

ZOOALITY CHECK

The great zoo con

At what point is an animal so threatened that it needs to be in captivity? This question must be answered.

If captive breeding is the only option, we believe it should be done in protected sanctuaries, in the country of origin, not in zoos.

Conservation, education and research are the arguments that zoos worldwide will use to justify their existence. This is what zoos want you to believe. The reality is completely different. We know this, because we're responsible for two wildlife parks and we have been in this business for over 40 years. We believe there is a better way, a more honest way forward, but our fundamental belief is that there is no need for any wild animal to be in captivity in zoos.

What was acceptable 10 years ago is not acceptable today. We believe fundamentally that zoos need to modernise their thinking and be honest with the public. We're not suggesting that zoos close in the short term – we appreciate this is not a viable option. However we are suggesting that a plan is put in place so that zoos are phased out over a 25 to 30 year period starting with certain species (obvious examples include orcas and elephants) that clearly are not suitable for captivity. We will in this paper go through each one of the arguments zoos use to justify their existence, assessing them critically using available data, ending by listing our recommendations.

CONSERVATION

Zoos claim one of their main aims is to benefit conservation. However, when studying this in detail, it's easy to prove that this is a myth. For example, in European zoos, 70-75% of animals are not globally threatened in the wild^{1,2}. Of the approximately 850 mammal species and subspecies held in European zoos, 500 are assessed as of least concern on the IUCN red list and only 45 (5%) are critically endangered³. Of those 45 critically endangered taxa, we estimate only a handful are viable when taking into account the issues of hybridisation, disease and genetic diversity.

There are over 5,700 species of all animal classes held by members of the European zoo association alone², which represents only about 8% of all zoos in Europe, but only a little over 200 of these species are in managed breeding programmes⁴. This means that, by their own admission, around 95% of animals in European zoos are not important or relevant enough to merit breeding programmes, and almost all have the same issues such as hybridisation, low levels of genetic diversity, and disease.

So, one needs to ask the question – why are these wild animals in zoos in the first place? The answer to this is easy – zooreaucracies and zoo-rocrats have a stamp collector’s mentality and an appetite and preference to please the public for iconic and non-threatened species leading to their needless captivity and “consumption” for entertainment. In other words, the public come first and not the animals. How is that conservation? Zoos don’t want you to know these facts because it would expose the fundamental flaws in the arguments they put out for their existence, and as a consequence merely prove that they’re in the conservation of business and not in the business of conservation.

EDUCATION & RESEARCH

Zoos want us to believe that one of their main functions is educating the public on conservation. The question we have to ask is, where is the evidence of this?

For decades zoos have argued that seeing live animals helps educate and mobilise the next generation of conservationists. However it appears that unguided zoo visits result in improved biodiversity knowledge in only one third of visitors⁵, that professional zoo-educators can have better results in increasing biodiversity knowledge when working in schools rather than within a zoo⁶, and that improved biodiversity knowledge from zoo visits has only a weak link with increased knowledge of pro-conservation behaviour anyway⁷. And knowledge of pro-conservation behaviour is a long way from being an active conservationist. In our experience, we estimate that 99% of the visitors that come to our parks come for an enjoyable day out, but as little as 1% get newly enthusiastic about conservation. However, that doesn’t mean that 1% become actively involved, and even if they are, it’s having no effect given the state of wildlife slaughter and deforestation around the world. In our view, keeping hundreds of thousands of animals in captivity, just so a minuscule percentage of people might become active, effective conservationists, is far too high a price to pay.

Secondly and far more dangerously we are actively perpetuating and culturalising the next generation to regard zoos as a completely acceptable part of our society and significant participants in wildlife conservation, which understanding the above is clearly not the case. We need to focus the next generation’s attention on in-situ conservation only.

The third myth about zoo education is that you only get the benefits to conservation by having the animals in captivity in zoos. This is obviously not the case, when today there are fantastic wildlife documentaries which are so much more informative. For example, David Attenborough's documentaries are far more educational than visiting zoos and have also probably provided more information for animal research than research carried out at zoos. If you can get a masters degree in palaeontology without having living dinosaurs to study, clearly you can get passionate about wildlife

conservation without visiting zoos. We recommend that education regarding in situ wildlife conservation must be part of the national curriculum, including the reality of zoos and their limited role in conserving species. This will be far more effective than zoo-based conservation education.

There certainly can't be any justification for holding animals in captivity primarily for research, partly because animals behave differently in captivity to the way they do in the wild. There is no clear reason why any necessary research couldn't be done in-situ. One has to question the effectiveness of research in zoos, considering their failure to effectively deal with disease, hybridisation and genetic viability with the species in their care. Indeed, some people seem to consider research as conservation but, clearly, they are separate; research can be relevant to conservation, but in itself is not conservation.

THE ARK IS SINKING

Zoos argue strongly the importance of holding their species in captivity in order to provide a bank or animal ark, to hedge against extinction. This is another myth. We have already acknowledged that only 5% of these animals are critically endangered in the wild, with perhaps as few as three critically endangered mammals that are truly viable in European zoos. Therefore, why are zoos arking all these thousands of other animals? A huge number of these species are hybridised, inbred or diseased, so again, why are they being arked?

More importantly, zoos must ask themselves: A. at what point is an animal so threatened that it may need to be put in some form of captivity for breeding, and B. if so, why is this not done in-situ? An example is the mountain gorilla - their population in 1981 was 242, today it's close to 1,000. This is in a country surrounded by aggressive habitat destruction, civil war and poaching, and all done without any captive breeding.

If zoos believe they are truly acting as a modern day ark for an endangered species, why not actively pursue reintroduction programmes for the species they manage?

History shows that captive-born animals have made contributions to improved wild status of only a handful of mammal species. European bison, Przewalski's horse, and Arabian oryx have all been brought back from extinction in the wild using zoo-bred animals, but that is about it so far. Only a small number of animals held by European zoos have been the subject of release projects, less than 5% of mammal species held, and a third of those are species not considered threatened at a global scale². Even when captive-breeding is used in reintroduction projects, in 75% of cases zoos are not considered appropriate for undertaking the captive-breeding, with non-zoo facilities being preferred⁸.

In our experience there is an ingrained general belief in zoos that these animals belong in zoos for the reasons stated above, and cannot be rehabilitated back into the wild, as they have been institutionalised and lost their natural instincts ... why then are they arking them? Although we acknowledge that in some cases rehabilitation and release into the wild may not be possible, we have shown that in many cases it often is possible.

Zoos will also often say conservation can't be done in-situ because of cost, poaching and habitat destruction – but again, The Aspinall Foundation has proven otherwise, and often against the expectations of the zoo community. The Foundation has successfully released into the wild captive-born animals of several species, including western gorilla, black rhino, Javan gibbon, Javan langur, grizzled langur, brown hyena, Przewalski's horse and European bison⁹. The release sites have long-term protection and the animals are monitored for many years¹⁰. Our belief is firmly that every effort must be made to save the animals in-situ even if it is in some form of sanctuary or reserve within their range states, rather than inferior captivity in world zoos.

A good example of animals successfully reintroduced and protected in the wild is the Aspinall Foundation gorilla project. Even though gorillas are critically endangered, and western gorillas are one of the few critically endangered species with viable captive populations in Europe, there are estimated to be between 250,000 – 300,000 gorillas (of both species) in the wild, reinforcing our view that the gorilla population is clearly not at the tipping point where there is any need to hold them in captivity, therefore we have been reintroducing them successfully back into the wild for over 30 years, with over 70 released and over 30 births. Even if in the future the population reached an alarmingly low level, it would still be possible to conserve the species in situ rather than in zoos.

Another example is the greater bamboo lemur, which was one of the rarest primates on the planet. The implementation of the Aspinall Foundation community-based species survival programme for this critically endangered species in Madagascar has resulted in the species recovering from only 100 wild individuals to over 1000 in a decade of community-based conservation. Consequently, the greater bamboo lemur has been removed from the list of the 25 most endangered primates in the world¹¹. If these 100 individuals had been 'arked' by zoos to begin with then their recovery in the wild would never had taken place.

The problem of poaching in the wild is common knowledge and zoos use this as an excuse to hold elephants in captivity. However what zoos don't tell you, is the complexities of managing African elephants in captivity, and the associated problems of space for holding males. In European zoos this means they simply cannot breed enough elephants to maintain a sustainable elephant population. Basically the captive

population looks like it will go extinct faster than the wild population. Zoos in the US face a similar situation, and so are even now trying to import additional wild-born elephants from Africa^{12,13}. This highlights the general zoo mentality of wildlife import and in effect consumption being prioritised over in situ conservation.

What zoos also don't tell you is that there are around 180 African elephants in captivity in Europe; 60 or more are too old to breed, and the remaining 120 are descended from 45 elephants imported from Africa. The total genetic diversity of the current European population is estimated to be equivalent to that of 15 unrelated elephants. By contrast there are over 20,000 African elephants in protected reserves, private and public in South Africa alone¹⁴, with very little poaching, therefore completely negating the argument for an ark, especially as it is an animal that is wholly unsuitable for captivity^{13,15}. Even though The Aspinall Foundation has the best breeding success for African elephants outside of Africa, and we provide our herd with large open enclosures, there is no doubt that even our captive facilities do not provide sufficient space for the expression of the full repertoire of natural elephant behaviours.

There are hundreds of tigers of a number of species, held in European zoos. For many years rampant hybridisation and inbreeding has been commonplace. As a result, today there are possibly only a handful of genetically viable pure-bred tigers of any conservation value at all. This begs the question, what are they doing in captivity? Why has all the money been wasted on captive tigers and what is the plan for the remaining pure-bred tigers if there is no in-situ release programme? These are uncomfortable questions the zoo community refuse to acknowledge or ask themselves. At The Aspinall Foundation we are committed to only breeding pure-bred tigers and are actively searching for realistic release projects.

A further problem with the argument for the animal ark is the money wasted on building animal enclosures. To date zoos have spent hundreds of millions of pounds on building new enclosures, often for animals that are not even endangered, and in most cases it is for the benefit of the public, not the animal. For example zoos usually raise funds (through charitable means) under the context of conservation. It has been known for a zoo to spend upwards of £6-10m on enclosures to hold 2-4 large carnivores - surely this money would be better spent protecting over 100 tigers in situ for 10 years¹⁶. To make matters worse these zoo enclosures are often built for a human centric visitor experience rather than for the welfare of the animals. Often there is no privacy for the animal, and a lack of space which leads to inevitable mental stress disorders so common in captive animals.

There are far too many examples of misalignment of funds like this to list, so the simple question is, with the money that zoos raise through charitable means, is this better spent on a new enclosure, or protecting wildlife and habitat in-situ? The answer is obvious.

HYBRIDISATION & DISEASE

Until the mid 1980s there was no breeding programme that dealt with the issue of subspecies and genetic purity. Over many generations, individuals from different subspecies and sometimes from the same genetic lines were bred together without any coherent strategy. As a consequence, today, there is no accurate history or accurate genetic lineage for many species and subspecies, which makes it impossible for many of these species and subspecies to have any conservation value at all. While zoos have become aware of this recently and are trying to phase out hybridisation, the fact is this affects the vast majority of animals in captivity and is impossible to rectify.

What zoos don't want you to know, added to the hybridisation and genetic lineage issues we've highlighted above, is that a great number of captive species carry some form of disease that again negates any conservation value and precludes them from ever being reintroduced to the wild. Zoos have no obligation or incentive to be transparent about these vitally important issues. So again, we ask the question, what's the point of keeping these animals and continuing to breed them when there is zero conservation value. The reason is these animals' value is for public display and for profit. Not for arking the species, and not for reintroduction back into the wild.

The problems of disease, hybridisation and non-viable populations is endemic to captive animals. We have struggled to find more than a handful of worthwhile species in the entire worldwide collection that have any true conservation value, amongst the thousands held in captivity. Other people have come to similar conclusions, even when looking only at viability issues^{17,18}.

THE WAY FORWARD

We are suggesting that a plan is put in place so that all zoos are phased out over a 25 to 30 year period, starting with certain species that clearly are not suitable for captivity. Such a plan, expanded upon below, should be overseen by independent non-zoo professionals as self-auditing will not result in objective planning and action.

In the medium term, 10 years or less, small urban zoos, or any zoo 50 acres or less, should be considered for closing, or at the least there should be some mandatory regulations on the number of large mammal species that can be held in such small acreage. The reason for this is simply the smaller the space, the greater the stress on the animal, and in many of these smaller zoos they have far too many species in far too small spaces. This is common knowledge.

If animals are to be kept in captivity for the next 30 years, then serious improvements in husbandry and welfare of animals in zoos needs to be implemented. We believe the diet of animals in captivity is generally substandard with a lack of suitable variety and

quality which must be quickly improved. While zoos have certainly improved over the years with enrichment, there is still much more to be done¹.

We know that what we are suggesting will not be popular amongst the zoo world. However, it is our wish to work together to form a collaborative view on an honest and best way forward. If zoos oppose these views then we invite them to respond and list all the reasons why they keep each of their species, how they are dealing with disease, hybridisation and non-viable populations in a conservation context, and to justify all the money they spend on enclosures.

The Aspinall Foundation has learnt a huge amount in regard to animal reintroductions over the last few years and we try to enthuse other collections and pass our knowledge on, but all too often conventional thinking in zoos denies this possibility. As a consequence, we have made very little progress in convincing other institutions that reintroductions are a viable conservation tool at their disposal.

The Aspinall Foundation believes that many animals, threatened and non-threatened, that are currently in captivity, could be found homes in the wild or semi-wild. Our experience has shown that animals thought impossible to be reintroduced back into the wild, can be, if the necessary commitment and resources are in place.

For example, gorillas – the Aspinall Foundation has for over 30 years, been successfully reintroducing over 70 gorillas from both in- and ex-situ populations, into the wild, with an 97% annual survival rate¹⁰, and over 30 births to released animals. The added conservation value includes the protection for the whole reintroduction site. The Foundation protects over a million acres over the Bateke plateau, which spans the borders of Congo and Gabon, and by reintroducing a key stone species like gorillas, this provides umbrella protection for iconic species such as elephants, chimpanzees, forest buffalo, and lion¹⁹. The Foundation has worked on similar reintroduction projects across the world with black rhino, Javan gibbon, Javan langur, grizzled langur, European bison, brown hyena, and Przewalski's horses^{9,20}. The Foundation has organised in situ research to help guide conservation and reintroduction decision-making, and has developed community-based conservation projects in Madagascar that conserve several of the most endangered species on the planet through cost-effective in situ work without resorting to captive-breeding. Conservation and reintroduction efforts are at the core of the Foundation's thinking and planning, and should also be for all zoos globally.

We acknowledge that despite our own best efforts there are inconsistencies or hypocrisies in our own work. We accept that within our own establishments we suffer from the same problems described above as do other institutions, but we are owning up to the problems and we are committed to deal with the issues. For example, we will not breed any hybridised species and non-threatened species unless for release or animal welfare reasons and we will phase out these species over the coming years. We

will have a programme of renewing our signage where we will make clear the non-threatened species we hold. We will continue to lead the world in reintroductions of zoo-born mammals and will release further species back to the wild. We will continue work on researching relevant issues such as genetics and disease risk, and we will invest at least 10% of the value of gate receipts into in situ projects. We recognise and value the great work of the dedicated zoo keepers around the world, who are all passionate about animal welfare and conservation. We will continue dialogue with them and help them to ask questions about the real contributions of zoos to conservation.

It's obvious to me that zoos don't satisfy the criteria that they use to justify their continued existence: they do not play a significant role in the conservation of wildlife, their claims to educate are exaggerated, zoo research is compromised and better done in the field, if a total of only a handful of species held in zoos can be used as a hedge against extinction in the wild (after disease, genetic bottle-necking and hybridisation are taken into consideration), what is the point of 'arking' the thousands of other species held captive? In order to focus on the very real threat of extinction of wildlife around the world we should hasten the extinction of Homo Zoorocratus.

RECOMMENDATIONS FOR MANDATORY ZOO LICENCE REGULATIONS

Zoo regulation should be not be undertaken by zoo-people, but by external experts including wildlife conservationists. In order to obtain a zoo licence, it is our recommendation that zoos must do the following:

All species in zoos that are not extinct in the wild or critically endangered, should be phased out over the next 20 years, as well as any species with disease, hybridisation or lack of genetic viability.

Every zoo should have an active reintroduction programme of the species they keep, and should phase out the species for which they have no reintroduction programme.

In 10 years or less, urban zoos, or zoos less than 50 acres should be closed, or only hold a maximum number of species and individual animals.

All health records as well as hybridisation issues should be open, transparent and made clear to the public, and full genetic profiles should be built up of all species.

The public should be made aware of the animals that are *not* critically endangered.

All animal shows must stop immediately.

No animal can be locked out on permanent public display and must be given decent areas of privacy. It has been proven that animals who are locked out on display to the public and not given substantial amounts of privacy causes serious stress to the individual. Yet zoos tend to maximise viewing times and therefore animals are often subjected to this unhealthy practice. We recommend guidelines are put in place immediately to provide all animals with privacy and not to be locked out for extended periods.

Animal training for research or veterinary reasons has to have specific goals and guidelines to avoid unnecessary interference in their natural behaviour.

A minimum of 10% of zoo gate receipts must be directly invested in in situ conservation projects, including mandatory funding of in situ conservation for species they hold and discretionary funding of other conservation efforts, all of which must be fully transparent.

Zoos must justify that any amount over £250,000 spent on new enclosures is not better spent on protecting the wild. This should be judged by an independent panel.

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