## TITLE: HUMAN ACTIVITY AND ANIMAL ANNIHILATION AUTHOR: BASSAM IMAM

## HUMAN ACTIVITY AND ANIMAL EXTINCTIONS

The International Union for the Conservation of Nature (IUCN) is a global organization engaged in the area of nature conservation and sustainable use of natural resources. The IUCN Global Species Program has worked in cooperation with the IUCN Species Survival Commission to gauge the conservation status of species, sub-species, diversities, and selected sub-populations on an international scale for the past 50 years for the purpose of highlighting taxa (the plural form of taxon) threatened with extinction, in order to advocate and bolster their conservation.

"The IUCN Red List of Threatened Species provides taxonomic, conservation status and distribution information on plants, fungi and animals that have been globally evaluated using the IUCN Red List Categories and Criteria." (iucnredlist.org: Introduction)

BELOW ARE IUCN RED LIST CATEGORIES: NOTE CATEGORIES ONE THROUGH SEVEN FOLLOW A GRADATION PATTERN BEGINNING WITH THE DIREST CIRCUMSTANCE TO THE LEAST. NUMBER 8 MAY FALL SOMEWHERE IN THE MIDDLE:

- Extinct
- Extinct in the Wild
- Critically Endangered
- Endangered
- Vulnerable
- Near Threatened
- Least Concern
- Conservation Dependent: The affected Species is dependent on conservation efforts in order to prevent it from being threatened with extinction.

The Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) is a global agreement between governments, adherence is voluntary; nations that have consented to be bound by the convention are referred to as Parties. CITES objective and desire is to make sure that international trade in specimens of wild animals and plants will not threaten their survival.

The Holocene Extinction also called the Sixth Great Extinction is a name for the ongoing extinction crisis of many animal species amidst the Holocene Epoch. The Holocene Epoch began between 12,000 to 11,500 years ago at the close of the Palaeolithic Ice Age. Somewhere between 20,000 and hundreds of thousands of species, including plants and animals have been lost during the last 12,000 years.

The Holocene extinction contains two surges (pulses), one surge 13,000 to 9,000 years ago, during the closing of the last glacial period, wherein a considerable amount of mega fauna went extinct. A second surge, beginning in the mid-20th century was to a greater part induced by human activities, wherein large-scale deforestation and other human activities have brought about the extinction of a multitude of species.

"Animal species extinct from the first pulse of the Holocene extinction include several species of mammoth, the dire wolf, short-faced bear, cave lion, cave bear, cave hyena, dwarf elephants, giant swan, giant rat, mastodon, American cheetah, ground sloths, marsupials of many species, numerous giant flightless birds, and many other animals." (wisegeek.com: What is the Holocene Extinction Event?)

The major difference between the Sixth Great Extinction and the first five including the Ordovician-Silurian extinction,

Late Devonian extinction, Permian-Triassic extinction, Explanatory theories, Triassic-Jurassic extinction and Cretaceous-Tertiary extinction, is that the former is, largely anthropogenic-induced. Even large-scale conventional wars have an adverse effect on the affected area, the environment, and numerous species. Historically, the introduction of humans into an area dealt a death knell to a few or a multitude of species. This book will deal with contemporary and relatively recent animal extinctions, near extinctions, and atrocities.

The Atlas bear was the only bear native to Africa that existed into modern times. It once inhabited the Atlas Mountains and nearby areas, Morocco, Algeria, Tunisia, and Libya. In 1840, an officer from the English military named Crowther made known the existence of the Atlas bear to the western world, resulting in the bear's induction into the scientific world. It was the Swiss naturalist, Heinrich Rudolph Schinz, made the sub-species classification of the Atlas bear (Ursos Arctos Crowtheri) in 1844.

The Atlas bear was chestnut or blackish-brown in colour its fur was 4 or 5 inches long, with red-orange coloured fur on its under-belly. The muzzle and claws were not as prominent as those of the American Black bear were. This bear probably weighed around 1,000 lbs. (450 kg.), and was predominately herbivorous (Roots, acorns, nuts).

Initially, the major cause of the major decrease of the Atlas bear population was the spread of the Roman Empire into Africa. Large-scale unchecked hunting and the capturing of individuals for the coliseum events, in which bears were pit up against gladiators, criminals, defenceless humans, or other animals, coliseum animals were treated quite harshly abused and not fed well before the events.

The advent of primitive firearms continued the onslaught against the Atlas bears but beginning in the mid-19th century the appearance of better hunting rifles in particular the repeating rifle guaranteed the death knell for this beautiful animal. The last known Atlas bear was sighted in 1870 in Morocco, note that although a 2016 purported sighting and filming of a supposed live Atlas bear in the forest of Tissemsilt was made more proof is needed to substantiate this claim. As is the case with many extinct species, numerous claims of sightings are made a sizeable portion of which are mistakes, yearnings, or outright lies, we must wait to see if solid evidence is publicly presented.

The Auroch (Bos primigenius) was a type of large-breed cow that became extinct in the 1620s in Poland. Aurochs were very large post-glacial herbivores, once found in Asia, Europe, and North Africa. The Pliocene epoch, bringing in cold weather

initiated a large growth of open grasslands, aiding the evolution of large grazers like wild bulls and cows.

Aurochs were tall, had massive forward-curving horns that intimidated even the most ferocious of predators. Their legs were longer and slimmer than contemporary cattle breeds. Furthermore, they had larger heads than the majority of contemporary cattle breeds; adult bulls had chocolate or black coat colour, while cows were rusty coloured, muzzles were light-coloured for both genders. Auroch bulls were considerably more aggressive than bulls of today.

Nonetheless, their aggressiveness could not protect them from human activities, in particular, habitat encroachment due to farming, rampant unchecked hunting (if given a chance aurochs would try to fight back), and the transmission of new diseases via domestic cattle. By the 5th century B.C., there were no more Aurochs in southern Greece, and by the 13-century C.E., they were restricted to a few countries in Europe.

Aurochs are so awe-inspiring that several attempts were made at species back breeding. In the 1930s, famed Nazi Hermann Goering asked geneticists Heinz and Lutz Heck to bring back the Auroch through genetic engineering of its ancestors.

Each of the Heck brothers worked alone, crossing Spanish fighting bulls with Highland bulls, along with primeval breeds from Corsica and Hungary, attaining Nazi Super Cattle, used as tools of propaganda during the Second World War. The sheer power and aggressiveness of the bulls were supposed to signify the strength of the Nazi Party. Nevertheless, the Nazi Super Cattle did not equal the size of Aurochs; in fact, they only equalled the size of their contemporary counterparts.

"There was thinking that you could selectively breed animals - and indeed people - for 'Aryan' characteristics, which were rooted in runes, folklore and legend. What the Germans did with their breeding programme was create something truly primeval ... The reason the Nazis were so supportive of the project is they wanted them to be fierce and aggressive. When the Germans were selecting them to create this animal they used Spanish fighting cattle to give them the shape and ferocity they wanted," said Derek Gow, a Devonshire, England farmer. (By Hannah Osborne, January 6, 2015; ibtimes.co.uk: Aurochs: How Hitler and Goering resurrected extinct species to make 'Nazi super cows')

Devonshire farmer Derek Gow knows very well how aggressive genetically altered bulls can become. He had to put down all of his bulls save two, and four cows from a herd. Individuals were so aggressive they would attempt to attack a human when possible, attempting to kill them. Worse yet, they made the rest of the herd more aggressive. The good news is that after the

aggressive bulls and cows were killed the rest of the herd returned to a state of relative calm. Gow admits that he has never worked with animals that were so aggressive.

It may still be possible to return the Aurochs in a genetic sense but great care must be taken to control their destructive aggression. The Taurus Program, a combination of ecologists, geneticists, historians, and cattle breeders supported by Stitchting Taurus, a Dutch foundation that uses large cattle and horse breeds, grazing under natural circumstances for nature conservation.

The idea behind the Taurus Program is to restore the Aurochs through crossbreeding of contemporary cattle in a process known as back breeding. Laboratory genetic-based engineering is not obligatory. Cattle breeds used will have physical characteristics similar to Aurochs. The project began in 2008, with seven variations crossed.

"What you see already in the second generation is that the coloration of the animal is very aurochs-like. The bulls are black and have an eel stripe [along the spine]. They {are} already higher on the legs. What's more complicated is the size and shape of the horns. I would say that in some cases you could see an individual animal is 75 percent of where we need to get at. We think {that} in six {or} seven generations we will get a stabilized group of Taurus cattle. That will take us another seven to 10 years," said Ronald Goderie, an ecologist who directs the Taurus Project and co-author of the book The Aurochs: Born to Be Wild. (By Jackson Landers, April 4 {year not given}, washingtonpost.com: Scientists Seek to Resurrect the Aurochs, the Extinct Beast that Inspired Cave Paintings)

The Baiji or Yangtze River dolphin (Lipotes vexillifer; dubbed 'Goddess of the Yangtze') is a functionally extinct species (Under this context: Either there are no individuals left or the number is so small that they cannot survive and flourish) of freshwater dolphin previously found along a long stretch of the Yangtze River, China. In 2006, a thorough 6-week search for the Baiji in the Yangtze River conducted by scientists came up with nothing.

"It's possible that we missed one or two animals [during the search], but we can say the baiji is functionally extinct. If there are any baiji left in the river, they won't have any chance of survival ... When we started, we were really optimistic about finding them, but as each day went by it became increasingly clear that there are no baiji left," said August Pfluger, a Swiss economist-turned-naturalist who financed the expedition. (By Stefan Lovgren for National Geographic News, December 14, 2006; nationalgeographic.com: China's Rare River Dolphin Now Extinct, Experts Announce)

Baiji had a streamlined body, round flippers, and probably spent much of their time underwater to aid them in communication (clicks and whistles) and orientation, their vision was weak and their snouts were pointed upward at the tip. They lived in pods of 2 to 10 individuals. They were social and formed powerful bonds with each other, resting at night in areas with slow currents. Adult males attained a length of 7 ft. 6 in. (2.28 m), females were longer at just over 8 ft. (2.43 m), weight ranged between 286.6 - 507.06 lbs. (130 - 230 kg)

Unfortunately, for the Baiji, it is estimated that one-third of the 1.2 billion people of China live along the Yangtze River Valley, thereby putting extraordinary pressure on the river. More so, the construction of the Three Gorges Dam, completed in 2009, and the largest hydro station in the world, along with other lesser dams.

In the mid-20th Century, there were several thousand Baiji, but quickly diminished in number the following 50 years. The last noted sighting of a Baiji was in 2004. Pollution and habitat loss from the dams, general human encroachment, fishing overhunting, entrapment in gear, unlawful electro accidents with ships and boats, and a lack successful protection measures by the authorities, were in a literal sense too much for the Baiji species.

The Bali Tiger (Panthera Tigris balica) is an extinct subspecies of tiger inhabiting the Indonesian island of Bali. Of the eight species of tigers only five remain, the Bali Tiger, Caspian Tiger, and Java Tiger are extinct. The five remaining species include the Bengal Tiger, Indochinese Tiger, Siberian (Amur) Tiger, South China Tiger, and the Sumatran Tiger (Critically endangered).

The Bali Tiger is the smallest of the eight subspecies and was the first to go extinct. It had a short coat that was dark orange, with less number of stripes than other tiger subspecies. Males only weighed up to 220 lbs., females up to 175 lbs., larger than leopards but quite small for a tiger subspecies. They preyed on animals on Bali humans were their only real danger, the last documented Bali tiger was shot on September 27, 1937.

Unfortunately, Bali is around 2,175 square miles, a bit larger than the American State of Rhode Island. Keeping this in mind, when humans began their colonization of Bali it signified the end of the Bali Tiger, deforestation and habitat destruction, increase in human population, and hunting (In particular, European hunting trips and the use of high-powered rifles), and the loss of prey animals to eat. Because Bali was so small, endemic tigers soon had little or no place to hide. More so, their population was already small. Individuals in

particular males, needed large areas of territory, and females had a relatively slow rate of reproduction, breeding lasted up to a month, a gestation period of 14-15 weeks, only 2 or 3 cubs were born, and when the mother had to feed her herself and cubs she left them; undefended cubs were preyed upon. Cubs were born blind and defenceless, and were dependent on their mothers for up to 2 years.

All tiger species are solitary animals. This makes it more difficult for cubs to be protected hunters can more easily kill a lone tiger, many victims were alone and did not know what hit them.

The Barbary lion also called the Atlas lion (Panthera leo leo) is an African lion sub-species that once roamed across North Africa from Morocco to Egypt also including the Atlas Mountains, but is now considered extinct in the wild. A rapid decline in Barbary lions beginning in the mid-19th century due to the availability of better firearms and the issuing of bounties, European hunting literally had a devastating effect on their populations. The last confirmed shooting of a Barbary lion was in 1942 in Morocco. It was possible that small assemblages of Barbary lions remained in Algeria and Morocco until the 1960s, evading their most dangerous nemesis, humans. It was the Romans that began the first onslaught against Barbary lions, capturing large numbers and sending them back to the coliseum where they were pit up against gladiators or humans.

Barbary lions were large and were by some accounts the largest and most massive of lion sub-species, had bigger manes (especially populations in the Atlas Mountains) because the environment they lived in was cooler than in sub-Saharan Africa.

In the Middle Ages Barbary, lions were exhibited in the Tower of London, during the 18th and 19th centuries they were displayed in hotels and circuses. Royal families in Morocco and Ethiopia, in particular the former, kept Barbary lions 'royal lions' in their possession. Unfortunately, in the late 1960s, disease practically eradicated the royal lions of Morocco. Additional problems include desertification and the spread of the Muslim-Arab Empire into North Africa, resulting in a major compression of Barbary lion habitat.

Today there are conflicting opinions as to whether Barbary lions still exist. Several zoos around the world assert that they have purebred Barbary lions in their care (the Rabat Zoo asserts that it has 35 Barbary lions; they are almost certainly hybrids). Rabat Zoo lions are descendants of purebreds, but this alone is not sufficient proof.

"I seriously doubt pure North Africa lions occur in captivity anymore," said Luke Hunter, president of Panthera, the conservation organization dedicated to big cats. (By John R.

Platt, April 22, 2013; scientificamerican.com: When Did the Barbary Lion Really Go Extinct?)

"The only reliable reference samples {from Barbary lions} are museum specimens—bones and taxidermy skins which are mostly more than 140 years old—so a full genomic comparison is not currently possible," said Simon Black, of Durrell Institute for Conservation and Ecology in England and Amina Fellous from the National Agency for Nature Conservation in Algiers. (ibid)

However, not all may be lost. Scientists are trying to extinct Barbary lion via its close recover the lions, relationship to Indian as indicated by DNA tests, according to recent research published in the journal BMC Evolutionary Biology. Scientists concluded the DNA sequencing as 'noteworthy'. Indian lions are closely related to the Iranian Barbary lion populations even though they geographically separated from each other.

The DNA sequencing was performed by Dr. Ross Barnett, the lead author of the study extracted from the skulls of two Barbary lions once confined in Britain's Tower of London. Four of the six Barbary lions displayed sequence identical to that of living Indian lions.

The Bubal hartebeest or Bubal antelope (Alcelaphus buselaphus buselaphus) was a sub-species of hartebeest that was found throughout North Africa from Morocco to Egypt and parts of Europe and Asia. Archaeological findings indicate that Ancient Egyptians may have domesticated or used Bubal hartebeest for sacrificial purposes.

The Bubal hartebeest was sandy coloured except for non-contiguous spots on each side of the nose above the nostrils, and a part of the tail was black coloured. Bubal hartebeest were communal animals, with herds of up to 200 animals witnessed in Northern Morocco in the 1570s. They favoured rocky spaces containing sufficient vegetation, always north of the Sahara. Slowly but surely, human encroachment and activities began to take a heavy toll on their populations. Hartebeest populations took a sharp nosedive during the 19th century, especially during the French conquest and brutal occupation of Algeria in which an entire herd was exterminated oftentimes in a single operation.

By 1870, there were no Bubal hartebeest in the Tunisian Atlas Mountains region. The last Bubal hartebeest in Tunisia was hunted sometime shortly after the turn of the 20th century; in 1925, the last such animal was hunted in Morocco. In 1923, the last Bubal hartebeest (a female) died in a Paris Zoo.

Three subspecies of Bush wren including North Island Bush wren (X. l. stokesii), South Island Bush wren (X. l. longipes), and Stead's Bush wren (X. l. variabilis) are extinct, all endemic to New Zealand. The South Island Bush wren was a small

and almost flightless bird, growing to 3.5 in. (approximately 8.75 cm.), and .65 oz. (16 g.). It fed predominately on invertebrates it seized, by scurrying along branches of trees. Nesting was on or close to the ground.

Although Bush wrens were common throughout the main islands of New Zealand, the 19th century brought in a series of catastrophes including the introduction of highly invasive creatures including rats, mustelids (Members of the weasel family). Rats killed off the last healthy population of Bush wren on Big South Cape Island. Despite the transfer of six birds to a nearby rat-free island in 1964, they were unable to recover; the species went extinct in 1964.

The California grizzly bear (Ursus arctos californicus) is an extinct population of the grizzly, believed by many to be the largest and most powerful of all bears. The word 'grizzly' is attributed to the golden and grey peaks of its hair. Genetically North American grizzlies are related in breadth and colour.

The California grizzly successfully abounded in its state for at least 300 years; some individuals attained a height of 8 feet (Approximately 2.44 meters) and weighed 2,000 lbs. (Approximately 907. 185 kg.). When Europeans reached California it is estimated that there were 10,000 California grizzlies inhabiting most of the state. This bear did not fear humans, standing firm and even fighting back against hunters.

The Spanish began the annihilation campaign against the California grizzlies. They began to populate and colonize the land (New Spain). The first recorded contact with California grizzlies were chronicled by members of the 1769 Portola expedition. The colonists established extensive herds of cattle. Naturally, the grizzlies killed livestock, making themselves hated enemies of the rancheros (ranchers). Vaqueros (Horsemounted livestock herders) tracked and then killed the grizzlies or roped and took them back where they were put on public display and pitting them up against bulls. The California gold rush (1848-1855) signified the beginning of the death knell for the California grizzly bear.

An enormous grizzly bear that was very dangerous to humans and cattle was killed near to the home of James and Ada Lovett in 1866. Lovett and a group of men dragged the bear, loaded it onto a wagon, and then drove 8 miles to the vineyard ranch of Colonel A. Maxcy who had offered a reward for the capture (Most likely dead or alive) of the bear. The bear was heaved onto Colonel Maxcy's cattle scales, showing that it weighed a staggering 2,200 lbs. (Approximately 998 kg.). It may have been the largest grizzly bear ever killed in California.

Ironically, the California grizzly is one of the clearest and everlasting symbols of the state. The California bear flag's

initial manifestation was in 1846 as a symbol of the New Republic of California, a second form adopted by the State Legislature in 1911 followed it. The bear figure became an everlasting part of the California State Seal in 1849.

The Cape lion's exact genetic lineage and status are more contentious than that of other lions. It was the largest of sub-Saharan lions; it once inhabited the plains of South Africa, the areas that are presently part of Cape of Good Hope Province. The Cape lion is conceivably an extinct sub-species of a population of lions (Panthera leo bleyenberghi). It was predominately isolated from contemporary South African lions.

The Cape lion is believed to have been more robust than other Southern African lions but it was smaller than the Barbary lion. It wore a massive black mane extending along its back and underneath its mane, with beige or bronze colour around the face. The point of the ears were black, the face broad and the limbs were massive.

Cape lions favoured the hunting of large animals including antelopes, giraffes, zebras, and buffaloes. They came into conflict with humans by killing donkeys and livestock belonging to European colonists. Man-eating Cape lions were believed to be the actions of elderly lions with bad teeth or solitary-transient famished lions.

The Dutch shipped many Cape lions back to the Netherlands later the lions were sent to a plethora of zoos and circuses across Europe. During the  $17^{\rm th}$  Century anecdotal (hearsay, nonscientific) accounts through paintings and stories portray Cape lions scaling Dutch colonial castles.

The Cape lion populations that remained in Africa were hunted into extinction, habitat loss played little part in their extermination. The sole surviving Cape lion was shot and killed in 1858 by a hunter in Cape Province.

During the 20<sup>th</sup> Century, the search for descendants of the Cape lion proved futile. In January of 2000, John Spence, director and trustee of Cape Town's Tygerberg Zoo in South Africa was given images of a lion from the Novosibirsk Zoo in Central Siberia.

Simon the lion, who was given to the zoo by a circus, bore a striking resemblance to the physical descriptions of the Cape lion. Naturally, Spence was overjoyed. He had travelled to many countries, years on end, to track these animals. Spence was allowed to take back two of the 40 cubs from the Novosibirsk Zoo back to the Tygerberg Zoo.

Spence explained that he had wanted to breed lions that looked like Cape lions, and to conduct DNA testing to determine if the cubs were in fact Cape lion descendants. Spence died in 2010, the zoo closed its doors in 2012.

The Caribbean monk seal or Sea wolf (Neomonachus tropicalis) was a species of seal that was found in warm temperature, subtropical, and tropical waters of the Caribbean, Gulf of Mexico, and West Atlantic Ocean, is now extinct. They are believed to have dragged out onto low sandy beaches above high tide on segregated atolls, in groups of a few dozen up to 100 individuals. Sometimes they went to mainland coasts or deeper waters.

Caribbean monk seals had large and powerful bodies, a rounded head, with a lengthy broad muzzle. They had short front flippers relative to their body size the hind flippers were slim. They were rusty or gray-like-coloured, the underbelly was fairer-coloured than their back. The adults were usually darker coloured than the pups, who were dim and yellow. They had upward-pointing open nostrils, large broad-spaced eyes, with prominent whisker pads and long fair-coloured smooth whiskers.

Caribbean monk seals had serious problems stacked against them that led to their extinction. They had a long pupping season, they were docile and appeared to have no flight instinct to humans, and were easy to approach, making them easy to kill.

The first recorded mention by Europeans indicates that Christopher Columbus first observed 'Sea wolves' on his second voyage to the Americas, in 1494 on the coast of Santo Domingo. He immediately ordered his crew to kill eight of the animals for food, unknowingly initiating the process of extermination by subsequent European sailors and settlers.

The second recorded mention of Caribbean monk seals by Europeans was from Juan Ponce de Leon's first encounter at the Dry Tortugas Islands, in June of 1513. De Leon's men killed 14 seals. Later, seals were slaughtered en mass (more than 100 in a single night, some estimates claim hundreds) on the orders of plantation owners seeking oil to lubricate their machinery, sailors also killed many seals; scientists killed seals for museum collections, others were sent to zoos. If that is not horrible enough, rampant over-fishing virtually obliterated the seal's food supply. The last recorded kill of a Caribbean monk seal on Pedro Cays, Jamaica occurred in 1939. The last sighting was in 1952 off Saranilla Bank, in the western Caribbean Sea. Although there were later 'sightings' of this seal species none can be considered as sufficient proof.

Unfortunately, there is more bad news, the Hawaiian monk seals and the Mediterranean monk seals, both of which are closely related to the Caribbean monk seal, are critically endangered.

"Worldwide, populations of the two remaining monk seal species are declining ... We hope we've learned from the extinction of Caribbean monk seals, and can provide stronger

protection for their Hawaiian and Mediterranean relatives," said Kyle Baker, biologist for the National Oceanic and Atmospheric Administration (NOAA) Fisheries Service southeast region. (Credit: U.S. National Museum via sciencedaily.com: Caribbean Monk Seal Gone Extinct from Human Causes, NOAA Confirms)

"The Hawaiian monk seal is a treasure to preserve for future generations ... NOAA's Fisheries Service has developed a monk seal recovery plan, but we need continued support from organizations and the public if we are to have a chance at saving it from extinction. Time is running out," said Bud Antonelis, biologist for NOAA's Fisheries Service Pacific Islands Fisheries Science Center. (ibid)

The Carolina parakeet less commonly known as Carolina conure (Conuropsis carolinensis), the only Parrot native to continental North America north of Mexico, was a paltry sized green Parrot, had a glistening yellow head, orange-red coloured face, and faint coloured beak. Their young varied slightly in colour, completely green coloured except the under-parts.

The Carolina parakeet inhabited deciduous forests and forest margins in the eastern United States extending northward into the Great Lakes area, along with wooded river bottoms of the Great Plains extending westward into Nebraska. They lived in enormous noisy flocks of up to 300 birds. They nested in tree cavities normally laying two eggs. They aggressively ate the fruits of many trees, tearing apart apples to eat the seeds, and to their great loss corn and other grains.

Carolina parakeets were considered agricultural pests, slaughtered by avenging farmers. In addition, they endured severe habitat loss (through deforestation, 18th and 19th centuries), and unchecked hunting for its beautiful feathers to be used in the millinery trade (adorning women's hats). A peculiar behaviour of the flocks was to return to environs of dead and dying birds facilitating easy large-scale slaughter. As a result, the 19th century saw a serious decline in the Carolina Parakeet's populations, by the mid-19th century these birds were seldom seen outside of Florida. The Carolina parakeet became extinct shortly after the turn of the 20th century.

The Caspian tiger also called the Persian tiger (Panthera tigris virgata), is an extinct subspecies of Eurasian tiger that inhabited large areas south of the Caspian Sea, stretching from Turkey, Iran, the Caucasus, into Takla Makan desert of Xingjian Province, China.

Caspian tigers were powerful and massively built, males could reach a weight of over 500 lbs. and a length of 9 feet, and females were smaller. Fur colouring was variable, but usually shinier and more constant than those of the Far Eastern tigers were. The stripes were thinner, fuller, and closer

together than those of the Siberian were tigers. The stripes were a blend of chocolate or cinnamon shades. Winter coats were lighter in colour with less recognizable patterns.

Caspian tigers ruthlessly hunted, commonly by large groups of Russian military personnel (colonizers), in particular during the late 19th and early 20th century. The soldiers also hunted pigs, one of the main food sources for Caspian tigers. Furthermore, pigs fell prey to diseases, and died in forest fires and floods.

Military personnel removed predators from forests, areas in or near settlements, and from prospective agricultural land. Much of the already non-contiguous habitats of the tigers were transformed into croplands and cotton plantations, highways were built, dissecting precious habitats. More so, tiger skins were sold for a hefty price until the late 1920s.

What is sad about the extinction of the Caspian tiger is that the imminent result was conveyed to the world the road to the end was quite apparent, documented by naturalists. The world community did not do something constructive to help save the Caspian tiger. This happened in the 20th century.

"The list {of kills} makes for depressing reading: Mosul, in what is now the country of Iraq, in 1887; the Caucasus Mountains, in the south of Russia, in 1922; Iran's Golestan Province in 1953 (after which, too late. Iran made hunting the Caspian Tiger illegal); Turkmenistan, a Soviet republic in 1954; and probably a small town in Turkey as late as 1970." (By Bob Strauss, Dinosaurs Expert, March 30, 2016; dinosaurs.about.com: Caspian Tiger)

The Dodo (Raphus cucullatus) related to pigeons and doves, is an extinct flightless bird native to the tiny island nation of Mauritius, east of Madagascar in the Indian Ocean. This bird evolved sometime after 8 million years ago, naturally because that is when the volcanic island rose above the waves.

Physical descriptions of the Dodo rely on sub-fossil discoveries, paintings, and written descriptions. However, most descriptions indicate that the Dodo had muted silver or chestnut coloured plumage, the head was gray and lacked feathers, the beak was grassy coloured, the legs were burly and golden, the claws were dark. The size and weight of the Dodo are a contentious issue. Some estimates are that it was quite tall for a bird, believed to have weighed 22 to 44 lbs. (10 to 20 kg.). Detractors claim that these large bird portrayals were erroneous illustrations. They believe that the portrayals were those of over-fed captives or stuffed specimens, living specimens were shipped to Europe and the East.

The Dodo's diet consisted of fruits that had fallen onto the ground, seeds, and other foods readily obtainable from the

forest; it is not certain if they also ate crabs and shellfish, but they did have large and powerful beaks. Because the Dodo was flight-less it almost certainly laid its eggs on land. Before humans arrived on the island, this bird did not have any enemies.

In 1505, the Portuguese set foot on Mauritius. Soon, islands became a stopover for ships used in trade. Because the Dodo's eggs were laid on the ground, it was flightless, and had no flight instinct they became easy prey for the hungry sailors, Dodos were hunted without mercy and their eggs were taken. The colonized Mauritius in the late 16th Unfortunately, as humans began to colonize the islands they habitats and destroyed Dodo introduced invasive animals including dogs, cats, crab-eating macaques, pigs, and rats that ate eggs, killed and ate birds, devastated nests, and competed for food. The last confirmed sighting of the Dodo was in the The Dodo's fossil records and much of the physical proof of what they really looked like was destroyed or lost.

"We have this continuous series of tragedies, forgetting the dodo over and over again ... The Island (Mauritius) has acidic soil, and is tropical and humid. It's a very unforgiving environment for fossils," said Leon Claessens, at the College of the Holy Cross in Worcester, Massachusetts. (By Colin Barras, April 9, 2016; bbc.com: After the Dodos Were Gone from the Wild, Almost All the Specimens Were Lost - Mostly Due to Outright Carelessness)

"There used to be a complete dodo in Oxford, but they had to discard the majority of the specimen in the 1700s ... They kept just the head and foot." The British Museum had a Dodo foot. "But they lost it about a century ago," said Leon Claessens. (ibid)

The extinct Dusky seaside sparrow also called Duskies (Ammodramus maritimus nigrescens) was a resident stationary subspecies of the seaside sparrow whose habitat was in natural salt marshes of Merritt Island, in Florida and along some areas of the St. Johns River. The Dusky seaside sparrow was classified as a species in 1873 but in 1973, it was reclassified as a subspecies.

The Duskies were unlike other sparrows in that it was darker and had a noticeably different song. They relied solely on marsh grass (cord grass) for their nesting sites. These suitable habitats are located 10 or 15 feet above sea level. Marsh grass can only grow in a limited variety of moisture settings. Therefore, Duskies had limited nesting options, making them susceptible to any habitat alteration or destruction. As such, they were geologically separated from other seaside sparrows.

The death knell for Duskies resulted from massive habitat destruction. To decrease the population of mosquitoes, Merritt Island was flooded, ravaging the Duskies' habitat. Immediately, Dusky populations took a nosedive. If that was not bad enough, only a few years later the marshes surrounding the St. Johns River were drained to ease highway construction. Specifically, the Florida Department of Transportation built a highway through the marsh in order to connect the Kennedy Space Center to Disney World. Additional problems include pollution and pesticides, literally guaranteeing the Duskies' final demise.

In 1979, there were only six male Duskies. The last female was seen in 1975. By 1981, there were only five Duskies left, in 1983 three left. Walt Disney Resort acquired the remaining four Duskies placing them in a protected habitat on Discovery Island Nature Reserve. By March 31, 1986, only one Dusky remained known as Orange Band. He lived in a large, secluded cage, to a ripe old age, was blind in one eye, dying on June 17, 1987.

"I've been trying to get him {Orange Band} to say, 'Nevermore' ... 'He's in the last year or two of old age -between 10 and 15 years old, "said Charles Cook, curator of Discovery Island, a zoo featuring many exotic and endangered birds. (By John Noble Wilford, Special to the New York Times, April 29, 1986; nytimes.com: LAST DUSKY SPARROW STRUGGLES ON)

"I'm not too optimistic ... {Mr. Kale said of the chances of Orange Band siring more offspring} the bird {Orange Band} is so old. The sperm is not very viable. We'll see this year," said Herbert Kale of the Florida Audubon Society. (ibid)

The Eastern elk (Cervus canadensis canadensis) was a subspecies of elk that consisted of many herds, most of which inhabited the northern and eastern United States across the Appalachian Mountains and the colossal forests of Canada. Eastern elk were analogous to the other elk inhabiting the United States. Sadly, the Merriam's elk, another sub-species of elk, became extinct at about the same time.

The Eastern elk was larger and sturdier than elks in the Western United States. Males attained a weight of up to 1,100 lbs. (Almost 500 kg.), stood at 4 to 5 feet tall (1.21 to 1.52 m) at the shoulder, males (stags) had massive 6 feet long antlers (About 1.8 meters) that were shed after mating season; Eastern elk coats were beige-Brown coloured.

Over a period of several generations, settlers moved into the vast lands wherein elks inhabited. Unchecked rampant hunting and major losses of habit resulted in a significant reduction in Eastern elk populations. The elk were easy pickings, shot with improved rifles it was common for hunters to wait for their targets at natural mineral licks (salt licks), used by elk to satisfy essential nutrient needs. The meat of the elks was eaten

hunting was also done for sport, the antlers and teeth were used in necklaces.

The renowned naturalist John J. Audubon supposedly revealed that by the early 1850s only a scant number of elks could be seen in the Allegheny Mountains, and were to all extents and purposes absent from the rest of their range. By the end of the 19th century, Eastern elk were extinct the last Eastern elk was killed by a hunter on September 1, 1877.

Contemporary elk that inhabit the Eastern seaboard of the United States were transferred from other parts of the United States to take the place of the extinct Eastern elk. There may be a surviving hybrid species of Eastern elk in New Zealand. Descendants of 18 out of 20 elk shipped to the country as a gift from President Theodore Roosevelt, 26th President of the United States (September 14, 1901 - March 4, 1909).

The Falkland Islands wolf or Antarctic wolf also called Warrah (Dusicyon australis), was the only native land mammal in the Falkland Islands. The first documented sighting was by Captain John Strong in 1690. Captain Cook seized one of the animals and brought it aboard his ship. Initially, there were no problems relating to this matter, however, amid the trip back to Europe a battle against the French ensued. The wolf was so terrified by the firing of the ship's cannons it jumped ship or fell overboard. By all accounts, the wolf drowned in deep waters.

Previously, it was believed that the Falkland Islands wolf split genetically from its nearest living relative from the mainland, the South American maned wolf (Chrysocyon brachyurus) around 7 million years ago. However, later drawing out of DNA from six specimens of a fox-like animal (Dusicyon avus) acquired from Argentina and Chile indicated that Dusicyon avus was the nearest relative of the Falkland Islands wolf, separating from each other around 16,000 years ago.

"The Eureka moment was finding evidence of off coast of Argentina. They recorded the the dramatically lowered sea levels during the Last Glacial Maximum (about 25,000 to 18,000 years ago). At that time, there was a shallow and narrow 12.42 (20 km) strait between the islands and the mainland, allowing the Falkland Islands wolf to cross when the sea was frozen over, probably while pursuing marine prey like seals or penguins. Other small mammals like rats weren't able to cross the ice," said senior author Professor Alan Cooper, The University of Adelaide, Australia, also from the Australian Centre for Ancient DNA. (By News Staff / Source, March 6, 2013; sci-news.com: 320-Year-Old Mystery of Falkland Islands Wolf Solved)

When British naturalist Charles Darwin (February 12, 1809 - April 19, 1882) visited the Falkland Islands in early 1833, he noted that wolves were on East and West Falkland and were docile, but by then the wolves' populations had already plummeted. By the mid-1860s, the Falkland Island wolf was absent on the eastern region of Eastern Falkland.

The Falkland Island wolf was ruthlessly hunted for its fur and because it was perceived as a danger to cattle and sheep. Spanish settlers introduced cattle on the islands in the early 1700s. Worse yet, the islands lacked hiding places (tree-less) and the wolves had no fear or apprehension of humans. In fact, it was widely known that a man could hold out a slab of meat in order to lure a wolf toward him, and then he could beat it with a stick or knife with the other. Is this how to pay back a friendly, trusting animal? At least one wolf defended itself against a dog, as described by Admiral George Grey upon landing on West Falkland at Port Edgar on December 17, 1836:

"I landed in the creek and had hardly put a foot on shore, when one of the foxes of the country was chased by Pilot. I ran up as they were fighting and came to the poor dog's assistance, who had nearly met his match, and a rifle ball soon settled the business, but the Pilot had received a terrible bite in the leg." (Falkland Islands Wolf: Wikipedia the Free Encyclopaedia)

The Formosan clouded leopard (Neofelis nebulosa brachyura) is an extinct sub-species of clouded leopard that was native to the Island of Taiwan. It had a relatively short tail; with the exception of the Formosan black bear, it was Taiwan's largest carnivore.

The Formosan clouded leopard had little chance of survival, because of large-scale logging on its natural habitat, individuals fell back into the Jade Mountain and Tawu Mountain; presently, the Tawu Mountain Nature Reserve is a protected region, but this will not be of any use to the Formosan clouded leopard. The Rukai, aboriginal peoples in Taiwan, prohibit the hunting of clouded leopards. Nevertheless, rampant poaching and trade in the leopards' pelts during the Japanese occupation (between 1895 and 1945), habitat destruction, and the purging of its natural prey were death knells.

Naturally, caring scientists, animal lovers, and others in Taiwan and abroad wanted to know if there were any surviving Formosan clouded leopards left in Taiwan. A thorough investigation by a team of Taiwanese and American zoologists was done beginning in 2001 and ending in 2014, using 1500 infrared cameras, hundreds of catnip-baited traps and many hours in the field. With not a single verifiable sighting of a Formosan clouded leopard in more than 30 years, it became apparent that this species was extinct.

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