Opinion

A life in captivity: the good, the bad and the necessary

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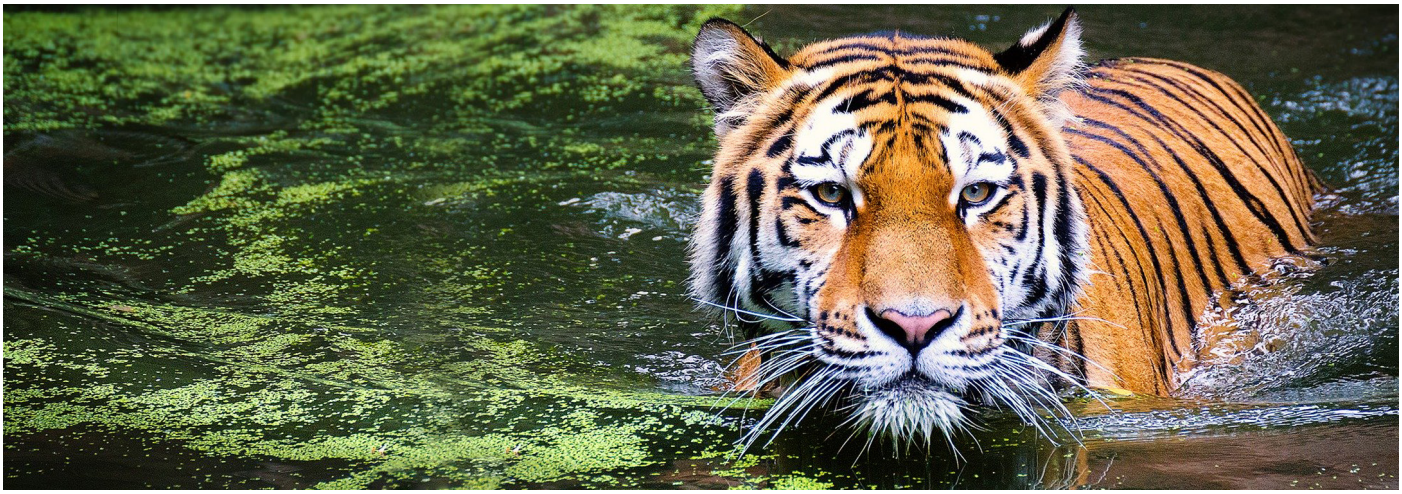

According to the International Union for Conservation of Nature's (IUCN's) Red List,[1] there are currently over 13,000 species of animal that are under threat of extinction. It is undeniable that human activity has placed a significant strain on countless ecosystems and a point has been reached where we need to protect the natural world from our own destruction.

Habitat loss due to land usage poses as the main direct threat to 85% of all species on the IUCN's Red List, with the illegal wildlife trade coming in second place.[2] Poaching drove the Western Black Rhino to extinction in 2011, a fate that is swiftly becoming the reality for a number of other subspecies.[3] The list goes on, with climate change, pollution and over-hunting also meaning that many species are no longer safe in their natural environments. But what about animals in captivity?

The world's zoos are currently fighting to restore some of the most vulnerable animal and plant species, but such a complex and challenging task inevitably comes with its pitfalls.

The good

Although not the only motivator for zoos, a huge philosophy for most is conservation. Conservation can generally be divided into "in-situ" and "ex-situ".

In-situ conservation aims to enable wild populations to maintain themselves, by restoring habitats, minimising threats and monitoring genetic diversity, among many other things. This is considered to be the mainstay of conservation and is supported by ex-situ conservation.[4]

Ex-situ means "off-site" and refers to breeding programmes that take place outside of the natural habitat, often in captivity. The aim of these programmes is to allow animals to breed in a secure and controlled environment in order to produce viable and genetically varied species populations that may one day be released back into the wild.[5]

According to the 2014 IUCN/Species Survival Commission (SCC) guidelines,[6] ex-situ management has previously been successful in preventing the extinction of some threatened species, for example the California Condor,[7] and there are a growing number of species that would benefit from its application.

However, ex-situ breeding is not appropriate for all species and comes with its limitations: failure can occur at the level of the breeding itself, due to a number of physiological, psychological and environmental factors, or at reintroduction. With captive breeding, there is a risk of creating populations that cannot sustain themselves in the wild as they are often not required to exhibit instinctive behaviour in captivity.[7]

It is vital that the initial threat to a species is addressed prior to their reintroduction into the wild, demonstrating how in-situ and ex-situ conservation should be integrated to provide a species with the best chance of survival.

The bad

A 2007 study of 13 UK zoos showed that less than 25% of species held were classed as threatened.[8] So, what are the implications of caging wild animals unnecessarily?

The Animal Welfare Act 2006[9] outlines the five needs of animals that should always be met:

- Suitable environment
- Suitable diet
- Ability to exhibit normal behaviour
- Housed with or apart from other animals (where applicable)
- Protection from pain, injury, suffering and disease

The vast majority of zoos strive to provide animals with a suitable diet and protection from suffering and ensure they are grouped appropriately. However, the promise of a suitable environment and the ability to express normal behaviour cannot feasibly be met. Limitations with enclosure space often means that animals are unable to exhibit their natural behaviours as they would in the wild. They are unable to roam freely, escape confrontation or hunt or forage as they instinctively would. Despite best efforts by keepers to provide animals with appropriate mental and physical stimulation, they can develop what is described as "stereotypic behaviour" or, more colloquially, "zoochosis". This term describes a vast array of repetitive and aimless behaviours exhibited by animals in captivity that have previously been theorised to arise due to stress or deprivation.[10] A well-documented example of such behaviour is pacing in carnivores, such as large felids and bears.[11,12] Reportedly due to the inability to express natural instinctive behaviours, it has been suggested that up to 82% of wild carnivores in captivity suffer with this behaviour. The cause behind the development of these abnormal behaviours is not fully understood and the correlation with poor welfare is disputed.[10,13] Research is still being conducted in this field and the understanding of stereotypic behaviour will play a significant role in improving animal welfare in the future.

The necessary

As humans, we must take responsibility and reduce the impact that we have on other species. Ex-situ management is certainly a viable option for the restoration of some species, but for most, it can only be successful if their natural habitats are also restored. In the meantime, zoos and aquariums can provide a safe environment in which animals may survive, but not necessarily thrive.

Whilst the welfare implications of life in captivity are significant and must be addressed, for many species it is the only viable option to secure their future.

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