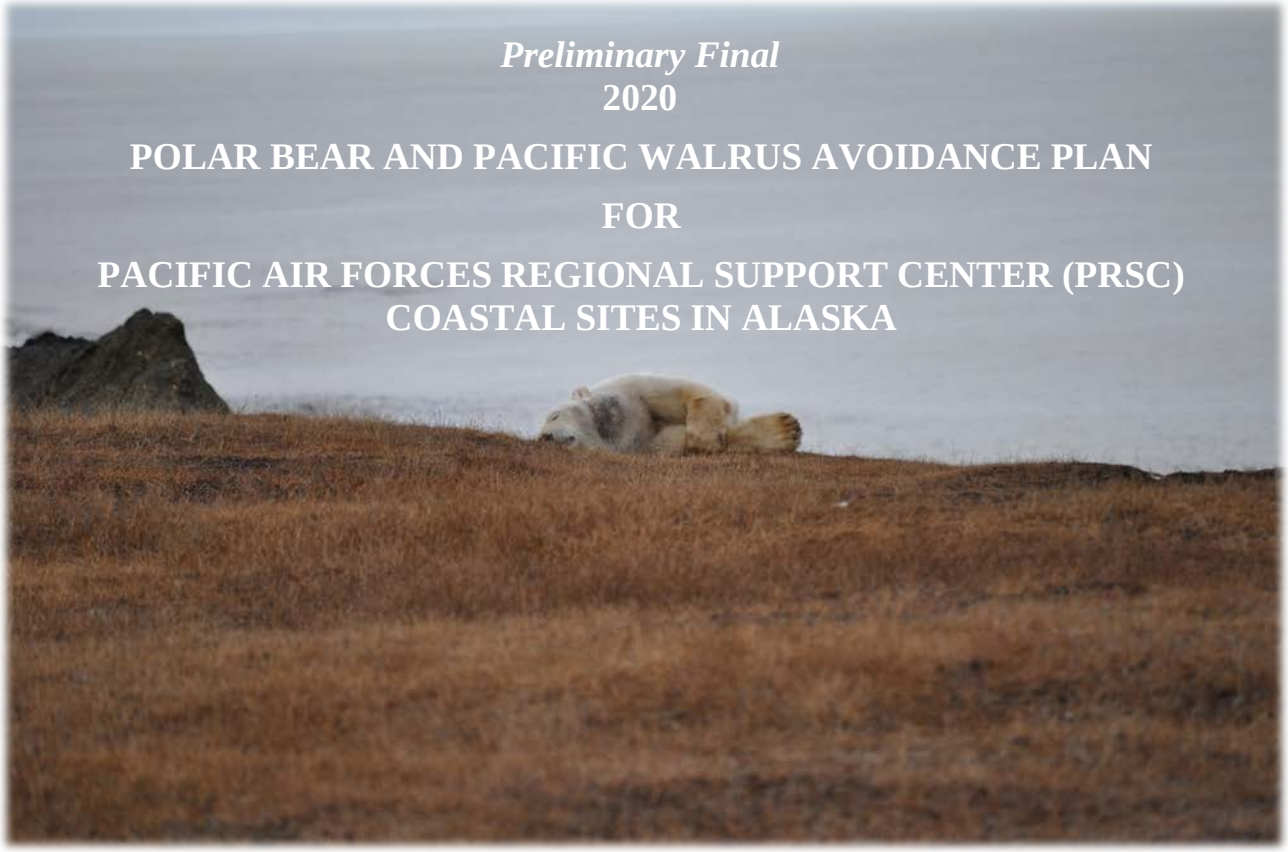
*Preliminary Final*

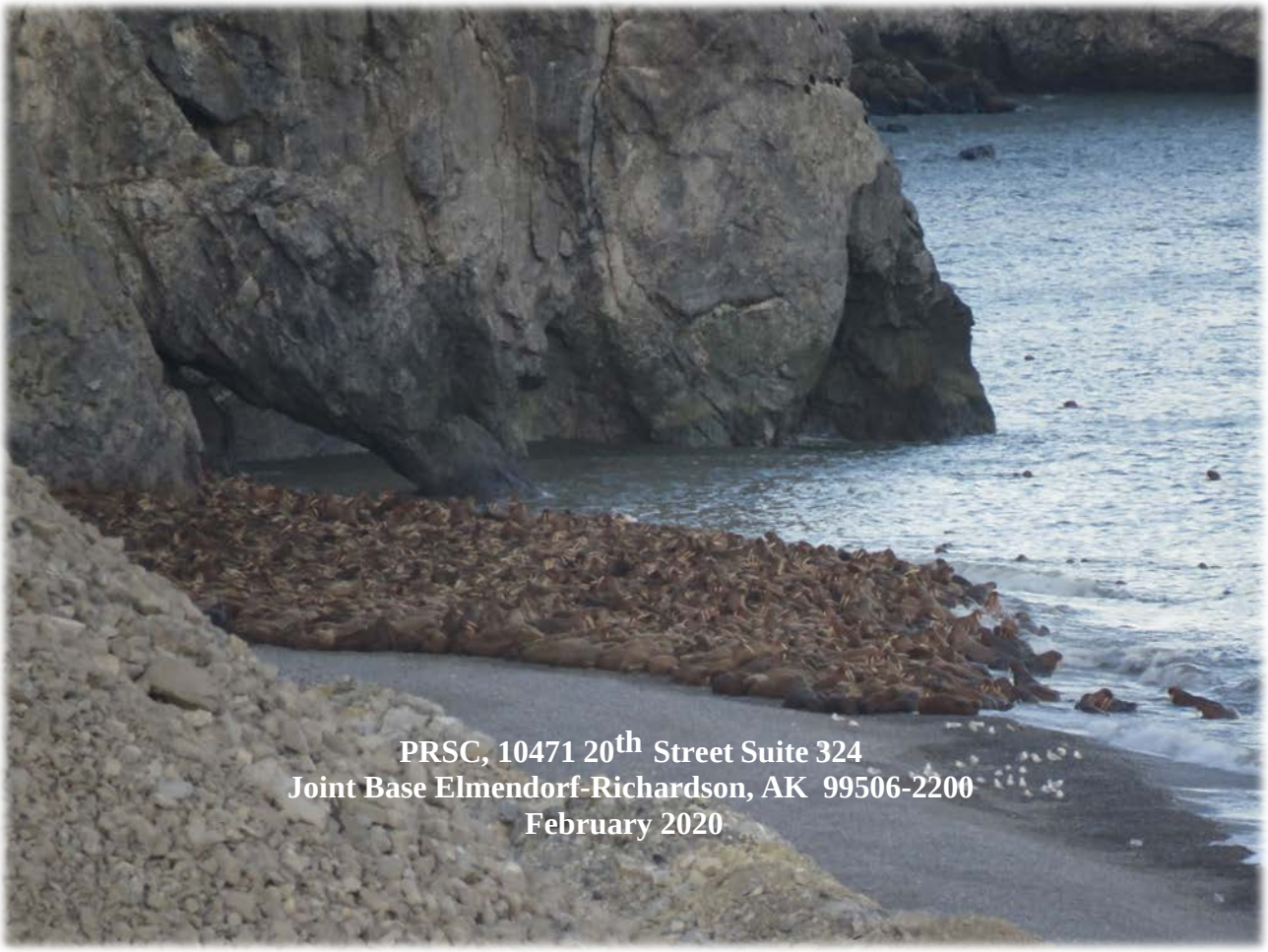
**2020**

# POLAR BEAR AND PACIFIC WALRUS AVOIDANCE PLAN

# FOR

# PACIFIC AIR FORCES REGIONAL SUPPORT CENTER (PRSC) COASTAL SITES IN ALASKA





**PRSC, 10471 20th Street Suite 324**
**Joint Base Elmendorf-Richardson, AK 99506-2200**

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## Acronyms and Abbreviations

| | |
|---|---|
| 611 ASUS | 611th Air Support Squadron |
| 611 CES | 611th Civil Engineer Squadron |
| ADFG | Alaska Department of Fish and Game |
| CBS | Chukchi/Bering Sea |
| ESA | Endangered Species Act |
| ft | foot/feet |
| INRMP | Integrated Natural Resources Management Plan |
| LOA | Letter of Authorization |
| LRRS | Long Range Radar Site |
| MMMO | Marine Mammal Management Office |
| MMPA | Marine Mammal Protection Act |
| NMFS | National Marine Fisheries Service |
| POL | Petroleum, Oils, and Lubricants |
| PRSC | Pacific Air Forces Regional Support Center |
| RRS | Radio Relay Station |
| SBS | Southern Beaufort Sea |
| SRRS | Short Range Radar Site |
| USAF | U.S. Air Force |
| USC | U.S. Code |
| USFWS | U.S. Fish and Wildlife Service |

**Cover**

*Top*: Sleeping polar bear, Barter Island; photo by J. Wagner.

*Bottom*: Hauled out Pacific walrus, Cape Lisburne; photo by DNA Environmental Consultants.

***Preliminary Final***
**2020**
**Polar Bear and Pacific Walrus Avoidance Plan**
**for**
**PRSC Coastal Sites, Alaska**

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# 1 INTRODUCTION

The U.S. Air Force (USAF), Pacific Air Forces Regional Support Center (PRSC) operates and maintains 35 remote installations in the State of Alaska. This Polar Bear and Walrus Avoidance Plan (hereafter the Plan) includes basic information to avoid human-polar bear (*Ursus maritimus*) interactions and disturbance of hauled out Pacific walrus (*Odobenus rosmarus divergens*) on or near PRSC sites.

Polar bear near Barrow, AK.
(*Photo*: USFWS.)

Operations at the PRSC sites pose unique challenges because they occur in polar bear habitat and occasionally attract polar bears. The polar bear is a significant threat to the safety of USAF and its contactor personnel operating or conducting other activities at these sites. Human safety is of the utmost importance to the USAF while operating in polar bear habitat. Operations, maintenance, demolition, restoration, and construction activities associated with these sites must be conducted in such a way that humans, polar bears, and property are unharmed. Personnel must be familiar with issues and precautions associated with working in polar bear habitat. Awareness and prevention of human-bear interactions will ensure the safety of workers as well as wildlife.

The Marine Mammal Protection Act (MMPA) of 1972, as amended, gave the U.S. Fish and Wildlife Service (USFWS) responsibility for managing polar bears and walrus in Alaska. The MMPA prohibits take of polar bears and walrus except for specified purposes. Take is defined as to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill polar bears. In addition, polar bears were listed by the USFWS in May 2008 as a threatened species under the Endangered Species Act (ESA) (USFWS 2008). The USFWS completed a 12-month finding in 2017 that concluded listing the Pacific walrus as an endangered or threatened species under the ESA was not warranted (USFWS 2017a). Walrus are still protected under the MMPA.

Pacific walrus hauled out.
(*Photo*: USFWS.)

Polar bears are a valuable resource to Alaska Native cultures, society, and the Arctic ecosystem. For centuries polar bears have provided Alaska Natives with food, materials for clothing and handicrafts, and focal points for myths, stories, and legends. Society values polar bears as a symbol of the mystique and adventure of the Arctic. Polar bears are one of the few apex predators of the unique and fragile Arctic ecosystem. They are a key component to the balance of the Arctic food chain, and their well-being affects a host of other organisms.

The purpose of this Plan is to help avoid and minimize human-bear interactions, and conflicts that can result from these interactions, as well as potential disturbance to hauled out walruses. This plan describes the PRSC sites where polar bear and walrus interactions are possible, polar bear and walrus biology, polar bear attraction to human activities, how to avoid this attraction, bear deterrence, and recommendations for further education. As long as humans continue to work in the Arctic, they will come into contact with polar bears; this plan is designed to reduce the likelihood that human-bear encounters will result in personal injury, injury to a polar bear, and/or property damage. In summary, this Plan will help maintain compliance with

ESA and MMPA regulations as well as various project permit conditions concerning operations within polar bear habitat and Pacific walrus haulout areas.

## 2 SITE HISTORIES AND DESCRIPTION

The PRSC and 611th Civil Engineer Squadron (611 CES), based at Joint Base Elmendorf-Richardson in Anchorage, Alaska, are responsible for 16 active and inactive Long Range Radar Sites (LRRS), Short Range Radar Sites (SRRS), and Radio Relay Stations (RRS) along the northern and western coastline of Alaska and the Aleutians within the range of polar bear and Pacific walrus. These sites were constructed in the early 1950s and were designed to operate and maintain radar and their support systems that protect U.S. national security. Polar bears may potentially occur at 13 PRSC sites and walrus may potentially occur at 16 PRSC sites.

Radome at Point Barrow LRRS.
(*Photo*: H. Ohms, OASIS Environmental, Inc.)

Polar bears frequent the coastlines of the Chukchi and Beaufort seas and are confirmed at or near all coastal PRSC sites but the Cape Romanzof site, where they potentially occur (Figure 1). The operational status of these sites ranges from actively manned to inactive or excess. Actively manned sites typically have two to four personnel present on-site year-round. Actively manned sites are Barter Island, Oliktok, Point Barrow, Kotzebue, Cape Lisburne, Tin City, and Cape Romanzof. All actively manned operational sites are maintained and operated by private contractors. Inactive/excess sites are no longer operational and are only visited by personnel for demolition or restoration type activities. Inactive sites are Bullen Point, Point Lonely, Point Lay, Anvil Mountain, and Nome Field Petroleum, Oils, and Lubricants (POL) Site. Regardless of site status, polar bear encounters at each of these sites are possible due to their locations in polar bear habitat.

The Pacific walrus has been documented on or near 16 PRSC sites (Figure 2). It has confirmed haulout sites at or near Cape Lisburne (MacKay et al. 2016, 2017), Cape Newenham, Point Barrow, and Point Lay (Judy Jacobs, USFWS; e-mail to Matt Moran on May 3, 2012).

Of particular concern to the USFWS, due to its increasingly frequent use by Pacific walrus, is the haulout near the former Point Lay LRRS. Cape Lisburne LRRS is also an area of focus, where military or contract personnel may have indirect interactions with Pacific walrus during the repair of an ailing seawall and runway. In 2016, the PRSC with support from the U.S. Army Corps of Engineers, Alaska District Office initiated seawall and airfield improvement actions at Cape Lisburne. In 2016, 2017, 2018, and 2019, qualified marine biologists performed walrus monitoring during construction periods at Cape Lisburne LRRS (MacKay et al. 2016, 2017; DNA Environmental Consultants 2018a, 2018b, 2019a, 2019b). Shutdown protocols utilized during this large-scale construction project are in alignment with provisions called out within the Consolidated and 2nd Amendment to Right-of-Way Permit M-312-AM (signed July 2015; expires April 14, 2039) (USFWS and USAF 2015).

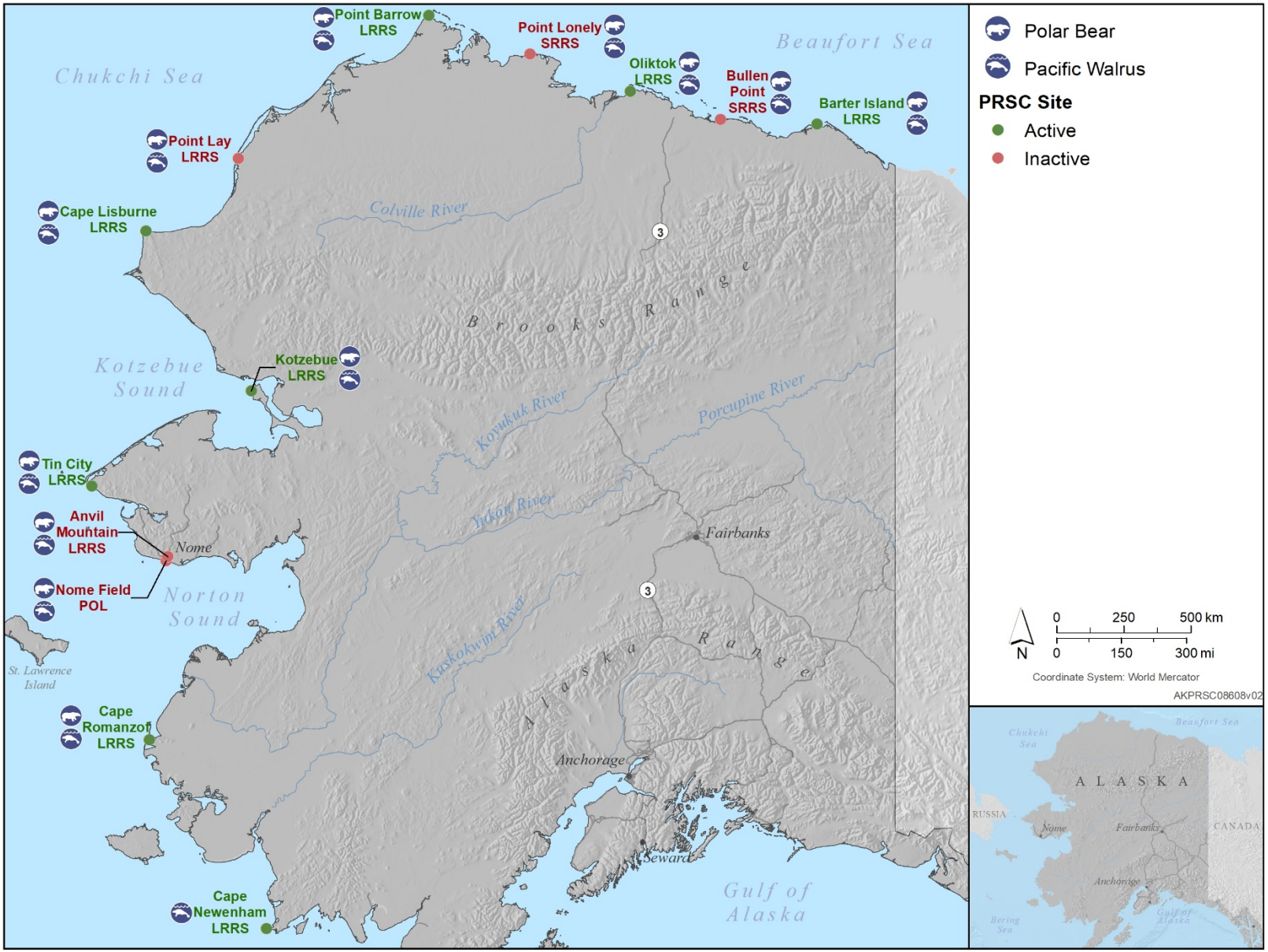
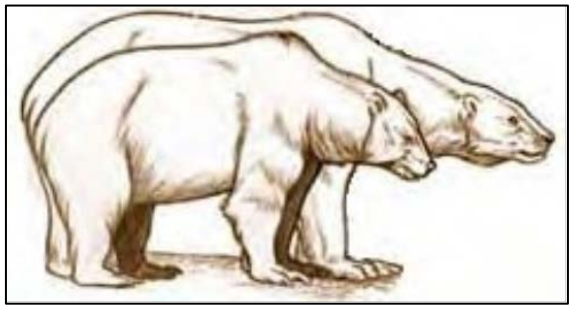



**Figure 1. PRSC Sites within the Potential Range of Polar Bear and Pacific Walrus**

# 3 POLAR BEAR AND PACIFIC WALRUS BIOLOGY

## 3.1 Polar Bear

Polar bears are the largest bear species and are distinguished by their white to yellow fur. Considered marine mammals because they reside primarily on the sea ice, adult female polar bears can weigh 400 to 700 pounds, while males can weigh up to 1,440 pounds. Polar bears have been recorded as old as 32 years, but most do not live beyond 20 years (USFWS 2008, 2016).



Approximate size comparison of a polar bear (background) and brown/grizzly bear (*Ursus arctos*) (foreground).

There are two recognized polar bear subpopulations or stocks that inhabit the Alaskan Arctic: Southern Beaufort Sea (SBS) stock and the Chukchi/Bering Sea (CBS) stock. The SBS stock inhabits the region north of Tuktoyaktuk, the Baillie Islands, Canada west to Point Hope, Alaska; and the CBS stock inhabits Point Barrow west to the eastern Siberian Sea and south into the Bering Sea. Ranges of these two stocks overlap between Point Barrow and Point Hope, centering around Point Lay, and bears from either stock are commonly found in this area (Allen and Angliss 2010a, b; Wilder et al. 2018).

The range of polar bears depends on two main factors: the quality of the sea ice and the availability of their seal prey. They are generally found along the coastal areas of the Beaufort and Chukchi seas and south to the central Bering Sea (Figure 2). Bears make extensive north-south migrations with the seasonal advance and retreat of pack ice. Polar bears regularly travel 9-11 miles per day; mothers with cubs move less, and lone females and males move more. On average, a female polar travels 3,400 miles in a year and the annual home range can be up to 371,000 miles$^2$ (Derocher 2012).

The primary diet of the polar bear is the ringed seal (*Phoca hispida*), although they are also known to consume bearded seal (*Erignathus barbatus*), walrus, beluga whale (*Delphinapterus leucas*), bird eggs, vegetation, and carrion (USFWS 2008). Polar bears capture ringed seals by waiting at breathing holes or at the edge of cracks in the ice, stalking them as they rest on top of the ice, and by pouncing on pupping chambers to catch young seals in their lairs (Lentfer 1985).

Polar bears concentrate along the southern-most edge of the sea ice hunting ringed seals, and as the sea ice extent changes seasonally, polar bears must migrate with the ice to continue to have access to their prey. During fall and winter, polar bears are found along the coastline where active ice movement creates openings that are used by seals. In the spring, the ice pack begins to move offshore, and the bears move onto the ice and remain on offshore ice through summer. Except pregnant females, polar bears do not hibernate and are active on land and sea ice at all times of the year (Durner et al. 2004; USFWS 2008).

In fall, female polar bears seek out suitable habitat for maternity dens where they will give birth to one or two cubs in December and care for the cubs until March or early April. Dens are located on pack ice, landfast ice, and on land where sufficient snow can accumulate for den excavation. Newborn polar bears are extremely susceptible during the first 2 months of life and undisturbed maternal dens are crucial to their survival. Cubs remain with their mother until they are just over 2 years old (USFWS 2016).

Increased global temperatures and the recent reduction of sea ice has affected polar bears and their habitat. Climate change has been linked to decreased body condition and reproductive performance in polar bears and increased bear-human conflicts in Western Hudson Bay, Canada. Current climate models predict continued increases in temperatures and continued decreases in arctic sea ice. This reduction in sea ice will

have drastic effects on polar bear populations (USFWS 2016). Increased land use by polar bears has been documented along Alaska's Southern Beaufort Sea coast in recent decades (Atwood et al. 2016).

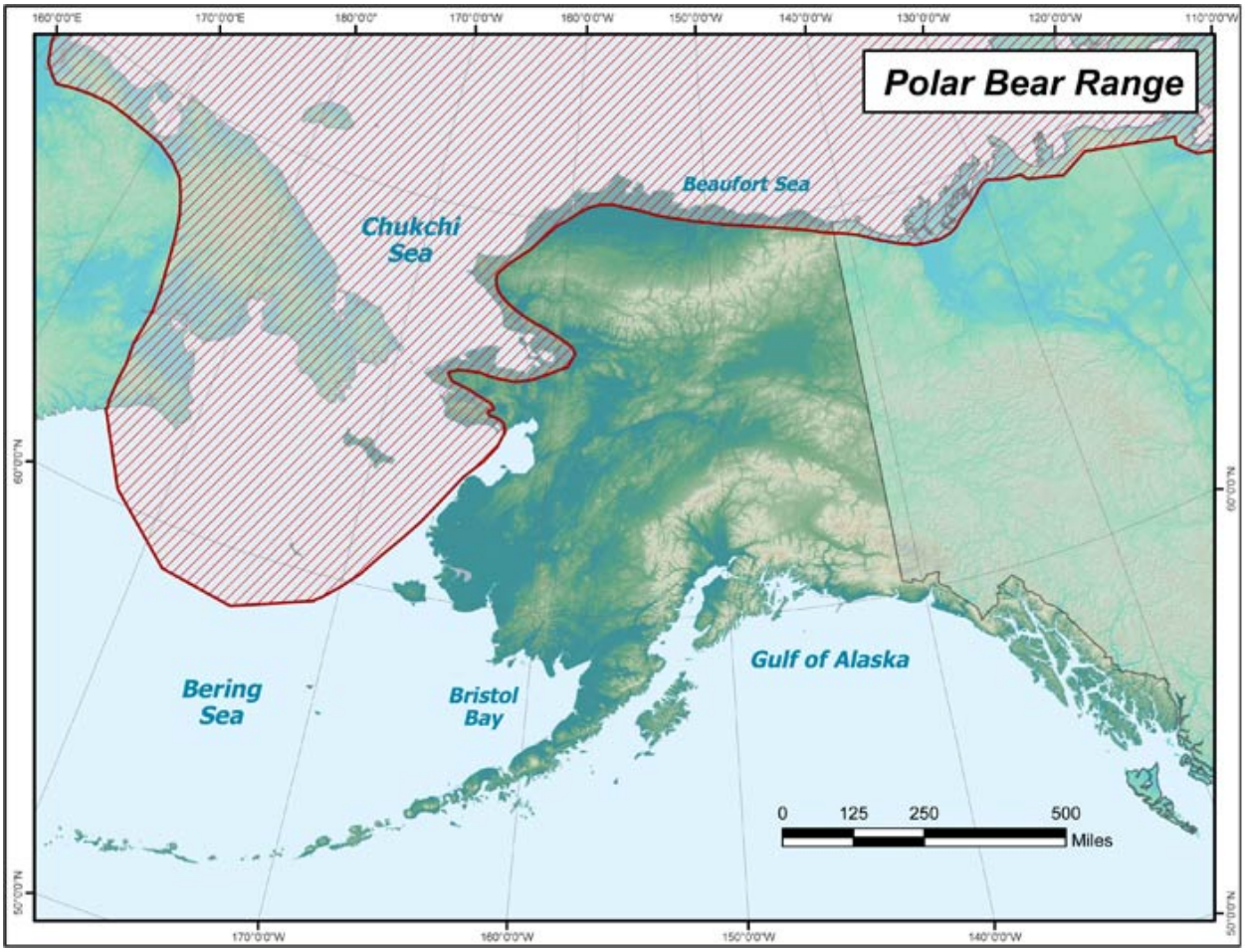



**Figure 2. Polar Bear Range in Alaska**
(*Source*: ADFG – http://www.adfg.alaska.gov/index.cfm?adfg=polarbear.rangemap)

Native Alaskans have co-existed with polar bears in the Arctic for many generations. Sightings in the Beaufort Sea area by non-Natives have regularly occurred since the initial development of the Distant Early Warning (DEW) Line sites in the 1950s, and have increased in the past 20 years (Atwood et al. 2016). Since then and since the development of Prudhoe Bay in the1970s and subsequent oil fields, the number of polar bear/human interactions involving USAF, oil field, and other personnel has been minimal (Blank 2012). This is due in part to the education/outreach efforts of government and industry safety and environmental personnel (in concert with state and federal biologists), improved food waste management procedures, and improved landfill management practices.

## 3.2 Pacific Walrus

Pacific walrus are very social and gregarious animals. They tend to travel in groups and haul-out on ice or land in groups. Walrus spend about one-third of their time hauled out on ice or land. When hauled out, walrus tend to lie in close physical contact with each other; and youngsters often lie on top of adults (USFWS 2011).

Hauled out walrus at Point Lay, Alaska.
(*Photo*: B. Tracey.)

Walruses often flee haulouts en masse in response to the sight, sound, and especially odors from humans and machines. The significance of such disturbance to individuals and to populations is not well known, due to great variation in the observed responses to disturbance and a lack of relevant data (USFWS 2019).

Walruses depend on hauling out to complete their molt and grow new hair, to whelp, to nurse young, and to rest. At those times even temporary displacement from haulout areas may be detrimental to the population. Females with young are the most responsive to disturbances and the separation of females from their dependent young can be a serious problem. Calves especially are vulnerable to disturbance on terrestrial haulouts. Large numbers of calves have been trampled to death during stampedes caused by human and natural disturbances at terrestrial haulouts (USFWS 2019).

Historically, haulouts, often of thousands of walrus, have occasionally occurred on coasts in Chukotka, Russia (Figure 3). Large onshore aggregations of walrus were unknown on the Alaskan side of the Chukchi Sea until 2007 but have become a nearly regular occurrence since then. In recent years walrus have been observed hauling out in large numbers (hundreds to thousands) along the Chukchi Sea coast in late August-October when there was no offshore sea ice in the vicinity. In September 2010, 10,000-20,000 walrus congregated on a Kasegaluk Lagoon barrier island northwest of Point Lay (see Figure 3: Haulout 56) (USFWS 2011, 2016, 2019).

In response to summer aggregations of walrus on the Alaskan Chukchi coastline, several conservation partners, including the North Slope Borough, Eskimo Walrus Commission, Federal Aviation Administration, and USFWS, have developed guidelines for viewing walrus from aircraft, marine vessels, and on land to discourage activities that could disturb walrus and cause them to stampede into the water (USFWS 2020). The guidelines are communicated to individuals in communities closest to haulouts and others that use the area.

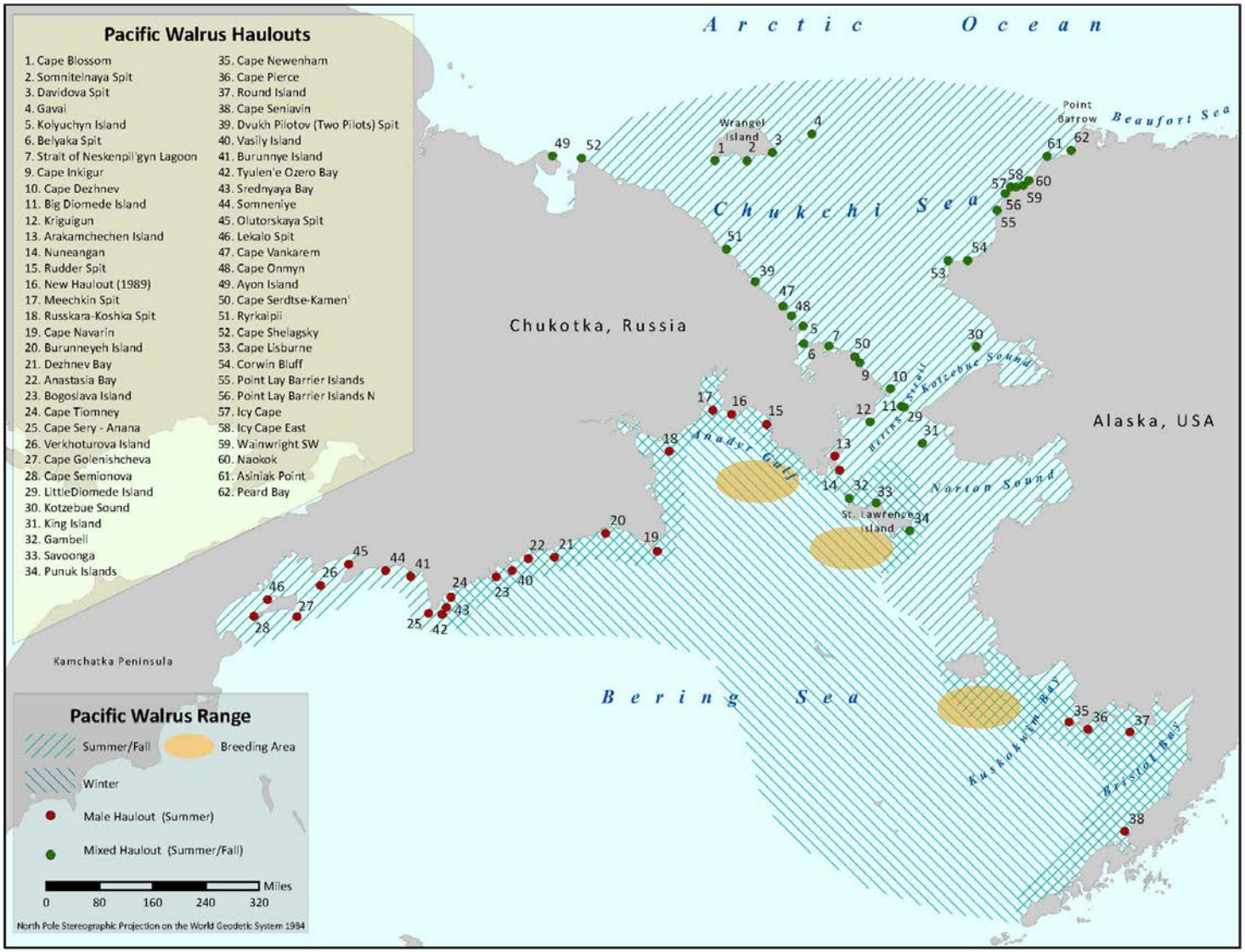



**Figure 3. Pacific Walrus Winter and Summer/Fall Range, Breeding Areas, and Haulout Areas**
(*Source*: USFWS 2019)

# 4 LAWS AND REGULATIONS CONCERNING POLAR BEARS AND WALRUS

A summary of state and federal laws and regulations applicable to marine mammals is provided below.

## 4.1 State of Alaska

Although the National Marine Fisheries Service (NMFS) and the USFWS have jurisdiction for marine mammal management in Alaska under the MMPA, the protection of marine mammals is also included in the following state statutes:

- **18 Alaska Administrative Code (AAC) 75.620(a)(1). Oil and Other Hazardous Substances Pollution Control**. Includes the definition of critical marine environments including marine water within 1 statute mile of a seabird colony or marine mammal rookery or hauling ground identified by the Alaska Department of Fish and Game (ADFG) under Alaska Statutes 16.20.

- **5 AAC 41.240(a)(3). Aquatic Farming**. The commissioner will review aquatic farm and hatchery operation permit applications, department surveys, and other site specific information and will issue an aquatic farm or hatchery operation permit if the commissioner determines that, to the extent practicable, the proposed aquatic farm or hatchery is compatible with fish and wildlife resources in the area, and (A) any predator and pest control methods have been designed to minimize impacts to non-targeted fish and wildlife resources in the area; (B) does not adversely impact seabird colonies, sea lion haulouts and rookeries, seal haulouts and pupping areas, and walrus haulouts; and (C) does not adversely impact endangered and threatened species recovery and habitat protection efforts.

- **5 AAC 92.230. Feeding of Game**. A person may not (1) negligently feed a moose, deer, elk, sheep, bear, wolf, coyote, fox, wolverine, or deleterious exotic wildlife, or negligently leave human food, animal food, mineral supplements, or garbage in a manner that attracts these animals; and (2) intentionally feed a moose, deer, elk, sheep, bear, wolf, coyote, fox, wolverine, or deleterious exotic wildlife, or intentionally leave human food, animal food, mineral supplements, or garbage in a manner that attracts these animals.

## 4.2 Federal

Polar bears are protected wherever they occur in the U.S. under both the MMPA and the ESA. The 2008 listing of polar bears as threatened under the ESA does not alter the existing MMPA requirements. Both laws prohibit take of polar bears, with few exceptions. The protection of marine mammals, and polar bears specifically, is included in the following federal statutes:

- **ESA (16 U.S. Code [USC] 1531-1544, as amended)**. In May 2008, the USFWS listed the polar bear as a threatened species under the ESA (USFWS 2008). The listing was based on the best available science, which shows that loss of sea ice threatens and will likely continue to threaten polar bear habitat. Any significant changes in the abundance, distribution, or existence of sea ice could have effects on the number and behavior of polar bears and their prey. This loss of habitat could put polar bears at risk of becoming endangered in the foreseeable future, the standard established by the ESA for designating a threatened species.

  In 2009, the USFWS proposed critical habitat for the polar bear that overlapped five Air Force radar sites: Point Lonely SRRS (inactive), Bullen Point SRRS, Point Barrow LRRS, Oliktok LRRS, and Barter Island LRRS (USFWS 2009). Proposed critical habitat was defined for three units: Unit 1 was for a large acreage of sea-ice; Unit 2 included terrestrial denning habitat (extending 20 miles inland east of the Kavik River, and 5 miles inland between the Kavik River and Barrow); and Unit 3 included

barrier island habitat. In their 2010 final rule, the USFWS determined that the USAF lands that overlapped the designated polar bear critical habitat at the five sites are subject to the approved Integrated Natural Resource Management Plans (INRMPs) at the time (611 CES 2007, 2009) and that conservation efforts identified in the INRMPs provided a benefit to polar bears occurring in habitats within or adjacent to these facilities. Therefore, lands within these PRSC sites were exempted from critical habitat designation under section 4(a)(3)(b)(i) of the ESA (USFWS 2010). However, the surrounding terrestrial areas at Point Lay LRRS, Point Barrow LRRS, Point Bullen LRRS, Oliktok LRRS, and Barter Island LRRS are within denning critical habitat and nearby barrier islands are considered barrier island critical habitat that also includes a 1-mile no disturbance zone. In addition, the adjacent marine waters are considered sea ice critical habitat.

- **MMPA (16 USC 1361-1421h, as amended)**. The MMPA prohibits the take or harassment of any marine mammals with some exceptions, primarily for scientific and educational purposes. "*Take*" as defined means "to harass, hunt, capture or kill, or attempt to harass, hunt, capture or kill any marine mammal." Take includes feeding or attempting to feed a marine mammal in the wild. The taking of polar bears is allowed for Alaska Native subsistence hunting. The Act and supporting regulations also make provisions to take marine mammals in the course of scientific research or other legitimate work in polar bear habitat. The organization granting such authorization in the northern region of Alaska is the USFWS Marine Mammal Management Office (MMMO) in Anchorage.

  Under Section 101(a)(5) of the MMPA, citizens engaging in certain activities shall be allowed incidental take of small numbers of marine mammals when such take is incidental to but not the purpose of an authorized activity. Further, incidental take is only authorized when it will have a negligible impact on the species of concern and will not interfere with the availability of the species for subsistence use by Alaska Natives. Under Section 101(c) of the Act, lethal take is only permitted if such taking is imminently necessary in self-defense or to save the life of a person in immediate danger and such taking is reported to the USFWS within 48 hours.

  "Harassment" means "any act of pursuit, torment, or annoyance which has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to migration, breathing, nursing, breeding, feeding, and sheltering" (Level B harassment).

- **Regulations Governing the Taking and Importing of Marine Mammals (50 Code of Federal Regulations [CFR] 216)**. Regulations implement the MMPA, which, among other things, restricts the taking, collection, possession, transportation, selling, offering for sale, and importing of marine mammals and marine mammal parts.

Federal regulations allow non-Natives to collect hard parts from some dead marine mammals found on the beach or land within one-quarter mile of the ocean on state or federal public lands. Collection is prohibited on National Park Service lands, and collection on private lands is contingent upon permission of the landowner.

Skulls, bones, teeth or ivory from beach-found polar bear, sea otter (*Enhydra lutris*), walrus and non-endangered whales may be collected. Collected polar bear, sea otter, and walrus parts must be presented to and registered and/or tagged by the USFWS. Parts must be registered within 30 days of the find. For more information contact: USFWS, MMMO (907-786-3800 or 800 362-5148). Skins, meat and organs from these animals may not be collected.

Parts of endangered whales (managed by NMFS) may not be collected. Endangered whales (bowhead [*Balaena mysticetus*], humpback [*Megaptera novaeangliae*], and fin whales [*Balaenoptera physalus*]) can be typically differentiated from non-endangered whales by their size (greater than 25 feet [ft] in length). Fossil ivory collection is prohibited on state or federal public lands, but collection is allowed on private lands with permission of the landowner.

### 4.3 PRSC Policy

It is a PRSC responsibility to ensure that persons who desire to enter PRSC sites for purposes of conducting research, monitoring, or nature study involving polar bears or walruses be authorized to conduct such activities. Such persons, including agency personnel, must receive permission to work on specific PRSC sites; permission to enter active sites is controlled by 611th Air Support Squadron (611 ASUS). Inactive sites do not require coordination access with 611 ASUS prior to arrival.

## 5 PREVENTING HUMAN-BEAR INTERACTIONS

The main concern of the USAF is the safety of all personnel and polar bears. The best way to ensure the safety of personnel and polar bears is to avoid and minimize human-bear interactions and conflicts. Early detection and prevention are the basis of this interaction plan and will minimize the risks to both humans and polar bears. This can be accomplished by:

- identifying polar bear attractants;
- limiting and/or isolating these attractants;
- early detection of polar bears;
- effective warning and communication systems, and
- an educated and safe response.

### 5.1 Attraction to Human Activity

Polar bears are extremely motivated to find food and are attracted to anything unusual that might provide a meal. They are also inherently curious and are attracted to things that are new. Once bears are attracted to a site, they become much more hazardous because the chance of an encounter increases. Potential attractants must be identified to avoid attracting a bear. Examples of polar bears attractants include:

- food and barbeques;
- food associated waste;
- trash;
- chemicals;
- denning habitat;
- novelties – objects and materials that are new to polar bears, may include plastics (e.g., fuel cans), weather stations, and snowmobiles;
- petroleum products;
- animal carcasses;
- sewage; and
- gray water.

### 5.2 Preventing Polar Bear Attraction and Encounters

The attractiveness of a site must be minimized to minimize the potential for a human-polar bear interaction. Every successful foraging trip into human-populated areas increases the chances of that bear returning to the same site or to a similar site. Young bears tend to be especially curious, are typically more food-stressed, and are the most likely bears to be attracted to human activities. Any encounter with a polar bear presents

a hazard. Bears have damaged or destroyed property and have caused work stoppages and restrictions. Throughout their range, encounters have caused death for both humans and bears.

Correctly handling of food and associated waste is the single most effective action an individual can take to avoid attracting bears. Regardless of whether a polar bear is intentionally or unintentionally fed, once it associates the site with food, it becomes very difficult to avoid conflict with the bear. Feeding wildlife on site is strictly prohibited, as mandated by federal and state laws. The following guidelines will help reduce the potential for human-bear interactions due to food and associated waste.

- Food and beverages should only be consumed inside buildings or vehicles.
- Food and beverages should be stored in secure areas and not left outside or in unoccupied vehicles.
- Food and beverage waste should be disposed of in indoor receptacles or outside in bear-proof dumpsters and should not be available to wildlife.
- Food and associated waste should be incinerated or removed to an off-site garbage facility regularly.
- Personnel should be particularly aware of bears around the kitchen area or during meal preparation.
- Animal carcasses should be incinerated or removed from human use areas to minimize attraction.

Trash and chemicals should also be treated as bear attractants and dealt with accordingly. Non-food materials (e.g., plastic, rubber, motor oil, and chemicals) have attracted bears in the past. The following guidelines will help reduce the potential for bear attraction due to trash and hazardous materials.

- All trash and chemicals should be stored inside or outside in bear-proof dumpsters or containers. Inside storage is always preferred, when possible.
- Accessible trash should never be left unattended outside.
- Trash waiting for pickup should be stored outside in bear-proof containers, or inside and brought outside only when the garbage truck arrives.
- Kitchen-associated trash, non-metallic trash, and non-toxic trash should be incinerated on a regular basis, or removed from the site on a regular basis and not left to accumulate in large amounts.
- Toxic wastes should be stored and handled properly in secured areas and containers.
- If a toxic spill should occur, it should be cleaned up properly and immediately. This includes even small spills or leaks from vehicles or machinery.

Man-made features that facilitate snow accumulation can also provide good denning habitat, including snow drifts created by structures, snow piles below roofs, or berms caused by snow removal. Female polar bears enter dens in November to give birth to cubs and protect them through March. Dens are located in areas of sufficient snow accumulation (3 ft or deeper), which generally includes bluffs along rivers, coastlines and barrier islands, and rough sea ice. The USFWS mitigates potential disturbance to known polar bear dens by implementing a 1-mile buffer around the den. The following are guidelines to avoid the establishment of a polar bear den on or near a PRSC site.

Polar bear walking along the Beaufort Sea coast. Polar bears are very curious animals and are often drawn to human activities. (*Photo*: USFWS.)

- Personnel should be aware on or near the site of where natural drifts accumulate.
- Where possible, personnel should remove snow from areas of accumulation to improve visibility

on the site in order to eliminate suitable denning and observe mobile bears.

- Personnel should be aware of any present or past denning sites.
- Personnel should report any suspected dens on or near the site, using the procedure detailed in Section 6.3.

While any encounter with a polar bear is dangerous, a surprise encounter is particularly dangerous. Bears may respond to a surprise encounter defensively and aggressively. The following guidelines describe ways to minimize surprising a polar bear.

- Personnel should always be aware of their surroundings by checking for signs of polar bears, including paw prints, scat, disturbed trash, or destroyed items.
- Personnel should be made aware that bears can hide under buildings or stairs, behind dumpsters, Conex boxes, stacked and stored materials, snow drifts, etc.
- Personnel should make lots of noise when walking into an area with poor visibility.
- The exterior of all buildings should be well lit to increase visibility.
- Exterior doors should have windows, or windows nearby, that allow personnel to clearly see outside to check for polar bears.
- Before exiting the building, personnel should always check for polar bears through windows; once outside, check under the building and stairwells.
- Snow should be removed from areas of accumulation to improve visibility and in such a way that it does not hinder the view or provide areas for bears to hide.
- Stacked or stored materials should be kept to a minimum because they provide places for bears to hide and can create snow drifts.
- Open areas under raised buildings or stairways should be fenced in to prevent access by bears.

Polar bears have been known to enter buildings (such as occurred at Oliktok in 1993), which can be extremely dangerous for personnel, the bear, and equipment. Once a polar bear has entered a building, a positive ending is very unlikely. These preventative measures should be taken to avoid having a polar bear enter a building.

- Keep snow cleared from under windows so that snow does not pile up or drift allowing a polar bear to climb on the snow and enter the building through the window.
- Doors should open outward to easily block a potential intruder.
- Doors and windows should not be left open at any time.
- Oval-shaped door knobs should be used on exterior doors instead of handle-type knobs.
- Lighting around the building should be maintained such that a potentially intrusive bear is identified before it comes too close to the building.
- Grates should be placed over windows to limit entry, yet meet fire codes.

Novelties can arbitrarily attract bears and can be difficult to avoid or contain. It is best to be aware of these novelties that might attract bears and avoid leaving these unsecured and/or exposed. Novelties often include plastics, new smells, chemicals, vehicles, machinery, and unique structures. Bears will chew on plastics, and this material should be disposed of properly.

Occasionally native hunters will harvest whales near USAF facilities, particularly at Barter Island/Kaktovik, Barrow, and Oliktok/Nuiqsut. Communication between site personnel and the community is essential to keep all USAF personnel aware of whaling activities. In the event that a whale is harvested, personnel should be aware of butchering and carcass disposal areas, avoid these areas, and recognize that they serve as strong polar bear attractants.

# 6 POLAR BEAR AVOIDANCE AND ENCOUNTERS

## 6.1 Ongoing Education and Training

Education is a key component in effectively avoiding polar bear encounters and conflict. When personnel are aware of bear behavior and potential dangers, they are much more likely to avoid them. The following guidelines will help identify ways to keep all personnel and visitors educated.

- All USAF personnel conducting work at the Barter Island, Bullen Point, Oliktok, Point Lonely, Point Lay, and Cape Lisburne sites shall be provided with a polar bear-specific safety video and are required to take an annual safety training course. Those personnel working at other PRSC sites with the potential for polar bears to occur, will be required to comply with the necessary requirements outlined in the project-specific MMPA Letter of Authorization (LOA) that would be prepared prior to any work at a site.
- Initial site orientation should include videos, such as "Polar Bears: A Guide to Safety", as well as access to informational pamphlets, posters, and this Plan.
- Training should be provided to on-site staff that describes bear behavior, safety concerns, and appropriate employee behavior while operating in polar bear habitat. Examples of this are informative staff meetings and ongoing safety education.
- This Plan and the most current safety brochures and poster should be posted for personnel to read and to promote ongoing awareness (Appendix A).
- Select contractor personnel may be required to take Deterrence Training that has been approved by ADFG and USFWS.
- Personnel operating at sites with walrus haulouts will be provided with information and any specific protection measures to be utilized in these areas.

Further education and training can be provided by the USFWS. Contact the MMMO in Anchorage (907-786-3800).

## 6.2 Encounters with Polar Bears

The potential for bear encounters always exists, even when site personnel have received safety training and all precautions are taken to eliminate attractants. After taking precautions against attracting polar bears to the site, early detection of polar bears on or near the site is the best way to avoid an encounter. Guidelines for early detection are as follows.

- Morning rounds should be performed by trained personnel on a daily basis to look for any bears or any signs of bears. Bear signs include tracks, scat, and disturbed trash or materials.
- Morning rounds should be conducted in a two-person team, in a vehicle if possible, with a light source, a method of personal protection (e.g., bear spray, approved weapon), and a reliable form of communication, such as a cell phone or radio.
- Personnel should always be observant for bears and always be aware of their surroundings.
- Utilize a bear guard or a trained employee to specifically watch for bears when working outside and at off-site locations.
- Daily communication should take place with the community and other organizations regarding polar bear activity in the area, if possible.

## 6.3 Response

Polar bear encounters may still occur, even if all necessary precautions of avoidance and early detection have taken place. Polar bear encounters will always be variable, and the correct response will depend on

your location relative to the bear and the bear's behavior. Always put your safety and the safety of your coworkers first. No equipment is more valuable than your or someone else's life. Never attempt to photograph polar bears from an exposed location. Figure 4 provides a guide for polar bear encounter notification requirements.

Any and all polar bear sightings will be immediately reported to the Site Chief. Any other information regarding polar bear presence (e.g., one observed 5 miles from the site) should also be relayed to the Site Chief (Figure 4). A standard of notification amongst all crews will be established in the event of a polar bear on site or other emergencies. This could include a Public Address system, radios that every person or the crew carry, cellular phones, or any form of reliable communication. Each site is unique, and the standard of notification implemented at each site should reflect the unique individual requirements of that site. If necessary, work activities will be altered or stopped to avoid interactions with polar bears. In general, the bear should be left alone, unless there is imminent danger to human life.

If a bear remains on-site or near the site for an extended period of time, the Site Chief can notify the USFWS MMMO (907-786-3800) for advice. If a polar bear den is found, the Site Chief should immediately notify the USFWS MMMO for guidance, and the area should immediately be avoided by all personnel.

All polar bear observations and any human-bear interactions must be reported to the USFWS MMMO within 24 hours of the event. See Figure 4 for proper chain of reporting. The USFWS Polar Bear Sighting Report form in Section 11 must be completed and emailed to the USFWS (fw7_mmm_reports@fws.gov), ADFG (dick.shideler@alaska.gov), and 611 CES (joel.helm.1@us.af.mil).

Should any personnel observe or come into contact with a polar bear, the most effective response will depend on the bear's behavior. If a polar bear is unaware of your presence, the best response is as follows.

- Remain calm; do not run away or make loud noises.
- Quietly retreat to a safe location.
- Do not approach or crowd the bear. Every bear has "personal space," the distance at which they feel comfortable or threatened. The more distance between personnel and the bear, the less likely a conflict will arise.
- Once you are at a safe location, immediately notify the Site Chief, who will then notify all personnel.
- Watch the bear until it leaves the site.
- The Site Chief will complete the USFWS Polar Bear Sighting Report included in Section 11 and provide it via the Maintenance Control Center to the Environmental Compliance Advisor.
- The Environmental Compliance Advisor will email the Polar Bear Sighting Report to the USFWS MMMO (fw7_mmm_reports@fws.gov), ADFG (dick.shideler@alaska.gov), and 611 CES Natural Resources Manager (joel.helm.1@us.af.mil) by the next working day.


**Figure 4. Polar Bear Encounter Notification Requirements**

If a polar bear is aware you are present and curious, it will be exhibiting such behaviors as standing on hind legs and sniffing, moving slowly with frequent stops, moving head from side to side, or sniffing the air. The best response is as follows:

- Remain calm.
- Speak calmly to the bear; help it understand that you are a human.
- Begin to move away slowly to a safe location, do not run away. If it continues to approach, stand your ground. Group up, prepare your deterrent.
- Do not approach or crowd the bear. Every bear has "personal space," the distance at which they feel comfortable or threatened. The more distance between personnel and the bear, the less likely a conflict will arise.
- Once you are at a safe location, immediately notify the Site Chief, who will then notify all personnel.
- Watch the bear until it departs the area.
- The Site Chief will complete the USFWS Polar Bear Sighting Report included in Section 11 and provide it via the Maintenance Control Center to the Environmental Compliance Advisor.
- The Environmental Compliance Advisor will email the Polar Bear Sighting Report to the USFWS MMMO (fw7_mmm_reports@fws.gov), ADFG (dick.shideler@alaska.gov), and 611 CES (joel.helm.1@us.af.mil) within 24 hours.

If a polar bear is threatened or agitated, it could exhibit such behaviors as lowering its head with ears laid back, growling, jaw-popping, hissing, panting, or huffing. The best response is as follows:

- Remain calm; do not run away or make loud noises.
- If the bear is threatened, you're too close and it is too late to avoid.
- Prepare approved deterrent methods, as appropriate. These methods are described in Section 6.5.
- Move away slowly to a safe location.
- Talk to the bear in a calm, non-aggressive manner. If the bear charges, use your deterrent.
- Once you are at a safe location, immediately notify the Site Chief, who will then notify all personnel.
- Watch the bear until it departs the area.
- The Site Chief will complete the USFWS Polar Bear Sighting Report included in Section 11 and provide it via the Maintenance Control Center to the Environmental Compliance Advisor.
- The Environmental Compliance Advisor will email the Polar Bear Sighting Report to the USFWS MMMO (fw7_mmm_reports@fws.gov), ADFG (dick.shideler@alaska.gov), and 611 CES (joel.helm.1@us.af.mil) within 24 hours.

A predatory bear will not show signs of stress, and will approach in a direct manner with its focus on you. If the bear attacks the best response is to:

- Remain calm.
- Use approved deterrent methods, as appropriate. These methods are described in Section 6.5.
- If the bear makes physical contact, fight back. This bear might view you as food; you should do everything within your power escape the attack.
- Move to a safe location as soon as the attack subsides and it is safe to do so. Use any means available to call for help. The Site Chief will immediately report the emergency situation (CDRL D008) via the Maintenance Control Center to the 611 ASUS/Alaska Radar Site program management personnel on-call.
- Stay calm. Seek medical attention as necessary.

- Check that everyone in the group is accounted for.
- Immediately notify the Site Chief, who will then notify all personnel.
- Observe the bear until it departs the area. A bear that has attacked a human will need to be lethally removed so the USFWS MMMO should be notified immediately.
- The Site Chief will immediately contact the Environmental Compliance Advisor via the Maintenance Control Center to report the incident.
- The Environmental Compliance Advisor will immediately notify USFWS MMMO at 907-786-3800.
- The Site Chief will complete the USFWS Polar Bear Sighting Report included in Section 10 and provide it via the Maintenance Control Center to the Environmental Compliance Advisor.
- The Environmental Compliance Advisor will email the Polar Bear Sighting Report to the USFWS MMMO (fw7_mmm_reports@fws.gov), ADFG (dick.shideler@alaska.gov), and 611 CES (joel.helm.1@us.af.mil) within 24 hours. The USFWS will provide guidance on what to do with the carcass.
- If an incident like an attack occurs, there will be additional forms in addition to the Sighting Report to fill out. Contact the USFWS MMMO (Susi Miller or Forrest Hannah).

Should a polar bear encounter escalate into a life-threatening situation, no authorization is required for a lethal take in the defense of human life under Section 101(c) of the MMPA.

### 6.4 Deterrence Permits

The Contractors implementing actions on behalf of the USAF will have separate permits granted to them by the USFWS authorizing the incidental "take" of polar bears (i.e., deterrence/harassment) for the protection of both human and polar bear life under Sections 101(a)4(A), 109 (h)(1) and 112(c) of the MMPA. This authorization will not authorize lethal take of a polar bear. The authorization will be issued specifically to the entity who is responsible for ensuring that trained and qualified personnel are assigned the task to haze, deter, or otherwise non-lethally harass polar bears.

### 6.5 Deterrent Methods

There are a variety of deterrent methods that can be used, each of which will be effective in different situations. A non-pain inducing stimulus should always be used first, and if not effective, followed by a pain-inducing stimulus. There is always potential for pain-inducing deterrent methods to injure the bear, which should always be avoided. Non-lethal deterrent methods may include:

- expressive motions, such as grouping together, waving your arms, jumping up and down;
- using lights (e.g., flashlights, headlamps) and vehicle lights;
- loud noises, such as yelling, air horns, vehicle horns, or revving the engine;
- chemical repellents, such as capsaicin spray, which should be available at all sites; and
- use of projectiles, such as flares, cracker shells, screamers, bean bags, or rubber bullets.

An incident on an oil/gas industry site involving the death of a polar bear due to a long-range hazing round being inadvertently used at short-range has demonstrated the need to keep different hazing rounds in separate locations (Personal communication from C. Putnam, USFWS with G. Stout, Gene Stout and Associates; March 26, 2012).

Contractors working on PRSC sites, and possessing a current LOA from the USFWS, may use polar bear guards who have the option to use non-lethal ammunition. The following is applicable for these personnel.

A maximum of 20 rounds of each type of ammunition will be carried while on the installation property. Personnel requesting firearm storage and usage on the installation shall comply with USAF PRSC Operating Instruction (OI) 31-113, which articulates the training and documentation requirements for firearm possession and usage on Alaska PRSC north slope locations (PRSC 2017). Ammunition will be containerized in different colored containers. Containers will be inspected by the officer assigned to bear hazing duties at the beginning of each shift to verify the number and types of rounds in possession. Only lethal ammunition will be carried in a shotgun magazine (tube). If non-lethal rounds are to be used, they will be loaded into the firearm immediately prior to discharge.

The preferred practice for ammunition handling in the field will be to leave the rounds in their color-coded containers at all times. The firearm handler must always inspect each cartridge casing for color and text to verify which type of round is being loaded. Rounds should be loaded into the firearm directly from the box immediately before use. Carrying ammunition in other containers (e.g., coat pockets) should be avoided. If a situation arises where a hazer must carry ammunition out of the containers (such as they must walk to an area where the vehicle cannot travel, and color-coded containers cannot be brought with them), then ammunition may be carried in other manners, although they should remain segregated (e.g., different coat pockets or bags for different types of rounds). It is vital to know exactly what type of round is in the firearm at all times so that they are used appropriately.

Firearms must be cleared for transport to the installation. Firearms used for hazing polar bears on USAF facilities are regulated under policies beyond the scope of this document. Refer to PRSC OI 31-113 and the Air Support Squadron Program Manager for more information regarding possession of a firearm on site.

# 7 PACIFIC WALRUS HAULOUT CONSIDERATIONS

At the request of the USFWS, this plan includes considerations for minimizing disturbance of known Pacific walrus haulouts on or near PRSC sites. In addition, INRMP projects VNMHOS140777 (2014) and VNMH199001 (2019) (both titled Management, Species; Steller Sea Lion) include better determination of haulout sites for Pacific walrus (and seals) on PRSC sites and sites used by sea otters and Steller sea lions (*Eumetopias jubatus*). These projects may also be useful for monitoring effects of loss of sea ice, which could lead to changes in use of terrestrial haulout sites.

Per USFWS, MMMO guidance, the following steps will be taken by the PRSC to minimize impacts of PRSC operations on walrus haulout sites.

- Timing is the most important consideration for minimizing interactions at haulouts. PRSC personnel will minimize operations that may affect haulouts during the mid-August through end of September haulout season to drastically reduce the likelihood of interactions. When barge landing and other operations are required during this period, site personnel will wait until haulouts that may be affected are clear of walrus before bringing the barge to shore.
- Marine vessels servicing PRSC sites will attempt to maintain a buffer from walruses hauled out on land or ice to avoid disturbance. Vessels less than 100 ft long will be requested to remain at least 0.5 mile from hauled-out walrus. Vessels greater than 100 ft long will be requested to remain at least 1.0 mile from hauled-out walrus.
- Sound carries long distances across water and often reverberates off cliffs and bluffs adjacent to haulouts, amplifying the noise level. PRSC barge operations will minimize noise levels near haulouts when compatible with mission requirements. Such operations will avoid sudden changes in engine noise, using loud speakers, loud deck equipment, or other operations that produce noise in the vicinity of walrus haulouts.

- Vessels traveling in a predictable manner appear to be less disturbing to animals. Barge operations will avoid excessive speed or sudden changes in speed or direction when approaching or departing walrus haulouts. Harassment or pursuit of marine mammals is prohibited by law. Never attempt to herd, chase, or separate groups of walruses.

In addition, the PRSC will continue to minimize disturbance of haulouts by aircraft servicing sites near haulouts, as addressed in the 2013-2017 INRMP and the 2020 update to the INRMP. The USAF is educating pilots servicing PRSC sites about the sensitive nature of haulouts. Flight patterns at sites where runway approaches could create marine mammal disturbance are modified to protect haulout sites. The issue involves both stewardship and compliance. Pilots can be assessed civil and criminal penalties and imprisonment. USFWS personnel, as well as installation personnel, observe these areas for violations and report violations to enforcement personnel. Aircraft servicing these sites should avoid flight below 2,000 ft above ground level except on arrival and departure from landing strips and act according to site-specific advisories and restrictions. As an example, aircraft traffic should remain east of the Cape Newenham site if walrus are present west of the runway. The USAF will continue to work to minimize disturbance, consistent with aircraft safety requirements.

If, in spite of these efforts, if there is a potential for "take" of any kind for Pacific walrus on or near PRSC sites, the command will engage in early planning with the USFWS prior to permit application submittals under MMPA.

# 8 PRSC SITE DESCRIPTIONS, POLAR BEAR ENCOUNTER PREVENTION, AND PACIFIC WALRUS OCCURRENCE

Each of the sites pose unique risks and concerns associated with polar bears. While all sites are located within polar bear habitat, they do not all have the same amount of human or bear activity. Many sites are inactive, and the general lack of human presence at these sites makes defining the potential polar bear danger difficult. In general, for all sites, when personnel are present at a site, it should be assumed that there is potential to come in contact with a polar bear. Regardless of specific circumstances at each site, avoidance and responses to polar bears should follow guidelines outlined previously. However, because each site is unique, site-specific mitigation measures were outlined for each site. Current mitigation measures and recommended mitigation improvements for each site are described in more detail below. The locations of PRSC sites within potential polar bear and Pacific walrus range are depicted on Figures 1 and 2.

For all sites, preventative measures include briefing personnel visiting or operating the site on items included within this plan, providing them with copies of this plan, and other information appropriate to the site visit. Bear spray and cracker shells are available on-site for all manned sites.

## 8.1 Barter Island LRRS

Barter Island LRRS is located on 592 acres of low-lying tundra, on the Arctic coastal plain of the Beaufort Sea, between Arey and Kaktovik lagoons. The village of Kaktovik is immediately to the east of the site. Barter Island is an actively manned site, and two personnel are on site year-round. Clean Sweep activities were completed in 2007 and inactive structures, towers, buildings, tanks, pipelines, pads, etc. were removed. In 2016, the village of Kaktovik opened a new civilian airport south of the LRRS. In 2017, the Air Force Civil Engineer Center with assistance from Ukpeaġvik Inupiat Corporation Science, LLC, (Construction and Science branches) and Satori Group, Inc. demolished the hangar and performed contaminated soil removal and asbestos abatement actions. The airport supports the settlement at Kaktovik and provides contractor support access to the LRRS.

The responsibility of water and sewer and trash pickup is contracted to the village of Kaktovik. Snow removal on the site is conducted by the O&M contractor. Previously all trash was incinerated before it was hauled away to the local landfill. However, trash incineration has been temporarily suspended pending the issuance of a Clean Air Act permit from the U.S. Environmental Protection Agency. The storage of trash on-site has caused concerns regarding the attraction of polar bears to the LRRS facilities and safety of site personnel. An October 2019 incident highlights the issue associated with storing trash onsite and not incinerating it before transferring it to the local landfill (see next section).

### 8.1.1 Polar Bear

The Barter Island site is the primary PRSC site with known potential polar bear concerns and potential for human-bear interactions. Village safety officers are contacted if there is a problem with a polar bear. On occasion, polar bears have destroyed runway lighting. During fall and winter, polar bears have been observed hunting on coastal and shorefast ice off the coast of Kaktovik.

The most recent polar bear incident at the Barter Island site occurred on the evening of October 18 or morning of October 19, 2019, when a polar bear broke into the waste storage building. The metal door was bent and the deadbolt/latches were destroyed. Although the polar bear did not enter the facility, it did manage to reach in and tear apart the trash bin and access the trash. As the incident was discovered after the fact, there was no interaction between the bear and site personnel (611 CES 2019a).

**Figure 5. Polar Bear Intrusion, Barter Island LRRS (October 2019)**

Kaktovik has a strong community culture guiding human-polar bear interactions. Natives of Kaktovik conduct whale hunts annually in the fall. Whales may be butchered near the Barter Island LRRS site. If a whale carcass is present, polar bears tend to aggregate on the carcass to feed and often rest along the coastal bluff near the LRRS site, creating a potential human safety risk.

More recently, professional photographers and tourists have been visiting Kaktovik to view polar bears, which has increased the risk of human-polar bear interactions. The USFWS has studied bear behavior at this site using radio collars and is working with the Kaktovik community to ensure responsible viewing of these threatened bears.

The USFWS has worked closely with the community to establish guidelines and viewing practices that will help ensure that viewing activities are conducted in a legal manner under the MMPA, which allows for bear viewing, as long as bears are not disturbed in the process. The underlying principle is that, the further away you are from bears, the less likely you are to disturb them, and therefore, the safer the situation for both humans and bears. The April 2017 “U.S. Fish and Wildlife Service Viewing Guidelines for Polar Bears”

provides up-to-date viewing guidance and details the governing statutes which provide legal protections for this species (USFWS 2017b). The USFWS Arctic National Wildlife Refuge (NWR) has also created information materials for photographers and wildlife viewers to review prior to going in the field (USFWS 2018). This information flier includes a succinct list of commonly asked questions and appropriate responses.

The USFWS is often contacted by commercial photographers (video and still) for information on how they can view bears. USFWS guidance includes the following:

- Photographing polar bears is an inherently dangerous activity, and photographers do so at their own risk.
- If viewing on Arctic NWR lands and waters around Barter Island, they must be accompanied by a locally permitted guide and must follow viewing guidelines.
- Permitted guides must follow permit conditions designed to minimize impacts to polar bears.
- If commercial filming activity has the potential to disturb polar bears, it is possible to obtain a permit from the Washington, DC office (Division of Management Authority), which allows for a small amount of "take" (non-injurious harassment) for commercial purposes.
- The United States Air Force may approve access and usage of the PRSC installation properties in order to support documentary, television, film, streaming media, video game, and music video productions. The Air Force Entertainment Liaison Office reviews permit applications and processing can take >30 days. A Production Support Request form and further information is available at www.airforcehollywood.af.mil or by calling 310-235-7511.

#### 8.1.2 Pacific Walrus

Walrus do not occur at the Barter Island site.

### 8.2 Bullen Point SRRS (Inactive)

Bullen Point former SRRS, also known as Flaxman Island, occupies 605 acres adjacent to Mikkelsen Bay on the east-central shore of the Beaufort Sea, 40 miles west of Deadhorse. This site is located near the oil industry's Badami production facility. This site is inactive and is visited as part of site restoration activities. Length of stay for personnel varies. Demolition and remediation of inactive facilities under the Clean Sweep program occurred in 2006-2007, leaving only a few then-active buildings. Since then, the site has been deactivated. Demolition and environmental cleanup of the remaining buildings and facilities was performed in 2014. One site was found to have additional fuel contamination and further characterization of this site will occur in 2019 with a remedial action planned for 2022.

The site is accessed by an airstrip located 0.5 mile away; after landing, personnel walk to the site. Remaining site facilities include an airstrip, technical services building, fuel storage, two satellite ground terminals, and a radar tower facility. All trash is stored inside and backhauled on the trip out.

#### 8.2.1 Polar Bear

Polar bears have been observed moving through and resting at this site, and the possibility of denning polar bears exists from November to May (Bridges 2001). During the 2002-03 winter season a polar bear denned in the snow drift of the airstrip ramp (Personal communication from C. Perham, USFWS with H. Ohms, OASIS Environmental, Inc.; June 14, 2007). Because this site generally has low human activity, there may be a higher risk of polar bear encounters when personnel are on site. Personnel should contact the USFWS for information about current bear activity in the area prior to arriving at the site.

### 8.2.2 Pacific Walrus

Walrus do not occur at the Bullen Point site.

## 8.3 Oliktok LRRS

Oliktok LRRS is located east of the Colville River on 832 acres along the Beaufort Sea coast. It is adjacent to the village of Nuiqsut and 35 miles west of Prudhoe Bay. This site is actively manned by two personnel year-round and is accessed by a road from Prudhoe Bay. Operational facilities include a building train that encompasses the radome, a warehouse, and a garage, as well as an inactive airstrip and the associated hangar. Both the garage and warehouse are separate from the main building train and can only be accessed by exiting the main building train. Snow removal is conducted by the O&M contractor All trash is incinerated before it is hauled away by an oil field service company.

### 8.3.1 Polar Bear

Polar bears often travel the shoreline of Oliktok, especially in the fall when they travel east to west following the bowhead whale migration. Natives of the village Nuiqsut hunt whales in the fall and, similar to the Kaktovik region, polar bears can be found feeding on the butchered whale carcasses. Denning habitat is present near this site, and denning polar bears may be present from November to March (Bridges 2001). Oil industry security patrols this area for polar bears and reports any sightings or incidents to radar site personnel.

On November 30, 1993, a polar bear broke into a building train window and mauled an employee. The employee was critically injured, and a bear was killed. In September of 2000 claw marks on a pickup truck were observed, and the bear also pushed the incinerator room door open (Bridges 2001). The most recent polar bear incident at the Oliktok site occurred on September 16, 2019, when a polar bear attempted to enter the main door of the facility (Figure 6). Although the bear did not enter the facility or cause any damage, its presence was noted (611 CES 2019b). Although polar bear encounters remain rare, the potential for an encounter with a polar bear remains. Personnel should take extreme caution at this site.

**Figure 6. Polar Bear Incident, Oliktok LRRS (September 2019)**

8.3.2 Pacific Walrus

Walrus do not occur at the Oliktok site.

## 8.4 Point Lonely SRRS (Inactive)

The 1,802-acre Point Lonely Former SRRS is located between Smith and Harrison bays on the Beaufort Sea coast. The nearest village is 40 miles away at Nuiqsut; an oil industry camp is also located nearby. This inactive site is visited as part of site restoration activities. Length of stay for personnel varies. Several large structures are present on site, including a warehouse, hangar, building train and airstrip. Personnel arrive at an airstrip nearby and walk to the site. Clean Sweep began at Point Lonely in 2006 and was completed in 2010. Because Bureau of Land Management (BLM) manages the land, the USAF is using a right-of-entry permit to gain access to buildings and structures and to conduct environmental cleanup and demolition activities.

8.4.1 Polar Bear

Polar bears are present along this coastline, and denning polar bears may be present at the station from November to May (Bridges 2001). Because personnel are rarely present at this site, the chance for a polar bear incident is decreased. It is especially important to be aware at this site that polar bears could have taken advantage of the shelter or denning habitat opportunities provided by these facilities while no personnel are present. Personnel arriving at this site should have increased awareness of the possibility for a polar bear to be present on site.

8.4.2 Pacific Walrus

Walrus do not occur at the Point Lonely site.

## 8.5 Point Barrow LRRS

Point Barrow LRRS occupies 266 acres on the Barrow Peninsula, 5 miles east of the village of Barrow. The Peninsula is bordered on the east by Elson Lagoon and on the west by the Chukchi Sea. This is an actively manned site, and five USAF and contract personnel are present year-round. A Department of Defense facility is located adjacent to radar site facilities. Clean Sweep demolition and debris removal at Point Barrow LRRS occurred in 2011. Long-term management began in 2012. Active facilities include a garage, two building trains, and an attached radome. An offsite cold storage facility is also utilized. The adjacent runway is inactive, and all air traffic uses the village runway. An incinerator was installed so all trash is incinerated before it is hauled away to the local landfill.

### 8.5.1 Polar Bear

Polar bears are common in the vicinity and likely spend time in the area hunting for seals on the sea ice or searching out denning habitat. Winter and fall are the most common times for bears to be present; however, they have been observed near Barrow LRRS year-round. The village of Barrow hunts whales in both spring (June and July) and fall (September and October). Polar bears are primarily attracted to this area because of whale carcasses but sometimes go into the village of Barrow looking for food. During one whaling season 30 polar bears were observed around Barrow (Bridges 2001). If any polar bear issues arise at the site, a Barrow village safety officer is notified.

### 8.5.2 Pacific Walrus

Hauled out Pacific walrus have been confirmed on or near Point Barrow LRRS.

## 8.6 Point Lay LRRS (Inactive)

Point Lay Former LRRS is located on the shoreline of the Chukchi Sea on 1,442 acres approximately 2 miles south of the village of Point Lay. The site is accessed by an adjacent runway, and personnel walk to the site. There are few structures at this site; only a small storage shed and an aircraft hangar are present. This is an inactive site that was inhabited from 1955 to 1999. The site is currently only visited occasionally for environmental restoration work, which is mostly complete. In 2017, a site characterization was completed for one remaining Installation Restoration Program (IRP) site. Additional characterization of remaining structures will be performed in 2019 and 2020, with demolition of three structures proposed in 2022. Cleanup of the IRP site is planned for 2022. Long-term management is scheduled for the future.

### 8.6.1 Polar Bear

Polar bears are common in this area traveling along the Chukchi coastline in search of food. Historically, polar bears have utilized denning habitat in the offshore area near Point Lay from November to March. A polar bear-caused human fatality took place in Point Lay in December 1990. A couple walking through the village came in contact with a polar bear; the woman was able to escape, but the man was attacked and killed (Bridges 2001). Because Point Lay Former LRRS is very rarely visited, the chance for a polar bear encounter is low. However, personnel visiting this site should take precautions and be aware that this site might have attracted unsuspecting polar bears in the absence of people. This awareness is especially prudent during demolition and restoration activities.

Hauled out walrus at Point Lay, Alaska.
Photo: B. Tracey.

### 8.6.2 Pacific Walrus

Hauled out Pacific walrus have been confirmed on or near Point Lay LRRS.

## 8.7 Cape Lisburne LRRS

Cape Lisburne LRRS is located 35 miles northeast of the village Point Hope, along the Chukchi Sea coastline. The 1,125-acre site is divided into a Lower Camp and an Upper Camp that are connected by a 3.9-mile winding road. Radar equipment is located in the Upper Camp, and support facilities are located in the Lower Camp. The site is actively manned with four personnel present year-round. The site is accessed by a runway located 0.25 mile away. Trash is stored inside, incinerated on site, and then buried in a landfill located approximately 1 mile from the site.

### 8.7.1 Polar Bear

Polar bears migrate south through this area in the fall and winter, then move north in the spring and summer. Denning habitat has historically been utilized on offshore Chukchi Sea ice from November to March. This is the center of where both CBS and SBS polar bear stocks overlap their ranges. Polar bear tracks under windows and paw prints on windows were observed during a site investigation associated with the draft of the 2001 Polar Bear Interaction Management Plan (Bridges 2001). Polar bears have been observed wandering along the runway and into camp. This site is not located near any villages or oil industry activities; therefore, any polar bear hazing or deterrence is conducted by personnel on site. Commonly a truck and truck horn are used to scare polar bears away from the site (Personal communication from P. Cooley, Arctec Alaska with H. Ohms, OASIS Environmental, Inc.; March 28, 2007).

### 8.7.2 Pacific Walrus

Hauled out Pacific walrus have been confirmed on or near Cape Lisburne LRRS. From 2016 to 2019, monitoring of walrus near the installation was conducted during quarry operations and seawall construction activities and walrus were routinely observed in nearshore waters and hauled out on the beaches of in the vicinity of the LRRS. For 4 days in October 2019, approximately 1,200 walrus hauled out on First Beach, immediately adjacent to the western boundary of the Cape Lisburne site (see cover, bottom photo) (MacKay et al. 2016, 2017; DNA Environmental Consultants 2018a, 2018b, 2019a, 2019b).

## 8.8 Kotzebue LRRS

Kotzebue LRRS is approximately 4 miles from the village of Kotzebue and occupies 676 acres on Kotzebue Sound. The site became operational in 1950 and is currently operated as a Minimal Attended Radar, meaning it is attended by one person who lives in the village of Kotzebue and travels to the site daily by vehicle. All visiting personnel arrive via aircraft to the state-maintained airport in Kotzebue and are transported to the site via vehicle. Facilities at this site include a radome and emergency generator building; the entire site is surrounded by chain-link fencing. There are no sleeping or dining facilities on site. All trash is transported to the village of Kotzebue dump; no trash is stored on site.

### 8.8.1 Polar Bear

Polar bear activity tends to be lower at this site than the other radar stations because there are fewer polar bears migrating through this area, and hunting pressure from the village of Kotzebue is high. Polar bear denning near this site is possible, but far less likely than at other stations farther north, such as Barrow or Barter Island (Bridges 2001). Should a polar bear come near the site, a Kotzebue safety officer would be alerted. Although there has never been a polar bear encounter at this site (Personal communication from P. Cooley, Arctec Alaska with H. Ohms, OASIS Environmental, Inc.; March 28, 2007), personnel should remain aware and diligent in minimizing the attractiveness of this site.

### 8.8.2 Pacific Walrus

Site personnel should be aware of the potential for walrus in the vicinity of Kotzebue LRRS.

## 8.9 Tin City LRRS

Tin City LRRS lies on the Bering Sea coast at the tip of the Seward Peninsula, 5 miles southeast of the village of Wales on 667 acres. This site is actively manned by four personnel year-round. The site has a Top Camp, Lower Camp, and a runway. Lower Camp is 0.5 mile west of the mouth of Cape Creek and includes a three-composite building that is used for radar operations, an Alascom Earth Station, incinerator building, a cold storage facility, and a tank farm. Top Camp is west of Lower Camp on Cape Mountain at 2,289 ft above mean sea level. Facilities at Top Camp include a radome and living quarters. A roadway accesses the Upper Camp in snow-free months, and Top Camp is accessed by a tracked vehicle when the road is closed. Trash is stored inside, incinerated, and then transported to a landfill away from the camp.

### 8.9.1 Polar Bear

Polar bears are extremely rare at Tin City LRRS, even though they are common on the opposite side of the mountain near the village of Wales (Personal communication from P. Cooley, Arctec Alaska with H. Ohms, OASIS Environmental, Inc.; March 28, 2007). November to March would be most likely times to observe polar bears near this site (Bridges 2001). Regardless of the previous lack of polar bear observations or incidents, due diligence should be maintained in mitigating any polar bear attractions or interactions.

### 8.9.2 Pacific Walrus

Site personnel should be aware of the potential for walrus in the vicinity of Tin City LRRS.

## 8.10 Nome Field POL Site (Inactive)

The Nome Field POL Site is on the southern coast of the Seward Peninsula, about 2 miles west of the City of Nome. Nome is about 580 miles northwest of Anchorage. The site occupies 7 acres near the Snake River. West Nome Tank Farm (as it has been commonly called) was established as a POL storage facility in 1944 to support the former Marks AFB. West Nome Tank Farm was leased to various companies for commercial use from 1957 to 1991. The site was partially dismantled, primarily the tanks, and demolished in 1992. Some underground piping and the pump house were not removed. The POL pipeline over the Snake River was removed in 1994. The property was declared surplus in 1974; however, the USAF still retains ownership.

### 8.10.1 Polar Bear

Nome is within polar bear range. Thus, the Nome Field POL Site has been included in this Plan. The site is scheduled to be visited annually as part of the long-term management of an excess facility. The presence of regular human activity near the site reduces, but does not eliminate, possible human-polar bear interactions during these site visits.

### 8.10.2 Pacific Walrus

Walrus are not expected to occur at the Nome Field site.

## 8.11 Anvil Mountain RRS (Inactive)

The Anvil Mountain excess site is on the Seward Peninsula, about 3 miles north of the City of Nome, Alaska). Nome is about 539 miles northwest of Anchorage, Alaska. The site occupies 12 acres on the summit of Anvil Mountain. The Anvil Mountain site was developed in 1956 as an RRS to support the air defense system constructed in Alaska during the early 1950s. The site was active until 1979 when it was

replaced with a commercial satellite earth terminal. The site was declared excess in 1981. In 1989, the two 70,000-gallon fuel tanks, five 1,000-gallon above-ground fuel tanks, and vehicle maintenance building were transferred to the Nome Public School District. Demolition of remaining facilities, except the four White Alice Communication System (WACS) tropospheric antennas and the concrete slab where the temporary garage had been, occurred in 1999/2000. The four tropospheric antennas are to remain as a landmark. In 2011, some structures were demolished and removed. The site is visited as needed as part of long-term management of an inactive facility.

#### 8.11.1 Polar Bear

Nome is within polar bear range. Thus, the Anvil Mountain Site has been included in this Plan. However, the site is located on the summit of Anvil Mountain and the potential for a polar bear occurring at or in the immediate vicinity of the site is very low.

#### 8.11.2 Pacific Walrus

Walrus do not occur at the Anvil Mountain site.

### 8.12 Cape Romanzof LRRS

Cape Romanzof LRRS is 540 miles west of Anchorage on a small peninsula that extends into the Bering Sea. The installation consists of two camps, which are connected by a road and a tramway. The 4,900-acre installation is located within the Yukon Delta NWR. The installation is accessible only by air or boat.

A number of remediation sites at the Cape Romanzof site require additional work that is planned for 2023. Long-term monitoring activities are conducted annually to verify the protectiveness of previous restoration actions and confirm land use controls compliance.

#### 8.12.1 Polar Bear

Although polar bears are not expected, site personnel should be aware of the potential for polar bears in the vicinity of the site.

#### 8.12.2 Walrus

Walrus are not expected to occur at the Cape Romanzof site.

### 8.13 Cape Newenham LRRS

A Minimally Attended Rader (MAR) system is maintained and operated by a contractor. Four contract personnel occupy the LRRS. Ongoing monitoring and maintenance of remediation sites has been the focus of all recent and future work. Long-term monitoring and land use controls will be managed to verify remedial protectiveness.

#### 8.13.1 Polar Bear

Polar bear interactions are not an issue at this site.

#### 8.13.2 Pacific Walrus

Hauled out Pacific walrus have been confirmed on or near the Cape Newenham site.

## 9 FUTURE PLANNING

This Plan will be updated every 5-10 years. The goal will continue to be to provide up-to-date, useful information for avoiding conflict with polar bears and minimizing disturbance to walrus while working at PRSC sites in the Arctic. Accomplishing this goal will require feedback from personnel using this Plan. Any suggestions for improvements are greatly appreciated. Please send recommendations to the PRSC

Natural Resource Program Manager, 10471 20th St., Ste. 302, Joint Base Elmendorf-Richardson, AK 99506.

## 10 CONCLUSIONS

As long as humans continue to conduct activities in the Arctic, there will be the potential for polar bear-human conflicts. Each employee is responsible for their actions in polar bear country. By staying alert and recognizing there may be a polar bear around the next corner or snow pile, the potential for a bear encounter is minimized. The frequency and severity of conflicts can be greatly reduced by decreasing the attractiveness of a site, knowing how to respond to a polar bear encounter, and continually improving our methods to mitigate negative interactions.

(*Photo*: USFWS.)

This Polar Bear and Walrus Avoidance Plan gives personnel on remote PRSC sites the tools needed to minimize and prevent polar bear encounters. If this Plan is followed, polar bears and people should seldom have an encounter that results in more than a record of a polar bear observation and an opportunity for a photograph. Implementation of this Plan should also result in minimized disturbance of walrus at haulouts.

## 11 USFWS POLAR BEAR SIGHTING REPORT FORM

The following form needs to be sent to the USFWS, MMMO; ADFG; and PRSC Natural Resource Program Manager, 10471 20th St., Ste. 302, Joint Base Elmendorf-Richardson, AK 99506.

**POLAR BEAR SIGHTING REPORT**

Marine Mammals Management Office, U.S. Fish and Wildlife Service: 907-786-3800 or 1-800-362-5148

**Company:** _____ **LOA #:** _____

**Date:** _____ **Observer Name:** _____

**Time:** _____am / pm / 24 *(circle one)* **Phone/Email:** _____

**Is this a continuation of a previous observation?** YES / NO (*circle one*)

**If Yes, when did this observation begin?** Date:_____ Time: _____

**Location:** _____

_____

**Latitude:** _____ **Longitude:** _____ **Datum:** _____

**Are Lat/Long coordinates for the BEAR or the OBSERVER**? _____

**Total Number of Bears:** _____ *(fill out 1 of these forms for each individual or family group)*

**Sex/Age and Body Condition**: U (unknown), 1 (skinny), 2 (thin), 3 (average), 4 (fat), 5 (obese)

*Example: 1 adult female, avg body condition and two unknown yearlings: # of Females: 1 (3); # Unknown 2 (U, U)*

| | Adult | (body) | Sub-Adult | (body) | 2 Year-Old | (body) | Yearling | (body) | Cub of Year* |
|---|---|---|---|---|---|---|---|---|---|
| # of Males | _____ | ( ) | _____ | ( ) | _____ | ( ) | _____ | ( ) | _____ |
| # of Females | _____ | ( ) | _____ | ( ) | _____ | ( ) | _____ | ( ) | _____ |
| # Unknown | _____ | ( ) | _____ | ( ) | _____ | ( ) | _____ | ( ) | _____ |

**do not record body condition for cubs*

**Closest Distance of Bear(s):** from personnel_____ facility _____ m / yd / ft (*circle unit*)

**DIRECTION to the bear from the personnel or facility**: N NE E SE S SW W NW (*circle one*)

**Bear Behavior (Initial Contact):** curious / ignore / aggressive / walk / run / swim / hunt / feed / rest (*circle one*) Other (*describe*)_____

**Bear Behavior (After Contact):** curious / ignore / aggressive / walk / run / swim / hunt / feed / rest (*circle one*) Other (*describe*)_____

**Description of Encounter:** _____

_____

_____

_____

_____

**Deterrents Used:** YES / NO *(circle one)* **If Yes: Submit report within 48 hours of incident**

If YES: Description of Deterrent used and order they were deployed_____

_____

_____

_____

Distance at which each deterrent was used: _____ m / yd / ft (*circle unit*)

**Total Duration of Encounter:** _____ **Possible Attractants Present: YES / NO** (*circle one*)

**Describe Attractants:** _____

**Submit Observation Reports to:** USFWS (fw7_mmm_reports@fws.gov), ADF&G (dick.shideler@alaska.gov), and 611 CES (joel.helm.1@us.af.mil).

## 12 REFERENCES

611 CES. 2007. Integrated Natural Resources Management Plan, Alaska Radar System, Alaska, Short and Long Range Radar Sites. Prepared for 611th ASG, 611 CES, Environmental Flight, Elmendorf AFB, AK by Gene Stout & Associates, Loveland, CO and Bythe & Trousil, Inc., Cheyenne, WY.

611 CES. 2009. Integrated Natural Resources Management Plan, Inactive Sites, Alaska, 611th Air Support Group. Prepared for 611th Air Support Group, 611 CES, Environmental Flight, Elmendorf AFB, AK by Gene Stout & Associates, Loveland, CO and Bythe & Trousil, Inc., Cheyenne, WY.

611 CES. 2019a. Bear incident at Barter Island LRRS, October 2019. Personal communication via email from M. Eitrem, BTI Tech Relief, Arctec Alaska to J. Helm, Natural Resources Manager, PRSC 611 CES, Joint Base Elmendorf-Richardson, AK. October 19.

611 CES. 2019b. Bear incident at Oliktok LRRS, September 2019. Personal communication via email from P. Cooley, Arctec Alaska to J. Helm, Natural Resources Manager, PRSC 611 CES, Joint Base Elmendorf-Richardson, AK. September 16.

Allen, B.M. and R.P. Angliss. 2010a. Stock Assessment Report – Polar Bear (*Ursus maritimus*): Southern Beaufort Sea Stock. NOAA Technical Memorandum NOAA-TM-AFSC-206.

Allen, B.M. and R.P. Angliss. 2010b. Stock Assessment Report – Polar Bear (*Ursus maritimus*): Chukchi/Bering Seas Stock. NOAA Technical Memorandum NOAA-TM-AFSC-206.

Atwood, T.C., E. Peacock, M.A. McKinney, K. Lillie, R. Wilson, D.C. Douglas, S. Miller, and P. Terletzky. 2016b. Rapid environmental change drives increased land use by an Arctic marine predator. PLoS One 11:e0155932.

Blank, J. 2012. ConocoPhillips Polar Bear Avoidance and Interaction Plan. Prepared for ConocoPhillips Alaska, Inc. by Weston Solutions, Inc.

Bridges, J.W. 2001. Polar Bear Interaction Management Plan. Prepared by the Marine Mammal Management Office, U.S. Fish and Wildlife Service, Anchorage, AK, for U.S. Air Force, Pacific Air Support Group, 611th ASG; 611th CES/Environmental Flight; Elmendorf AFB, AK. February.

Derocher, A.E. 2012. Polar Bears: A Complete Guide to Their Biology and Behavior. Johns Hopkins University Press, Baltimore, MD.

DNA Environmental Consultants. 2018a. 2018 Marine Mammal Sightings Report August 1 to 15 through October 16 to 31, Seawall Reconstruction Project, Cape Lisburne, Alaska. Draft Rev. 0. Prepared for Orion Marine Group, Anchorage, AK by DNA Environmental Consultants, Anchorage, AK. November 16.

DNA Environmental Consultants. 2018b. 2018 Marine Mammal Sightings Report August 15 through October 15, Seawall Reconstruction Project, Cape Lisburne, Alaska. Draft Rev. 0. Prepared for Orion Marine Group, Anchorage, AK by DNA Environmental Consultants, Anchorage, AK. November 16.

DNA Environmental Consultants. 2019a. 2018 Marine Mammal Sightings Report August 1 through 15 and October 16 through 31, Seawall Reconstruction Project, Cape Lisburne, Alaska. Prepared for Orion Marine Group, Anchorage, AK by DNA Environmental Consultants, Anchorage, AK. February 5.

DNA Environmental Consultants. 2019b. 2018 Marine Mammal Sightings Report August 15 through October 15, Seawall Reconstruction Project, Cape Lisburne, Alaska. Prepared for Orion Marine Group, Anchorage, AK by DNA Environmental Consultants, Anchorage, AK. February 5.

Durner, G.M., S.C. Amstrup, R. Neilson, and T. McDonald. 2004. The use of sea ice habitat by female polar bears in the Beaufort Sea. OCS Study MMS 2004-014. U. S. Geological Survey, Alaska Science Center, Anchorage, AK.

Lentfer, J. W. 1985. The Polar Bear (*Ursus maritimus*). Pages 27-30 *in* J. Burns, K. J. Frost, L. F. Lowry, eds. Marine Mammals of Alaska: Species Accounts. Marine Mammal Commission, Washington, DC.

MacKay, M.M., N.D. Daigneault, and D. Hicks. 2016. Marine Mammal Surveys and Mitigation for the Cape Lisburne Long Range Radar Station Seawall Reconstruction Project, Cape Lisburne, Alaska, 15 August – 15 October 2016, Final Report. Prepared by Saltwater Inc.

MacKay, M.M., N.D. Daigneault, and D. Hicks. 2017. Marine Mammal Surveys and Mitigation for the Cape Lisburne Long Range Radar Station Seawall Reconstruction Project, Cape Lisburne, Alaska, 15 August – 15 October 2017, Final Report. Prepared by Saltwater Inc.

PRSC. 2017. Operating Instruction 31-113, Installation Access. December 4.

USFWS. 2008. Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the Polar Bear (*Ursus maritimus*) throughout Its Range; Final Rule. Federal Register 73:28212-28303.

USFWS. 2009. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Polar Bear (*Ursus maritimus*) in the United States; Proposed Rule. Federal Register 74: 56058-56086.

USFWS. 2010. Endangered and Threatened Wildlife and Plants; Designation of Critical Habitat for the Polar Bear (*Ursus maritimus*) in the United States; Final Rule. Federal Register 75:76086-76137.

USFWS. 2011. Endangered and Threatened Wildlife and Plants; 12-Month Finding on a Petition to List the Pacific Walrus as Endangered or Threatened. Federal Register 76:7634-7679.

USFWS. 2016. Polar Bear (*Ursus maritimus*) Conservation Management Plan, Final. Region 7, Anchorage, AK.

USFWS. 2017a. Endangered and Threatened Wildlife and Plants; 12-Month Findings on Petitions to List 25 Species as Endangered or Threatened Species. Federal Register 82:46618-46645.

USFWS. 2017b. Viewing Guidelines for Polar Bears. April.

USFWS. 2018. Arctic National Wildlife Refuge Best Practices for Polar Bear Viewing.

USFWS. 2019. Pacific Walrus. https://www.fws.gov/alaska/pages/marine-mammals/pacific-walrus. Last updated June 27; accessed July 10.

USFWS. 2020. Approach and Viewing Guidelines for Pacific Walrus. https://www.fws.gov/alaska/pages/marine-mammals/pacific-walrus/approach-viewing-guidelines. Last modified January 1; accessed February 10.

USFWS and USAF. 2015. Consolidated and 2nd Amendment to Right-of-Way Permit M-312-AM, 611 CES/CC, United States Air Force, DOD, Cape Lisburne Subunit of Alaska Maritime Wildlife Refuge Quarry Site. July.

Wilder, J., H. Cooley, B. Crokus, S. Miller, C. Perham, E. Regehr, M. St. Martin, and R. Wilson. 2018. U.S. Fish and Wildlife Service Management and Conservation on Polar Bears, 2010–2016. Pages 151-171 *in* G.M. Durner, K.L. Laidre, and G.S. York, eds. Polar Bears: Proceedings of the 18th Working Meeting of the IUCN/SSC Polar Bear Specialist Group, 7–11 June 2016, Anchorage, AK. IUCN, Gland, Switzerland and Cambridge, UK.

# Appendix A: Polar Bear Safety Brochures and Poster

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**If a bear is encountered:**

- Keep calm and assess the situation.
- If the bear does not know you are there, move to safe shelter or quietly leave the area.

**If a bear is curious or approaches you:**

- Gather in a group, make noise, wave your arms.
- Talk: let the bear know you are human.
- If the bear continues to approach, use deterrents such as cracker shells, rubber bullets, mace, rocks, etc.
- Do not run.

**If you have surprised a mother with cubs:**

- Back away slowly. Get away from the cubs.
- Act non-threatening: avoid direct eye contact, sudden movements or startling noises.
- If charged: roll in a ball, cover your neck with your hands.

**If a bear attacks:**

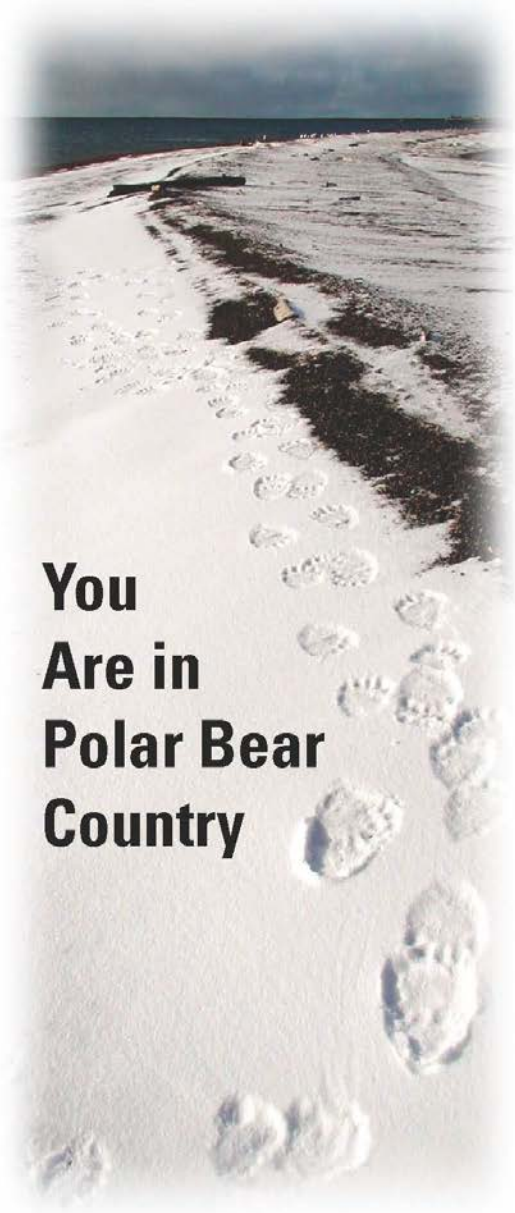
- Shout for help.
- Use deterrents or any weapon available.
- Defend yourself by fighting back: hit bear on the nose and face.

**If you have a close encounter with a polar bear, please report it to:**

**U.S. Fish and Wildlife Service**
**Marine Mammals Management**
1011 E. Tudor Road
Anchorage, Alaska 99503
1-800-362-5148

**Arctic National Wildlife Refuge**
101 12th Avenue, Rm 236
Fairbanks, Alaska 99701-6237
1-800-362-4546

**Photos by USFWS**



# You Are in Polar Bear Country

Polar bears have an important place in the cultural traditions of Alaska Natives. Stories about the amazing strength, hunting ability and stealth of polar bears foster both fear and respect for these great creatures of the north.

Kaktovik residents and visitors have a unique opportunity to see polar bears. Especially in fall, polar bears come to the coast to rest, feed, and wait for the ice to form. People and bears must learn to share this habitat.

**Observe bears from a distance that doesn't disrupt what they are doing:**

A law called the Marine Mammal Protection Act makes it illegal to disturb a polar bear without good reason.

What is disturbance? It is anything that changes the natural behavior of the bear. This includes approaching a bear or chasing one on an ATV, snow machine, or pick up truck if it prevents a bear from feeding, resting, or moving in its normal manner. It is not only illegal to chase a bear, it is unsafe for both the person and the bear.

**Avoid Close Encounters!**

Polar bears can seem tame because they are often tolerant of people around them, but polar bears are wild animals! Polar bears can be extremely dangerous, especially when hungry or feeling threatened.

Polar bears are also curious animals, and they may approach you to investigate.

**Stay Alert!**

Remember: polar bears can change their behavior and move very quickly.

**Think Ahead!**

"What will I do if a bear appears?"

**Learn to Identify Polar Bear Behavior:**

A CURIOUS bear may approach slowly, sniff the air, cock its ears forward, sway its head to catch a scent, and stop often.

A female polar bear with cubs is likely to be PROTECTIVE and will defend the area near her cubs.

A NERVOUS bear may chomp its teeth and blow air from its mouth.

A PREDATORY bear may stalk you, or move toward you without hesitation, often with head down and mouth open. It can attack very quickly.

## WHAT YOU CAN DO TO PREVENT POLAR BEAR PROBLEMS

Be aware of your surroundings to allow early detection

Reduce attractants around your residence such as food and garbage left in the open

Be careful around open water leads or animal carcasses

Do not approach polar bears

It is illegal to harass polar bears

**If a bear is sighted near town contact the NSB Police Department at 852-0311 or Department of Wildlife Management at 852-0350**

## IF A BEAR APROACHES

**Get into a shelter or in a vehicle and drive away**

**If no shelter, do not run — stand your ground and move slowly away**

**Drop a pack or clothing item as you retreat**

**Gather together in a group, make yourself look bigger**

**Shout and make noise**

## IF A BEAR ATTACKS

**Defend yourself**

**If attacked by a female with cubs, get away and remove yourself as a threat — do not fight back**

**North Slope Borough**
**Department of Wildlife Management**
P.O. Box 69, Barrow, Alaska 99723
Phone: 907-852-0350

**North Slope Borough**
**Department of Wildlife Management**

# BE ALERT for Polar Bears

WWF

# About Polar Bears on the North Slope

## FALL

- During the fall, bears return with the pack ice to coastal areas
- Bears may be attracted to communities in search of food or they may be moving along coastal areas as they travel
- These are primarily family groups and juvenile bears

*Polar bear and cubs resting on the beach in the fall*

## WINTER

- Bears roam long distances over the pack ice in the darkness in search of food
- Bears may visit villages, remote sites, or industrial areas during their travels
- Pregnant bears den up and usually give birth to **two cubs** in December
- At birth, cubs are about 1 foot long, weigh 1 pound, are blind and have no teeth

## *SIKU* UPDATE

The polar bear cub born at the Toledo Zoo last winter was named *Siku* by Kaktovik 4th-grader Isaiah Rexford. To the left is a picture of the cub at one month of age, still in the den with his mother. Here is *Siku* at 8 months of age. Follow *Siku's* growth at this website: www.toledozoo.org/animals/polarbearcub.html

## LIFE CYCLE FACTS

- Females give birth for the first time at about 4-6
- Polar bear cubs are weaned at about 2 or 3 years of age
- Polar bears, on average, live to be 20-25 years old

## CONSERVATION CONCERNS

- There are about 20-25,000 polar bears left in the arctic
- Climate change, pollution, and human resource development activities may pose threats to polar bears

## SPRING

- Bears hunt the shore-fast ice edge in search of seals
- Sows with new cubs emerge from dens and feed on seals
- Their main food source is seal blubber
- Hunters may encounter bears along the ice-edge, particularly at butchering sites where the bears are attracted to carcasses

*Polar bear emerging from den in the spring*

## SUMMER

- Most bears stay with the retreating pack-ice during the summer
- Earlier and farther retreats of sea-ice are leaving more bears stranded on land for longer periods of time
- Stranded bears may choose to feed on different prey, scavenge, fast, or rest
- Stranded bears are more likely to become problems for humans

*Polar bear traveling near the lead edge in the spring*

# BE ALERT for Polar Bears

## Fall

During the fall, bears return with the pack ice to coastal areas on the North Slope of Alaska. Bears may be attracted to communities in search of food or they may be moving along coastal areas as they travel. These are primarily family groups and juvenile bears.

## Winter

Winter months find bears roaming long distances over the pack ice in search of food. Bears may visit villages, remote sites, or industrial areas during their travels. Daylight is diminished and bears travel under the cloak of darkness. Pregnant bears den up.

## Spring

Bears hunt the shore-fast ice edge in search of ringed seals pupping and basking. Sows with new cubs emerge from dens and feed on this abundant food source. Hunters may encounter bears along the ice-edge, particularly at butchering sites where bears are attracted to carcasses.

**North Slope Borough**
**Department of Wildlife Management**
P.O. Box 69, Barrow, Alaska 99723
For more information, call 907-852-0350

## Summer

Most bears stay with the retreating pack-ice during the summer. Earlier and more extensive retreats of sea-ice are stranding more bears on land for longer periods of time. Stranded bears may choose to feed on different prey species, scavenge, fast, or may simply be resting. Stranded bears are more likely to become problems for humans.

Photo credits: NSB-DWM

## WHAT YOU CAN DO TO PREVENT PROBLEMS

- Be aware of your surroundings to allow early detection
- Reduce attractants around your residence such as food and garbage left in the open

- Be careful around open water leads or animal carcasses
- Do not approach bears - it is illegal to harass polar bears
- If a bear is sighted near town, contact NSB Police Dept or DWM

## IF A BEAR APPROACHES

- Get into a shelter or in a vehicle and drive away
- Do not run - stand your ground but move slowly away, drop a pack or clothing item as you retreat
- Gather together in a group, make yourself look bigger
- Shout and make noise

## IF A BEAR ATTACKS

- Defend yourself
- If a female with cubs, get away and remove yourself as a threat - do not fight back