

Environmental Studies FACT SHEET



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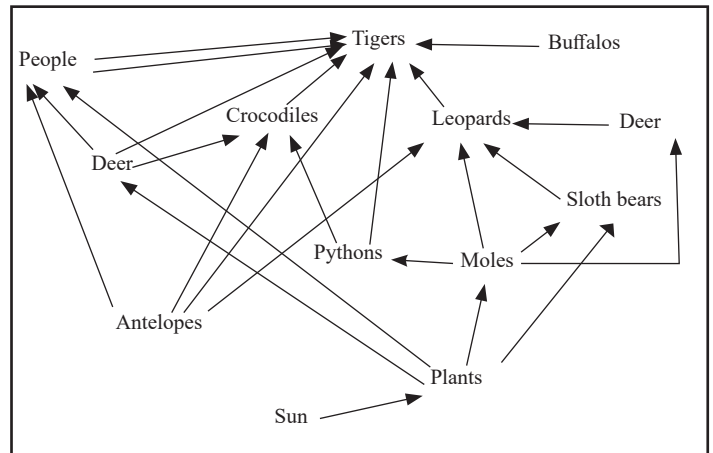
Tiger conservation

Tigers are iconic top carnivores. Why should we conserve them?



- As top carnivores they help to control the populations of herbivores that might otherwise cause devegetation and loss of plant species (Fig. 1).

Fig. 1 Tigers in the food web



- They are a valuable tourism resource, bringing money into poor communities
- Ethical reasons

There were nine tiger subspecies but already three have become extinct - the Bali, Caspian, and Javan tiger. In addition, the South China tiger hasn't been seen in the wild since the 1970s. There are an estimated 32000 tigers left on the planet – a reduction of about 90%.

Originally, tigers used to roam across most of Asia – but are now only found in 7% of their original range in isolated patches across 13 countries (Fig. 2).

Fig. 2 Tiger locations



Tiger Habitat

- tropical forests
- tall grass jungles
- mangrove swamps
- dry thorn and coniferous forests

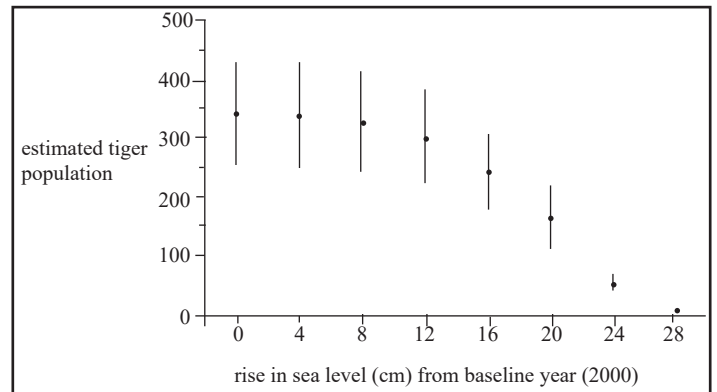
Generally they need dense cover, access to water and sufficient large prey.

Threats to tigers

- Humans! Poaching for trophies and to stop cattle being killed
- Poaching for tiger bones used in Oriental medicine and as status symbols
- Habitat loss and fragmentation for agriculture, timber harvesting and roads leading to isolation and reduction of the gene pool and greater vulnerability to events such as fire which are more likely because of climate change
- Over-hunting of the natural prey of tigers, leading to increased attacks on domestic livestock.

The death of a single tiger can have wider effects – if it is a female, any cubs are likely to starve or be eaten. If it is a male, then remaining males will fight for the territory, causing physical injury and disruption to breeding

Fig. 4 Effect of sea level rise on Sunderban tiger population



Question

What do the vertical lines represent?

The range of effect on tiger population
 These are estimates
 We can't be certain how tigers will respond to rising sea levels

Answer

Conservation efforts

The tiger is in Appendix I of the Convention for International Trade in Endangered Species (CITES). This means that there are controls on the quantities of tiger parts and items made from them that can be exported. The Indian government established *Project Tiger* in 1973 and there are now 21 **tiger reserves**. The reserves are threatened by poachers and locals who fear the tiger's man-eating reputation and the threat to their livestock.

In 2010, 13 countries containing tigers pledged to double the number of wild tigers by 2022 by preserving and managing tiger habitats, especially those that cross different countries and by eradicating poaching, smuggling and illegal trade of tigers. The WWF efforts are concentrating on areas where densities of tigers and their prey are highest, and on **tiger corridors** that link tiger sites within landscapes.

This will only succeed if local communities understand, agree and benefit from these protection measures. Many more rangers are also required and WWF are currently campaigning for more funding for these (armed) rangers. The WWF also lobbies governments emphasising that tiger conservation means forest conservation, hence progress towards climate change targets. Monitoring of tiger populations is essential to be sure that numbers are actually increasing.

Monitoring techniques include:

- Camera traps – nearly 10,000 in India alone!
- Tracking
- DNA analysis collected from scat
- Prey population monitoring

Conservation success in India

The 2014-15 tiger estimation report indicated a significant increase in India's tiger population. The last decade has seen a clear escalation in numbers: 2006: 1,411 - 2010: 1706 - 2014: 2226

Economic value of tiger reserves

Saving tigers and their habitats has a huge economic value through:

- Ecosystem services such as carbon storage and maintaining the water cycle
- Jobs and income from tourists
- Reduction in death of livestock

References

Loucks C, Barber-Meyer, Abdullah Md Hossain A, Barlow A, Chowdhury RM (2010) Sea level rise and tigers: predicted impacts to Bangladesh's Sundarbans mangroves. *Climate Change* 98:291–298

The illegal wildlife trade

Every part of a tiger is in demand for illegal wildlife parts. Tiger bones are crushed to make anti-inflammatory drugs for rheumatism and arthritis.

Poachers are skilled and well-armed and can make huge profits.

Climate change in the Sunderbans

The Sunderbans contains the largest single block of mangrove forest in the world. Straddling Bangladesh and India it also contain one of the world's largest populations of Bengal tigers (Fig. 3).

Mangroves protect coastlines from erosion by storm surges and winds and their loss would reduce the filtering of silt and disrupt many food chains

Fig. 3 Sunderbans



Rising sea levels caused by climate change are threatening the survival of the Sunderbans and its entire tiger population (Fig. 4).

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