Biodiversity Tour

Narwhal

(Point at tusk) What do you think this is? Most people in the medieval ages actually thought it was a unicorn horn, and these “horns” could actually be sold for fortunes. However, scientists eventually figured out that it belonged to the left incisor tooth of a small Arctic whale called the Narwhal.

This tooth is rather peculiar—for one, it is only present in males. Initially, scientists believed that this tooth was used to break ice and hunt prey. However, it was recently discovered that females did not have this tooth, but still managed to hunt and survive. Thus, scientists proposed that the tusk may have been used by males in mating competitions, where they would spar against other males in order to win over a mate.

Another interesting note—this tooth is actually straight! This may not sound impressive, but if you think about it, elephant tusks for example, are curved, and so are human teeth to a certain extent (try feeling your two front teeth, you will notice a slight curve!). The narwhal tusk is actually curved in a spiral, creating these ridges but allowing the tooth to remain straight.

The Narwhal lives in the Arctic circle, and only descends into fijords and bays in the summer. Recently, narwhal numbers have declined due to hunting, especially by natives—narwhal skin allegedly tastes like hazelnuts, while their meat tastes like lobster.

This is actually a common theme in the biodiversity exhibit—one of the dangers of losing wildlife species due to human factors such as hunting. Another good example of the effects of hunting on wildlife can be seen in this next exhibit, the musk ox.

Musk ox

The musk ox was actually hunted almost to extinction in the early 20th century. This was due partly to their peculiar defense system against hunting.

When a predator, such as a wolf, approaches, the adult male musk oxen would form a ring around the herd, with the younger oxen kept in the middle. This would effectively ward off predators—at least until the humans began using weapons to hunt them. Spears, for example, would easily penetrate this defense and render it useless, and the musk oxen were eventually hunted to near-extinction. Fortunately, through a repopulation program, their numbers have increased now, and musk oxen have actually been introduced to northern Quebec.

Let’s just look at some of the adaptive features that this animal has. An obvious example would be its long fur coat, for keeping warm of course. Its eyes and nose are actually also very keen, as during certain months the Arctic can see little to no sunlight all day, so the musk ox must rely on its superior sense of smell and eyesight to locate food.

But perhaps more impressive is the polar bear, directly on top:

Polar bear

The polar bear is actually the largest land carnivore on Earth, and can way up to 900 pounds. This iconic creature can also smell seal (its primary prey) up to 40km away. Despite these impressive adaptations, polar bear numbers are also under threat.

One reason for this is global warming (which I’m sure we’re all familiar with!). As temperatures rise, less ice cap remains for polar bears to rest, hunt, live on. So once again, we’re looking at an example where human activity has directly threatened the survival of animal species.

This concludes the Arctic exhibit—let’s look more south now..

Coyote

The coyote is not a wolf! Many differences exist—the coyote is much smaller, but to compensate, it is much more versatile in adapting to its environment, making it a very successful species. It can eat anything from rabbits to berries and will even resort to scavenging on carcasses (dead animals) to survive!

Also, recently, wolves, due to human expansion, have started to decline in numbers—and since wolves are predators of coyotes, their demise have allowed the coyotes to expand their range, even moving into backyards of suburbs and hunting livestock.

In contrast,

Wolves

The Yellowstone Park, years ago, found that the elk population was decreasing, due to hunting by wolves. So, to repopulate the elks, the Park decided to expatriate (get rid of) the wolves. However, after doing so, they found that the elks, as they increased in number, would start to eat the trees there, resulting in the trees being threatened. It was only after the wolves were reintroduced, and the elk population controlled, that balance was met. This is an example of a trophic cascade, where the demise or success of one species creates a ripple effect on many others.

All the aforementioned animals are either endangered, or species of special concern. Now let’s look at some animals that are actually extinct..

Passenger pigeon

This may be one of the most orindary-looking birds I’ve seen, but its tale is much more fascinating. In the 1800’s, there were 5 billion of them—it was said that migrating flocks would darken the sky and a New York author even said that if one were to shoot a rifle into the air as flocks were migrating, you would be able to shoot many birds with just a single bullet, attesting to the number and density of the flocks.

They were very popular for hunters—their meat was used as slave food and believed to have medicinal properties. Thus, as they were hunted, they went extinct in 1914. In less than 100 years, we were able to kill of a species of 5 billion—impressive and frightening!

Carolina Parakeet (in Curiousity Cabinet on 1st floor)

This parakeet has a very interesting adaptation that actually led to its demise. When one parakeet was hurt, such as by a hunter, it would let out a loud, peculiar cry that would alert its fellow parakeets, in hopes of receiving help. However, this merely attracted more parakeet targets for hunters, and flocks of parakeets would be hunted like so without the hunter even moving.

Other examples like the Atlantic cod (whose numbers dropped drastically in a short amount of time) and wolverine (who, interestingly, can actually crack open frozen skulls with their arms), though not extinct, show us the impact humans can have on biodiversity, and the responsibility we have to protect our wildlife.