



U.S. Fish & Wildlife Service

Arctic

National Wildlife Refuge

Community-Based Conservation for Polar Bears

Along the barren, wind-scoured coast of Alaska's icy Beaufort Sea, an unexpected mix of humanity and wildlife co-exists within a vast expanse of Arctic isolation. Barter Island, Alaska is home to Kaktovik, a small Inupiat Eskimo village of about 300 residents who maintain strong ancestral ties to the land. Like in farming communities, their lifestyle is seasonal and based on the harvest of Earth's resources, such as fish, birds, berries, caribou, Dall sheep; and marine mammals such as seals and whales. Relatively speaking, modern commodities are sparse: the village itself has a school, fire station, airstrip, store, and two hotels for visitors; and the Fish and Wildlife Service does maintain a bunkhouse there. Barter Island is located within the Arctic National Wildlife Refuge which, despite its remote location, has captivated the interest of a variety of stakeholders including the Air Force, oil and gas industry, tourists, hunters, and biologists over the years.

The Service's interest in Barter Island expanded when community residents and biologists noticed increasing use of the area by polar bears, particularly during the open water period, which occurs in late summer and fall when the Arctic Ocean's ice cover moves away from the coast. In 2002, Marine Mammals Management Polar Bear Biologist Susanne Miller set out, with the field assistance of other Service biologists, to learn more about the polar bears congregating in this area. Miller initiated a study to document the number, age, sex, and behavior patterns of these animals.



Polar bears feed on whale remains at Barter Island - USFWS



Polar bear mother leads her cubs to whale remains near Barter Island - USFWS

The most obvious reason for the bears' presence at Barter Island relates to the Inupiat subsistence lifestyle: polar bears feed on unused portions of whale carcasses that are deposited at a "bone pile" a few kilometers from the village during Kaktovik's subsistence whale harvest season. Other factors that draw the bears to the area: the presence of seals (the polar bears' major food) in marine waters near Kaktovik; and the absence of nearby Arctic Ocean sea ice (the polar bear's normal hunting grounds) causing a landward shift in polar bear distributions.

Two additional factors have made Kaktovik a unique study site: 1) brown bears were also making use of the bone pile and interacting with polar bears; and 2) an increase in tourists and visitors was starting to contribute to a small polar bear viewing industry, raising concerns regarding potential bear-human conflicts. As a result, in 2004 the Fish and Wildlife Service's Marine Mammals Management office began working more closely with Arctic Refuge staff to expand outreach and education efforts within the village. By 2005, monitoring efforts included documentation of polar bear interactions with other polar bears, brown bears and humans, so that biologists could understand social dynamics between the two bear species and to develop effective polar bear-human safety guidelines.

Results of Miller's studies (from 2002 to 2008) have shown that an average of 25

bears were present around Barter Island on any given September day, and that all age-sex classes (adults, sub-adults, family groups of mothers with cubs) can co-exist quite peacefully, contradicting the notion that polar bears are always solitary. Bears were relatively inactive during the day, then arose and traveled together to feed with the onset of darkness. Despite their larger size, polar bears were often chased from the bone pile by their tundra counterparts (brown bears). While brown bear numbers were far fewer (approximately 4-5 bears each season), they frequently dominated the feeding site and often precluded its use by polar bears. The bone pile probably plays an important role to some nutritionally stressed polar bears, but Miller believes its contribution to the Beaufort Sea polar bear population as a whole is limited by the following factors:

1. less than 10% of the region's polar bear population comes to shore to feed here, while the vast majority of polar bears still chose to remain on the pack ice;
2. the availability of this food source is finite, consisting only of remains from Kaktovik's yearly legal harvest quota limit of three whales; and
3. the presence of brown bears may continue to deter polar bears from using the bone pile.

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Although Miller's original reason for coming to Barter Island was to conduct biological studies, it soon became apparent that Barter Island is also an important location for focusing Fish and Wildlife Service's polar bear conservation initiatives. Simultaneous with the biological monitoring effort, Miller worked with Jennifer Reed, Arctic Refuge Visitor Services Coordinator, to expand Service work with the community to exchange information and address mutual concerns. This was accomplished by:

1. each year conducting a "Polar Bear Open House" during which residents shared their bear observations and biologists explained results of their monitoring activities;
2. participating in community and tribal council meetings to respond to community safety issues and concerns and serve as technical advisors for their grassroots management efforts;
3. posting local public service announcements before studies were underway to explain the intent of that year's research and monitoring efforts;
4. conducting classroom visits at the local school to educate students about polar bear biology and polar bear safety practices;
5. working with a local artist, students, and residents to create polar bear safety posters, brochures, and signs; and most-recently,
6. collaborating with a broad range of stakeholders to help establish professional, conservation-minded standards for recreational polar bear viewing etiquette.

These outreach efforts have resulted in a broad, strong, partnership network sharing the goal of addressing polar bear conservation- and management-related issues.

In a place as distant as Kaktovik, where the Fish and Wildlife Service does not maintain a year-round office in the village, active local involvement is a critical component to minimizing bear-human conflicts. One sign that the commitment to empowering local leadership is paying off emerged when the village earned a

Fish and Wildlife Service-funded Tribal Wildlife Grant to develop a community bear-human safety plan, in response to a growing concern for public safety. The proposed plan was funded for three years (2007-2010) and consists of three primary components:

1. establishing authorized village patrols to deter (non-lethally haze) bears from the village;
2. minimizing attractants in and around the village; and
3. developing educational materials.

To accomplish these grant goals, a local "Polar Bear Committee," consisting of a broad cross-section of community residents, is working to develop specific measures to minimize bear-human conflicts. As the grant winds to a close, the Committee will continue their work with village residents, Miller, and Reed to address emerging management issues, such as the need to ensure that

increased tourism demands upon this small community do not result in the disturbance of polar bears.

These partnerships, and the resulting achievements of their efforts, provide a good model for other small, coastal Alaskan communities experiencing similar issues with polar bears.

In the mean time, the Fish and Wildlife Service is using the results of ongoing monitoring in its environmental planning, for such issues as oil and gas related activities and Arctic Refuge public use management. Miller has also turned over some of the biological monitoring to Kaktovik residents so that they can participate in co-management efforts concerning polar bears. Most importantly, Miller and Reed have established the basis for long-term cooperative working relationships with Kaktovik residents. These relationships will contribute to future polar bear conservation efforts, as these iconic animals of the Arctic continue to increase their activities on land.



Polar bear mother and cubs feeding on whale remains at Barter Island - USFWS

