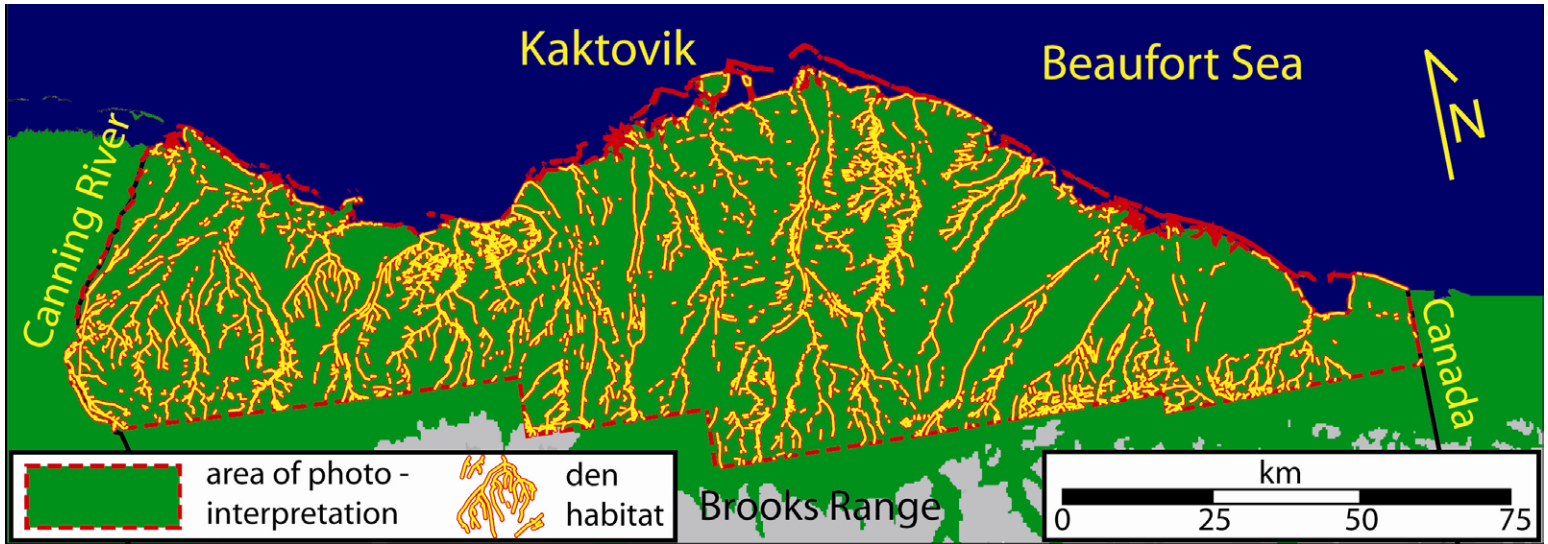




U.S. Fish & Wildlife Service

Arctic *National Wildlife Refuge*

Polar Bear Denning Habitat



The information on this sheet is from:
 Durner, G.M., S.C. Amstrup, and K.J. Ambrosius. 2006. Polar bear maternal den habitat in the Arctic National Wildlife Refuge, Alaska. *Arctic* 59(1): 31-36 (March 2006).

Although winters in the arctic present bone-chilling cold, biting winds, and long nights, this is an important time for developing polar bear cubs. The cubs are born in mid-winter—tiny, hairless and helpless. They are protected within dens of ice and snow that provide relative warmth and stable temperatures.

In arctic Alaska, winter snows are generally only 4 to 16 inches deep, so female polar bears dig their dens in the deep autumn snow drifts that collect in localized patches along coastal bluffs, river banks, and steep lakeshores. Among the Beaufort Sea population of polar bears, approximately 50% of the pregnant

females come ashore each autumn to construct dens in these snowdrifts, while the other pregnant females dig their dens into snowdrifts on the sea ice.

The map above shows the locations of potential polar bear denning habitat within the Arctic Refuge coastal plain. These locations were identified from high-resolution landscape photographs of the area, and were ground-checked to ensure that they were correctly selected.

This map identifies 3621 km of potential den habitat along the edges of offshore islands and coastal banks, river and stream banks, and lakeshores. The average width of actual denning areas is 6.4 meters, so, based on this width, the total area of den habitat within the Refuge study area is 23.2 km², or 0.29% of the total 7994 km² study area.

Based on this work, researchers discovered that the coastal plain of the Arctic Refuge has 38% more den habitat than does Alaska's central coastal plain immediately west of the Refuge, where denning habitat covers only 11.4 km², or 0.18% within that 6335.4 km² study area. Denning habitat is also more uniformly distributed within the Arctic Refuge than it is further west. Although den habitat represents only a small proportion of the Arctic Refuge coastal plain, its wide distribution makes it an important landscape feature.

These factors may explain why a greater than expected number of on-land dens discovered in Alaska between 1981 and 2005 were on the coastal plain of the Arctic Refuge. More bears may use the area of the Refuge because it has more den habitat.

