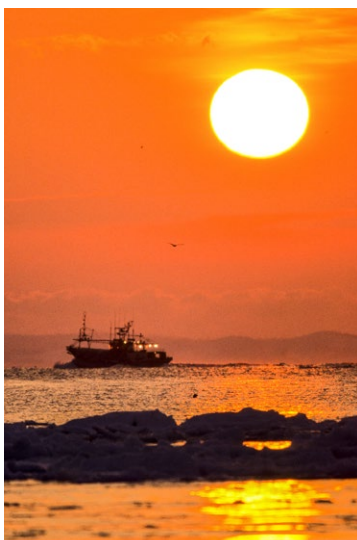


# THE SIXTH MASS EXTINCTION



*Green turtle  
(Chelonia  
midas).  
Cosmoledo atoll,  
Indian ocean.*



*Overfishing.  
Japan.*

**E**xinction is a natural phenomenon intimately linked to the mechanism of evolution: 99% of the species that have appeared on Earth over the last 3.5 billion years have disappeared. What is more alarming is the lightning increase in the rate of extinction, which is believed to be between 100 and 1,000 times faster than the average rate over geological time. The extinction of an animal species is the result of a combination of factors, which scientists refer to by the acronym HIPPO: habitat destruction, invasive species, pollution, overpopulation, and over-exploitation of species.



*Invasive species.  
Red-eared slider  
(Trachemys  
scripta), France.*

### **HABITAT DESTRUCTION**

This is the first cause of the decline in biodiversity. Deforestation, desertification, the draining of wetlands, pollution of the oceans and polar habitats – no ecosystem is spared. An area of forest equivalent to a football pitch is cleared every nine minutes! By an ironic twist of fate, tropical rainforests, which are home to more than half the plant and animal biodiversity on our planet, is also the habitat that has been most degraded by humans. The production of charcoal, forest clearing and burning for agriculture, extensive livestock rearing, and the felling of tropical hardwoods lead to the destruction of 10 million hectares every year.

### **INVASIVE SPECIES**

The second cause of species extinction – the deliberate or accidental introduction of invasive

species by man – has caused some major ecological catastrophes. The increase in trade has speeded up this “biological pollution”.



*Melting of the ice caps. Polar bear  
(Ursus maritimus), Canada.*

### POLLUTION

- *Greenhouse gases*

To meet its energy needs, humankind emits the notorious greenhouse gases into the atmosphere. These are largely responsible for the destruction of the ozone layer and for climate change; they disrupt the seasons, and lead to the retreat of glaciers and sea ice.

- *Industrial accidents*

Toxic gas leaks, nuclear accidents, oil slicks, and emptying out of fuel tanks at sea are constantly in the news. Every month, half a million tonnes of hydrocarbons are dumped at sea...

- *Armed conflicts*

The impact of conflicts is hard to assess. During the Gulf War, the destruction of oil terminals in Kuwait caused 800,000 tonnes of hydrocarbons to leak into the sea, and oil well fires heavily polluted the atmosphere.



*Oiled bird. Brown noddie (Anous stolidus).  
Seychelles.*

### OVER-POPULATION

Since 1900 the world's population has grown from 1.6 billion to more than 6 billion, and demographers suggest that by the year 2100 the figure could be between 12 and 50 billion.

*By 2050,  
world  
population  
will be 50%  
larger than it  
is today.  
New york.*





*Poaching. Green turtle (Chelonia midas). Indian ocean.*

This runaway population growth is aggravating species extinction by increasing pollution, habitat destruction, and the over-exploitation of species.

### **OVER-EXPLOITATION OF SPECIES**

#### **• Extinctions to order**

Stretching throughout Asia, Europe, and the United States, networks connected to traditional Chinese medicine are endangering more than 200 animal species. Felines, rhinoceros, the giant panda, bears, turtles, snakes, and seahorses are victims of this questionable pharmacopoeia. Most in the firing line is the tiger, almost all the organs of which are used. As for the rhinoceros, it is killed in large numbers for its horn, which commands a price three

times that of gold. The most critically endangered, the Javan rhinoceros, now numbers just a few specimens in the wild!

#### **• Animal experiments and vivisection**

Scientific and medical research, and the chemical, pharmaceutical, cosmetics, and arms



*Animal trade.  
New Delhi, India.*



*Animal experiments and vivisection. Chimpanzee (Pan troglodytes).*

industry lobbies, kill 400 million animals every year. The commonest guinea-pigs include rats, mice, rabbits, cats, and dogs. Primates – chimps, macaques, capuchin monkeys, baboons, and lemurs, whose genetic makeup is very close to ours – are also much in demand.

### • Zoos

Defended by some as a tool for education and conservation, zoos are denounced by others as

prisons or care homes that cause stress, behavioural disorders, disease, and genetic impoverishment. Although the conditions in which animals are held in captivity have improved, much remains to be done, notably in regulating travelling zoos and circuses.

### • Pets

The fashion for exotic pets has encouraged the trade in endangered species. The United States alone, which is seeing an unprecedented craze for terrariums, imports some 2 million reptiles every year. Depending on how fragile a species is, for each animal sold, between two and four die in transit.

*Zoo.  
Polar bear  
(Ursus  
maritimus).*





***Fur trade. Leopard (Panthera pardus). South Africa.***

- ***The fashion industry***

The most prestigious fashion houses take part in the trade in endangered species. It is estimated that 20,000 animals are killed each year to supply this market for fur coats made from felines, mink, and seals, shoes, belts, and handbags in snake and alligator skin, elephant-skin boots, feathers for hats and stage costumes, and even luxury shawls and scarves in shahtoosh, the wool of the Tibetan antelope, which is highly sought after for the fineness of its down hair.

- ***Forbidden souvenirs***

Here is a (sadly not exhaustive) list of objects and trophies you should not buy when abroad:



***Ivory trade. African elephant (Loxodonta africana). Zimbabwe.***



**Over-exploitation of species.**  
**Butterfly collection (*Heliconius* sp).**

Statuettes and objects in ivory, or made from turtle shells, coral, or mother-of-pearl; shells; Jambiyas – Yemeni daggers with a rhinoceros-horn handle; collections of insects that have been killed, packaged, and exported to Western countries; trophies made from lions, buffalo, or sawfish; the skins of felines or polar bears; and any stuffed animal.

• **Overfishing**

Factory ships relentlessly pillage the natural resources of the seas and oceans, irreversibly depleting fish stocks. Drift nets 50 kilometres long indiscriminately trap sharks, sea turtles, seals – and more than 400,000 dolphins every year. As for fishing with bottom lines, which can be more than 100 kilometres long and carry

2,000 to 3,000 hooks, this spells the end for pelagic birds such as petrels and albatrosses.

• **Hunting and poaching**

Out of ignorance or malicious intent, some hunters regularly wound or kill threatened species. Some poach, with impunity, species such as the turtle dove, in the Médoc region of France. Water birds sometimes suffer from lead poisoning, as a result of the tonnes of lead dumped in pools. Wealthy hunters in search of the exotic do not hesitate to use specialist travel agents, which offer lion or polar bear shooting.

• **The bushmeat trade**

Widespread in central and west Africa, the illegal trade in bushmeat has increased over the last ten years thanks to the logging industry, which has made accessible regions that have hitherto been preserved. Using sophisticated



**Overfishing in Indian ocean.**



*Lead poisoning in birds. Steller's sea eagle (Haliaeetus pelagicus). Hokkaido, Japan.*



*The bushmeat trade. Mountain gorilla (Gorilla beringei beringei), Congo.*

equipment, poachers decimate elephants, antelopes, giant pangolins, and snakes. But the heaviest toll is on the primates. In African cities, the meat of the lowland gorilla, chimpanzee, and bonobo costs three times as much as beef.

*Text and photographs by Gilles Martin*