



Natalie Angier, NYTimes

December 13, 2010

Washington, D.C.

Musk Oxen Live To Tell A Survivors' Tale

Among the various large, charismatic and visibly winterized mammals that one might choose as a mascot for life in the Arctic belt, the best choice is the musk ox. *Ovibos moschatus*, a blocky, short-legged, highly social ungulate with distinctively curved horns and long hair that looks like shag carpeting circa 1975.

Ovibos's common name is only partly justified. The males do emit a musky cologne during mating season, but the animal is not an ox. Nor, despite its silhouette, is it a type of bison. Its closest living relations are thought to be goats and sheep, but taxonomically and metaphorically, the musk ox is in an icy cubicle of its own.

Once abundant throughout the northern latitudes worldwide, today they are found only in Arctic North America, Greenland and pockets of Siberia and Scandinavia. The musk ox is a holdover from the Pleistocene, the age of the giant mammals memorialized in natural history museums along with the mammoths, mastodons, saber-toothed cats, giant ground sloths, and the 400-pound beavers. Yet while a vast majority of the frost-fitted big-foots disappeared at the end of the last ice age, 10,000 years ago, *Ovibos* hung on, as stubbornly as the ox it is not.

Scientists are now seeking

to understand how, exactly, the animal has managed to persist through repeated climate shifts and habitat upheavals.

Researchers see in the musk ox's story clues to help guide efforts to conserve other large land mammals now at risk of extinction. They also hope to raise the profile of a species whose social and behavioral complexities they have just begun to decode.



There's evidence that they have an elephant-like social structure, and even some form of culture. So why is everybody flying to Africa to see elephants when we've got this marvelous species living in our own backyard?

Scientists talk about the challenges of catching animals to weigh and measure them, check their teeth, take their blood and furnish them with G.P.S. collars. For all their storied past as co-grazers with mastodons, musk oxen are not huge animals. Adult males stand about four feet high and weigh around 600 to 700 pounds, less than half the

weight of the average draft horse. Yet they look hulky as a result of their spectacular double-layered fur coat. The long, shaggy outer layer they keep year round, not only to help shield them against the brutal cold of an Arctic winter, when temperatures can plunge 40 degrees or more below zero, but also to deter the insect pests of an Arctic summer. For added insulation, musk oxen grow a second fur layer each winter, an undercoat called qiviut that is said to be many times warmer than wool and softer than cashmere.

With their stubby legs, musk oxen are not migratory like caribou or great dashers like reindeer. Their basic approach to winter management is: Don't just do something — stand there. You'll see them in a big storm, covered with snow. They lapse into a state of what might be called hibernation, as their oxygen consumption and carbon dioxide production drop and their metabolic rate slows by about a third. They're basically shutting down some of their machinery so they can survive on less food.

When confronted with predators like wolves, a herd of musk oxen will famously circle the wagons, the adults forming a wall of horns facing outward, the vulnerable young safely shielded behind them.