00 each day (Jan 14 and Jan 15).

Permanent wildlife-proof garbage containers in the lower Lake Louise parking lot will also be available for use by race participants and support staff.





DECOMMISSIONING: Takedown and cleanup will be initiated immediately following the end of the race on 15 January and will be completed by the end of day, 16 January 2015. All equipment associated with be removed from the site, and any miscellaneous garbage will be cleaned up from all areas used for the race.

Where: Existing groomed cross-country ski trails in the vicinity of the Chateau Lake Louise will be used for the race (Appendix 1). The Upper Lake Louise parking lot will be used for parking and temporary tents for athlete warming, First Aid and waxing will be located at the west end of the lot (Appendix 2). Two generators, one larger generator (Wacker Neuson G25 20kw - (65 dB(A) LwA)) and one smaller generator (Honda EU 2000i – 59 dB(A)) will be located there. The Upper Lake Louise parking lot is normally closed for most of the winter although it is cleared to allow for use during the Ice Carnival. The area between the Boathouse and the stone rotunda will be closed to the public for safety (i.e., racers and equipment on course). The race announcer sound system will be operated from this area as well. Grooming equipment will be housed in existing garage facilities at the Chateau Lake Louise.

When: The proposed race will take place on 15 January, 2015 with official training occurring on the course on 14 January. Trail clean up and the removal of a small number of trees (<20) along the existing trails will be conducted in late October by a Parks Canada trail crew. The majority of preparations for the event will begin January 5, 2015 and event decommissioning will be completed on 16 January, 2015. Grooming activities for the race will commence on 5 January. Grooming will be weather dependent but will likely be conducted approximately 12 times between 5 - 12 January. All activities will be conducted during daylight hours, with the possible exception of the Jan 14/15 nighttime period where final race course grooming may be required, depending on new snow accumulation or high wind conditions.

9. VALUED COMPONENTS LIKELY TO BE AFFECTED

Valued components which may be affected by the event as described in the project description as identified in the Effects Identification Matrix (Appendix 3) include:

- Natural resources;
- Cultural resources; and
- Visitor experience

The geographic area assessed for each of these components (i.e., spatial scale) includes the 10 km race course including the start-finish area beside the Chateau Lake Louise and the Upper Lake Louise parking lot where most activity away from the actual race course will take place. The time period over which impacts potentially may occur (i.e., temporal scale) is from January 5 – 15, 2015 with most potential effects occurring on January 14 and 15, training day and race day, respectively. For this event, the following is a preliminary list of valued components of special concern that are potentially affected:

Natural Resources

- **Air:** Impacts to air quality are associated with vehicular traffic associated with the event and operation of the generator, heaters and grooming equipment.
- **Flora:** Potential impacts to vegetation resources as a result of the event are limited to the removal of between 10 and 20 trees along the existing cross-country ski trails. These existing ski trails are part of the Lake Louise cross-country ski trail network that is groomed as a single track every winter. Selected trees must be removed to facilitate the passage of the PistenBully 100 groomer, which is wider than the groomer that is used on a regular basis on these trails. Trees that need to be removed are all common conifers in the Lake Louise area (e.g., Engelmann spruce, lodgepole pine, subalpine fir). No whitebark pine, a species at risk, will be removed.
- **Fauna:** Potential impacts to fauna resources as a result of the event include first, sensory disturbance to wildlife in the vicinity of the Lake Louise Upper parking lot where most concentrated event activities will occur, and along the designated race trails during the training day as well as on race day and second, the loss of potential nesting habitat associated with the conifer removal noted above. Operation of the generators, the PistenBully groomer and associated grooming equipment, and the race PA system all have the potential to cause sensory disturbance as a result of elevated levels of noise and associated human activity. The race course on existing cross-country ski





trails is located in the Fairview wildlife corridor, which has been identified as a regional wildlife movement corridor for wide-ranging species (e.g., wolverine, a federally-listed species [Special Concern-COSEWIC, no listing under SARA]; Canada lynx, a provincially listed species [Sensitive-Alberta ESRD]). Human activity in this wildlife corridor has the potential to displace wildlife moving through the corridor if wildlife movements overlap temporally with the event activities. There is also the potential to habituate wildlife (e.g., Clark's nutcracker, American marten) to human food sources as a result of poor garbage handling s.

- **Soils and Terrain:** The event will take place on existing trails and hardened surfaces. The existing cross-country ski trails are regularly groomed using a snowmobile and associated grooming equipment. Impacts to soils or local terrain related to the event are not anticipated.
- **Water:** The event will take place on existing trails and hardened surfaces. The existing cross-country ski trails are regularly groomed using a snowmobile and associated grooming equipment. Existing washroom and garbage facilities will be used for the event. Impacts to water quality or quantity as a result of the event are not anticipated.

Cultural Resources

- Lake Louise and surrounding trails are considered important cultural features which define the heritage landscape of the area. As identified above, existing cross-country ski trails will be modified by the removal of selected trees. However, the removal of 10 to 20 selected trees is not predicted to change cultural aspects of the trail (e.g., location, views, trail use). No other impacts to important cultural features related to the event are anticipated.
- The character of the current ski trails (i.e., width, terrain, profile, direction, views) will not be changed as a result of this event. The overall trail width (double track) will not change, and will remain within the Parks Canada standard of 4 meters.

Visitor Experience

- Public access may be affected from January 5 – 15, as follows. Grooming specifically in preparation for the event will occur between 5 and 14 January, 2014. The number of grooming events will be weather dependent, but an estimated 12 grooming events may occur. Given the trail-wide footprint of the PistenBully 100, portions of the designated race trails may be closed to the public during grooming. Signage will be placed at each of the trailheads that will inform visitors of the event, timelines, and grooming schedule. On the 14 January, training day, and on January 15, race day, the entire course, but particularly in front of the Chateau will be marshalled by volunteer hosts in traffic vests and cowboy hats to minimize risk associated with having the general public on the race course. High traffic areas will be secured using physical barriers to funnel foot traffic to designated trail crossing points which will be manned by volunteer hosts. In addition, the area from the stone rotunda to the Boathouse will be closed to the public for safety reasons because of racers and equipment on the course. Disruption of normal vehicular traffic flow is not anticipated, with the possible exception of any public vehicles who mistakenly attempt to access the Upper Lake Louise parking lot which will be open to race event vehicles only.
- The race course follows existing ski trails, and will not enter avalanche terrain at any time.
- Potential impacts with respect to public safety will be limited to event participants and support staff that may arise as a result of adverse weather conditions. All those associated with the race are knowledgeable of the effects of training and racing in sub-zero temperatures and therefore any potential effects are unlikely. In the unlikely case that First Aid assistance is required, a First Aid tent and associated trained staff will be located in the Upper Lake Louise parking lot.
- Given the timing of the event in January, interactions with wildlife are not anticipated. A Wildlife Response Plan has been prepared for the event (Appendix 4).
- A Parks Canada staff member will be on the Race Jury to facilitate communications between race organizers and Parks Canada regarding any potential public safety issues, in the unlikely event that public safety issues require dealing with.

10. EFFECTS ANALYSIS

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Analyze and outline potential adverse effects to the valued components you identified in the preceding question. Focus on adverse effects that may require further investigation, which may be prevented, or that should be mitigated. Ensure that any potential impacts of the project on a listed species at risk (its individuals, the residences of the individuals or the critical habitat of the species) are included.

Natural Resources

Air: Impacts to air quality are associated with vehicular traffic associated with the event and operation of the generator, heaters and grooming equipment. Existing daily traffic to the Chateau Lake Louise with its 550 rooms and conference facilities is high throughout the winter; vehicles are travelling back and forth continually throughout the day. This cross-country ski event has an anticipated attendance of less than 150 people in total over two days. Two generators will be running during those two days. Although the cross-ski trails are already groomed with a snowmobile, there will be an incremental increase in grooming activity using a PistenBully 100. Therefore after mitigation (Section 11), although there will be adverse air emission effects as a result of the event, they are predicted to be negligible in magnitude, very short term temporally and reversible after the end of the two day event.

Flora: Impacts to vegetation resources as a result of the event are limited to the removal of between 10 and 20 trees along the existing cross-country ski trails. Trees that need to be removed are all common conifers in the Lake Louise area (e.g., Engelmann spruce, lodgepole pine, subalpine fir) and vary in age from saplings to mature trees. No whitebark pine, a species at risk, will be removed. The tree removal is permanent (i.e., a long term effect) and not reversible. However, given that the 10 to 20 trees of species that will be removed are abundant in the Bow Valley, overall adverse effects to flora resources as a result of the event are predicted to be negligible in magnitude after mitigation (Section 11).

Fauna: Impacts to fauna resources as a result of the event include first, sensory disturbance to wildlife in the vicinity of the Lake Louise upper parking lot where most concentrated event activities will occur, and along the designated race trails during the training day as well as on race day and second, the loss of potential nesting habitat associated with the conifer removal noted above. There is also the potential to habituate wildlife (e.g., Clark's nutcracker, American marten) to human food sources as a result of poor garbage handling practices.

Operation of the generators, the PistenBully groomer, and the race PA system all have the potential to cause sensory disturbance as a result of elevated levels of noise and associated human activity. The race course on existing cross-country ski trails is located in the Fairview wildlife corridor, which has been identified as a regional wildlife movement corridor for wide-ranging species (e.g., wolverine, a federally-listed species [Special Concern-COSEWIC, no listing under SARA]; Canada lynx, a provincially listed species [Sensitive-Alberta ESRD]). Human activity in this wildlife corridor has the potential to displace wildlife moving through the corridor if attempted movements overlap temporarily with the event activities. These effects need to be considered in the context of existing activity in the area. The race will occur on trails that are very popular with recreational skiers and therefore already have a substantial amount of human activity associated with them. They are already groomed on a regular basis; the grooming associated with the race will be an incremental addition to the level of grooming that currently occurs. In addition, the race start-finish area and Lake Louise upper parking lot are all very close to Chateau Lake Louise, an area that is subjected to considerable human traffic and associated sensory disturbance throughout the winter. Wildlife using the area, including species at risk like wolverine and Canada lynx, is likely accustomed to the current level of activity and either has continued to use the area in spite of the activity, use the area during quieter periods, or is already avoiding the general vicinity. Therefore, the incremental changes to human use in the area as a result of the event are not predicted to result in any changes to wildlife use of the area.

The removal of 10 to 20 individual conifers in selected areas along the existing cross-country ski trail represents a loss of potential nesting habitat. As stated above, all conifers that will be





removed at locally common in the Bow Valley. As such, their removal is unlikely to measurably affect nesting opportunities for birds in the area.

Good garbage management practices consistent with Parks Canada's policies and practices will be adhered to during the event. As a result, the potential to increase wildlife habituation as a result of poor garbage management practices is considered negligible.

Therefore, although there will be adverse effects on fauna as a result of the event, they are predicted to be negligible in magnitude after mitigation (Section 11). Sensory disturbance effects associated with the event will be very short term temporally and reversible after the end of the event. The loss of habitat associated with tree removal is permanent (i.e., a long term effect) and not reversible.

Visitor Experience:

Visitor experience will be affected by the event by limiting some public access in the area of the event. Portions of the existing cross-country ski trails may be closed during grooming events between January 5 and 15. Signage will be placed at each of trailheads that inform visitors of the event, timelines, and grooming schedule. On the training day and on race day, the entire course, but particularly in front of the Chateau will be marshaled by volunteer hosts in traffic vests and cowboy hats to minimize risk associated with having the general public on the race course. High traffic areas will have been secured using physical barriers to funnel foot traffic to designated trail crossing points which will be manned by volunteer hosts. In addition, the area from the stone rotunda to the Boathouse will be closed to the public for safety reasons because of racers and equipment on the course. Disruption of vehicular traffic flow is not anticipated, with the possible exception of any public vehicles who mistakenly attempt to access the Upper Parking Lot which will be open to race event vehicles only. The 10 K of existing trails that will be used for racing is a small fraction of the cross-country ski trails available for use by the general public in the Lake Louise area; over 85 K of trails are available in the immediate vicinity. The section of the race course along the Moraine Lake Road is wide allowing for recreational skiing throughout the event. In addition, there will likely be a subset of recreational cross-country skiers using the trails in the vicinity that will enjoy watching the race, marveling at the skill demonstrated by elite racers. As a result, although there will be adverse effects to visitor experience as a result of the event, the effects are predicted to be negligible in magnitude after mitigation (Section 11). Adverse visitor experience effects associated with the event will be very short term temporally and reversible after the end of the event.

11. MITIGATION MEASURES

The following mitigation measures have been put in place to reduce the potential effects of the event on natural resources and visitor experience:

- The race will occur on existing groomed cross country ski trails; no new trails or new grooming will be required, reducing impacts of the event to negligible incremental additions to the existing human footprint in the Chateau Lake Louise area, an area already well-used by winter visitors.
- Selected tree removals along the existing cross-country ski trail will be kept to a minimum. Only those trees that affect the safe passage of the PistenBully 100 will be removed.
- Trails will be returned to pre-existing conditions after the event, including track grooming profiles (i.e., single or double track).
- The PistenBully 100 will be kept in existing Chateau Lake Louise garages. A Can-Ross Universal Spill Kit 45L containing 10 socks, 10 pillows, gloves, goggles, instruction booklet and 45L pail will be onsite during fuelling operations.
- Existing hardened surfaces in the Lake Louise Upper Parking Lot will be used for parking and temporary tents. Tent setup will use weights, not spikes, to anchor the tent.
- A Parks Canada staff member will be on the Race Jury to facilitate communications between race organizers and Parks Canada regarding any potential public safety issues, in the unlikely event that public safety issues require dealing with.
- All parking associated with the event will be directed to the Lake Louise upper parking lot to avoid congestion in parking lots used by other visitors to Chateau Lake Louise.





- Existing wildlife-proof garbage containers will be used to reduce the opportunity for winter-active wildlife to obtain human food. Any temporary garbage bins will be securely closed to avoid wildlife access and emptied/stored each day.
- Temporary facilities for the event will be in place for the minimum time required to reduce human disturbance associated with their use.
- Race PA system will be used at the minimum volume required in order to reduce noise associated with the event
- The generators used to provide power to the tents are quiet (59 and 65 dB(A) LwA) reducing noise associated with the event. The generators should not require refuelling during the 48 hours they will be used, eliminating the potential for a spill. The Honda EU 2000i will be housed in a tray sufficiently large to contain the contents of its fuel tank, in the unlikely event that it somehow leaked. In addition, the Wacker Neuson generator has a built-in "Fluid Containment System".
- Grooming will be completed with input from Parks Canada staff to ensure proper timing to minimise conflicts with park visitors.
- The event areas and trails will be swept/ cleaned up of any garbage, flagging tape, signage, etc. after the race. There will not be any feed stations located on course.
- Race activities will be conducted entirely during daylight hours to reduce sensory disturbance in the area at night, with the possible exception of the Jan 14/15 nighttime period where final race course grooming may be required, depending on new snow accumulation or high wind conditions.
- Portions of the race course will be closed to the public during grooming events to avoid potential accidents with recreational skiers.
- Course closures during the official training day (Jan 14) and on race day (Jan 15) will be between the hours of 09:00 and 13:00 (notwithstanding short term closures during grooming prior to these two days). The Moraine Lake Road will not be closed to the public at any time, but skier travel will be restricted to the left hand side of the road separated from the race course by v-boards.
- On the official training day and on race day, the entire course, but particularly in front of the Chateau will be marshalled by volunteer hosts in traffic vests and cowboy hats to minimize risk associated with having the general public on the race course. High traffic areas will have been secured using physical barriers to funnel foot traffic to designated trail crossing points which will be manned by volunteer hosts. In addition, the area from the stone rotunda to the Boathouse will be closed to the public for safety reasons because of racers and equipment on the course.
- Organizers will not provide public food or drink of any kind to reduce garbage associated with the event.

12. CONSIDERATION OF THE NEED FOR PUBLIC PARTICIPATION & ABORIGINAL CONSULTATION

12 a) Indicate whether opportunity for public participation should be offered:

No Yes

Parks Canada will provide this Terms of Reference as information for stakeholders and there will be opportunity for input on the draft BIA. This opportunity is being provided due to the potential high level of interest in this race, particularly as it relates to the 2016 World Cup race. If the 2016 World Cup race proceeds, it will be subject to a Detailed Impact Analysis that provides another opportunity for public involvement.

12 b) Indicate whether there is a requirement for Aboriginal Consultation in relation to project impacts:

No Yes

If yes, provide a rationale including references to legal or other advice, describe the process used and summarize the outcomes.



**13. EFFECT SIGNIFICANCE**

As described in Section 10, the event is predicted to have residual adverse effects on air, flora and fauna resources after mitigation (Section 11). However, all effects were predicted to be negligible in magnitude. With the exception of effects associated with the removal of 10 to 20 individual conifers, all effects are considered short-term and reversible after completion of the event. No significant residual adverse effects associated with the event are predicted.

Lake Louise is one of the most popular destinations in Banff National Park. Upper and Lower Lake Louise are managed as high visitor use areas where visitation is encouraged. As such, the area in which the event will be held is already the site of substantial human activity by design. The incremental additional adverse effects of the event will not contribute measurably to the cumulative effects of human use already present.

14. SURVEILLANCE

Document whether surveillance (also referred to as compliance monitoring or site inspection) will be required while the project is underway, to verify that required mitigation measures are implemented.

Surveillance required (there are templates on the [EA intranet tools & guidance page](#))
 Surveillance not required

An Environmental Surveillance Officer from Parks Canada may be onsite to monitor the race and to ensure the conditions of this BIA are met.

15. SPECIES AT RISK MONITORING

No monitoring is planned because measureable adverse effects to listed species are not anticipated,

16. SARA NOTIFICATION

The event is not predicted to have adverse effects on a listed species at risk on or beyond Parks Canada-administered lands.

17. EXPERTS CONSULTED

Include Parks Canada experts. Add as many entries as necessary for the project.

Department/Agency/Institution: Parks Canada	Date of Request: 2014-10-21
Expert's Name: Michael den Otter	Title: Environmental Assessment Specialist
Contact Information: michael.denotter@pc.gc.ca	
Expertise Requested: environmental assessment	
Response: provided guidance on completion of this BIA, consultation is reflected in this document	

18. DECISION

Taking into account implementation of mitigation measures outlined in the analysis, the project is:

not likely to cause significant adverse environmental effects.

likely to cause significant adverse environmental effects.

NOTE: If the project is identified as likely to cause significant adverse effects, CEAA 2012 prohibits approval of the project unless the Governor in Council (Cabinet) determines that the effects are justified in

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the circumstances. A finding of significant effects therefore means that the project CANNOT go ahead.

19. SIGNATURES AND APPROVAL

EA Author (Add additional signature blocks for multiple authors as required)

Name: Martin Jalkotzy	Date: 2014-10-27
Position: Senior Wildlife Ecologist, Principal Environmental & Cultural Sciences Division Director Golder Associates Ltd.	
Signature: (to follow)	

Decision Approval

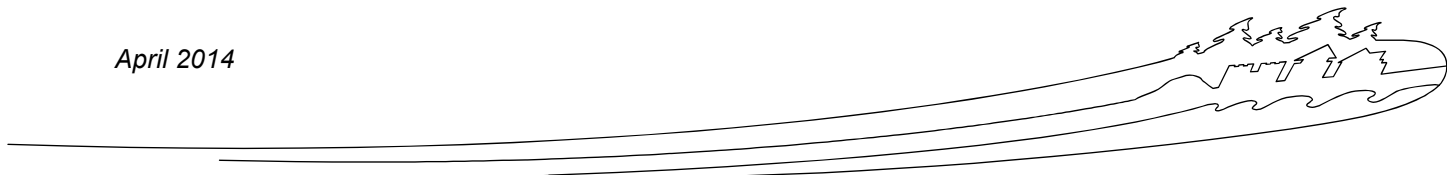
Name:	Date: YYYY-MM-DD
Position: (Field Unit Superintendent, or Designate)	
Signature:	

20. REFERENCE LIST

List the main references and information sources used during preparation of the basic EIA.

21. ATTACHMENTS LIST

- Appendix 1: Event Maps
- Appendix 2: Event Schedule
- Appendix 3: Effects Identification Matrix
- Appendix 4: Wildlife Response Plan



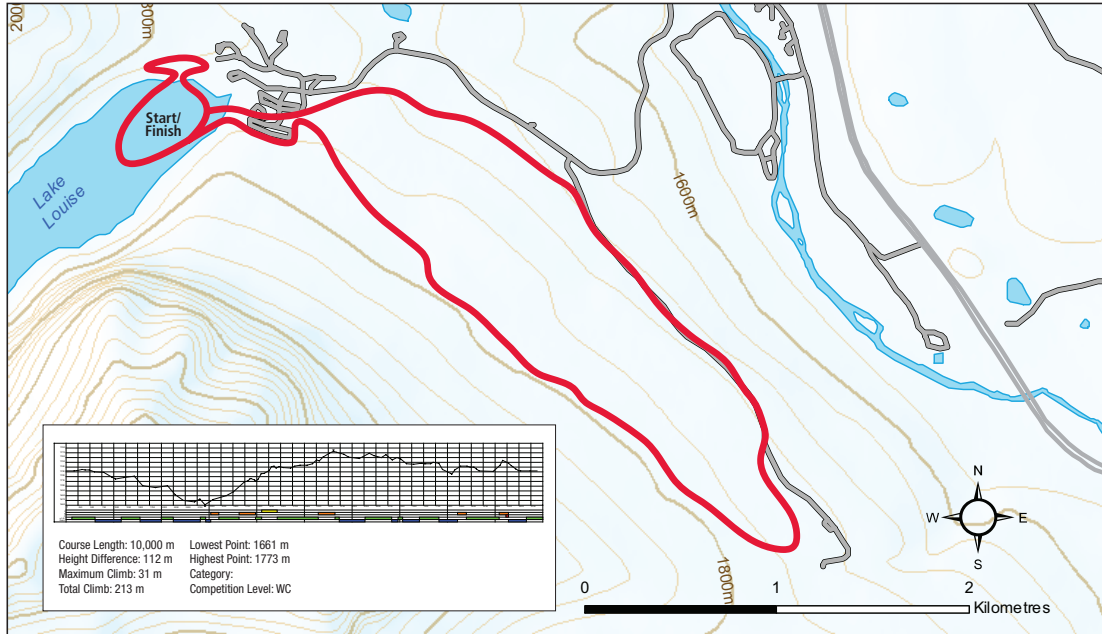


Appendix 1: Event Maps

2015 NorAm Haywood Western Canadian Championships



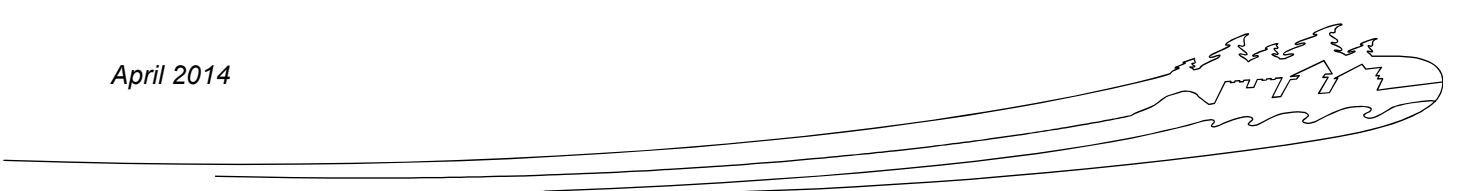
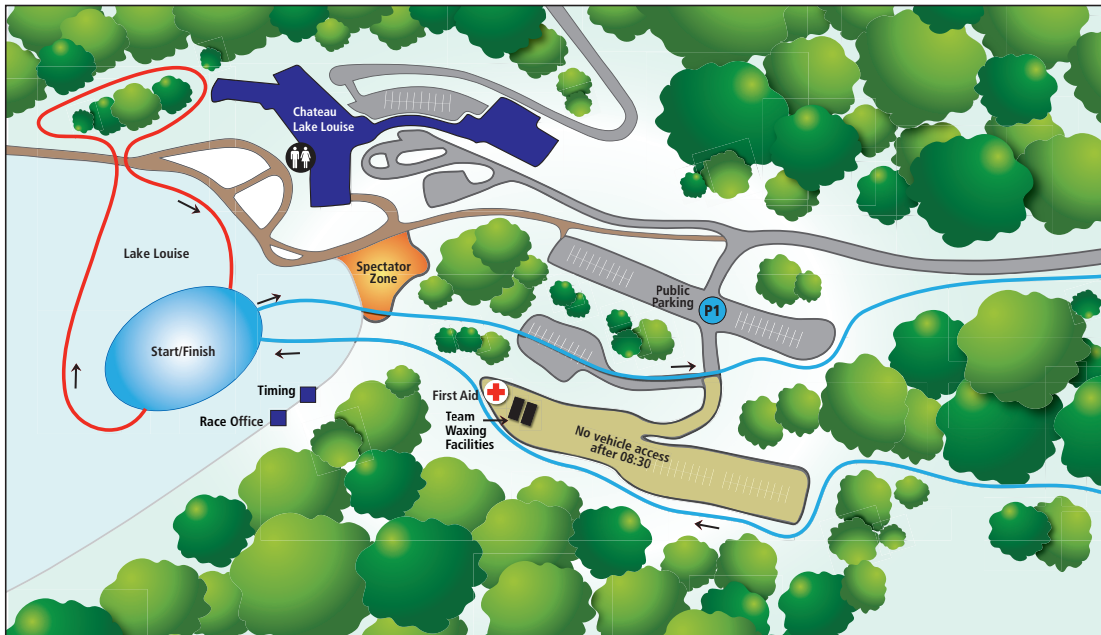
10 km Lake Louise Trail Map



2015 NorAm Haywood Western Canadian Championships



Lake Louise Venue Map





Appendix 2: Event Activity Schedule (as at November 20, 2014)

Alberta World Cup Society World Cup Test Race - January 2015 Event Set-up and Race Schedule						
Dates	Time	Course	Stadium (Lake)	Upper Parking Lot	Lakeshore, Boathouse, Other	
Nov, 2014		Tree removal	n/a	n/a	n/a	
Dec, 2014		Preliminary ski-doo packing and grooming as in previous years.	Ice thickness measurements (late Dec)	n/a	n/a	
2014-12-27		Public advisement notices		Public advisement notices	Public advisement notices	
2014-01-05		PB100 delivery and testing				
Jan 6-8	08:00 to 16:00	Initial PB100 packing, blade work and grooming, possible additional tree or bush removal	Initial packing and double track grooming with Parks Canada machine	n/a	n/a	
2015-01-05 - 2015-01-11		Work parties fill and build snow ramps as required	Manual packing and filling if necessary	Officials and volunteer parking		
2015-01-12		PB100 grooming (not on lake), ski-doo grooming as required on lake and possibly "Show loop" near Chateau.	Manual packing and filling if necessary	Officials and volunteer parking		
2015-01-13		PB 100 grooming, ski doo support	Stadium lay-out			
	14:00 - 16:00			Tent delivery and set-up; Porta-pottie delivery Generator delivery and set-up		
2015-01-14	10:00 - 14:00	Official Training - 10:00 to 14:00			Lakeshore trail crossing - marshalled; No public access to Boathouse area	
	09:00 - 14:00	Upper parking lot road crossing in place		Upper parking lot road closed	Race office, Jury in Boathouse;	
	08:00 - 14:00		Stadium equipment; signage, vboards	Team waxing and support		
	08:00 to 10:00; 14:00 - 18:00 13:00	PB 100 grooming, ski doo support		Upper parking lot road open	Lakeshore trail open to public	
2015-01-15	04:00 - 07:00 07:00 - 09:00	PB 100 final grooming	Final stadium, course prep		Lakeshore trail crossing - marshalled; No public access to Boathouse area	
	10:00 - 14:00	Racers on Course		Upper parking lot road closed		
	09:00 - 14:00	Upper parking lot road crossing in place				
	08:00 - 14:00		Stadium equipment; signage, vboards		Race office, Jury in Boathouse;	
	08:00 to 10:00:	PB 100 grooming, ski doo support if needed				
	14:00 - 18:00 13:00	Course signage removal, clean up		Tents, toilets and generators removal Upper parking lot road open	Lakeshore trail open to public	



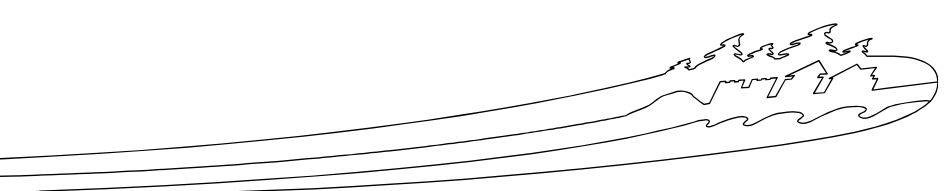


Appendix 3 Environmental Impact Analysis Tools: Effects Identification Matrix

Section A focuses on direct effects of the project and **Section B** on indirect effects that are caused by changes to the environment.

A. Direct Effects (during preparation/construction phases)															
		Components potentially directly affected by the proposed project													
		Natural Resources					Cultural Resources		Visitor Experience						
		Air	Soil & landforms	Water (surface, ground, crossings, etc.)	Flora (specify, including SAR)	Fauna (specify, including SAR)	Insert heritage values	Insert heritage values	Visitor access & services	Recreational/Accommodations opportunities	Views and soundscapes	Visitor Safety	Essence of place		
Phase	Examples of Associated Activities														
Project Components	Preparation / construction	Supply and storage of materials	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	x	x	x	<input type="checkbox"/>	x	
		Burning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Clearing	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	x	x	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Demolition	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Disposal of waste	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Blasting/ Drilling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Dredging	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Drainage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Excavation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Grading	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Backfilling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Use of machinery	x	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	x	x	x	x	x
		Transport of materials/equipment	x	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	x	x	x	x	x
		Building of fire breaks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Use of Chemicals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Set up of temporary facilities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Other...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		

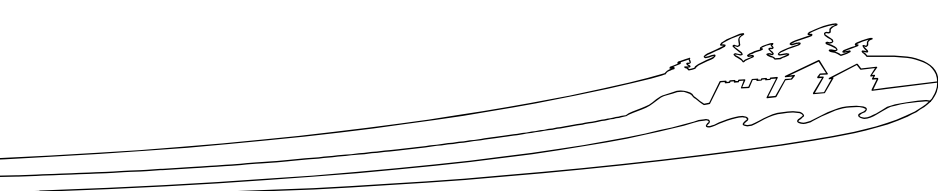
SAR- species at risk





A. Direct effects continued (during operation/implementation/decommissioning phases)														
	<p>You may wish to change the components listed under the headings to specify the natural or cultural resource or visitor experience objectives that are priority considerations for your PCA site or for the specific project being reviewed.</p>		Components potentially affected by the proposed project											
			Natural Resources					Cultural Resources		Visitor Experience				
			Air	Soil & landforms	Water (surface, ground, crossings, etc.)	Flora (specify, including SAR)	Fauna (specify, including SAR)	Insert heritage values for your site	Insert heritage values for your site	Visitor access & services	Recreational & Accommod. opportunities	Viewscapes and soundscapes	Visitor Safety	Essence of place
Phase	Examples of Associated Activities													
Project Components	Operation/Implementation/Decommissioning	Waste disposal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	x	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Wastewater disposal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Maintenance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	x	x	<input type="checkbox"/>	<input type="checkbox"/>	x	x	x	x	x
		Use/Removal of temporary facilities	x	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	x	<input type="checkbox"/>	<input type="checkbox"/>	x	x	x	x	x
		Use of Chemicals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Active fire stage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Prescribed burn cleanup	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Planting	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Culling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Vehicle Traffic	x	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	x	x	x	x	x
		Other...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Section B- next page



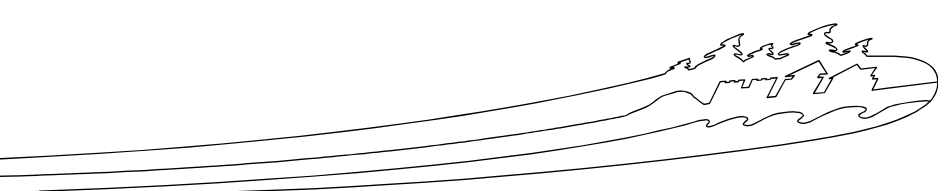


Section B of the matrix should be used to identify potential indirect effects that may result from impacts on components of the environment you have identified on the preceding pages (see Section A - direct effects to natural resources). This is required under CEAA 2012 Sections 5(1)(c) and 5(2)(b).

For example:

- if the proposed project could lead to adverse effects to water quality and quantity, could this then effect the quantity and quality of water resources (e.g. potable water) used by an Aboriginal community?
- could there also be adverse socio-economic effects to a community that relies on recreational fishing tourism?

B. Indirect Effects (all phases)				
Phase	Natural resource components affected by the project	<u>Loss of wildlife trees (i.e., wildlife habitat)</u>		
All phases: Preparation /construction operation/implementation/decommissioning	Could impacts to <u>air</u> lead to adverse effects on...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Could impacts to <u>soils and landforms</u> lead to adverse effects on...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Could impacts to <u>water</u> (e.g. surface, ground water and water crossings) lead to adverse effects on...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Could impacts to <u>flora</u> (including SAR) lead to adverse effects on fauna	<u>x</u>	<input type="checkbox"/>	<input type="checkbox"/>
	Could impacts to <u>fauna</u> (including SAR) lead to adverse effects on...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Other...	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>





Appendix 4: Wildlife Response Plan (as required by Special Permit Application)

Situation

Any wildlife encountered in close proximity to the venue should be reported.

Prevention

Decisions to delay or cancel races and events due to the close proximity of wildlife will be made after consultation and advice from Parks Canada Resource/Conservation Officers and Event Organizing Committee, based on the magnitude of the threat to the safety of the participants and spectators.

Ensure the announcer reads the Sample Announcer Message on a regular basis.

“At ALL times do not feed or approach wildlife. Please report all wildlife sightings (elk, bears, cougars, coyotes, wolves, etc) to Parks Canada dispatch (phone #)”.

Try to avoid encounters with wildlife (see Parks Canada guidelines; Bears and People and Keep the Wildlife in Wildlife brochures available on line at <http://www.pc.gc.ca/eng/pn-np/ab/banff/visit/brochures.aspx> and <http://www.pc.gc.ca/eng/pn-np/ab/jasper/natcul/animaux-animals.aspx>).

Training

Familiarize announcer with Sample Announcer Messages (Appendix E0600)

Communications Protocol

All staff and volunteers should be aware that emergencies should be reported to the onsite Incident Command by:

- a) Contacting any OC member who is equipped with OC radio, or
- a) Contacting the OC Chair or Chief of Race by cell,

Response

- Person Discovering Wildlife:
 - Follow Communications Protocol (above)
 - Do not remain in area with the animal(s)
- Emergency Operations Centre (when activated):
 - Dispatch Parks Canada Resource/Conservation Officer to the scene to monitor, track, deter or trap the animal(s)
 - In consultation with event organizer, make a decision to delay, cancel, or re-route the event; no change to the event is also an option.

