



# IPGA

INTERNATIONAL  
POLAR GUIDES ASSOCIATION

# POLAR BEAR SAFETY RECOMMENDATIONS

**For guided polar expeditions and trips**

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The purpose of these recommendations is to emphasise the necessity of all polar guides to prepare thoroughly for trips into polar bear territories, including recognition of polar bear behaviours, using and carrying appropriate firearms, deterrents and ammunition, appropriate conduct while camping and on the move, and adequate briefing of participants.

IPGA recognises that alternative techniques, strategies and equipment exist and that it is the choice of the Polar Guide to adopt those that apply best to their experience, knowledge and circumstances.

These recommendations have been compiled from multiple resources including polar bear behaviourists, management professionals, firearms experts and IPGA Polar Guides, and contains broadly accepted techniques, strategies and equipment for expedition conditions.

These recommendations are the result of an ongoing IPGA charter to document advances and improvements in skills and practices.

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# 1. POLAR BEAR BEHAVIOURS AND RESPONSES

Polar bears will display some or many behaviours depending on the individual and the circumstances. Your responses should be consistent with these behaviours and circumstances.

Each of the situations below increases in severity and assumes you have employed the appropriate responses relevant to the previous behaviours. In any event - DO NOT RUN.

If the bear retreats out of sight, REMAIN VIGILANT - you may encounter the bear again.

## a. Bear has not sighted you

You may sight a bear that does not display any knowledge of your presence.

You should respond by:

- readying all deterrents and firearms
- quietly backing away and leaving the area away from the bear's direction of travel.
- staying downwind
- keeping an eye on the bear

## b. Bear has not sighted you but is approaching your position

You may sight a bear that does not display any knowledge of your presence but is approaching your position.

If the bear is moving towards you and an encounter seems imminent you should respond by:

- making yourself visible early
- revealing as many of the team as possible
- making noise

## c. Bear has sighted you and shows curiosity

A bear showing curiosity towards you may show the following behaviours:

- moving slowly with frequent stops
- standing on hind legs and sniffing the air
- holding its head high with ears forward or to the side
- moving its head from side to side
- trying to catch scent by circling downwind and approaching from behind

You should respond by:

- helping the bear identify you as a human
- waving your arms over your head
- speaking in firm but low-pitched tones
- moving slowly upwind of the bear so it can get your scent
- leaving an escape route for the bear
- firing a flare once the bear is within 100 metres
- preparing auxiliary weapons - shovels, ice axes etc

#### **d. Bear shows threatening behaviour towards you**

A bear showing threatening behaviour towards you may display the following behaviours:

- huffing, panting, hissing, growling, jaw-snapping
- stamping its feet
- staring directly at a person
- lowering its head with ears laid back

You should respond by:

- acting non-threatening
- do not shout or make sudden movements which might provoke the bear
- not mimicking the bears behaviour, such as huffing or hissing
- avoiding direct eye contact
- backing away slowly
- leaving an escape route for the bear
- preparing/continuing to use deterrents
- continue firing flares with helpers holding ammunition and hand warmers

#### **e. Bear shows stalking or hunting behaviour**

A bear appearing to stalk or hunt may display the following behaviours:

- following or circling you
- approaching directly, intently or unafraid
- returning after being scared away
- appearing wounded, old or thin

You should respond by:

- grouping together and making loud noises
- leaving an escape route for the bear
- continuing to use deterrents
- being prepared to fight with any auxiliary weapons - shovels, axes, skis etc.
- being prepared to use firearms, ensuring all team members are behind you

#### **f. Bear charges you**

A charging bear will be running towards you, fast and with clear intent. Bluff charges are rare, expect an attack to follow a charge.

You should respond by:

- firing at the bear with lethal weapons, aiming for the chest if from the front, aiming for the lower shoulder if from the side

#### **g. Bear attacks you**

If firing at the bear has not been successful you should respond by:

- standing your ground and being prepared to fight, particularly if the bear has been predatory (stalking or hunting to kill)

- focusing on hitting the bear in sensitive areas, especially the eyes and snout
- keep fighting

#### **h. Bear with cub**

If a female with cubs is surprised at close range or separated from her cubs she will likely attack to defend her cubs.

You should respond by:

- avoid getting between a bear and her cub
- leaving the area immediately
- staying in a group
- leaving an escape route for the bears
- using deterrents
- using firearms if required

If the bear has attacked you to protect cubs, and you can no longer use firearms or deterrents, then you may benefit from removing the threat by dropping to the ground in the foetal position, covering your neck with you hands and playing dead. Remain still until the bear leaves.

Playing dead before a bear attacks is not recommended.

## **2. NON-LETHAL DETERRENTS**

A deterrent is considered a non-lethal device or strategy used with the intention of preventing an attack and repelling a bear until it has left the scene.

### **a. Recommended by authorities**

#### **Flare gun**

A flare pistol with Calibre 4 crack cartridge (silver coloured) is the most effective, commonly used and readily available mechanical bear deterrent.

The sound of a Calibre 4 double-fire crack cartridge is more effective in scaring a bear than the sound of rifle fire.

Team members must be familiar with the operation of the gun.

#### **Carrying a flare gun**

- carry at least 6 spare rounds per gun
- carry the gun in a holster in easy reach, on a waist belt or secured on top of a sled
- while moving, disperse flare guns among the team members
- while camping, keep loaded gun in tent within easy reach, in a plastic bag to reduce moisture freezing in the mechanism

Assistants should hold spare rounds ready for reloading and should also activate hand warmers in the event the shooter requires them.

## Perimeter alarm (see Polar Bear Perimeter Fence Recommendations)

An armed perimeter fence is commonly used to surround a camp in polar bear territory. When a bear breaches the perimeter line a sear releases from a spring-loaded mechanism, firing the round, which awakes campers and may deter the bear.

Alarm components:

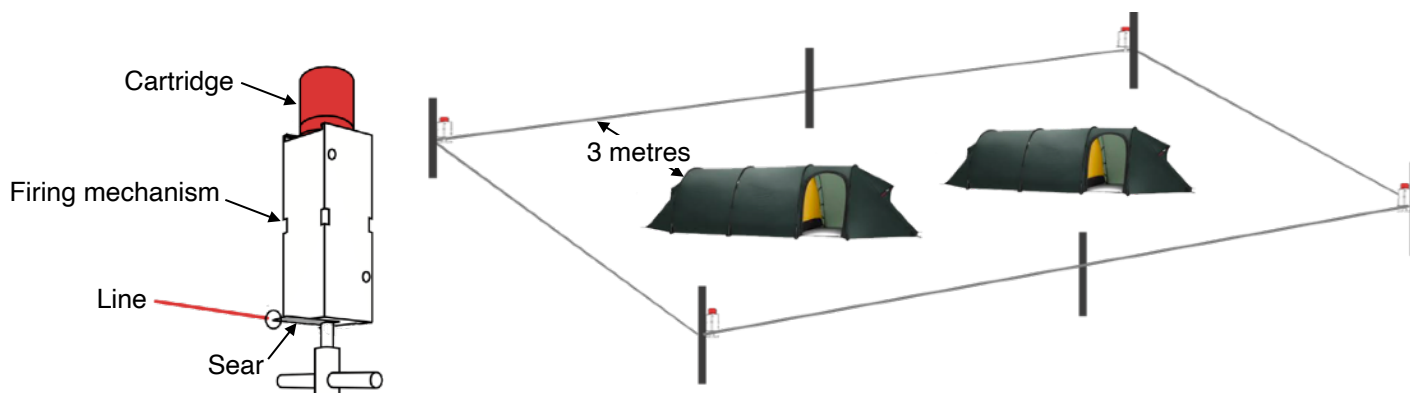
- spring-loaded firing mechanisms
- Calibre 4 double-fire crack cartridges
- perimeter line, kept on reels/spools
- sears (pins) connected to lines
- support posts

Authorities recommend:

- double line at 30 and 70cm height
- white/clear line on snow, dark line on dry ground
- each line connected to a firing mechanism
- minimum distance of 8m between tents and fence

## Considerations

Bears have been observed stepping over or crawling under lines. Campers should be periodically reminded not to walk through the perimeter



## Bear watch

If a bear or fresh tracks have been seen in the past 24 hours, or if camped in an area often frequented by polar bears, an overnight watch should be instated.

Watch should be continued until decamped.

## Dogs

Use dogs familiar with or trained in polar bear deterrence/defence

### b. Other deterrents

These deterrents are not commonly recommended by authorities but may be effective in repelling a bear.

## **Pencil flare**

- use crack cartridges
- 6 spare rounds per pencil

## **Pepper spray (also known as capsicum spray)**

- limited range
- not reliable in cold conditions
- care must be taken by user not to be affected by spray
- if affected, treatment is vigorous blinking to flush irritant from eyes

## **2.2 Alerts**

Alerts can be used to wake up team members in the event a bear enters camp. These techniques are not designed to deter a bear.

### **Signal and screech horns**

- may not operate in cold conditions
- movement sensor horns may also be useful but may activate unintentionally

### **Clatter fence**

- use a rope and poles to make a camp perimeter and place skis and other objects against the rope which will clatter when the rope is breached.

## **3. LETHAL FIREARMS**

When used properly, a lethal firearm will kill a polar bear. Firearm type, ammunition type, calibre size, serviceability and familiarity will determine the effectiveness of a firearm in a cold environment.

### **Recommended firearms and ammunition**

Firearms recommended by bear safety/management professionals include:

#### **Primary**

High-powered rifle with a minimum calibre of .308 or .30-06.  
Hunting cartridges with a 7.62mm minimum diameter and 63mm length  
Expandable lead core slugs.

Twin barrel or multi-load shotgun (avoid single-shot firearms)  
Rifled Calibre 12 slugs

#### **Secondary**

Handgun with a minimum calibre of .44  
Cartridges with a 10.9mm minimum diameter and 33mm length  
Expandable lead core slugs.

## 4. PREPARING FIREARMS FOR THE POLAR ENVIRONMENT

In sub-zero conditions firearm liquids and lubricants begin to bind and set, becoming gummy, and in some cases freezing, rendering firearms inoperable. The following techniques will optimise firearm performance in sub-zero temperatures.

- remove all fluids and lubricants from mechanisms. The amount of wear incurred by the lack of lubrication over shorter time spans is generally negligible and cold temperature mitigates mechanism overheating.
- dousing the mechanism in white spirits (also known as white gas, paraffin, Shellite) has been known to protect the mechanism from icing up but this method requires testing.
- avoid exposing the firearm to condensation inside a tent. This will freeze and may cause malfunction. Use a sleeve or scabbard to prevent moisture build-up on the firearm, or wrap the mechanism tightly in kitchen plastic wrap. A sealed plastic bag may also be useful but may contain moisture trapped from a humid environment.
- prevent snow from entering the barrel by covering the muzzle with adhesive tape, which can be fired through.
- an oversize bolt handle on bolt-action rifles is easier to use with gloved or mittened hands
- store ammunition in sealed containers

## 5. FIRING AT A POLAR BEAR

### 5.1 Flare guns

A flare gun with Calibre 4 double-fire crack cartridge is more effective than a firearm at deterring a polar bear.

Under ideal conditions it is recommended to:

- use when bear is more than 50 metres away
- ensure the flare lands between you and the bear
- shoot upwards if the bear is too close ensuring the flare does not land behind the bear
- at close quarters (inside a tent etc.) fire directly at the bear
- continue firing flares if the bear is showing curiosity or aggression towards you

Note: some bears may be unaffected by the sound of a flare and repeated use of flares may decrease effectiveness.

### 5.2 Lethal firearms used as a deterrent

Use only if flare rounds are expended or flares are unavailable.

Ensure that:

- all people are behind the shooter/s
- an assistant is standing by with ammunition and hand warmers
- you aim to one side or above the bear so as not to inflict injury
- shots fired into the ground do not ricochet into the bear



### 5.3 Shotguns loaded with plastic or rubber slugs

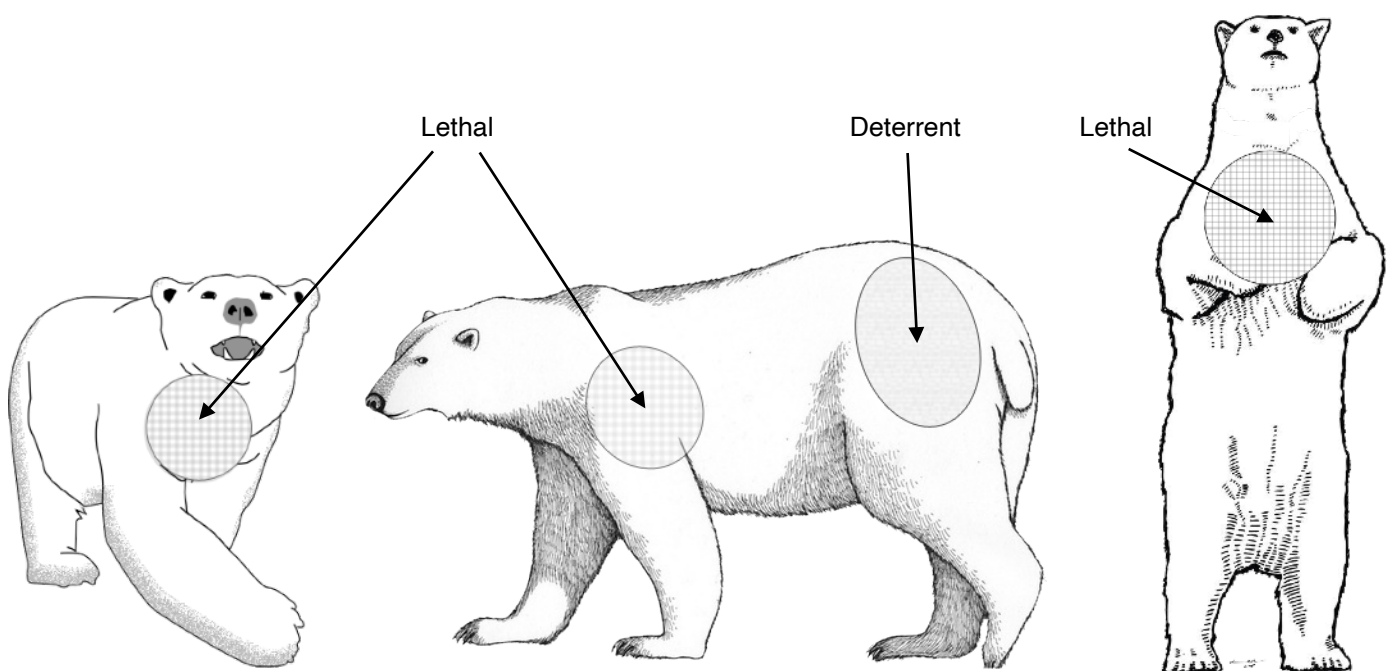
These can be effective at deterring bears but not guaranteed. To minimise response times keep lethal rounds in shotguns and deterrent rounds in flare guns.

Aim for the rump of the bear if possible.

### 5.4 Firing lethal firearms

Accurate bullet placement requires you to train regularly with each of your firearms. If using a lethal firearm with the intent to kill a polar bear, ensure:

- you have loaded solid slugs
- all people are behind the shooter/s
- an assistant is standing by with ammunition and hand warmers
- you shoot to kill, aiming for the chest if from the front and the lower shoulder if from the side
- you do not shoot at the head
- you keep shooting until the bear is still, approaching from behind.



## 6. SAFETY STRATEGIES WHILE ON THE MOVE

Guides should carry lethal firearms, deterrents should be spread amongst the group.

### 6.1 Carrying firearms and deterrents

- ensure firearms are carried within easy reach, either on the sled if a rifle or shotgun, or on the body if a handgun.

- carry firearms and flare guns in a protective case, bag or holster to prevent ice forming in the barrel or firing mechanism. Be aware that this will increase the response time.
- cover muzzle with a sleeve or cap, ensuring it is removed before firing.

## 6.2 Readiness of firearms

- rifles and shotguns should be carried loaded, uncocked, with safety on.
- shotguns must be carried loaded as they have no detachable magazine.
- firearms should not be carried with lethal ammunition in the breech.
- for magazine-fed rifles, carry a second loaded clip for fast reloading
- handguns without safety catches (eg. .44 Magnum) should be carried loaded but should have the trigger protected.
- a revolver cylinder speed-loader should be used for fast reloading of ammunition

## 6.3 Vigilance

It is important to remain vigilant while you are moving between camps.

- firearms should be carried by the lead and tail skiers
- deterrents should be spread amongst the team
- all team members should remain vigilant, scanning the 360° horizon from time to time
- look and listen for bears when in constrictions such as gullies, pressure ridges, hummocks, snow dunes, canyons, etc.
- mitigate the chance of surprising a bear at close quarters by being visible and hearable

# 7. SAFETY STRATEGIES WHILE CAMPING

In polar bear territory your camp must be placed, configured and managed optimally to mitigate bear confrontations.

## 7.1 Storing firearms

While camping, keep loaded firearms in tent within easy reach, in a sealed plastic bag to reduce moisture freezing in the mechanism. The firearm trigger can be fired through the bag. Storing a rifle/shotgun under the edge of a mattress keeps it cold and accessible.

## 7.2 Camp location

Careful camp placement will help mitigate bear encounters.

- when on land you should try and camp at least 5km from the shore
- never camp on or near known bear routes
- camp in locations that can be seen from afar and in all directions
- do not camp in areas that restrict a bear's vision or movement such as gullies, pressure ridges, hummocks, snow dunes, canyons, etc.
- avoid camping close to open leads on sea ice

## 7.3 Camp configuration

If you have multiple tents your camp should be configured to maximise your alert time.

- place tents linearly so that a bear does not feel trapped if it enters camp
- the guide tent should be central



## 7.4 Food and cooking

Polar bears have an exceptional sense of smell, under optimal conditions able to smell a seal more than 20km away. Your food and garbage is an attractant to a bear.

- cooking inside a tent may attract a bear to your camp
- cooking odours may remain in tent fabric long after you finish cooking
- place food and garbage in sealed bags or containers and store at least 20m downwind from camp

## 7.5 Vigilance

All team members must remain vigilant when camping in polar bear territory.

- scan the horizon each time you leave the tent
- don't wear ear plugs while sleeping
- maintain a bear watch if you suspect a polar bear is in the vicinity

# 8. TRAINING AND INSTRUCTION

## 8.1 Guide training

Polar guides must be licensed to carry a firearm and should practice regularly to refine skills in handling, accuracy, response and safety.

Polar guides should also practice responses to a range of bear encounter scenarios such as:

- response while skiing
- response when in tent
- response when in sleeping bag
- dispersed group

## 8.2 Client instruction

Clients must be briefed prior to departure onto the ice. Briefing notes in printable format are included as an Appendix.

All clients must be prepared to carry and fire flare pistols, it is integral to the activity they are undertaking.

## **9. INCIDENT REPORTING**

It is important to report incidents to base camp manager or authorities so that others in the field may be alerted to the presence of a polar bear.

### **Immediately after situation is stable**

- make a detailed record and ensure all team members are in agreement with the course of events
- do not release information to friends and family or on social media without consent of guide
- continue vigilance

### **At next scheduled report if communicating with a base camp such as Barneo Ice Camp**

- if using Barneo services - report incident to expedition manager including events, position and bear's direction of travel
- manager will log conversation and alert other teams

### **Jurisdiction**

- if within a particular jurisdiction (Svalbard, Canada etc.) the incident should be reported to authorities as soon as possible

# APPENDIX 1

## POLAR BEAR BRIEFING

Use this checklist to brief your team prior to entering polar bear territory.

### Summary of bear behaviours

- a. Curious - moving slowly, standing on hind legs, sniffing the air, ears forward or to side
- b. Threatening - huffing, hissing, jaw-snapping, stamping feet, staring at you, ears laid back
- c. Stalking - following or circling, approaching unafraid, returning after being scared away
- d. Charging - running towards you with clear intent

### Deterrents and firearms

Explanation of the various firearms and deterrents used by the guide and team, where they will be carried while skiing and stored while camping.

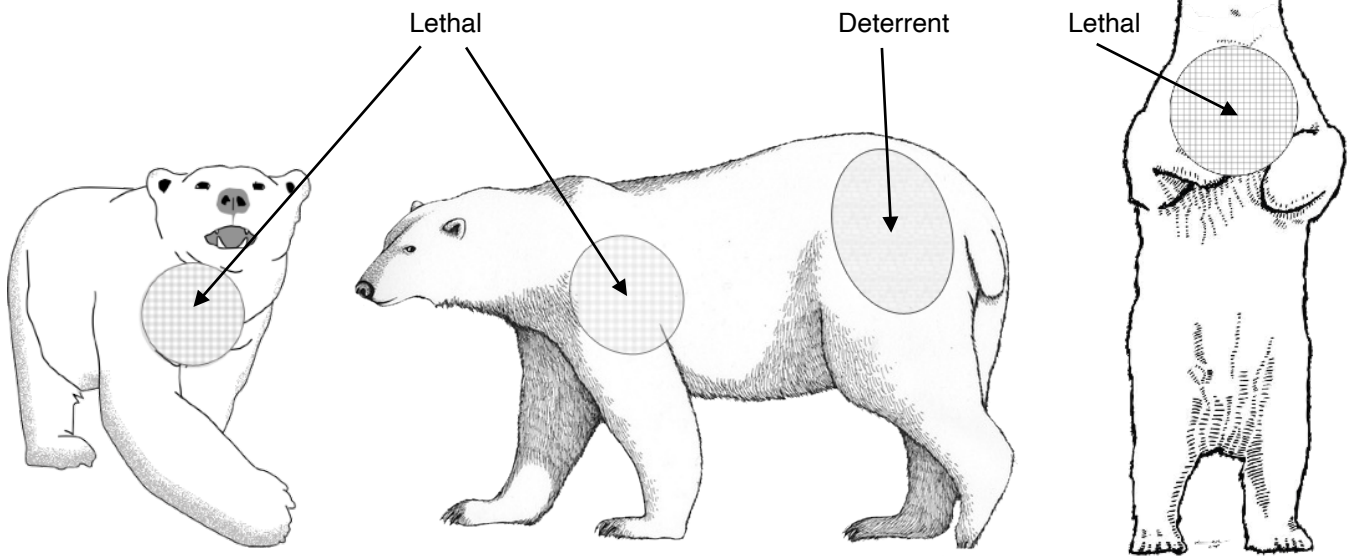
Instruction on use of flare guns and any other deterrents you are prepared to let them carry

### Vigilance

Scan the horizon from time to time, particularly front and rear of the team. Also check surroundings each time you exit the tent.

### Responses in the event of an encounter

1. Gather all firearms and deterrents
2. Release from skis and sled or come out of tents
3. Form a tight group, ensuring the bear does not feel trapped
4. NEVER RUN
5. Listen intently for guide's instructions and follow them. Instructions will vary depending on bear behaviour
6. Ensure you are behind shooters at all times
7. Do not release information to friends and family or on social media without consent of guide



## RESOURCE LINKS

[Bear Smart](#)

[Cold weather firearm maintenance and precautions](#)

[Dispelling Myths about Bears](#)

[Firearms for defence against bears](#)

[Governor of Svalbard Polar Bear Recommendations](#)

[Icebear AlarmParks Canada](#)

[Internet Centre for Wildlife Damage Management](#)

[Perimeter wire - Svalbard](#)

[Polar Bears in Svalbard pdf.](#)