Animals Asia recommendations to zoos and safari parks

1. **Diversification following the closure of animal-performance operations**
2. **Provision of care for performing animals**
3. **Creation of employment opportunities for performing-animal staff**

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Introduction

Animals Asia congratulates the Ministry of Housing and Urban-Rural Development for issuing a directive on the management of zoos in China. This directive follows a statement released by the State Forestry Administration on 30 July calling for these facilities to end the use of animals in circus-style performances and to improve the living conditions of captive animals.

Such performances portray animals to the public in a way that is humiliating for the animals as well as physically and emotionally disturbing. And there is little educational value in seeing animals that are housed in conditions that do not resemble their natural habitat.

The appalling treatment of many animals by performance staff demonstrates a lack of compassion and respect for animals. Allowing the public to view animals being forced to behave unnaturally and, in many cases being beaten into performing, conveys the message that it is acceptable to dominate and harm animals in the name of entertainment.

Through these directives, China is showing the world it is serious about protecting animals from the suffering caused by circus-style performances.

The role of the modern zoo

Zoos and safari parks are ideally placed to foster compassion for animals and raise awareness and understanding of the welfare and conservation needs of individual animals and species. A zoo's purpose should be to promote the interests of wildlife conservation, biodiversity and animal welfare to the public. Zoos should be able to entertain, while educating and empowering visitors to take action for the benefit of species and habitat conservation.

Visitors attending zoos should be encouraged to learn about the natural history of individual species, their natural behaviours, the threats to their survival and the need to conserve their habitats.

Zoos have the potential to become centres of research excellence in the fields of animal welfare, environmental enrichment, conservation education, enclosure design, and species and habitat conservation. Only when abusive animal performances have stopped will zoos be able to develop as important institutions for the dissemination of information with regards to species and habitat conservation, and play a more active role internationally in species conservation and education.

Recommendations

Animals Asia understands the concerns of zoo personnel worried about the potential loss in income as a direct result of the ban on animal performances and close interaction between visitors and animals. We also recognise the threat a ban on animal performances can have to the survival of the animals used in the performances and to the jobs of the performing-animal staff.

However, there are many activities and initiatives that zoos can develop to ensure the welfare of the performing animals is protected, employment opportunities for the performing animal staff are provided, and measures taken to compensate for the ban through the development of zoos as centres for conservation education and animal protection. These initiatives are outlined below:

a. Development of in-situ conservation programmes

China contains a glorious array of animal and plant species within a diverse range of habitats including tropical and temperate forests, upland grassland and deserts. Rapid development has led to extensive habitat degradation leaving many species on the edge of extinction.

A number of zoos are engaged in habitat-conservation programmes. Animals Asia recommends additional investment in in-situ conservation programmes to protect endangered species with particular emphasis on threatened endemic species. Four successful habitat conservation programmes in China are outlined below:

1) **Primate conservation:** International conservation organisation Fauna & Flora International (FFI) has been working on species and habitat conservation programmes in China since 1999.

   Hainan gibbon conservation**:** The Hainan gibbon is considered the rarest ape in the world, with only two family groups known to survive in the core of Bawangling Nature Reserve on Hainan Island, off China's southern coast. FFI is helping to increase awareness of the importance of this species by supporting environmental education in local schools, and helping nature reserve staff improve their conservation skills in order to better protect the gibbon habitat that remains on Hainan.

   Cao Vit Gibbon conservation**:** The critically endangered Cao Vit Gibbon was previously believed to survive only in one location in northern Vietnam. In 2006, three more groups were discovered in adjacent forest in Guangxi Province, China. Since then, FFI has been active on both sides of the international border to improve the Cao Vit Gibbon's chances of survival. In Guangxi FFI has been raising awareness among local communities and government and has supported the establishment of a protected area, and detailed research and observations of this previously little-known species.

2) **The Sichuan Forest Biodiversity Project**: This project was implemented by Chester Zoo and Liverpool John Moores University in the UK. Other stakeholders involved in the project include the Sichuan Forest Department, Chengdu Giant Panda Captive Breeding Base and World Pheasant Association. The overarching aims of the project are to enhance the network of protected areas for forest biodiversity in the Liang Shan region of southern Sichuan; this is being achieved by increasing local reserve staff, and engaging local people in sustainable management and development.

The conservation significance of this forest is highlighted by its inclusion in the Mountains of South-west China Biodiversity Hotspot (Conservation International) and the Chinese Subtropical Forest Endemic Bird Area (Birdlife International). These broadleaf forests are home to the endangered Sichuan hill-partridge (*Arborophila rufipectus*), which is confined to forest in central southern Sichuan and has been the subject of detailed research since 1995. Through this research, it became clear that the area contained a high diversity of birds and was important for a number of other endemic species. The area is also home to the southernmost surviving population of giant panda (*Ailuropoda melanoleuca*) as well as several other significant threatened mammals, amphibians and plants. Surviving populations of these were seriously threatened with doubts as to their long-term survival. Thus, what began as a research project focusing on the endangered Sichuan hill-partridge, has evolved into a multi-faceted conservation project involving the development of a network of protected forest areas within the Liang Shan region.

3) **Mandarin Duck conservation programme, Beijing Zoo**: The Mandarin Duck is a Class II key state protected species in China. The current Asian population is estimated to be under 20,000. Beijing Zoo initiated an on-site habitat conservation programme to attract wild mandarin ducks to breed at the zoo. The zoo has now installed artificial nesting boxes equipped with video cameras to monitor the entire cycle of the birth of the young.

4) **Red-crowned crane conservation programme, Shijiazhuang Zoo**: A wetland habitat has been created from a wasteland site at Shijiazhuang Zoo, providing a large open environment with a variety of habitat types. The habitat provides nesting areas for wild birds, which include a population of endangered red-crowned crane that returns each winter to breed.

Animals Asia recommends zoos develop partnerships with the wider conservation community, including wildlife agencies, conservation organisations and research institutions that assist in maintaining global biodiversity and participate in initiatives to protect the habitat of threatened species.

Examples 1 and 2 provide details of established species and habitat conservation programmes co-ordinated by international organisations working in partnership with provincial governments. Zoos can play an active part in these and many other established conservation programmes, by becoming involved in ongoing research and field work and through the promotion of such programmes to visitors.

Examples 3 and 4 provide details of habitat and species-conservation programmes for wild-animal populations taking place within the boundaries of the zoo. In addition to the conservation benefits these programmes bring, it is possible to immerse visitors into this habitat to see conservation in action.

Once engaged either as a partner in a habitat-conservation programme or within the zoo's own on-site habitat-conservation programme, the zoo is able to publicise this work through conservation-education initiatives based at the zoo and through outreach initiatives, encouraging visitors to attend the zoo to learn more and participate in such initiatives.

b. **Investment in enclosure design**

Visitors come to zoos to view species they are unlikely to have the opportunity to see in their wild environment. Therefore the animals' enclosures play a crucial role in the education of the visitor and the impression they receive while viewing the animal at the zoo.

Animal exhibits should be designed with three basic principles in mind:

i) The provision of facilities and opportunities to ensure that the "five freedoms" of animal welfare are fulfilled. (See appendix 1)
ii) The provision of facilities to allow keepers to care for the animals adequately and promote good welfare.
iii) The provision of safe visitor access, with facilities and activities to educate visitors and provide an enjoyable experience.

From the initial point of enclosure-design everything should be done to ensure that housing and husbandry stimulate the animals, both physically and psychologically.

Ideally enclosures will be designed to imitate aspects of an animal's natural environment and provide visual detail to visitors on the habitat within which a species lives. Enclosure design must also provide access for keepers, veterinary care, and isolation facilities. There are a number of constraints that need to be taken into consideration including space, existing buildings, regulations and, of course, finances.

Examples of enclosure types Animals Asia recommend zoos develop include bio-domes, which create an environment not normally present but suits the needs of the species exhibited, and walk-in aviaries allowing freedom for birds and butterflies to express their own natural instincts.

Due to the vast number of species that zoos exhibit, it is not possible to provide specific details for all species, but we recommend zoos access available resources. One such valuable resource is The ZooLex Zoo Design Organization http://www.zoolex.org/about.html , which was established to help improve enclosures for wild animals in captivity by:

- publishing and disseminating information related to zoo design;
- promoting appropriate holding conditions for wild animals in captivity;
- providing balanced technical information and advice about zoo design; and
- supporting research and vocational training related to zoo design.

Through the ZooLex website, it is possible to view examples of species-specific enclosure design and entries provide detailed information on the design and construction of such enclosures, including costs.

There are many examples of award-winning animal enclosures within the international zoo community, and continual progress within this field is leading to the development of enclosures being designed to provide additional space and complexity to meet more of a species' physical and behavioural needs. One such example is the Budongo Trail enclosure at Edinburgh Zoo:

In 2008, Edinburgh Zoo's world-class chimpanzee enclosure, Budongo Trail received two awards from the British and Irish Association of Zoos and Aquaria. This specialised enclosure can house up to

40 chimpanzees, with three "living pods" of varying temperature and layout, and an extensive outdoor climbing frame offering the chimpanzees space for exploration. The zoo was awarded "Best New Enclosure" and "Best Education Project" for Budongo Trail's innovative fun, interactive exhibits, which allow visitors to learn more about the primates and their habitat. Budongo Trail also educates visitors about the Budongo Conservation Field Station (BCFS) in the Budongo Forest, Uganda. BCFS involves the study of endangered chimpanzees in their natural habitat and the relationship between biodiversity and the local community, and is primarily funded by the Royal Zoological Society of Scotland (RZSS), which owns Edinburgh Zoo.

Further species-specific information on enclosure improvements can be accessed via a number of organisations:

- Detailed information on the provision of enclosures for bears can be obtained through ALERTIS fund for nature conservation: http://www.largebearenclosures.com/.
- The World Association of Zoos and Aquariums "virtual zoo" website provides guidelines on enclosures and recommended size and facilities. It must be remembered that these are minimum size guidelines and we recommend larger enclosures are provided where possible http://www.waza.org/en/zoo/.
- American Zoo Association, Taxon Advisory Groups (TAGs) have developed "Standardized Guidelines for Animal Care". Access to these details online requires membership http://www.aza.org/. A number of TAGs have developed separate websites which provide very useful information on exhibit design and general species management in captivity, for example:
    - Elephant Taxon Advisory Group exhibit design details can be viewed at: http://www.elephanttag.org/Professional/professional_exhibitdesign.html

Innovative enclosure developments will encourage the adoption of more natural behaviours by the species exhibited, providing a greater visitor experience, and influencing visitors' attitudes towards species and habitat conservation.

c. Conservation education programmes

Education is a fundamental role of a modern zoo, and raising awareness of species and habitat conservation an essential part of any educational programme. We recommend the development of conservation-education programmes that inform zoo visitors about the natural history, natural behaviour, conservation status, threats to survival and actions people can take to help species survival, fostering environmentally responsible behaviour.

Conservation-education programmes should demonstrate the link between the animals in your collection and the conservation of their wild counterparts. Conservation educators have the ability to inspire people to learn more about the environment and take action to change the world around them based on the decisions they make.

Education programmes aimed at the general public need to be fun and interactive, allowing visitors to gain a passive acquisition of knowledge during their visit. More structured educational activities can be employed to provide information to specific groups of visitors, such as schools and college students. A wealth of information regarding the development of education programmes can be found through the website of the International Zoo Educators Association: http://www.izea.net/education/Developing%20a%20Conservation%20Education%20Program.pdf

Educational programmes can be carried out in a variety of ways. Below are a few examples:

- **Presentations/talks at animal enclosures**: your animals are the greatest educational resource you have. Therefore encourage visitors to spend time observing them in their enclosures by developing fun and informative talks at the location of the animal enclosures presented by a team of animal-keepers throughout the day.

  If your enclosures provide a naturalistic environment and/or your keepers use enrichment to stimulate the natural behaviours of the animals, the visitors' time at the enclosure will be rewarded. Each talk can last as little as 10 minutes and should include lots of fascinating facts about the individual animals in the zoo, the behaviour of the animals in the wild and their conservation status. Talks also provide an excellent opportunity to engage visitors in active conservation by informing them of what they can do to help to conserve endangered species and habitats. Talks also provide an opportunity to inform visitors about the conservation and research work your institution is involved in outside of the zoo.

- **Exhibitions**: non-animal exhibition spaces provide you with great flexibility to generate new and exciting exhibitions based on national and international themes. One possible suggestion is to develop an exhibition to launch the Year of the Bat campaign in 2011-12. Next year has been designated the Year of the Bat by The United Nations Convention on Migratory Species (CMS) and the Agreement on the Conservation of Populations of European Bats (EUROBATS). This initiative is supported by the World Association of Zoos and Aquariums and provides an excellent opportunity to develop a visual non-animal exhibition based on bat conservation.

  Working in association with national and international wildlife conservation and/or animal welfare organisations will help to maximise the resources available for such exhibitions and associated publicity. For example, an exhibition raising awareness of the illegal trade in endangered species products could be carried out in association with organisations such as Wild Aid http://www.wildaid.org/index.asp?CID=1 a conservation charity, whose mission is to reduce consumer demand for endangered wildlife products**.**

  Examples of exhibitions include:

  - Zoo Atlanta (USA), which has installed an exhibition documenting the bushmeat trade, consisting of photographs and accompanying text about live animals, dead animals, logged areas and hunting pictures;
  - Chester Zoo (UK), which has an exhibition called "Zoo Vets – the inside story", which provides an insight into the work of the veterinary team at the zoo. The zoo uses a variety of interpretative techniques and has a presenter on hand to answer any questions. The exhibition provides information to the public on the work of a zoo vet and is of interest to students interested in working in animal care; and
  - Bristol Zoo (UK), which developed an exhibition in its aquarium alerting visitors to the link between seafood choices and marine conservation. The project aims to promote greater awareness among visitors of the sustainability challenges facing the world's oceans and of the Marine Stewardship Council (MSC) as a viable means of helping to solve these issues. The display includes a model pelagic trawler and net floating on the aquarium ceiling, as well as an interactive children's area with giant models, marine-related puzzles, aquatic puppets, a mural and sea chests. There is also a freezer cabinet display filled with MSC–labelled products and take-home leaflets.

Ideally, any exhibition will have education staff on hand to guide visitors through and to answer any questions.

- **Theatre performances**. Theatre is an excellent tool to convey a serious message in a fun way, and is especially appealing to children visiting zoos. The core principle is that learning should be so much fun that visitors don't even realise they are learning and they leave the performance eager to learn more about the issues raised through the performance. Inspiration for a theatre performance should come from the natural world and incorporate local and national folk stories, a theatre performance provides a perfect platform to convey the important messages of habitat loss and poaching and the affect this is having on our surrounding environment. The performance should incorporate a message of environmental protection and provide hope and inspiration to the audience that small actions they can take will help to conserve our natural environment for future generations. Human actors dressed in animal costumes should be used to convey these messages.

- **Interactive signage at animal enclosures**: zoos should provide information to visitors and create passive learning experiences through the provision of informative signs. Signs should provide accurate information concerning the species exhibited, including, as a minimum, the species' name (both scientific and common), its natural habitat, its biological characteristics, geographical distribution and details of its conservation status. We recommend zoos use signs to inform visitors about the way in which they manage their animals providing details of environmental enrichment techniques employed at the zoo and why this is necessary for the animals in the collection.

  Zoos can also play a vital role in educating the public about the welfare needs of all animals and we recommend zoos provide signs to promote environmental protection and animal welfare. Examples include:

    - **Guangzhou Zoo**: An interpretation sign at the tiger enclosure provides information on tiger conservation, and animal welfare, including the need for enrichment and on-going work to improve the tiger enclosures at the zoo. The sign also asks visitors not to eat wild animals.
    - **Shijiazhuang Zoo**: Interpretation signs provide information on the "Five Freedoms of Animal Welfare", informing visitors that animals have emotions and senses and people have a responsibility to reduce animal suffering when raising, transporting and killing animals for food. The signs tell the reader to treat animals humanely, and inform visitors that China has no animal-protection laws, which allows some zoos to carry out cruel practices such as the feeding of live animals to predators.

- **Conservation education centres and education staff:** A conservation-education centre should form the focal point for all the zoo educational initiatives. The centre can host exhibitions as well as provide a learning environment for visiting school and college students. Education sessions should be offered to all groups from early childhood to university level.

    - **Educational programmes for schools**; trained education officers will be able to develop sessions linked to curricula in schools and create an engaging experience, the emphasis being on first-hand opportunities and participation.
        - **Bristol Zoo, UK** : Conservation-education staff use items such as skins, furs, tusks and stuffed specimens (many of which have been confiscated by the authorities monitoring the trade in endangered species) Short film clips and

audio clips are also often used to support educational topics. Close-up cameras help to show extra detail on smaller invertebrates. Many sessions have downloadable topic-centred notes for teachers to help with ideas prior to and following a zoo visit.

- **School outreach programmes**; if schools cannot come to the zoo, offer an outreach programme for your education staff to visit the school and provide slides, talks and fun and interactive games for children to learn about the animals at your zoo and the conservation programmes you support.

- **Multi-media Educational Displays**; Develop multi-media educational displays to demonstrate aspects of animals' lives that cannot always be seen by observing animals in a captive environment, and to "virtually" exhibit species that cannot be kept in a captive environment, such as a wide variety of invertebrates and marine species.

  Examples of media types include films, photographic exhibitions, web sites, computer games, touch screens, cell phone audio tours and apps. Such media can be utilised to educate visitors about the natural behaviour and conservation status of animals being exhibited.

  An example of a new and innovative technique is the use of 3D, voice-activated computer animation, such as that used by Disney-Pixar's to deliver a talk about turtles at the Disney Epcot Center's Living Seas exhibition. The technologies allows an on-screen turtle to communicate directly with the audience—in real time—and hold unique, improvised conversations with audience members as well as educate viewers on the need for the protection of the marine habitat.

d. <u>Develop the research capacity of zoo personnel</u>

We recommend zoos develop partnerships with national and international organisations working in the fields of animal behaviour, conservation biology, and animal welfare to develop research programmes that benefit both the animals at the zoo and habitat conservation in general. Areas of research to consider include:

- Behavioural husbandry and animal welfare
- Behavioural ecology and cognition
- Conservation, ecology and environment

This research may extend beyond the zoo grounds, to reserves and field conservation as discussed above in relation to the development of in-situ conservation programmes. Many zoos partner with local universities to provide research opportunities for students, as well as generating valuable data for the zoo. For example, Edinburgh Zoo in the UK collaborates with four Scottish universities to establish a purpose-built centre (the Living Links to Human Evolution Centre). Primatologists from each of these universities are able to use the centre to study primate behaviour.

Training in research methods should also be provided to zoo staff, enabling them to collect data and conduct research.

We recommend zoos develop research that furthers knowledge in captive-animal management and so benefits the welfare of animals in captivity.

We also encourage the dissemination of research results and achievements in appropriate publications and forums. Through such research development, your institution can become both a national and international centre of excellence within particular research fields, such as welfare, conservation, or animal behaviour.

e. <u>Develop an enrichment working group</u>

The development of an environmental-enrichment working group will help to improve both the lives of the animals in the zoo and the skills and knowledge of the zoo staff. Your animals will exhibit more natural behaviours and provide a greater visitor experience for your zoo visitors to have fun and learn about the animals at the zoo.

Experience of managing animals in captivity is continuously improving, as is our understanding of the physical and psychological needs of animals. We can use this knowledge and experience to improve the lives of captive animals providing them with species-appropriate opportunities and improving their quality of life.

For comprehensive details of the theory and practical implementation of enrichment ideas, we recommend visiting www.enrichment.org.

An enrichment programme should aim to meet the following goals:

1) Increase behavioural diversity;
2) Reduce the frequency of abnormal behaviours;
3) Increase the range or number of normal (wild) behaviour patterns;
4) Increase positive utilisation of the environment; and
5) Increase the ability to cope with challenges in a more normal way.[1]

Enrichment working group members should source information and potential aid from zoos, zoo associations and NGOs with experience in managing animals in captivity to provide enrichment for all animals within the park;

One of the most important components of any enrichment programmes is the people who work with the animals. A successful programme requires the animal care-givers or managers to be motivated, educated and empowered. Animal management staff need to have the skills to develop, implement, monitor and adapt safe enrichment ideas for the animals in their care. Enrichment needs to become part of the animal manager's daily routine, as important as the cleaning, feeding and provision of water to ensure the needs of the animals are being met to the best of the animal manager's ability.

The zoo can work towards becoming a centre of excellence for the provision of environmental enrichment for captive animals; to achieve this, we recommend implementation of the following measures:

a. Work with national and international organisations with experience in training staff to provide zoo staff with training in the development of species-specific enrichment programmes that will allow staff to implement enrichment for the animals in their care;

[1] Chamove, A.S. & Moodie, E.M (1990) "Are alarming events good for captive monkeys?" Applied Animal Behaviour Science 27, 169-76.

b. Encourage all staff to participate within the environmental-enrichment committee meetings to source information, discuss new enrichment ideas, and evaluate the successes and/or failures of current enrichment programmes;
c. Provide funds to source resources (books, videos, training workshops) to continue to expand the staff's knowledge of environmental enrichment;
d. develop an enrichment diary to record individual enrichment projects and their level of success, the information collected will allow the enrichment group to analyse the effectiveness of the device; and
e. Use the information gleaned from the enrichment diary to develop an enrichment manual describing the types of enrichment that have been tried, and detailing the relative success. Disseminate this information through national and international zoo-management workshops.

In addition to the benefit to the welfare of the animals involved in an enrichment programme, the visitor will be able to observe animals exhibiting positive behaviours they have not seen before. This will provide a greater visitor experience and encourage visitors to recommend the zoo to family and friends.

(For details of species- specific enrichment ideas for species traditionally used in circus performances, see appendix II)

f. <u>Provide a home for animals used in performances</u>

Invest in species-specific facilities to provide housing that meets the physical and behavioural needs of animals currently used in performances, to satisfy their welfare needs and to meet the welfare conditions of the new Chinese government directive. *Details of enclosure design can be found in Section b.*

If it is not possible for an institution to accommodate some/all of the performing animals, we recommend they approach other establishments with facilities, resources and expertise that can ensure the welfare of the animals will be met. If homes cannot be found for performing animals, we recommend humane euthanasia carried out by qualified veterinary personnel. Euthanasia is recommended as a last resort to ensure the welfare of the animals is not further affected through a life of captivity (and thus nutritional, social and behavioural deprivation) within an inappropriate environment.

g. <u>Provide employment for performing-animal staff</u>

Provide employment for performing animal staff to promote environmental and animal protection through additional education initiatives and/or the development of human-based theatre-style performances to pass on a message of environmental protection to zoo visitors without the use of animals. *See Section c for details of conservation-education initiatives.*

With training in animal care and management, performing animal staff can also be integrated into the current zoo management staff and learn to care for the animals to meet their physical and behavioural needs.

h. <u>Provide human acrobatic performances</u>

Invest in the development of human acrobatic displays as a form of entertainment to replace animal performances. Human acrobatic performances are based on the skill and the physical fitness of the

performers and have become the circus act of choice for many millions of people across the world replacing the use of animals. Such displays will quickly become a popular attraction as visitors look towards new forms of entertainment, bringing additional people to the zoo. Two examples are provided below. While we understand that you are unlikely to have the resources to provide performances on the same scale as these, in many cases zoos and safari parks already have the arenas and can provide a similar performance on a smaller scale, employing established acrobatic teams.

The Chinese State Circus is an international example; the information below documents the current Chinese State Circus tour of the UK. http://www.chinesestatecircus.com/

"The CHINESE STATE CIRCUS Presents

MULAN

Featuring the amazing SHAOLIN WARRIORS

From the land of legends and warrior monks comes the incredible new Chinese State Circus production – the new live action spectacular – Mulan.

A breathtaking fusion of precision acrobatics, Shaolin martial arts, dazzling circus skills, colourful characters from Peking Opera, physical theatre and drama choreographed to an original music score, MULAN is based on the legend of one of China's greatest heroines. Although the tales of how a peasant girl led an army to save her nation from invasion have spread over the world in poems, songs, books and films, this is their first incarnation in the all-action world of international circus.

Entertainment for all the family – from the world's leading Chinese acrobats. From gravity-defying gymnastics to the seemingly impossible body manipulations of the hand-balancer; from the leaping, rolling somersaulting repertoire of the hoop divers to the lavish tradition of the Lion Dance – the undisputed masters of physical theatre will have the audience on the edge of their seats.

Blink and you could miss it – such are the lightening reactions of the greatest exponents of martial arts – the Shaolin Wushu Warriors. Trained at the Shaolin Temple, the stretch the limits of human achievement in the dazzling new production of The Chinese State Circus.

The title role of MULAN is performed by martial arts expert, Cao Jing making her first appearance in the UK. Her 15 years of Kung Fu training will be put to the test in a dramatic fight sequence in which she encounters a giant warrior. Cao Jing started learning martial arts when she was only six years old and has won three championship titles.

Two of the most colourful characters in Chinese folklore, from the exclusive Peking Opera – the Monkey King and his zany companion, Pig – are our guides through the adventure.

Passed down for thousands of years from generation to generation, the ballad of Mulan, written during the Tang dynasty, two thousand years ago, is one of China's best-loved stories. It is the inspiring heroic story of a strong-minded country girl who joined the Emperor's all-male army in place of her father who was too old to fight. Through her warrior skills she was promoted to the rank of General yet throughout her epic exploits defeating all her enemies no one was aware that she was a woman.

The Artistic Director of the Chinese State Circus, Phillip Gandey, said that this was one of the most challenging productions so far. He spent many weeks travelling throughout China – in search of not only the best acrobats but also auditioning Peking Opera artistes, actors and Wushu performers for the acting roles."

A further example is the internationally renowned Cirque de Soleil with human acrobatic performances across the world. In Asia they perform a production called Zaia at the Venetian in Macau. Details of this performance are below:
http://www.cirquedusoleil.com/en/shows/zaia/show/intro.aspx

"ZAIA is the most dazzling show ever staged in Asia. This brand new 90-minute mega-production brings together 75 high-calibre artists from all four corners of the globe.

ZAIA is the dream of a young girl who journeys into space on a strange, yet familiar voyage of self-discovery. As she travels, she encounters the beauty of humanity and eventually brings it back with her to share with the inhabitants of earth.

ZAIA presents a young girl's perception of the stars and planets, space and infinity, all populated by a panoply of fantastic, literally out-of-this-world creatures. The title, ZAIA, comes from a Greek name meaning "life" and is also reminiscent of "Gaia," the living, self-aware, spirit of earth.

ZAIA is a show that highlights dance, movement and aerial acrobatics, soaring to the farthest reaches of space and human beauty."

Conclusion

Circus-style animal performances are currently a popular visitor attraction in Chinese zoos and safari parks, yet these performances cause suffering to many thousands of animals across China. This suffering has been recognised by the Ministry of Housing and Urban-Rural Development and the State Forestry Administration. This is despite animal protection being a fundamental aspect of Chinese culture. In recent years, an increasing number of people in China are reconnecting to old philosophies that promoted protection of the environment and protection for animals.

In September 2009, during a conference on animal protection held in Beijing, Professor Mang Ping from the Central Institute of Socialism expressed this through the following words:

"In Chinese history there is a long tradition of protecting animals, but we have forgotten about this past. In ancient times we had political and daily practice of protecting animals. The Tang Dynasty is a glorious period of civilisation, during a 300 year rule of Tang there was a suspension of animal slaughter and animals were shown mercy by Buddhism and Taoism. Each year, during one third of the 365 days people were not allowed to slaughter animals and you could not buy fish in the markets. Our culture is embedded in benevolence which is the core of Buddhism. It has great impact in terms of animal protection and in line with our Chinese culture. People were closely connected in terms of appearance and blood with animals and when you read ancient books you can feel that. In this modern world we forget a lot about these fundamental things even though there are improvements in science. Harmony with nature dominates Chinese culture. In Qing dynasty we introduced Buddhism and Taoism into Confucianism. The core concept of Chinese culture is benevolence and if we lose it we lose Chinese culture. We have the same sympathy and mercy as the West towards animals. Buddhism has introduced mercy of non killing into Confucianism.

Back in the former dynasties there were scripts showing that the behaviour prescribed for animal protection was the first in terms of political decree. In previous dynasties you were not allowed to kill young cubs, or pregnant animals and working animals. However, today you can see people eating young animals and this is a shame on the Chinese people. The Qing Dynasty stated that working animals were not to be slaughtered. So this reflects benevolence towards animals in Chinese culture and represents Buddhism Taoism and Confucianism"

Through the educational work of Animals Asia, we are seeing an increasing number of Chinese citizens re-connecting with these ancient philosophies. In recent years we have seen the development of over 60 animal-protection organisations across China and we are now debating the development of an animal-protection law for China to protect farm, companion, laboratory, and captive animals from cruelty. Coupled with the issuing of these recent directives on the management of animals in zoos, this is evidence that the protection of animals is very much a part of Chinese culture and support is growing for the development of measures to protect animals across the country.

Ending the circus-style animal performances and implementing some of the recommendations above will demonstrate a public commitment to protecting the natural environment, protecting animals from suffering and protecting species from extinction.

Your zoo can become a centre of entertainment based on conservation education, empowering visitors to play their part in species conservation and, in so doing, improving the reputation and status of the zoo with national and international visitors, whose numbers will increase.

APPENDIX I: The Five Freedoms of Animal Welfare

The welfare of an animal includes its physical and mental state. Good animal welfare implies both fitness and a sense of well-being. Animals Asia believes any animal in captivity must, at the very least, be protected from unnecessary suffering. An animal's welfare should be considered in terms of the internationally recognised "Five Freedoms":

- **Freedom from hunger and thirst**: Both food and water are basic needs. The method of food presentation, the frequency of feeds and the nutritional balance must be taken into account. Food should be presented in a manner and frequency commensurate with the natural behaviour of the species, (where appropriate) as well as its nutritional requirements, which may vary according to season. Access to clean drinking water must be provided at all times.
- **Freedom from discomfort**: An environment consistent with species requirements must be provided. This should include shade and shelter from rain, heat and cold as appropriate. For example, animals that dig and root must be provided with suitable substrates, and climbers with appropriate three dimensional environments. A balance must be struck between hygiene and the species' biological requirements.
- **Freedom from pain, injury or disease**: Enclosures should be designed to prevent animals being injured. Curative and preventive veterinary medicine should be provided, and every effort must be made to provide a correct diet and suitably hygienic environment from which pathogens are excluded or controlled.
- **Freedom to express normal behaviour**: Animals should be provided with the opportunity to exhibit most normal behaviours. Enclosure design and management should reduce abnormal behaviour, such as begging, pacing or head swaying.
- **Freedom from fear or distress**: Interaction with keepers, visitors and other animals should be positive and rewarding. Particular areas to consider include: group composition, sex ratios and numbers of animals in an enclosure as well as space and furniture in both indoor and outdoor areas. Zoo animals are often confined for long periods in indoor areas and the group composition should reflect this situation. Enclosure design should allow for as much normal behaviour as possible, and provide areas of escape from other animals and the public.

APPENDIX II: Enrichment techniques

Bears:

See Animals Asia Foundation General Husbandry and Management Practices for Asiatic Black Bears:

Enrichment

- Use a pitfall feeder: dig a hole in the ground, line it with a concrete pipe (to stop the bears from digging) and drop food into the hole, this will encourage the bears to reach into the hole and use their paws to find and remove the food.
- Use a stump treat feeder.
- Novel foods: pumpkins, stinky tofu, etc.

Bird enrichment: Parrots, cockatiels, macaws, etc

- Provide plastic chains and wooden toys suspended from the top of enclosures.
- Provide soft substrate to allow birds to dig if appropriate.
- Provide fresh branches and tie dried whole coconuts around the enclosure for birds to chew.
- Ensure birds have companions to allow appropriate social interaction. Social partners are an infinite source of response-contingent stimulation, allowing an individual to interact with its surroundings to a much greater degree than if it was alone (Thompson, 1996). Hence, it would be preferable if birds were placed in social groupings rather than exhibits of single specimens. Care must be taken at all times, however, to ensure that species known for their aggressiveness are kept under a watchful eye, and that introduction cages are used when placing new birds into an aviary. With constant and careful observation, aggression can be minimised.
- Provide mist sprays for tropical species and sprinklers to allow birds to bathe and cool down during hot periods;
- Provide “browse” (greenery and branches) in the aviaries to keep the birds occupied.
- Provide food on a “kebab feeder” by threading fruit, vegetables or nuts onto a length of wire, one end can be hooked into the roof of the enclosure or attached to a rope or branch. In the case of nuts, a nail and hammer are used to create holes in individual nuts through which the wire can pass.
- Attach strips of wood to the walls of the enclosure to encourage climbing and the utilisation of the space.

Primates (general)

Many species of primates are strictly arboreal (they never willingly come to the ground) therefore their utilisable space must be calculated only in terms of arboreal space.

Primate Enrichment compiled by Amy Burgess, Lead Keeper, Oakland Zoo

Exhibit Enrichment

- Climbing structures: trees, telephone poles, cargo nets, artificial vines, rope, etc.
- Weather considerations: rain cover, shade structures, sunny spots, wind breaks, etc.
- Substrate variety: grass or ground cover for reclining on, sand boxes for digging, soil, compost dirt, mulch piles, silage, piles of hay and straw (good for inside night houses)
- Bramble piles, log piles to rearrange, to hide forage foods, for breaking up exhibit space and offering protection for subordinates
- Variety of feeding sites or feeding options
- Water features: pools, waterfalls, moats, sprinklers, showers, misters

- Mechanical devices: random mechanical dispensers can be installed in artificial exhibit features to disguise their unnatural appearance
- Items that can be hung at varying heights
- Unobtrusive training area for mid-day sessions or vet examinations
- Truck access for large exhibit renovations or furniture replacement
- Safe access for the keeper to offer mid-day feedings
- Mixed species for social stimulation (i.e., some primate species are exhibited with small ungulates, or small primate species (tamarins) with birds, reptiles, etc.)

Dietary Enrichment

- Browse for eating and exhibit complexity
- Variety of feeding times
- Variety in offered produce, or several different "set" diets
- Edible local plant material
- Desensitization to various types of food vehicles for future medication delivery: juice from water bottles, sandwiches
- Condiment pastes to hide bitter tastes: BBQ sauce, mustard, salad dressing, etc.
- Seeds, nuts
- Cereal, crackers, popcorn (can be found in low-salt, low-fat forms)
- Treat foods: jelly honey, cookies, etc.
- Popsicles
- Insects
- Increased number of feedings as opposed to increase in food amounts

Novel Enrichment/Social Enrichment

- Recycled items: cardboard boxes, shredded paper, cardboard tubes, plastic jugs, either alone or stuffed with forage foods
- Old linens: sheets, towels, pillows, etc. (can be woven into hammocks and tied into caging, filled with pine needles, forage foods, etc. and tied at the ends or used for nest building.)
- Various sized plastic barrels, either free or affixed to walls, for: nests, tunnels, forts, filled with boxes, blankets, substrates and treats and used for "display behaviour"
- Browse: loose, hanging, for eating, exhibit complexity, perching, olfactory, as tools
- Baby toys for simple, occupational activities
- Tactile enrichment: variety of textures such as doormats, fibre matting, scrub brush heads, velvet or satin, egg carton foam, etc.
- Olfactory enrichment: aromatic flowers, spices, perfumes, lotions, perfume ads, other animal odours, etc.
- Visual enrichment: colourful items, mirrors, television, different coloured balls with different types of treats
- Auditory enrichment: music, nature sounds, recorded vocalizations of other species
- Social activities: species appropriate social groups, training programs to build rapport with keepers, improve husbandry, reduce stress and increase veterinary capabilities

Big cats

- Provide trees, raised log walkways and wooden platforms to allow animals to climb, exhibit their natural arboreal behaviour and use as viewing points.
- Provide pools to allow animals to keep cool during the hot weather .
- Provide soft substrate.

- Provide scratching posts/logs and consider switching these between enclosures to allow animals to experience other scents.
- Food can be fed to the big cats inside hessian sacks, allowing animals to rip open the sacks stimulating their actions in the wild.
- Provide carcasses for feeding.
- Provide materials impregnated with artificial odours.
- Install a telegraph pole in the enclosure and suspend food from the top of the pole allowing the animal to use its natural climbing ability to climb the pole to reach the food.
- If space is limited, use time-sharing of enclosure space, allowing certain individuals access at different times of the day. Males and females time sharing an enclosure space are likely to take great interest in the scent-marking activities.
- Provide ice-blocks for feeding. These can contain a variety of fresh fruit.
- Provide a substrate pit and place items such as leaves, hay, and straw into it.
- Erect visual barriers between large carnivore species to reduce the amount of pacing behaviour.

Elephants

The Elephant Charter provides general information on the lives of elephants and can be viewed at: http://www.theelephantcharter.info/index.php?option=com_frontpage&Itemid=1

- Elephants have an intrinsic right to experience a life for which, through evolutionary time, they have been adapted. We must endeavour to ensure that the core interests of captive elephants are met such that they do not suffer as a consequence of our actions.
- Elephants require sustained biologically relevant activities for body and mind. We are obliged to account for this and the consequent necessity of large space for elephants in the wild and sufficient space in captivity.
- We deprive elephants and harm their emotional well-being when we deny them access to a range of social partners; our treatment of elephants should recognise and protect their highly social character.
- We harm elephants when through human intervention we break close social bonds; in particular, our management practices must strive not to break the bonds between mothers and their offspring.
- We deprive captive male elephants of normal, healthy socio-sexual development when we deny them access to a diversity of social partners, hold them in isolation and restrict their movement and activity to small enclosures. Our care of captive elephants must recognise the importance of social relationships for males in all stages of life. It must account for their enormous drive by providing them with space and, the possibility for appropriate interactions.
- We harm and deprive elephants when through interventive management practices we deny them the opportunity for social learning; we must allow elephants to acquire the full range of elephant behaviour in a normal social context.
- Cognitive Capacity: We must incorporate the cognitive abilities of elephants into our management and care of wild and captive elephants.

The intelligence, strength, and social needs of these magnificent animals can pose many challenges for captive managers. Institutions desiring to hold elephants should therefore understand the

substantial human, financial and ethical commitments involved in appropriately maintaining these large and potentially dangerous species. [2]

The **Association of Zoos and Aquariums provide the "Standards for elephant management and care"**, which detail recommendations on enclosure design for elephants. These standards have been developed to guide institutions that are planning and improving their elephant programmes.

Recommendations:

- Provide large spacious areas for elephants to roam. The AZA says "*indoor space must provide adequate room for animals to move about and lie down without restriction. A minimum of 400 sq. ft (37.2 sq. m) is required for a single animal, approximately 800 sq. ft (74.3 sq. m) for two animals, and so on. Because of their size and space requirements, bulls or cows with calves must have a minimum of at least 600 sq. ft (55.7 sq.m). Outdoor yards must have at least 1,800 sq. ft (167.2 sq. m) for a single adult individual and an additional 900 sq. ft (83.6 sq. m) must be added for each additional animal. If this space is the only location for exercise, then it is recommended that the space per elephant should be even greater."*
- Allow appropriate social interaction between elephants (we psychologically deprive and harm elephants when we separate members of an elephant family or a close social group). Offspring must remain with their mothers for three years. Ensure adult males have opportunities to interact with other elephants by touch, sight, smell and through vocalisations. It is highly inappropriate to house social females alone.
- Provide access to a water source, such as a pool, waterfall, misters/sprinklers, or a mud wallow to allow elephants to cover skin in mud. This helps to cleanse their skin, prevent sun burn in the summer and remove parasites.
- Bring mud into indoor exhibits in the winter.
- Provide a shower within the swimming pool area.
- Provide natural substrates in both indoor and outdoor enclosures as much as possible.
- Provide a scratching post.
- Provide large hanging balls to allow elephants to manipulate.
- Provide a dust bathing area.
- Provide boomer balls and or large plastic drums with holes to insert food.
- Provide a tractor tyre for elephants to manipulate.
- Provide large ice cubes for elephants to play with – insert a chain to hang.
- Fill large cardboard boxes with hay, grain, popcorn, etc.
- Provide straw and manipulative objects in wire cages to encourage elephants to forage.

[2] Hutchins, M. and B.R. Smith. 1999. AZA Elephant Planning Initiative: On the Future of Elephants in North American Zoos. American Zoo and Aquarium Association, Silver Spring, MD.