



# **Environmental Management Plan**

Angilak Property  
ATHA Energy Corp. and its wholly owned subsidiaries  
March 2025

## **Appendices**

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Appendix II: Bear Safety Resources

Appendix III: Caribou Mitigation Measures

Appendix IV: Applicable Guidelines and Legislation

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## APPENDIX I

### Reporting Contact Information

**In the event of an archaeological or paleontological find, contact:**

<b>Nunavut Department of Cultural Heritage (CH)</b>	<b>Phone:</b> 867-975-5500 <b>OR</b> 867-934-2046 <b>Fax:</b> 867-975-5504
<b>CIRNAC Lands Administration</b>	<b>Phone:</b> 867-975-4283 <b>OR</b> 867-975-4285 <b>OR</b> 867-975-4280
<b>KIA Office</b>	<b>Phone:</b> 867-645-5734 <b>Email:</b> LandsAdmin@kivalliqinuit.ca

**For wildlife communication or in the event of a kill on IOL, contact:**

<b>Baker Lake HTO</b>	<b>Phone:</b> 867-793-252 <b>Fax:</b> 867-793-2034 <b>Email:</b> bakerlake@kivalliqhto.ca
<b>Aqiaggiag HTO</b>	<b>Phone:</b> 867-645-2350 <b>Fax:</b> 867-645-3257 <b>Email:</b> ranking@kivalliqhto.ca
<b>KIA Office</b>	<b>Phone:</b> 867-645-5734 <b>Email:</b> LandsAdmin@kivalliqinuit.ca

**For interactions with carnivores and other problem wildlife, contact:**

<b>GN, Department of Environment Local Conservation Office – Baker Lake</b>	<b>Phone:</b> 867-793-2944
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## APPENDIX II

### Bear Safety Resources

This pamphlet was developed for national parks in the Arctic. Polar bears and bear encounters are more numerous in Ukkusiksalik and Wapusk National Parks than other Arctic national parks. Independent travelling in these parks is not recommended, but guided trips are available. Contact Ukkusiksalik or Wapusk National Parks for further information.

**CREDIT:** Bromley, Marianne. 1996. *Safety in Polar Bear Country*. Northwest Territories Renewable Resources, Yellowknife, NWT. 24 pp.

Bromley, Marianne. 1996. *Safety in Polar Bear Country*. Northwest Territories Renewable Resources, Yellowknife. 24 pp.

Canadian Wildlife Service. *Hinterland Who's Who*. <http://www.hww.ca/hww2.asp?id=99>

Stirling, I. 1988. *Polar Bears*. University of Michigan Press. Available in soft cover from Fitzhenry and Whiteside, Markam, ON. 220 pp.  
Safety in Bear Country Society. 2006. *Polar Bears: A Guide To Safety*. Available from Distribution Access, 1-866-999-5292. DVD.

## MORE about Polar Bears

Polar bears are the largest land carnivore in North America. An adult male typically weighs 300–450 kg, stretching 3 metres from nose to tail. They are strong, fast, agile on land or ice, and are expert swimmers and divers. Their sense of smell is exceptional, their eyesight comparable to a human's. Polar bears are naturally curious, not fearless as they have been labelled. They are shy and prefer to avoid confrontations with humans and other polar bears. Their primary prey is the ringed seal but they will also prey on birds, eggs, small mammals, and even humans. They also scavenge anything from beached whales to human garbage. In the heat of summer, polar bears may appear slow and docile, but they are capable of moving swiftly and with purpose.

## Polar Bear CONSERVATION

Nanuq, the great white bear, is found in many of Canada's northern national parks and in some national historic sites. Whenever bears and people occupy the same area, conflict can arise. Polar bears and people have coexisted for thousands of years but contact between the two must be minimised to continue this legacy. Successful polar bear conservation requires your co-operation.

**For your safety, and the safety of the bears, learn about safe travel in polar bear country and take precautions.**

By choosing to travel in polar bear country you not only accept the associated risks, but also the responsibility to alter your plans, actions and attitudes to accommodate these magnificent animals.

**Report all polar bear sightings and signs to park staff, as soon as possible.**

### FOR MORE INFORMATION:

**Auyuittuq National Park and Quttinirpaaq National Park**

Box 353  
Pangnirtung, NU X0A 0R0  
PHONE: **867-473-2500**  
E-MAIL: [nunavut.info@pc.gc.ca](mailto:nunavut.info@pc.gc.ca)

**Sirmilik National Park**

Box 300  
Pond Inlet, NU X0A 0S0  
PHONE: **867-899-8092**  
E-MAIL: [sirmilik.info@pc.gc.ca](mailto:sirmilik.info@pc.gc.ca)

**Ukkusiksalik National Park**

Box 220  
Repulse Bay, NU X0C 0H0  
PHONE: **867-462-4500**  
E-MAIL: [ukkusiksalik.info@pc.gc.ca](mailto:ukkusiksalik.info@pc.gc.ca)

**Torngat Mountains National Park**

Box 471  
Nain, NL A0P 1L0  
PHONE: **1-800-922-1290** or **709-458-2417**  
E-MAIL: [torngats.info@pc.gc.ca](mailto:torngats.info@pc.gc.ca)

**Wapusk National Park**

Box 127  
Churchill, MB R0B 0E0  
PHONE: **204-675-8863**  
E-MAIL: [wapusk.np@pc.gc.ca](mailto:wapusk.np@pc.gc.ca)

**Western Arctic**

Ivvavik National Park  
Aulavik National Park  
Tuktut Nogait National Park  
Pingo Canadian Landmark  
Box 1840, Inuvik, NT X0E 0T0  
PHONE: **867-777-8800**  
E-MAIL: [inuvik.info@pc.gc.ca](mailto:inuvik.info@pc.gc.ca)

**Margo Supplies**

A supplier of bear deterrents and warning devices.  
**[www.margosupplies.com](http://www.margosupplies.com)**

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## SAFETY in Polar Bear Country



[parks canada.gc.ca](http://parks canada.gc.ca)

# Safety in Polar Bear Country

*Bringing you Canada's natural and historic treasures*

WAVE LUNCH



Parks Canada

Parcs Canada

Canada

## After a polar bear attack or encounter follow this emergency check list:

**1. STAY CALM** and ensure you are safe.

**2.** Check that all people in your group are accounted for.

**3.** Call for help by radio or satellite phone. (Get contact numbers at your orientation to the park.)

**4.** Report location and time of incident.

**5.** Report number of people involved.

**6.** Report extent of injuries and property damage.

**7.** Report numbers and last locations of all polar bears involved in the incident.

**8.** Report reason for the attack if known (female protecting cubs, surprise, defending food source, etc.)

**9.** Report description of bears (male or female, size, markings, etc.).

**10.** Stand by to provide additional information to rescuers.

Polar bear behaviour is very different from that of grizzly and black bears.

Polar bears are predators, primarily hunting seals, while grizzlies and black bears mostly eat plants. As predators, polar bears will investigate humans, their camps and may even consider humans as a food source.



**Eliminate or reduce odours from yourself and your camp.** Avoid using scented soaps and cosmetics and avoid bringing strong smelling foods. Ask about their experience, how they will avoid encountering a polar bear and about plans of action should you encounter a bear. A larger group can also increase safety, ask about the size of group.

**Use sealed bags and containers or bear-proof canisters to store food and garbage. Pack out all garbage.**

**Never feed bears.** A bear that finds food from a human source begins to associate humans with food. This can result in the bear losing its natural tendency to avoid people and becoming persistent in its search for human food. The consequences for you and the bear can be serious. A bear that associates food with humans is more likely to injure people and these bears may have to be relocated or killed. It is also illegal to feed any wildlife in a national park.

**Never approach a fresh kill or carcass as polar bears will defend their food.** Adult polar bears will often only eat the fat of beached whales, seals and other kills, but other bears may scavenge from these carcasses.

**Never approach a bear for any reason.** Every bear defends a "critical space", which varies with each bear and each situation: it may be a few metres or a hundred metres. Intrusion within this space is considered a threat and may provoke an attack. Approaching a bear could be considered disturbing wildlife which is an offence under the National Parks Wildlife Regulations.

**Travel in groups and stay together to increase your safety.** The larger the group the greater the chances of deterring a bear.

**Travel in daylight and avoid areas of restricted visibility.** Be especially careful in areas along the coast, where a polar bear may be hidden behind boulders, pressure ridges (pushed up sea ice), driftwood or vegetation.

**Be alert and aware of your surroundings.** Scan all around with binoculars at regular intervals. Be vigilant! Watch for signs such as tracks, droppings, diggings, wildlife carcasses and polar bear dens.

**Ask Parks Canada staff about current bear activity.** Some areas may be closed due to bear activity; obey written and oral warnings.



# CHOOSING a SAFE Campsite

## Avoid bear feeding areas.

A polar bear's primary food source is seal so these species are often found in the same places.

- **In fall, winter and early spring** most polar bears are on the sea ice hunting seals by the floe edge, open water leads and along pressure ridges. Bears and seals can also be found in places where the ice is thin or cracked, such as tide cracks in land-fast ice or at toes of glaciers. Seals can more easily maintain breathing holes in these areas.
- **In early spring**, females with cubs tend to hunt along pressure ridges and cracks in land-fast ice (particularly in bays) where seal birthing dens are found.
- **During the ice-free summer season**, when polar bears are forced ashore, they can be found anywhere but they generally hunt and scavenge along coastlines, beaches and rocky islands. Keep an eye on the ocean, polar bears are often well hidden when swimming.

## Stay away from polar bear den sites.

Unlike other bears, there is no time when all polar bears are inactive in dens.

- **Maternity dens** are excavated by pregnant females in snow drifts on leeward (wind protected) slopes of coastal hills and valleys. In the Baffin Region, dens can be found at high elevations on snowfields and glaciers. Maternity dens are occupied from fall to early spring. The dens are inconspicuous, however, bear tracks leading to and from the site in early autumn or late spring or ventilation holes can indicate their presence.
- **Temporary dens** are excavated in snow drifts or pressure ridges by polar bears (males, females and females with cubs) that are active over the winter. The dens can be used as resting places or as temporary shelter from bad weather. They can be used from a few days to several months.
- **Summer retreat dens** are excavated during the open water season in the remaining snow banks or into the permafrost. These can also be at higher elevations on snowfields and glaciers or the valleys leading up to them. Male and female bears of all age groups use them to keep cool and avoid insect harassment.

## Avoid camping on beaches, islands, along coastlines and on obvious movement corridors.

- Before making camp, look around for tracks or other signs of bear activity.
- Polar bears often travel along coastlines using points of land and rocky islets near the coast to navigate.
- In the summer, blowing sea ice may transport polar bears into coastal areas. Avoid areas where the pack ice is blowing in to shore.
- Valleys and passes are often used to cross peninsulas or islands and to move from one area to another.
- Polar bears travel and hunt along the edges of ice floes.

**Camp inland on a butte or bluff with a good view of surrounding terrain.** Avoid areas where bears might hide, such as blind corners, snow banks, pressure ridges and other places with visual impediments.

**Set up tents in a line rather than a circle and maintain at least 5 metres between them.** If a bear comes into camp, it will not feel surrounded and will have an avenue of escape without feeling threatened. Keep watch 24 hours per day. Take turns keeping watch during sleeping periods.

**Do not sleep in the open without a tent.** You may look like a seal and polar bears are very curious. People sleeping in the open have been attacked.

**Cook at least 50 metres from your sleeping area in a place visible from your tent.** Strain food particles from dishwater and store with garbage. Dump dishwater at least 50 metres from your sleeping area, rivers, streams and lakes.

**Store food and garbage in bear-proof containers or sealed bags and containers secured under rocks within view of your tent. A permit is required to set up a food cache.** Placing pots on top may serve as an alarm. If you have a warning system, store your food within its perimeter. DO NOT store food inside your tent.

# HANDLING an ENCOUNTER

**Before your trip, discuss possible plans of action for dealing with bears in a variety of circumstances and be sure everyone understands.** The actions of each individual either contribute to or detract from the safety of everyone else.

**Every attack or encounter is different. To find out more about bear behaviour, hire a guide or talk to knowledgeable people in the community.**

**Stay calm, notify everyone in the group, be aware of your surroundings and assess the situation.** What is the bear doing? What is the bear's behaviour?

## If a bear does not know you are there:

- **quietly back away and leave the area** either in the direction you came or make a wide detour around the bear. Do not run, move quickly or make motions that might attract the bear's attention.
- **stay downwind**, so the bear cannot smell you and detect your presence.
- **keep an eye on the bear.**

**If a bear knows you are there and shows signs of being curious, such as:**

- 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, or
  - trying to catch your scent by circling downwind and approaching from behind.
- THEN:**
- **help it to identify you as a human,**
  - **wave your arms over your head and talk in low tones,**
  - **move slowly upwind** of the bear so it can get your scent.

**If the bear has been surprised at close range or shows signs of being agitated or threatened, such as:**

- huffing, panting, hissing, growling or jaw-snapping,
  - stamping its feet,
  - staring directly at a person, or
  - lowering its head with ears laid back.
- THEN:**
- **act non-threatening.** Do not shout or make sudden movements, which might provoke the bear. Never huff or hiss as this can cause a polar bear to charge.
  - **avoid direct eye contact.**
  - **back away slowly.** DO NOT RUN.
  - **be prepared to use deterrents.**

**If the bear shows signs of stalking or hunting you, such as:**

- following you or circling you,
  - approaching directly, intently and unafraid,
  - returning after being scared away, or
  - appears wounded, old or thin.
- THEN:**
- **fight back!** Use any potential weapon, group together and make loud noises.
  - **DO NOT RUN.**
  - **be prepared to use deterrents.**

## If a bear charges:

- **stand your ground and be prepared to fight!** Focus on hitting the bear in sensitive areas, especially the face and nose if possible. Bluff charges are rare.

## Never get between a bear and her cubs.

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

- **leave the area immediately.**
- **stay in a group.**
- **fight back if she attacks.**



WAYNE LYNCH

**Always leave an escape route for the bear.**

**Carry deterrents and know how to use them.**

Report all bear sightings and signs to park staff.

CONTACT PARKS CANADA FOR MORE INFORMATION.

# DETERRENTS

Reducing the threat posed by a polar bear during an interaction may be difficult. Non-lethal deterrents cannot be depended on to ensure safety. The best way to live safely with bears is to avoid contact with them.

Any potential weapon must be considered, such as skis, poles, rocks, blocks of ice or even knives.

Stay together as a group. This can be a deterrent and actions, such as making noise, jumping, waving arms, throwing things, may help to drive a polar bear away.

## COMMERCIAL deterrents

- **Noisemakers** including air horns, pistol and pen launched bear bangers may scare a bear away.
- **Pepper spray** is effective against polar bears, but has some limitations. It must be warm enough to atomize and it must be used at close range. Also be aware of wind direction to avoid having the spray blow into your face.
- **Know how and when to use these deterrents and practice beforehand.**
- **Availability of commercial deterrents is limited in the north**, most will have to be purchased elsewhere and transported as dangerous goods.
- **Portable solar electric fences** may deter a bear at your campsite if properly installed and maintained.
- Contact Parks Canada for more information.

**In Canada's national parks it is unlawful to possess a firearm unless you are a licensed guide or bear monitor with a permit.** Consider hiring a guide or a bear monitor for increased safety. If you operate a guiding or outfitting business and wish your guides to be considered for a firearms permit, please contact the National Park or Site or Field Unit Office.

The exception to this regulation is for beneficiaries of the Inuvialuit Final Agreement, the Nunavut Land Claim Agreement, the Labrador Inuit Land Claims Agreement, the Nunavik Inuit Land Claim Agreement and any future land claim agreements, who can carry firearms when engaged in traditional activities within national parks within their land claim area.

you for protection and stake them downwind from your sleeping area. Be sure to clean up any dog food leftovers. Dogs must be under control at all times within national parks to avoid wildlife harassment.

**Designate a bear monitor** to keep watch if a polar bear might be nearby. Consider moving your camp if there is a bear in the area.

# WARNING systems

**Set up a portable trip-wire or motion detector alarm system around your tent** to alert you if a polar bear approaches your camp. Before leaving home, contact Parks Canada for more information.

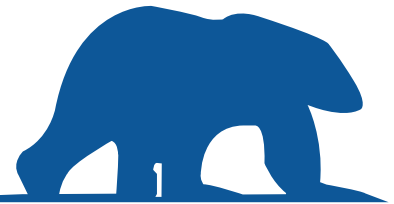
**You may wish to take a dog, but only one that has proven experience with polar bears.** Several dogs are better than one. Know how to handle them. Keep them staked so they cannot run to



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Building *Nunavut* Together  
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Bâtir le *Nunavut* ensemble

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Department of Environment  
Avatiliqiyikkut  
Ministère de l'Environnement

# BEAR SAFETY



Reducing Bear-People Conflicts in Nunavut





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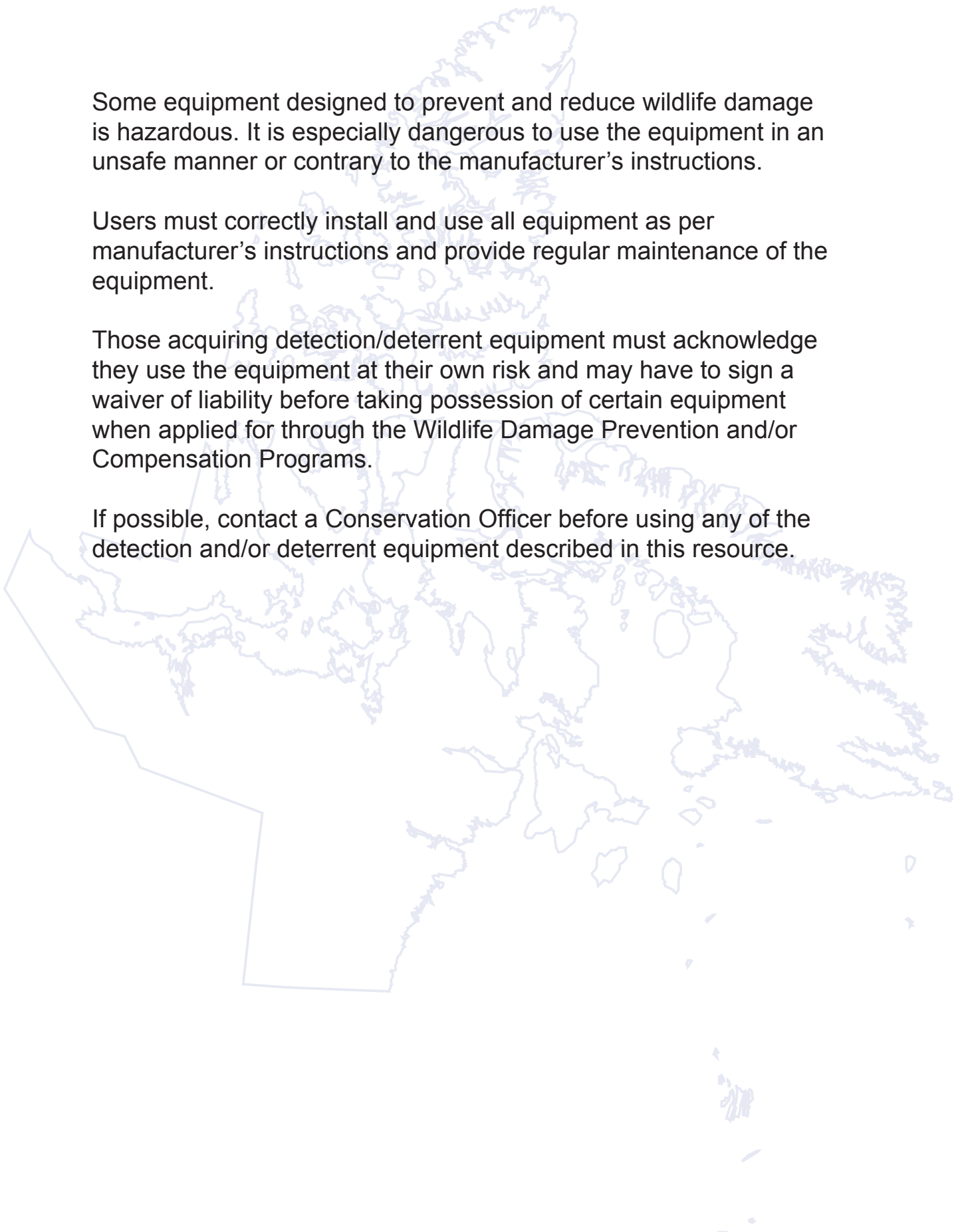
# Safety

Some equipment designed to prevent and reduce wildlife damage is hazardous. It is especially dangerous to use the equipment in an unsafe manner or contrary to the manufacturer's instructions.

Users must correctly install and use all equipment as per manufacturer's instructions and provide regular maintenance of the equipment.

Those acquiring detection/deterrent equipment must acknowledge they use the equipment at their own risk and may have to sign a waiver of liability before taking possession of certain equipment when applied for through the Wildlife Damage Prevention and/or Compensation Programs.

If possible, contact a Conservation Officer before using any of the detection and/or deterrent equipment described in this resource.



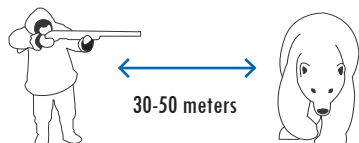
# DETERRENTS

## Rubber Bullets

Some bears are not deterred by noise. When noise is unsuccessful, rubber bullets are often the most effective alternative to lethal management. Less-lethal projectiles, such as rubber bullets, are used to inflict pain, creating a negative association with the situation and with humans. These rounds are designed to cause momentary discomfort and surprise; when used correctly they do not penetrate the hide or seriously injure the bear. Rubber bullets are effective between **30-50 meters (100-165 ft.)**.



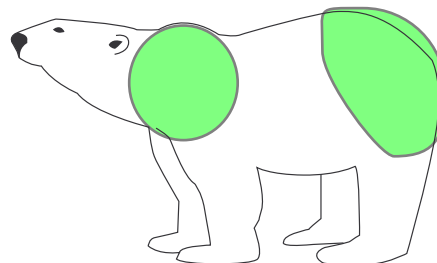
Load rubber bullets one at a time directly into the chamber of a shotgun with an open-choke (cylinder bore). Load the magazine with lead slugs (lethal ammunition) so you are prepared if the bear attacks. Do not use rubber bullets in semi-automatic shotguns, as the low powder loads in rubber bullets do not work properly with the action - rounds can jam and render the firearm useless. Use a pump-action shotgun with a chamber size of 2 ¾" or larger.



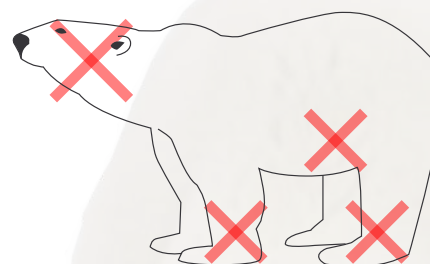
Call out to the bear before firing so that it associates you (humans) as the source of the pain. Make sure the bear has a clear path to escape.

### Safety Precautions

- Do not shoot at people; it may cause death or serious injury
- Do not shoot at wildlife closer than 30 meters
- Have a lethal firearm present and ready
- Use only in recommended firearm (12 gauge shotgun with open choke)
- Do not use rubber bullets in semi-automatic shotguns, as the low powder loads in rubber bullets do not work properly with the action - rounds can jam and render the firearm useless



- Load rubber bullets directly into the chamber of a shotgun with an open-choke (cylinder bore)
- Aim for a large muscle mass, such as shoulder or rump
- Let the bear know your location before firing
- Make sure the bear has a clear path to escape



- Do not shoot for the head, belly, hindquarters, or lower limbs. This could severely injure the bear.

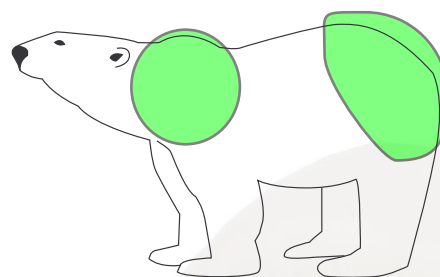
# DETERRENTS

## Bean-Bag Round

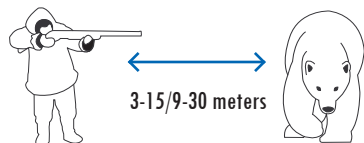
Similar to rubber bullets, bean-bag rounds are an effective alternative to lethal management. These less-lethal projectiles are used to inflict pain, creating a negative association with the situation and with humans. Bean-bag rounds are designed to cause momentary discomfort and surprise; when used correctly they do not penetrate the hide or seriously injure the bear. Bean-bag rounds can be used at close ranges: **3-15 meters (10-50 ft.)**. A “standard round” is also available, which works at a longer range: **9-30 meters (30-100 ft.)**



Call out to the bear before firing so that it associates you (humans) as the source of the pain. Make sure the bear has a clear path to escape.



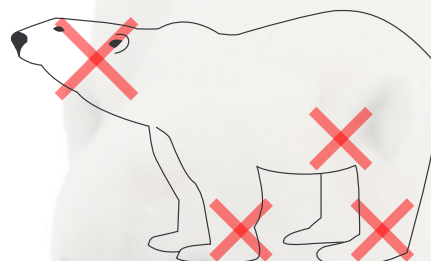
- Load rubber bullets directly into the chamber of an open-choke shotgun
- Aim for a large muscle mass, such as shoulder or rump
- Let the bear know your location before firing
- Make sure the bear has a clear path to escape



- rounds can jam and render the firearm unusable. Use either a hinge or pump-action shotgun with a chamber size of 2 3/4" or larger.

### Safety Precautions

- Do not shoot at people; it may cause death or serious injury
- Do not shoot at wildlife closer than recommended
- Have a lethal firearm present and ready
- Use only in recommended firearm (12 gauge shotgun with open choke)
- Do not use rubber bullets in semi-automatic shotguns, as the low powder loads in rubber bullets do not work properly with the action - rounds can jam and render the firearm useless



- Do not shoot for the head, belly, hindquarters, or lower limbs. This could severely injure the bear

Potential impacts to vegetation and soil on the Angilak Property include disturbance due to camp and exploration activities. The Angilak Property is located north of the tree line; therefore, line cutting is not required for exploration activities. ATHA will not be constructing any roads.

Mitigation measures to reduce the impact include limiting the amount of vegetation disruption to ensure proper shade coverage and reduction in the potential for ground thaw and subsidence. Footpaths can be marked using stakes and flagging tape to ensure that impacts to vegetation are confined to a small area or boardwalks can be built between camp buildings to reduce damage to vegetation on high-traffic footpaths. Areas that have patterned ground, clay-rich soil and or wetlands will be avoided. Heat radiating from camp buildings may thaw permafrost, so all heated camp structures will be slightly elevated above the ground to allow air circulation. Earth may be required to be moved in order to construct sumps in camp and at drill sites; however natural depressions and areas free of vegetation will be used whenever possible. Any topsoil moved will be collected to use in re-vegetation efforts. Any sumps required to be excavated will be backfilled and restored to the pre-existing natural contours of the land after no-longer in use or during final abandonment and restoration.

Soil quality can be impacted from hazardous materials spills and waste discharge. Refer to the *Spill Contingency Management Plan* for mitigation measures regarding the use, storage, transportation and disposal of hazardous materials and their waste products.

### 3.3. Groundwater Impacts

Drilling has the potential to impact the quantity and quality of groundwater. Disruption of flow, contamination from spills and an increased concentration of solids and metals are potential impacts associated with drilling activities.

ATHA is firmly committed to the protection and conservation of the natural environment including waterbodies and groundwater, and as such will implement a number of environmental policies and procedures to mitigate the impacts of drilling activities on groundwater quantity and quality.

- Drilling fluids will be directed into an appropriate natural depression, at least 31 m from the ordinary high-water mark of any waterbody to ensure direct flow into a water body is not possible and no additional impacts are created.
- If any artesian water flow is detected, the hole will be plugged immediately and cemented in bedrock to prevent continued flow.
- ATHA will ensure that the capacity of the watercourse or waterbody will be sufficient enough to allow for drilling water usage and will have no impact on lake level or flow.
- Drilling will utilize recirculation and filtration systems to minimize loss of water and drill additives.
- Non-toxic and bio-degradable drilling fluids will be used whenever possible.
- To minimize the risk of contamination from spills, ATHA will follow the procedures and policies regarding the use, storage, transportation and disposal of hazardous materials and their waste product outlined in the *Spill Contingency Management Plan*.



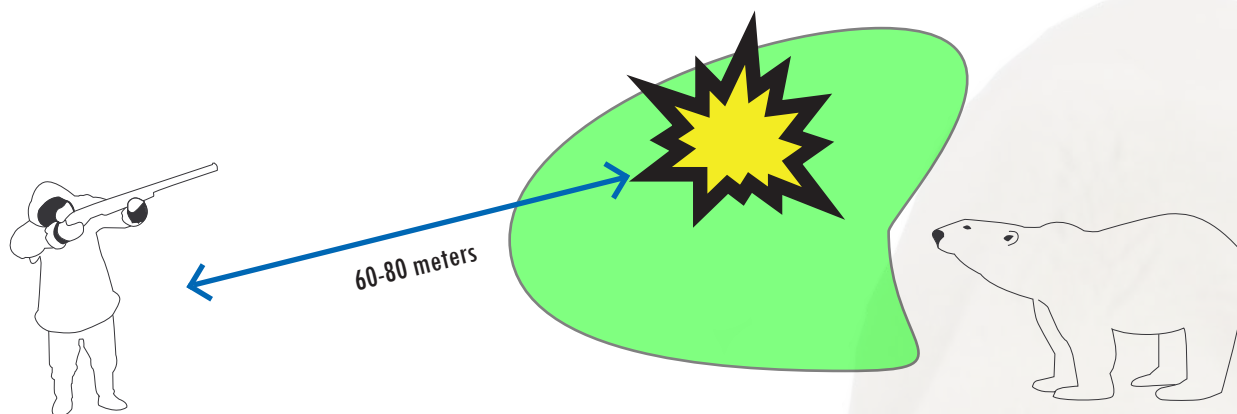
# DETERRENTS

## Cracker Shells

Bears dislike sudden loud noises. Cracker shells are fused projectiles that travel a certain distance before exploding. The abrupt loud noise creates a negative association with the situation and with humans. Most bears are scared off by cracker shells but others learn to ignore the noise, especially when there is nothing else to deter the bear or if there are attractants or food. 12 gauge Cracker shells are effective between **60-80 meters (165- ft.)**.



When used properly, cracker shells cause no physical harm or discomfort to a bear. Load shells one at a time into an open-choke shotgun. Do not use cracker shells in semi-automatic shotguns, as the low powder loads in the shells do not work properly with the action - rounds can jam, making the firearm useless. Use either a hinge or pump-action shotgun with a chamber size of 2 3/4" or larger. Load the magazine with lead slugs (lethal ammunition) so you are prepared if the bear attacks.



- Do not shoot directly at the bear - **You want the shell to explode between you and the bear**
- Fire into the air at a **45 degree angle above the ground**, judging distance and wind speed/direction

- Judge your distance. **If the shell explodes behind the bear the blast may scare the bear towards you**
- Let the bear know your location before firing. If it does not know the source of the noise it may run in your direction
- Make sure the bear has a clear path to escape

### Safety Precautions

- Do not shoot at people; it may cause death or serious injury
- Cracker shells pose a fire risk. Ensure that there are no flammables downrange
- Do not shoot at dry vegetation, gas products, or wildlife closer than 60 meters
- Have a lethal firearm present and ready
- Use only in recommended firearm (12 gauge shotgun with open choke)
- Do not use cracker shells in semi-automatic shotguns, as the low powder loads in rubber bullets do not work properly with the action - rounds can jam and render the firearm useless



# DETERRENTS

## Warning Shots

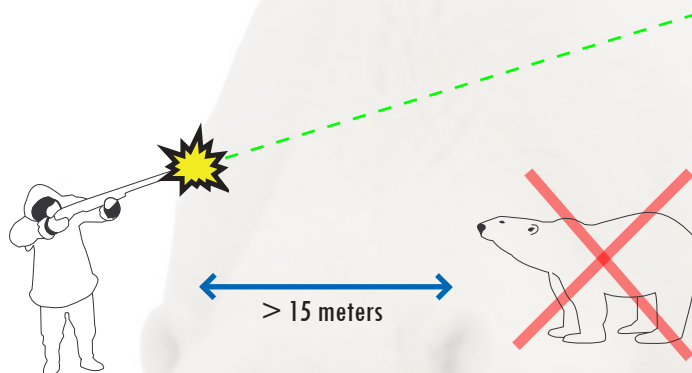
Warning shots create a loud abrupt noise at the gun's muzzle and a slight disturbance to the ground upon the bullet's impact. Shots fired from a firearm may scare a bear; however, some bears show little concern for warning shots and will continue to approach or remain in the area. Warning shots can also be a safety hazard for bears and people. Often bears are injured by ricocheting bullets intended to scare it away. Using a firearm to deter bears does allow for immediate use of lethal force.



- Let the bear know your location before firing. If it does not know the source of the noise it may run in your direction
- Do not shoot directly towards the bear. Shoot in the air and to the side of the bear
- Make sure the bear has a clear path to escape
- If the warning shots are not working switch to another technique (other deterrents, yelling and/or throwing things at the bear) - you do have a firearm if the bear turns its attention to you

Warning shots can be fired from any firearm that makes a loud noise when discharged. Keep track of the number of warning shots fired - each one fired means that there is one less shell or cartridge left in the firearm for you to use if you must shoot the bear.

Think about where you are shooting. Do not fire warning shots in the direction of people, communities, known campsites/ cabins, or other populated areas.



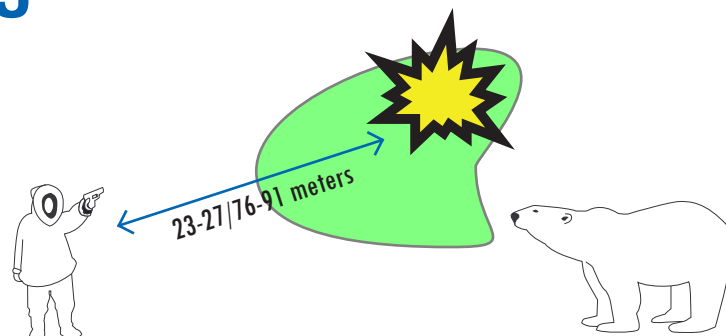
### Safety Precautions

- Be conscious of where your warning shot will land - do not shoot at or near people, or objects off which a bullet may ricochet
- Do not shoot directly at wildlife
- Do not fire all rounds - you may need to shoot the bear if it turns its attention to you

# DETERRENTS

## 15mm Scare Cartridges

Bear Scare Cartridges are 15mm projectiles that create loud noises when fired. The abrupt loud noise creates a negative association with the situation and with humans. Most bears are scared off by scare cartridges but others learn to ignore the noise, especially when there is nothing else to deter the bear or if there are attractants or food. 15mm cartridges are fired from a 'pistol launcher', which uses blanks to project the cartridge. There are three different types of bear scare cartridges:



**Bangers** - A flash bang cartridge that explodes, creating a sudden loud noise and flash of light. Bangers are effective between **23-27 meters (75-90 ft.)**

**Screamers** - Make a loud screeching sound while traveling through the air. In low light conditions they produce a strong visual effect. Screamers are effective between **76-91 meters (250-300 ft.)**

**Flaming Whistles** - Produce a loud whistling noise and a sparkling tracer effect as they travel through the air. Flaming Whistles are effective between **76-91 meters (250-300 ft.)**

- Fire into the air at a **45 degree angle above the ground**, judging distance and wind speed/direction
- Judge your distance. **If the shell explodes behind the bear the blast may scare the bear towards you**
- Let the bear know your location before firing. If it does not know the source of the noise it may run in your direction
- Make sure the bear has a clear path to escape
- Do not shoot directly at the bear - **You want the shell to explode between you and the bear.**

### Safety Precautions

- Do not shoot at people; it may cause death or serious injury
- 15mm scare cartridges pose a fire risk. Ensure that there are no flammables downrange
- Do not shoot at dry vegetation, gas products, or wildlife closer than recommended
- Have a lethal firearm present and ready
- This ammunition must only be used to deter nuisance wildlife or wildlife that is endangering human safety. If possible, contact a conservation officer before using this deterrent



# DETERRENTS

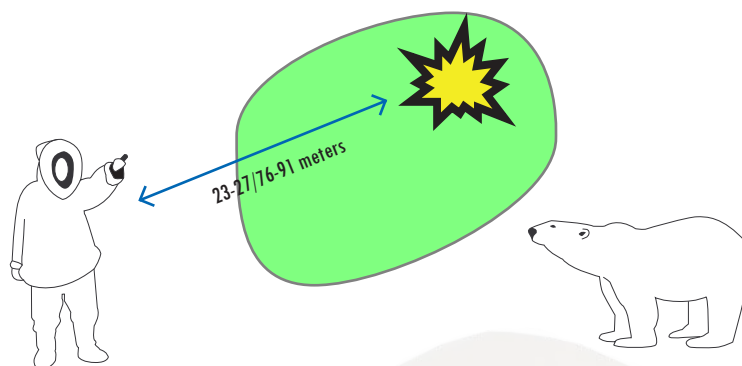
## Pen Launcher

A different style of 15mm Bear Scare Cartridges can be fired from a 'pen launcher'. The cartridges are screwed into the end of the launcher one at a time; the thumb lever is then drawn back and released to fire the cartridge. A variety of signal and safety flares can also be fired from pen-type launchers. There are two different types of bear scare cartridges that can be fired from the pen launcher.



**Salute Flares** - Also known as Bear Bangers, these cartridges explode with an extremely loud bang after traveling approximately 125 ft. Salute Flares are effective between **23-27 meters (75-90 ft.)**

**Siren Flares** - Also known as Screammers, these cartridges make a loud high pitched screeching sound while traveling through the air. Siren Flares are effective between **76-91 meters (150-200 ft.)**



- Judge your distance. **If the shell explodes behind the bear the blast may scare the bear towards you.**
- Let the bear know your location before firing. If it does not know the source of the noise it may run in your direction
- Make sure the bear has a clear path to escape

### Safety Precautions

- Do not shoot at people; it may cause death or serious injury
- 15mm scare cartridges pose a fire risk. Ensure that there are no flammables downrange
- Do not shoot at dry vegetation, gas products, or wildlife closer than recommended
- Have a lethal firearm present and ready
- This ammunition must only be used to deter nuisance wildlife or wildlife that is endangering human safety. If possible, contact a conservation officer before using this deterrent

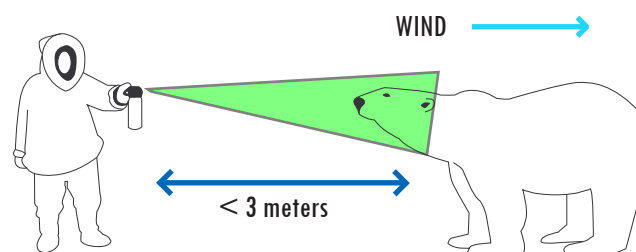




# DETERRENTS

## Pepper Spray

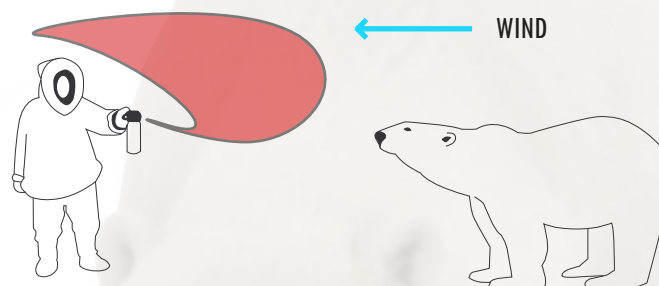
Pepper spray, also known as capsicum spray or bear spray, is a chemical deterrent that causes temporary burning, tearing and swelling in the eyes and nose, and inflammation of the throat and lungs, which restricts breathing to shallow gasps. It also causes severe irritation to the surface of the skin. These effects are only temporary and cause no permanent damage to bears, or people who accidentally come into contact with the spray. Unlike other projectile deterrents, pepper spray is only effective at short distances: **< 3 meters (165- ft.)** Therefore, it should only be used as a last resort.



- Remove the “safety wedge”
- Discharge the pepper spray with the wind at your back
- Aim for the animal’s face, specifically the eyes, nose and mouth
- Leave the area immediately after using the pepper spray

Pepper spray does not work well in damp, rainy or cold weather. Keep the canister in a holster under your jacket to keep the canister at an effective working temperature.

Pepper spray is not a repellent - it will not keep bears from investigating or damaging property.



### IMPORTANT

**Judge wind direction - do not discharge the pepper spray into a head-wind, as it may blow back into your face**



Bear reacts to pepper spray - © Bob Saunders

### Safety Precautions

- Do not use on people; it may cause serious injury
- It is illegal to use pepper spray for any purpose other than defending yourself from an animal attack
- Do not use in cabins, tents, vehicles or other enclosed areas, as it will incapacitate the user(s)
- Effects are only temporary and a predatory bear may resume its approach once it has recovered
- This product must only be used to deter nuisance wildlife or wildlife that is endangering human safety. If possible, contact a conservation officer before using this deterrent



# DETERRENTS

## Noisemakers

Noisemakers can be considered anything that makes loud, unfamiliar noise. Commercial products such as rattlers or air horns are available for purchase. However, simple home solutions are also effective; pots and pans, banging on the walls of a shed or cabin, etc. Use whatever is available to you.

Noisemakers are a simple, first level deterrent. However, bears quickly become accustomed to sounds when no other negative effect is present. Have other deterrents or a lethal firearm present and ready in case the noisemakers are ineffective.



### Safety Precautions

- Do not use sirens or horns on/near people; it may result in hearing damage or loss
- Have a lethal firearm present and ready
- Use noise makers when bears show interest in your camp, cabins, or persons

# DETERRENTS

## Electric Fencing

Electric fences deliver a shock to bears that come into contact with the wires. The shock causes momentary surprise and discomfort. The effects are only temporary and cause no permanent damage to bears, or people who accidentally come into contact with the wires.

Alternating positive and negative charges between wires will deliver a shock even on dry ground or rocky conditions. Permanent fences can be erected to protect outpost camps, cabins, caches, etc. Portable fences can be used at temporary camps.

Fence charging units can be recharged either by generators or by solar power. Fences do require regular maintenance and monitoring to ensure that an appropriate level of charge is being delivered. When snow begins to accumulate they may become grounded out or buried.

Consult the manufacturer's guidelines for safety and installation instructions.

### Safety Precautions

- Have other deterrents and/or a lethal firearm present and ready in case the fence is damaged and/or ineffective
- Follow the manufacturers guidelines for installation, operation and maintenance



A permanent high tensile electric fence and a solar-powered charger



Temporary electric fencing around a camp site

# DETERRENTS

## Vehicles

Bears are less of a risk to people who are travelling by all-terrain vehicles (ATV), snowmobiles, on-road vehicles (cars and trucks), boats or aircraft. When chasing problem wildlife away from people and/or property, consider the following when traveling with a vehicle:



- Do not depend entirely on your vehicle for protection. If it breaks down you may be forced to stay on the land longer than you anticipated, or you may have to travel on foot
- If a bear is approaching, and it is safe to do so, start the engine of your ATV, boat, or snowmobile. The noise and/or movement may encourage the bear to leave



### Safety Precautions

- Never chase a bear if you are unarmed. If your vehicle breaks down you may be vulnerable
- Remain at a safe distance
- Do not chase a bear alone. Have a second person present, following in an additional vehicle if possible
- Vehicles must only be used to deter nuisance wildlife or wildlife that is endangering human safety. If possible, contact a conservation officer before chasing any animal

- Do not use your vehicle as an excuse to approach wildlife. This includes watching bears and other wildlife at garbage dumps. The more experience a bear has with any deterrent the less effective it becomes.
- Do not use your vehicle to chase an animal if the terrain makes it unsafe to do so. Do not chase a bear with your vehicle while towing a trailer or sled. You may need to stop and turn abruptly.
- If using a helicopter stay 100m behind the bear and 30m above the ground, in this position, drive the bear towards an obvious, or desired escape route

## WARNING

Bears, particularly during the summer, may overheat and die from the stress and overexertion caused by a fast and/or long chase

### Wildlife Act - Section 74 - Pursuit of a wild animal

- (1) No person shall chase, weary, harass or molest a wild animal
- (2) A person does not contravene subsection (1) by lawful harvesting
- (3) Notwithstanding anything else in the Act, a person may use a vehicle to chase a bear away from a dwelling, municipality, camp or settlement or its immediate vicinity if it is necessary to defend life or property and may avoid killing the bear



# DETECTION

## Dogs



A trained dog and an experienced handler can effectively detect and deter bears. Certain breeds of dogs, such as the Canadian Inuit Dog (sled dog), the Blackmouth Cur and the Karelian Bear Dog, are well known for their ability to avert bears and chase them from areas where they may come into contact with people. Regardless of the breed, it is important to know beforehand how your dog(s) will react to an approaching bear. An inexperienced dog, or one which fails to warn of an approaching bear, is more of a hazard than a help.

Dogs used to detect and deter bears should not be treated as pets and are best kept on a leash when travelling, or chained outside of tents and/or cabins. A loose dog may not be useful in you encounter a bear, as the dog could run away.

Dogs are naturally pack animals and may be more confident when two or more are kept together for bear detection and defense.

A small group of dogs may be able to chase and scare a bear from the area, creating an unpleasant encounter that may discourage the bear from returning. A single barking dog may be enough to prevent a bear from approaching a camp. However, some dogs may not bark at bears when tied up because they may feel vulnerable to an attack.

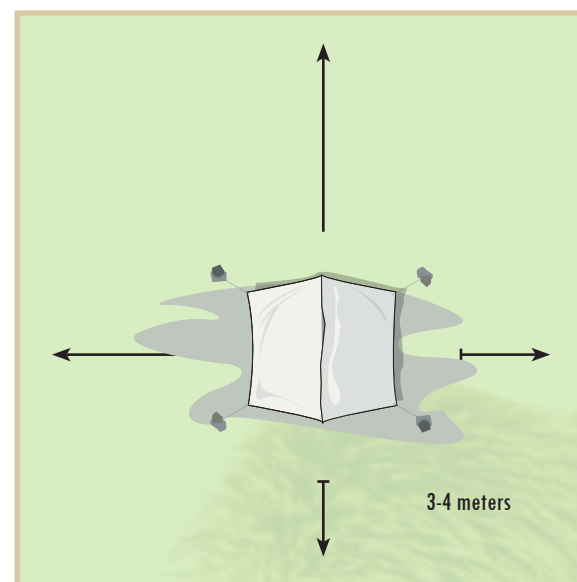
Additional care must be taken when travelling on the land with a dog. Dog food can attract bears; uneaten food should not be left out overnight and care should be taken to ensure a dog does not cache uneaten food around camp.



# DETECTION

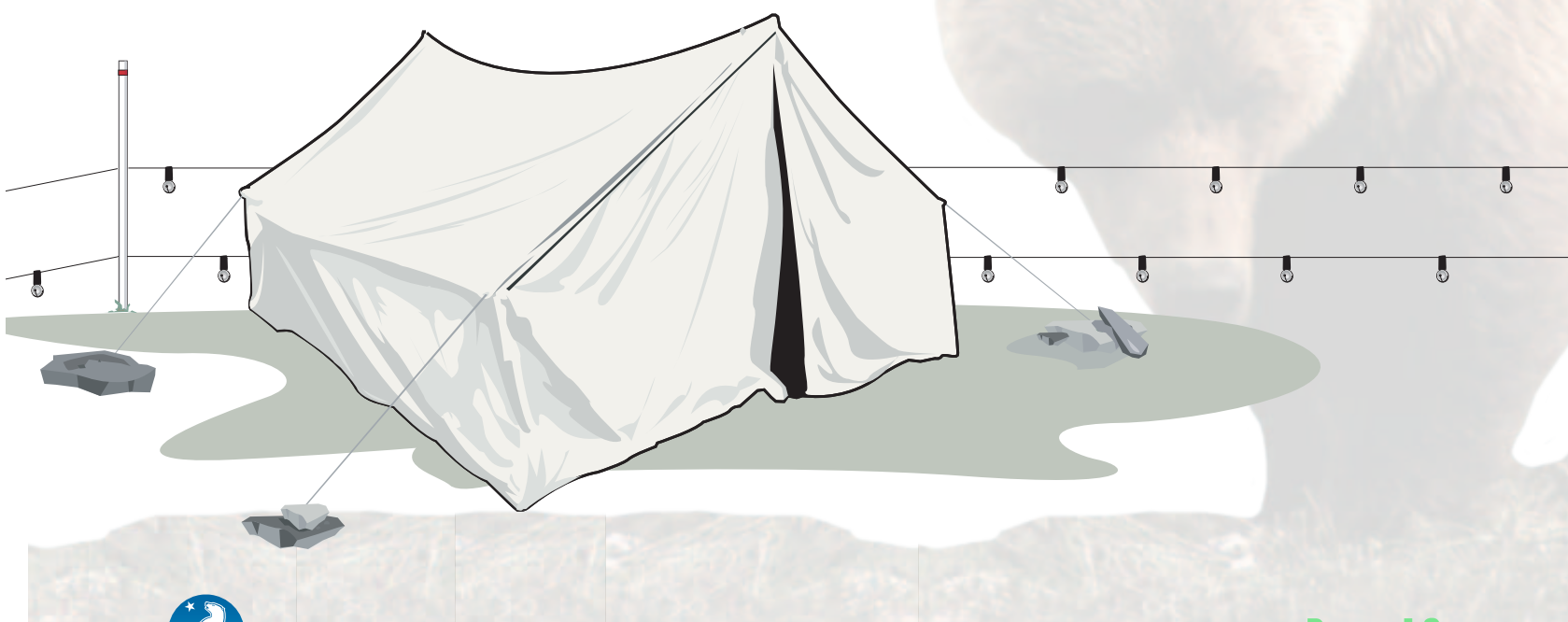
## Tripwire Fences

Tripwire fences can provide advanced warning of an approaching bear. In some cases the noise produced by a tripwire fence may be enough to deter a bear. However, they are intended to be a means of detection, and you should always carry additional deterrents or firearms. Tripwire fences can be as basic as setting up a rope with noisemakers (pots and pans, bells, etc.) attached at various points. There are also commercially available models that, when triggered, set off loud sirens and lights.



Tripwire fences, whether homemade or commercially purchased, should be placed at a distance of several meters around your camp in order to allow for easy movement and enough time to react to an approaching bear.

The fence should be set a height that cannot easily be stepped over, or passed under by a bear.





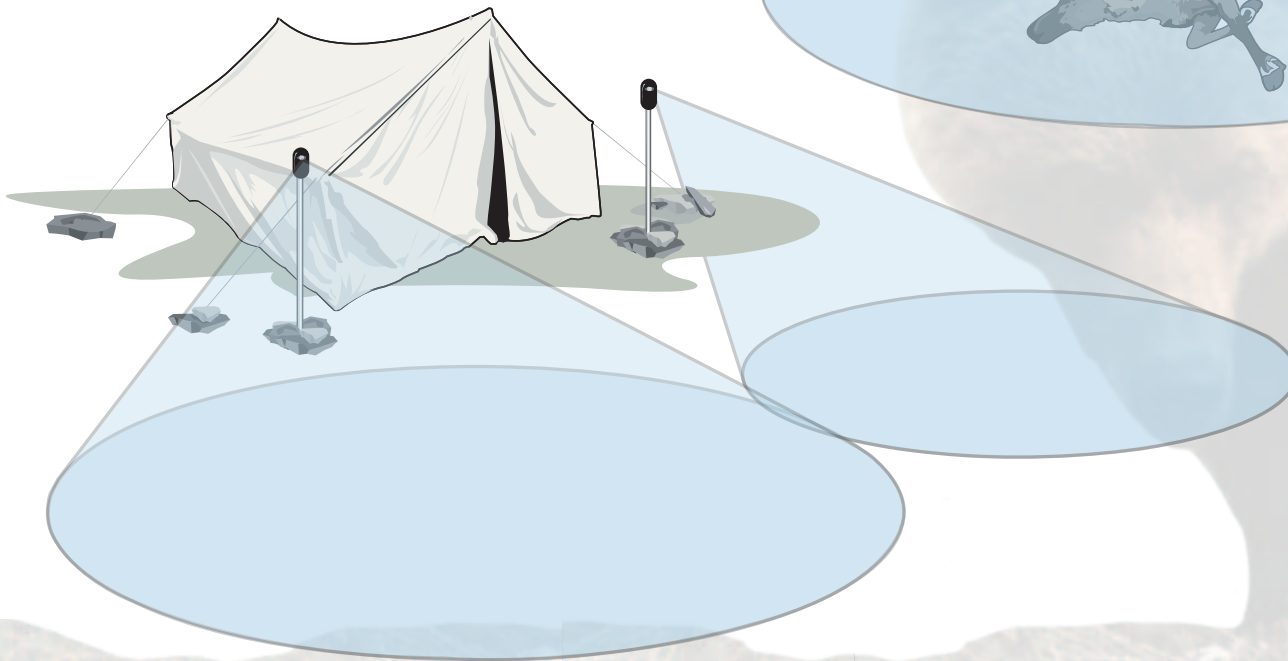
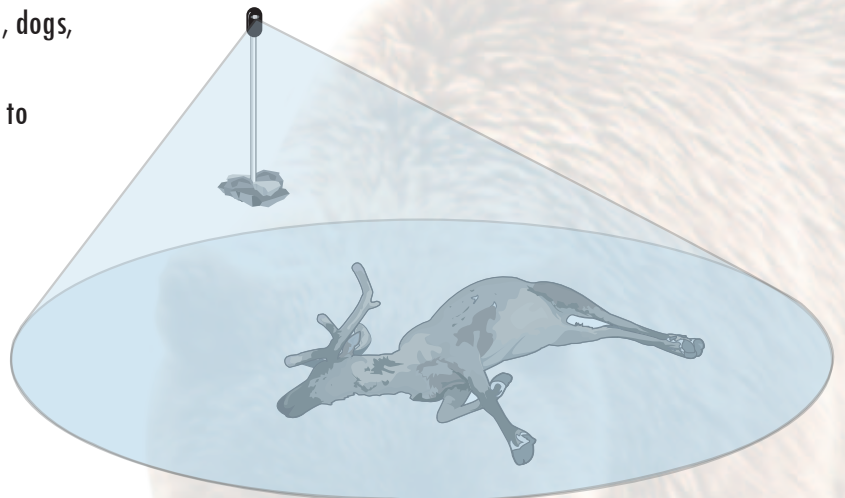
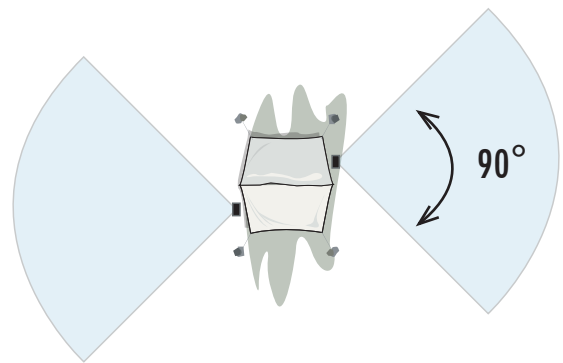
# DETECTION

## Motion Sensing Devices

Commercially-made devices are available that set off alarms and flashing lights when heat and movement are detected. Most motion sensors detect movement within 40 meters of the unit, but only in the direction in which the sensors face. There may be issues with short battery lifespan in periods of cold weather.



- Lights and sirens may be enough to scare away some curious animals but not all animals will be deterred;
- Detection systems are meant to alert you that animals have entered the protected area;
- You must be prepared to deter the animal with other methods;
- Motion sensing devices are not specific to bears. Caribou, dogs, humans, etc. may set off the alarm;
- Test equipment before taking it with you out on the land to ensure that it is working correctly.



# CAMP SAFETY

## Tent Camping

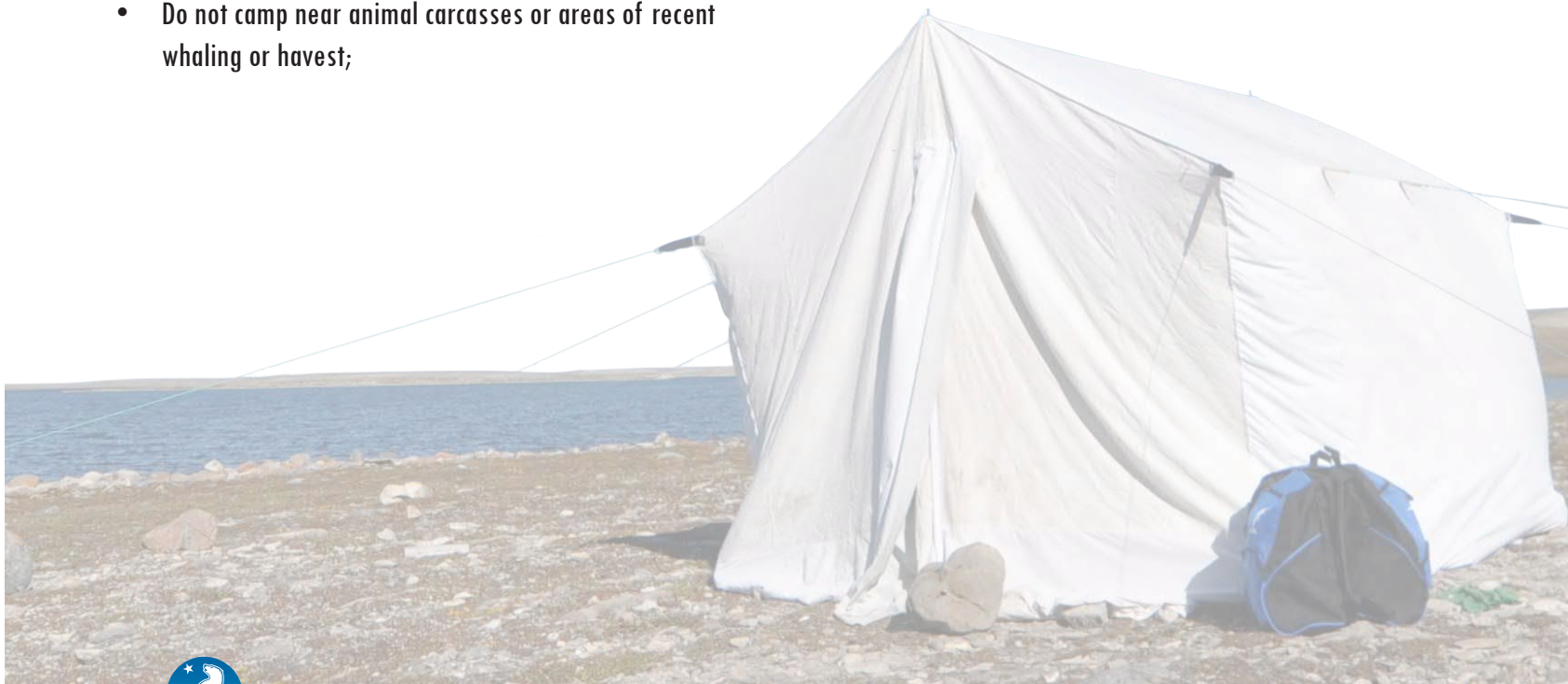
When choosing where to camp, safety should be your top priority. Regardless of whether you are in polar bear or grizzly bear habitat, you should choose campsites that meet the following criteria:

- Ensure that you have a clear view of the surrounding area;
- Avoid camping in areas with bear signs (scat, tracks, hair, daybeds, and kills);
- Avoid camping near rushing water and waterfalls - water features can make it difficult to hear approaching bears and may make it difficult for a bear to hear you and your deterrents;
- Place camps well back from any coast, river bank, flow edge, pressure ridge, or open water as these are likely travel/hunting routes for bears;
- Valleys and passes are also more frequently used and may contain more of the bear's natural food than higher ground
- In the summer, remnant snow banks can attract bears as it provides a cool place to rest and an escape from nuisance insects;
- Do not camp near animal carcasses or areas of recent whaling or havest;

- Avoid preexisting campsites if they are littered. Visitors before you may have allowed a bear access to food or garbage, which increases the likelihood of future bear problems in that area.



Tents surrounded by a temporary electric fence.



# CAMP SAFETY

## Cabins

When staying overnight in cabins the same care should be taken to reduce the chance of attracting a bear to the area; this means proper handling of food and garbage. Failure to maintain a clean cabin may result in a bear approaching the area looking for food.

- Cooking areas (inside or outside the cabin) need to be kept clean. Cooking stoves and other equipment must be kept free of grease;
- If possible, maintain separate sleeping and food storage/cooking areas;
- Honey buckets should be emptied daily into the latrine;
- Bear deterrents should be at hand;
- Having a flashlight or other lights may be helpful. Remember that if you leave a lit building into the darkness it is difficult to see. Exterior lights can make working in and around the cabin safer in the dark season;
- Be careful when exiting the cabin and look around for bears;
- Consider using additional detection and deterrent systems to protect yourself and your cabin.



A cabin window covered by a bear board



(Above) Barrels with a metal ring and lever/bolt system provide reasonable resistance to bears. These containers are ideal for storing or transporting large quantities of food (or wastes) and other attractants for longer stays at camps or cabins.



(Left) A metal, bear-proof box that can be used to secure country foods and waste from bears. These boxes are well-suited for use around homes and permanent camps.



# CAMP SAFETY

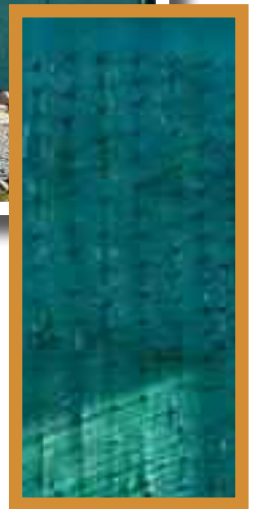
## Cabins

When cabins are unoccupied for a period of time, special considerations should be taken to prevent damage from bears.

- Treat grey water and latrines with lime and bury with earth;
- Remove any attractants (food, garbage, dirty clothes, oil, anti-freeze, fuels) or store them in a bear resistant or airtight container;
- Bears have been known to chew on inflatable boats, plastic gas cans, sleeping bags, tents, and snow machine seats. These should be made inaccessible;
- Board windows and doors for extra protection to prevent bears from breaking in. Bears often gain entry by pushing on the doors or windows;
- Build “bear boards” by driving plenty of nails or screws through plywood so that 1 1/2 - 2 inch points are exposed on the outside of the board. This will discourage a bear from pushing on windows or doors;
- To maintain year-round emergency access you can still secure a “bear board” on the doors and windows, allowing them to be opened by human hands only. The boards can be removed when staying at the camp to prevent injury or damage to clothing;
- When bear boards are placed on vertical surfaces you reduce the risk of severe injuries to bears. Also, they remain in place and work when snow buildup might make boards placed on the ground ineffective.

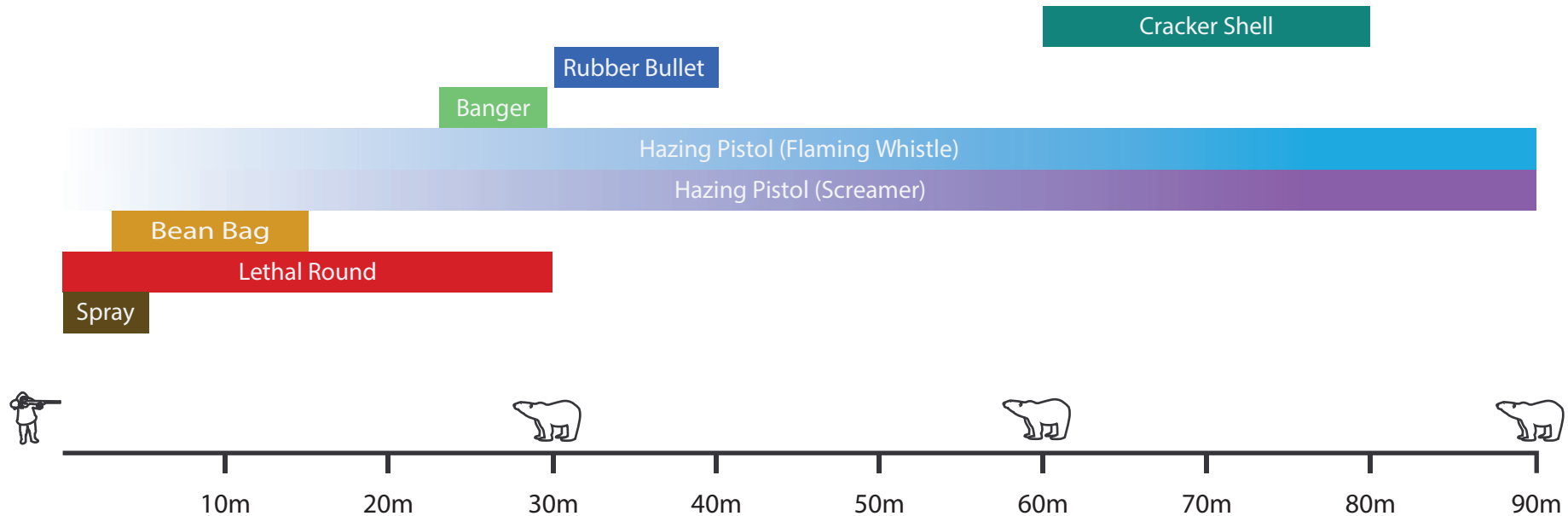


The main cabin door is protected by a bear board on hinges. The bear board door can be removed when the cabin is being used regularly



Properly-spaced nails on a bear board covering a cabin door

# DETERRENT RANGES



- Bear spray is an option of last defense, as its effective range is less than 3 meters.
- A bean bag round should be used when the bear is 3-15 meters away; a “standard round” is also available, which is effective between 9 and 30 meters (consult the manufacturer’s guidelines). A bean bag round fired from closer than the prescribed range could penetrate the bear’s hide and severely wound the bear.
- The explosive screamer round makes a continuous noise right from the muzzle of the pistol to a maximum distance of 90 meters. Bears typically flee from the source of the noise, so the screamer can be used throughout its range of travel.

- The flaming whistle round makes a continuous noise right from the muzzle of the pistol to a maximum distance of 90 meters. Bears typically flee from the source of the noise, so the screamer can be used throughout its range of travel.
- The explosive noise of the banger must occur between the shooter and the bear. A banger can travel 23-27 meters before exploding, so they are not to be used on a bear closer than 30 meters.
- A rubber bullet should be used when the bear is 30-50 meters away. A rubber bullet fired from closer than 30 meters could penetrate the bear’s hide and severely wound the bear.

- The explosive noise of the cracker shell must occur between the shooter and the bear. A cracker shell can travel 60-80 meters before exploding, so they are not to be used on a bear closer than 60 meters.

**MAKE SURE THE BEAR HAS A CLEAR AND OBVIOUS ESCAPE PATH BEFORE FIRING DETERRENTS**



## APPENDIX III

### Caribou Mitigation Measures

## DIAND Caribou Protection Measures

1. (a) The Permittee shall not, without approval, conduct any activity between May 15 and July 15 within the Caribou Protection Areas depicted on the map certified by the Engineer as the “Caribou Protection Map” and annexed to this Land Use Permit.
- (b) A Permittee may, upon approval by the Land Use Inspector, operate within the said Caribou Protection Areas beyond the May 15 deadline set out in 1(a), provided that, when monitoring information indicates that caribou cows are approaching the area of operation, the Permittee will implement 1(c).
- (c) On cessation of activities pursuant to 1(a) or 1(b), the Permittee will remove from the zone all personnel who are not required for the maintenance and protection of the camp facilities and equipment, unless otherwise directed by the Land Use Inspector.
- (d) The Permittee may commence or resume activities prior to July 15 within those parts of the Caribou Protection Areas released by the Land Use Inspector for the reason that caribou cows are not expected to use those parts for calving or post-calving (note 1).
2. (a) In the event that caribou cows calve outside of the Caribou Protection Areas, the Permittee shall suspend operations within the area(s) occupied by cows and/or calves between May 15 and July 15.
- (b) In the event that caribou cows and calves are present, the permittee shall suspend:
  - (i) blasting;
  - (ii) overflights by aircraft at any altitude of less than 300 meters above ground level; and
  - (iii) the use of snowmobiles and ATVs (all-terrain vehicles) outside the immediate vicinity of the camp.

### NOTE

1. The Land Use Inspector’s decision will be based on the existing caribou information.
2. Concentrations of caribou should be avoided by low-level aircraft at all times.

3. (a) During migration of caribou, the Permittee shall not locate any operation so as to block or cause substantial diversion to migration.
  - (b) The Permittee shall cease activities that may interfere with migration, such as airborne geophysics surveys or movement of equipment, until the migrating caribou have passed.
4. (a) The Permittee shall not, between May 15 and September 1, construct any camp, cache any fuel, or conduct any blasting within 10 kilometres of any “Designated Crossing” as outlined on the map certified by the Engineer as the “Caribou Protection Map” and annexed to this Land Use Permit.
  - (b) The Permittee shall not, between May 15 and September 1, conduct any diamond drilling operation within 5 kilometres of any “Designated Crossing” as outlined on the map certified by the Engineer as the “Caribou Protection Map” and annexed to this Land Use Permit.

### **KIA Sample Land Use Permit Caribou and Muskox Protection Conditions**

35. The Permittee is given permission to conduct the approved land use operations between May 15 and July 15, provided that when caribou and muskox cows are approaching the area of operation, the Permittee shall cease blasting, overflights by aircraft at any altitude less than 300 meters above ground level, and the use of snowmobiles and ATVs (all-terrain vehicles) outside the immediate vicinity of the camp. Other activities shall also be suspended if caribou approach the immediate vicinity of the specific operation and the monitoring work (described in another clause) indicates that there is stress on the animals.
36. During the presence of caribou and muskox within sight and sound of a camp, all personnel will remain quietly in camp.
37. The Permittee may resume activities prior to July 15 if the caribou and muskox cows have ceased to use the area for calving and post-calving.
39. The Permittee shall not locate any operation so as to block or cause substantial diversion to migration of caribou.

40. The Permittee shall cease activities that may interfere with migration or calving, such as airborne geophysics surveys or movement of equipment, until the migrating caribou have passed.

41. The Permittee shall not conduct any operation within 5 km of any “Designated Crossing” as outlined on the map annexed to this Land Use Permit.

*From KIA Land Use Permit BHP 197C141*

## **MOBILE CARIBOU CONSERVATION MEASURES**

### **Introduction**

The Lessee shall comply with the measures set out herein. The Lessee shall immediately report to the Landlord any deviation from these measures, including the reason for the deviation.

The Landlord reserves the right, based on the presence of caribou within the area of the Property in any year, to vary the dates set out herein and shall provide notice to the Lessee of any such variation.

### **Wildlife Monitoring Personnel**

The Lessee shall have wildlife monitoring personnel present at the Property during any season when caribou are reasonably expected to be present. The names of such personnel shall be sent to the Landlord and they shall maintain communication at all reasonable times. The Lessee shall monitor and immediately report the presence of caribou to the Landlord in accordance with the following directives. The report shall specify the location and estimated numbers.

### **A. IOL within designated calving grounds**

**Section 1.** On IOL within designated calving grounds (as designated by the Government of Nunavut) between May 1<sup>st</sup> and July 31<sup>st</sup> (the closure period):

- 1) No activities shall occur except as authorized by the Landlord.

**Section 2.** On IOL within designated calving grounds between August 1<sup>st</sup> and September 30<sup>th</sup>, the Lessee shall conduct monitoring and mitigation as follows:

- 2i) If collar data or observations indicate that there are one (1) or more collared caribou or twenty-five (25) or more caribou observed within the thirty (30) km early warning zone from the boundary of the Property, then monitoring within a five (5) km buffer zone shall be conducted every second day (e.g., height of land surveys, road surveys, remote camera surveys).
- 2ii) If monitoring indicates that there are twenty-five (25) or more caribou within five (5) km of the Property boundary, then the Lessee shall monitor within a five (5) km buffer zone around the Property on a daily basis, and shall immediately suspend work that has the potential to disturb caribou, including suspension of drill operations, blasting activities and non-essential ground movements and aircraft traffic below 300 m above ground level (except as necessary for emergency purposes), suspension of all ground operations and camp closure, until caribou numbers are below the threshold within the buffer zone.

**Section 3.** On IOL within designated calving grounds between October 1<sup>st</sup> and April 15<sup>th</sup>, the Lessee shall conduct monitoring and mitigation as follows:



- (3i) If collar data or observations indicate that there are one (1) or more collared caribou or fifty (50) or more caribou observed within thirty (30) km of the boundary of the Property, then monitoring within a five (5) km buffer zone shall be conducted every second day (e.g., height of land surveys, road surveys, remote camera surveys).
- (3ii) If monitoring indicates that there are fifty (50) or more caribou within two and a half (2.5) km of the Property, then the Lessee shall immediately reduce above-ground activities that have the potential to disturb caribou, including non-essential ground movements and aircraft traffic below 300 m above ground level (except as necessary for emergency purposes), until caribou numbers are below the threshold within the buffer zone.

**Section 4.** On IOL within designated calving grounds between April 16<sup>th</sup> and April 30<sup>th</sup>, the Lessee shall conduct monitoring and mitigation as follows:

- (4i) If collar data or observations indicate that there are one (1) or more collared caribou or twenty-five (25) or more caribou within fifty (50) km of the boundary of the Property that appear to be moving in the direction of the activities, then monitoring within a five (5) km buffer zone shall be conducted every second day (e.g., height of land surveys, road surveys, snow track counts (if appropriate), remote camera surveys).
- (4ii) If monitoring indicates that there are an estimated twenty-five (25) or more caribou within the five (5) km buffer zone for the Property, then the Lessee shall conduct monitoring within a five (5) km buffer zone on a daily basis, and shall immediately suspend any activities that have the potential to disturb caribou, including suspension of drill operations, blasting activities and non-essential ground movements and aircraft traffic below 300 m above ground level (except as necessary for emergency purposes), suspension of all ground operations, and camp closure, until caribou numbers are below the threshold within the buffer zone.

**B. IOL within other seasonal caribou ranges**

**Section 5.** On IOL between June 1<sup>st</sup> and July 15<sup>th</sup> outside of designated calving grounds, the Lessee shall conduct monitoring and mitigation as follows:

- (5i) If collar data or observations indicate that there are one (1) or more collared caribou or ten (10) or more caribou observed within the fifty (50) km early warning zone for the Property, then monitoring within a five (5) km buffer zone shall be conducted every second day (e.g., height of land, road surveys, snow track counts (if appropriate), remote camera surveys).
- (5ii) If monitoring indicates that there are an estimated ten (10) or more caribou within the five (5) km buffer zone for the Property, then the Lessee shall conduct monitoring within a five (5) km buffer zone on a daily basis, and shall immediately suspend any activities that have the potential to disturb caribou, including suspension of drill operations, blasting activities and non-essential ground movements and aircraft traffic below 300 m

above ground level (except as necessary for emergency purposes), suspension of all ground operations and camp closure until caribou numbers are below the threshold within the buffer zone.

**Section 6.** On IOL between July 16<sup>th</sup> and September 30<sup>th</sup> outside of designated calving grounds, the Lessee shall conduct monitoring and mitigation as follows:

- (6i) If collar data or observations indicate that there are one (1) or more collared caribou or twenty-five (25) or more caribou observed within thirty (30) km of the Property, then monitoring within a five (5) km buffer zone shall be conducted every second day (e.g., height of land surveys, road surveys, snow track counts (if appropriate), remote camera surveys).
- (6ii) If monitoring indicates that there are twenty-five (25) or more caribou within five (5) km of the boundary of the Property, then the Lessee shall conduct monitoring within a five (5) km buffer zone on a daily basis, and shall immediately suspend any activities that have the potential to disturb caribou, including suspension of drill operations, blasting activities, non-essential ground movements and aircraft traffic below 300 m above ground level (except as necessary for emergency purposes), and camp closure until caribou numbers are below the threshold within the buffer zone.

**Section 7.** On IOL between October 1<sup>st</sup> and April 15<sup>th</sup> outside of designated calving grounds, the Lessee shall conduct monitoring and mitigation as follows:

- (7i) If collar data or observations indicate that there are one (1) or more collared caribou or fifty (50) or more caribou observed within thirty (30) km of the boundary of the Property, then monitoring within a five (5) km buffer zone shall be conducted every second day (e.g., height of land surveys, road surveys, remote camera surveys).
- (7ii) If monitoring indicates that there are fifty (50) or more caribou within 2.5 km of the boundary of the Property, then the Lessee shall immediately reduce above-ground operations that have the potential to disturb caribou, including non-essential ground movements and aircraft traffic below 300 m above ground level (except as necessary for emergency purposes), and suspension of above ground operations, until caribou numbers are below the threshold within the buffer zone.

**Section 8.** On IOL between April 16<sup>th</sup> and May 31<sup>st</sup>, the Lessee shall conduct monitoring and mitigation as follows:

- (8i) If collar data or observations indicate that there are one (1) or more collared caribou or twenty-five (25) or more caribou observed within fifty (50) km of the boundary of the Property that appear to be moving in the direction of the activities, then monitoring within a five (5) km buffer zone shall be conducted every second day (e.g., height of land surveys, road surveys, snow track counts (if appropriate), remote camera surveys).
- (8ii) If monitoring indicates that there are an estimated twenty-five (25) or more caribou within the five (5) km buffer zone for the Property, then then the Lessee shall conduct

monitoring within a five (5) km buffer zone on a daily basis, and shall immediately suspend any activities that have the potential to disturb caribou, including drill operations, blasting activities and non-essential ground movements and aircraft traffic below 300 m above ground level (except as necessary for emergency purposes), suspension of all ground operations and camp closure, until caribou numbers are below the threshold within the buffer zone.

### **C. Freshwater crossings**

**Section 9.** On IOL between May 15<sup>th</sup> and September 30<sup>th</sup>, the Lessee will not construct camps or other permanent structures or conduct blasting within ten (10) km of designated caribou freshwater water crossings. Exploration activities will not be permitted within 5 km of water-crossings between May 15<sup>th</sup> and September 30<sup>th</sup>. Between May 15<sup>th</sup> and September 30<sup>th</sup>, the Lessee shall conduct monitoring and mitigation as follows:

- (9i) If collar data or observations indicate that there are one (1) or more collared caribou or twenty-five (25) or more caribou observed within twenty-five (25) km of the boundary of the Property that appear to be moving in the direction of the activities, then monitoring within a five (5) km buffer zone around the water crossing shall be conducted every second day (e.g., height of land surveys, remote camera surveys).
- (9ii) If monitoring indicates that there are fifty (50) or more caribou within five (5) km of the boundary of the Property that appear to be moving in the direction of the water crossing, then the Lessee shall conduct monitoring within a five (5) km buffer zone on a daily basis, and shall immediately suspend any activities that have the potential to disturb caribou, including suspension of drill operations, blasting activities and non-essential ground movements and aircraft traffic below 300 m above ground level (except as necessary for emergency purposes), suspension of all ground operations, camp closure, and removal of all non-essential personnel, until caribou numbers are below the threshold within the buffer zone.

### **D. Aircraft**

**Section 10.** The Lessee shall ensure that aircraft (fixed-wing and helicopter) flights over occupied calving and post-calving areas shall be at least 610 m above ground level and avoid areas of known caribou concentrations (subject to pilot discretion regarding aircraft and human safety). In other seasons aircraft shall be at least 300 m above ground level.

## APPENDIX IV

### Applicable Guidelines and Legislations



Exploration activities at the Angilak Property is conducted according to the following Regulations, Guidelines and Recommendations including, but not limited to:

#### **Federal**

- Aeronautics Act
- Canada-Wide Standards for Dioxins and Furans (Canadian Council of Ministers of the Environment)
- Canada Wildlife Act
- Canadian Environmental Protection Act (Environment Canada)
- Department of Fisheries and Oceans Operational Statements and Guidelines
- Draft Fuel Storage and Handling Guidelines, April 2009, Indian and Northern Affairs Canada - Nunavut
- Fisheries Act (Fisheries and Oceans Canada; DFO)
- Guidelines for Spill Contingency Planning (INAC)
- Migratory Birds Convention Act and Migratory Birds Regulations
- National Fire Code of Canada (Federal)
- Nunavut Land Claims Agreement
- Public Health Act
- Species at Risk Act
- Territorial Lands Act
- Transportation of Dangerous Goods Act (Transport Canada)
- Workers' compensation Board
- Workplace Hazardous Materials Information System (WHMIS)
- Technical Document for Batch Waste Incineration (ECCC)

#### **Territorial**

- Caribou Protection Plan/Caribou Protection Measures
- Draft Recommended Best Practices For The Storage And Handling Of Petroleum And Allied Petroleum Products on Federal Crown Lands in Nunavut
- Environmental Guidelines for the Burning and Incineration of Solid Waste
- Fire Prevention Act (Territorial)
- Nunavut Environmental Protection Act
- Nunavut "Guideline for the General Management of Hazardous Waste"
- Nunavut Waters Act and Nunavut Surface Rights Tribunal Act
- Nunavut Wildlife Act
- The Mine, Health and Safety Act and Regulations (Nunavut)
- The NWT and Nunavut Safety Act, the Occupational Health and Safety Regulations

## APPENDIX V

### Wildlife Mitigation Procedures Poster

## Wildlife Mitigation Procedures

If individual or small groups of caribou (<50) are encountered

- Move calmly and slowly away from the animal(s).
- Do not divert movement of the animal(s) or disrupt feeding.
- Do not scare the animal(s) with loud noises or sudden movements.
- Allow animal(s) to pass safely beyond the work area before resuming activities.

If muskox are encountered

- Move calmly and slowly away from the animal(s).
- Do not divert movement of the animal(s) or disrupt feeding.
- Do not scare the animal(s) with loud noises or sudden movements.
- Leave the area animal(s) are occupying.
- Allow animal(s) to pass safely beyond the work area before resuming activities.

If wolves or wolverines are encountered

- Move calmly and slowly away from the animal(s).
- Do not turn your back to the animal.
- Do not block the animal(s) route or exit path.
- Do not scare the animal(s) with loud noises or sudden movements.
- Inform a Wildlife Monitor of the presence of the animal.
- Allow animal(s) to pass safely beyond the work area before resuming activities.

If the animal shows interest in you

- Continue to move away slowly and avoid provocation.
- Contact the helicopter pilot for a pick-up.
- Do not block the animal(s) route or exit path.
- Alert the animal to your presence by making noise.
- Deploy wildlife deterrents if necessary (bear spray, bear bangers).
- Leave the area and return to camp.

If a grizzly bear or polar bear is sighted

- Move calmly and slowly away from the animal(s).
- Do not turn your back to the animal.
- Contact the helicopter for an immediate pick-up.
- Deploy wildlife deterrents if necessary (bear spray, bear bangers).
- Leave the area and return to camp.
- Report sightings to required agencies.