Risk Management in Canada's Newest Park: People or Polar Bears?

Parks Canada's Risk Management Process

Parks Canada
Risk Management Options

1. **Remove the hazard**
2. **Remove visitors from the hazard**
3. **Warn and inform visitors**
4. **Encourage risk control by others**
5. **Prepare for response**

Parks Canada
Risk Management Dilemmas

1. Remove Hazards

Shoot the bears

Can't shoot the bears

Can't move the bears.

Parks Canada
Risk Management Dilemmas

2. Remove Visitors from the Hazards

Shoot the people

Install barriers, rails, fences, cabins, or camps

Require visitor registration

Close or limit access

Prohibit activities (along the coastline)

Apply public safety zoning.

Parks Canada
Risk Management Dilemmas

3. Warn and Inform Visitors

Install signs

Provide written and video materials

Require orientations

Use waivers.

Parks Canada
Risk Management Dilemmas

4. Encourage Risk Control by Others

Require competency screening

Require specific safety equipment (electric fences)

Parks Canada
Risk Management Dilemmas

4. Encourage Risk Control by Others

Require competency screening

Require specific safety equipment (electric fences)

Visitors could carry firearms

Parks Canada
Risk Management Dilemmas

4. Encourage Risk Control by Others

Require competency screening

Require specific safety equipment (electric fences)

Visitors could carry firearms

Require everyone to be commercially guided

Require everyone to have an Inuit bear monitor.

Parks Canada
Risk Management Dilemmas

5. Prepare for Emergency Response

Require emergency transmitters

Require satellite phones

Require evacuation insurance

SAR response to come from ?.

Parks Canada Service

Visitor Safety: Visitor Activity Risk Assessment Templates

Visitor Safety: Visitor Activity Risk Assessment

Table of Contents

Risk Assessment

HAZARDS	Risk Rating			RISK CONTROL MEASURES		Control Rating			
List the hazards that could cause injury when the activity is performed.	Consequence (1-5)	Likelihood (1-5)	Risk Score (c x L)	**Education/Information** includes all communications associated with websites, signs, publications, media and staff contact through verbal communications and physical presences of staff. **Infrastructure** includes all permanent and temporary means to alter the environment. **Plans, Policies & Procedures** includes all Guidelines, SOP's, SWP's, Directions, Inductions, Training Manuals, Local Procedures and Systems that are relevant **Incident Response** includes all reactive and proactive response actions to hazards or incidents.		Adequate (1,2,3)	Documented (1,3,6)	Applied (1,2,3)	Control Score (A+D+A)
Wildlife Encounters (Black & Polar Bears)	5	5	25	• Education/Information	• Pre-visit information on website, in Registration, Safety Rules and Regulations pre-trip package, and in brochures • Visitor-bear interaction educational materials • Warnings in Waiver and Assumption of Risk document • Strongly encouraging groups to hire a bear monitor • Staff prevention guideline implementation, wildlife awareness training	1	1	1	3
				• Infrastructure	• Electric fences required for all backcountry campsites • Requirement to carry bear deterrents • Firearm carried by bear monitors	3	1	1	5
				• Plans/Policy/Procedure	• Wildlife/Human Conflict Plan, Site Management Plan, Safe Work Practices, Visitor Safety Plan, Standard Operating Procedures, Firearm Policy	1	1	1	3
				• Incident Response	• Emergency Contact Protocols • Evacuation or external SAR resources as required	1	1	1	3

Risk Assessment

HAZARDS	Risk Rating		
List the hazards that could cause injury when the activity is performed.	Consequence (1-5)	Likelihood (1-5)	Risk Score (C x L)

Risk Assessment

HAZARDS	Risk Rating			RISK CONTROL MEASURES		Control Rating			
List the hazards that could cause injury when the activity is performed.	Consequence (1-5)	Likelihood (1-5)	Risk Score (C x L)	• **Education/Information** includes all communications associated with websites, signs, publications, media and staff contact through verbal communications and physical presences of staff. • **Infrastructure** includes all permanent and temporary means to alter the environment. • **Plans, Policies & Procedures** includes all Guidelines, SOP's, SWP's, Directions, Inductions, Training Manuals, Local Procedures and Systems that are relevant • **Incident Response** includes all reactive and proactive response actions to hazards or incidents.		Adequate (1,2,3)	Documented (1,3,6)	Applied (1,2,3)	Control Score (A+D+A)
Wildlife Encounters (Black & Polar Bears)	5	5	25	• Education/Information	• Pre-visit information on website, in Registration, Safety Rules and Regulations pre-trip package, and in brochures • Visitor-bear interaction educational materials • Warnings in Waiver and Assumption of Risk document • Strongly encouraging groups to hire a bear monitor • Staff prevention guideline implementation, wildlife awareness training	1	1	1	3
				• Infrastructure	• Electric fences required for all backcountry campsites • Requirement to carry bear deterrents • Firearm carried by bear monitors	3	1	1	5
				• Plans/Policy/Procedure	• Wildlife/Human Conflict Plan, Site Management Plan, Safe Work Practices, Visitor Safety Plan, Standard Operating Procedures, Firearm Policy	1	1	1	3
				• Incident Response	• Emergency Contact Protocols • Evacuation or external SAR resources as required	1	1	1	3

	Control Rating			
	Adequate (1,2,3)	Documented (1,3,6)	Applied (1,2,3)	Control Score (A+D+A)

Risk Assessment

HAZARDS	Risk Rating			RISK CONTROL MEASURES		Control Rating			
List the hazards that could cause injury when the activity is performed.	Consequence (1-5)	Likelihood (1-5)	Risk Score (c x L)	• **Education/Information** includes all communications associated with websites, signs, publications, media and staff contact through verbal communications and physical presences of staff. • **Infrastructure** includes all permanent and temporary means to alter the environment. • **Plans, Policies & Procedures** includes all Guidelines, SOP's, SWP's, Directions, Inductions, Training Manuals, Local Procedures and Systems that are relevant • **Incident Response** includes all reactive and proactive response actions to hazards or incidents.		Adequate (1,2,3)	Documented (1,3,6)	Applied (1,2,3)	Control Score (A+D+A)
Wildlife Encounters (Black & Polar Bears)	5	5	25	• Education/Information	• Pre-visit information on website, in Registration, Safety Rules and Regulations pre-trip package, and in brochures • Visitor-bear interaction educational materials • Warnings in Waiver and Assumption of Risk document • Strongly encouraging groups to hire a bear monitor • Staff prevention guideline implementation, wildlife awareness training	1	1	1	3
				• Infrastructure	• Electric fences required for all backcountry campsites • Requirement to carry bear deterrents • Firearm carried by bear monitors	3	1	1	5
				• Plans/Policy/Procedure	• Wildlife/Human Conflict Plan, Site Management Plan, Safe Work Practices, Visitor Safety Plan, Standard Operating Procedures, Firearm Policy	1	1	1	3
				• Incident Response	• Emergency Contact Protocols • Evacuation or external SAR resources as required	1	1	1	3

5

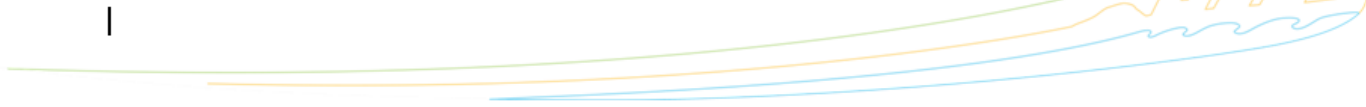|										
Rough and Dangerous Trail Conditions/ Trips and Falls	3	4	12	• Education/Information	• Pre-visit information on hiking route status on website and in pre-visit information packages • Route brochures and maps • Information on type of trail conditions underfoot (loose talus and boulders) • Warnings in Waiver and Assumption of Risk document • Staff awareness of route conditions • Staff verbal communications	1	1	1	3
				• Infrastructure	• Trail closures, maintenance plans, classification system implemented	1	1	1	3
				• Plans/Policy/Procedure	• Trail inspection regimes • Trails and Back Country facility design guidelines • Site Management Plan, • Visitor safety Plan • Emergency Contact Protocols	1	1	1	3
				• Incident Response	• Trained staff appropriate to likelihood • Appropriately maintained equipment • Evacuation or external SAR resource as required	1	1	1	3
Hiker Equipment Failure	2	3	6	• Education/Information	• Pre-visit Information on hiking conditions and suitable equipment and footwear requirements	1	1	1	3
				• Infrastructure	• Spare camping equipment at Base Camp	1	1	1	3
				• Plans/Policy/Procedure	• Planning for loaned or rental equipment as backup	1	1	1	3
				• Incident Response	• Assistance or evacuation as required	1	1	1	3

1.1.1 Backpacking

Action Plan – Red & Yellow Flag Issues

Priority Issue	Risk & Control Scores		Control Action Category (Education/Information, Infrastructure, Plans/Policy/Procedure, Incident Response)	Proposed Treatment/Action	Responsibility	Priority/Timing	Control Score Post-Treatment			
	Risk Score	Control Score					Adequate	Documented	Applied	Total Score
Red Flag										
Bear contact	25	5	Infrastructure	• Portable electric fences and deterrents will not prevent all bear incidents • Groups without accompanying Inuit bear monitors will remain at high risk • Consideration should be given to permanently fenced campsites for campers • Consideration should be given to permanent buildings/huts for campers						
Yellow Flag										
Trail conditions	12	3	Education & Response	• Rough walking conditions and boulders will cause ankle, knee and leg injuries • Education and warnings about walking conditions and evacuation capability must be available						

3

Parks
Canada

Parcs
Canada

Visitor Safety Plan

Western Newfoundland and Labrador Field Unit

2014

Heritage places covered by this plan are:

- Torngat Mountains National Park

Table of Contents

4.1.1. Table 1 – Summary of Risk & Control Scores

Activity (populate this column with all allowable activities in the management area – refer to VARAs)	Average Risk Score (Top 3 only) (1)	Average Control Score (2)	Combined Average Risk Score (1 + 2)	Highest Risk Score (3)	Highest Control Score (4)	Combined Highest Risk Score (3+4)
	Note: Highest 3 risk scores divided by 3	Note: Highest 3 control scores divided by 3				
Backpacking – Multi-day	15	3.66	18.66	25	5	30
Boat Tour – Day Trips & Multi-day trips	6.66	9	15.66	12	9	21
Camping – Backcountry	15	3.66	18.66	25	5	30
Camping - Serviced at Base Camp	7.66	3	10.66	9	3	12
Canoeing/Kayaking – Coastal/Ocean	15	5.66	20.66	25	9	34
Climbing – Mountaineering/Scrambling	8	4.33	12.33	9	7	16
Cruise Ship Passenger Shore Visits	5.66	3	8.66	9	3	12
Helicopter Transportation	10	3	13	12	6	18
Hiking/Walking – Day trips near Base Camp	15	3	18	25	3	28
Nature Viewing – Bird Watching, Sightseeing, Wildlife Observation, Photography, Historic Site Visitation	8.33	3	11.33	12	3	15
Sail Cruising	5.66	3	8.66	8	3	11
Snowmobiling	6	3	9	6	3	9

Level of Risk Code	Very High	High	Moderate - Low		Level of Control Code	Poor	Fair	Excellent - Good
	21-25	13-20	1-12			10-12	7-9	3-6

Table 2 – Activity Risk Ranking ranks the sites activities in order of risk exposure. As actions are completed or situations change, activities average score will change, moving that activity either up or down in the ranking table. Some activities that are more "risky" will be high on the list but have no Red or Yellow flags requiring action. These activities require monitoring and should be reviewed in the case of a significant incident to ensure controls are still adequate and effective.

Table 2 – Activity Risk Ranking (populate as per risk assessment results and Table 1 data)

Activity Risk Ranking	Activity	Combined Average Risk Score	Combined Highest Risk Score	Percentage of Activity Participation	Red or Yellow Actions Identified (Y or N)
1	Canoeing/Kayaking – Coastal-Ocean	20.66	34	<1%	Y
2	Backpacking – Multi-day	18.66	30	10%	Y
3	Camping – Backcountry	18.66	30	10%	Y
4	Hiking/Walking – Day Trips near Base Camp	18	28	90%	Y
5	Boat Tour – Day Trips & Multi-Day	15.66	21	90%	Y
6	Helicopter Transportation	13	18	80%	Y
7	Climbing – Mountaineering/Scrambling	12.33	16	<1%	Y
8	Nature Viewing	11.33	15	100%	Y
9	Camping – Serviced at Base Camp	10.66	12	90%	Y
10	Cruise Ship Passenger Shore Visits	8.66	12	40%	Y
11	Sail Cruising	8.66	11	<1%	Y
12	Snowmobiling	8.66	9	<1%	Y

Table 3 – Summary Control Action Plan for Priority Issues summarises all identified Red and Yellow risk controls, its priority and timeframe. This Table now provides a summary of the hazards and issues that have a fair or poor level of control. This table is to be used for work planning, budgeting and program development. Further details can be found in the individual activity risk assessment.

Table 3 – Summary Control Action Plan for Priority Issues

Activity	Hazard or Issue	Control Action Category	Current Risk Score	Current Control Score	Proposed Priority Actions	Projected Risk Score	Projected Control Score	Responsibility	Timeframe	Priority
Canoeing/Kayaking – Coastal/Ocean	Bear Contact	Education & Policy	25	9	• Need to develop policy & procedures regarding the activity of multi-day coastal paddling trips • Strong information packages, assumption of risk, and legal releases are required					
Backpacking & Camping	Bear Contact	Infrastructure	25	5	• Strongly encourage groups to hire Inuit bear monitors • Consideration should be given to permanently fenced campsites for campers • Consideration should be given to permanent buildings/huts for campers					
Hiking/Walking	Bear Contact	Education, Infrastructure & Procedure	25	3	• Individuals and groups should be accompanied by Inuit bear monitors					

Backpacking, Hiking/Walking & Nature Viewing	Trail Conditions	Education, Warnings, and Policy/Procedures	12	3	• Education and warnings must be provided about the rough walking conditions in the park • Users should be strongly encouraged to hire an Inuit bear monitor					
Canoeing/Kayaking – Coastal/Ocean	Water Conditions	Education & Policy	12	3	• Need to develop policy & procedures regarding the activity of multi-day coastal paddling trips • Strong information packages, assumption of risk, and legal releases are required					
Helicopter and Boat Transport	Oil & Fuel Spills	Infrastructure & Policy	12	9	• Preventative measures need to be taken to prevent fuel spills. This includes fuel cache infrastructure, drum storage and fueling procedures					
Boat Tours	Submerged Objects	Incident Response	12	6	• Develop response plan for responding to boat collision with submerged objects					
Hiking/Walking	Trips & Falls	Procedure & Incident Response	10	3	• Provision of first aid and evacuation as required • Most groups will have a bear monitor or guide with them which will help with communications					
Climbing – Mountaineering/ Scrambling	Remote Mountain Hazards	Plans/Policy/ Procedure	9	7	• Mandatory registration procedures, regulations, communication requirements, temporary/seasonal closures, & group size restrictions need to be developed					