

# Polar bears

The great bears lay sprawled on the sea ice, white on white. Only their black noses and eyes stood out. It was late May, mating season. For days this male and female were travelling together over Barrow Strait and similar frozen channels of Northern Canada. Other polar bears were hunting seals, but this pair probably weren't feeding. They had an appetite only for each other. The female, about 5 years old, weighed around 168 kg. The seven-and-a-half-foot-long male, perhaps 12 years old, weighed about 362 kg. Some males can be more than twice as heavy - polar bears are often called the world's largest land carnivores.

For centuries the indigenous Inuit who still hunt polar bears for their pelts, have called them nanuk, a word used with respect. Eighteenth-century European scientists named them *Ursus maritimus*, meaning sea bear, because they spend most of their lives on sea ice. They can swim a hundred miles at a stretch. But most females return to the land to den and give birth.

From an evolutionary standpoint polar bears are quite new. The first animals that taxonomists recognize as bears go back about 20 million years. The size of a small dog, those early bears gradually grew much larger and began living in caves; some were even bigger than present-day bears. They spread to all the continents except Australia and Antarctica. Some 200 000 years ago, when glaciers covered much of Eurasia and the Arctic Ocean was frozen, hungry brown bears wandering in northern shores discovered something new to eat seals. By 125 000 years ago, a new species had appeared in Eurasia, split off from its brown bear ancestors. Gradually its head and snout had grown longer, and its teeth had become smaller and more jagged - a better design for tearing seals apart. Its coat turned white, blending with the surroundings. Those white bears began to walk great distances to hunt seals across the Arctic.

Today between 25 000 and 40 000 polar bears roam this frozen world. They aren't considered endangered. Polar bear hunting is banned in most countries in which they are found. In fact, scientists today are much more concerned about the effect of poisonous substances on them. These substances flow in abundance from Europe, Asia and North America to the Arctic Ocean. They are picked up by marine organisms, which are eaten by arctic cod, which are eaten by seals. By the

time the bears eat the seals, the concentration of poisonous substances has increased a billion times. So, the studies conducted now try to see what impact this has on the animals.

No one knows how many seals does a polar bear eat in a week or in a year. They commonly use two strategies to hunt seals: stalking and ambush seals are wary, so bears usually wait in water near their breathing holes in the ice. If it sees or smells a seal on the horizon, the bear slowly stalks the seal and then attacks. In summer the bear might hunt by swimming under the ice, which is rapidly breaking up. Bears hunt mainly during the spring, until the ice breaks up. When it melts in early summer, the bears come ashore. For months there's almost nothing to eat, so they sleep and wander around. Polar bears are masters at conserving energy. During their 8-month fast, breeding females can lose as much as 45 percent of their weight. So preservation of heat is important, to avoid spending too much energy to keep warm. The bears' fur is dense. Made of clear hairs that scatter light, creating a white effect. Strip the fur away, and you'll find black skin that absorbs the sun's rays. The long snout contains large membranes that warm and moisten the dry, frigid air before it reaches the lungs.

As autumn unfolds in October, the bears shake off their summer lethargy by play-fighting. Usually only males do it. After hanging around all summer losing weight and muscle tone, the males may benefit from the exercise. They may also learn to assess their opponent's strength and established dominance. And such fights may be a preparation for truly violent battles when males compete for females in the spring.

In the autumn, while males and non-breeding females wait for freeze up on the inland-sea, pregnant females prepare to stay ashore. Most have already dug into the earth, creating the dens where they'll give birth, sheltered from the freezing winds of December. The females had molted last spring, but their fertilized eggs didn't begin to grow right away a strategy called delayed implantation. That lets the females fatten up on seals in spring before the demands of pregnancy begin. The mothers-to-be need to put on well over 400 pounds of fat to sustain themselves and their cubs.

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