EAZA

Standards for the Accommodation and Care of Animals in Zoos and Aquaria

Approved by EAZA Annual
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Introduction

These Standards are based on present knowledge and practice for the accommodation and care of animals in zoos and aquaria.

In this Annex the following definitions shall apply:

1. Zoos and aquaria shall refer to all establishments open to and administered for the public to promote nature conservation and to provide education, information and recreation through the presentation and conservation of wildlife. This definition shall include zoos, animal parks, safari parks, bird gardens, dolphinaria, aquaria and specialist collections such as butterfly houses as defined in article 2 of Council Directive 1999/22/EC of 29 March 1999.

2. Zoos and aquaria situated in EU countries are requested to have a valid license under Council Directive 1999/22/EC of 29 March 1999. All others need valid licenses to operate, if these exist. The dates and/or numbers of these licenses have to be registered with the EAZA Executive Office;

3. Animals shall refer to all species of the animal kingdom including species of the classes mammals, birds, reptiles, fish, amphibians and invertebrates;

4. Welfare shall refer to the physical, behavioural and social well-being of animals through the provision of appropriate conditions for the species involved, including but not necessarily limited to housing, environment, diet, veterinary care and social contact where applicable;

5. Enclosure means any accommodation provided for animals in zoos and aquaria;

6. Enclosure barrier means a barrier to contain an animal within an enclosure;

7. Stand-off barrier means a physical barrier set back from the outer edge of an enclosure barrier designed to prevent public access to the latter;

8. Hazardous animals means any representative of the groups or species listed in Annex 1 and any other animal which, because of its individual disposition, sexual cycle, maternal instincts, or for any other reason, whether by biting, scratching, butting, compression, injecting venom or by any other method, is likely to injure seriously or transmit disease to humans;

a. Dangerous carnivores means all members of the genera *Panthera*, *Acinonyx*, *Lynx* and *Neofelis*, the families Ursidae and Hyaenidae, *Canis lupus*, *Canis rufus* and *Lycaon pictus.*

The Standards

1. Animal care – Welfare, Health and Hygiene

1.1 Routine observation of the animals

1. The condition and health of all animals in the zoo to be checked daily by the persons in charge of their care for that particular day.
2. Any animals which are noted to be unduly stressed, sick or injured to receive immediate attention and, where necessary, treatment.

1.2 Accommodation - Space, Exercise and Grouping

EAZA Members are expected to provide a high standard of accommodation for all the animals in their care, both on-show and off-show, permanent and temporary. EAZA Best Practice Guidelines (when available) should be consulted when available and their recommendations implemented wherever possible. Accommodation must take account of the welfare of the species, their space and social needs, appropriate management by staff and appropriate display to the public. Important considerations that must be taken account of are:

1. Provision of a physical space that is appropriate to the species, taking account of their three- dimensional needs.
2. Animals to be provided with an environment, space and furniture sufficient to allow such exercise as is needed for the welfare of the particular species.
3. Design must take account of the management needs of the species. This includes:
    a. Safe and appropriate presentation of food and water.
    b. Management of social conflict through separation areas, visual barriers and other means, including accommodation for animals temporarily separated from a group.
    c. Catch-up facilities.
    d. Facilities for the management of breeding animals, such as cubbing dens, nest sites or spawning substrates.
    e. Introduction, quarantine and health-care facilities.
    f. A safe and appropriate cleaning regime.
    g. Environmental and behavioural enrichment.
4. Enclosures to be of sufficient size and animals to be so managed -
    a. to avoid animals within herds or groups being unduly dominated by individuals;
    b. to avoid the risk of persistent and unresolved conflict between herd or group members or between different species in mixed exhibits
    c. to ensure that the physical carrying capacity of the enclosure is not over-burdened;
    d. to prevent an unacceptable build-up of parasites and other pathogens.
5. Animals should never be unnaturally provoked for the benefit of the viewing public.
6. Animals in visibly adjoining enclosures to be those which do not interact in an

excessively stressful way.
7. Provision of facilities for good observation of the enclosure and its animals by staff and researchers.
8. Provision of a high standard of public viewing experience, that demonstrates fully the animals and their behaviours, and which is consistent with the educational messages and strategies relevant to the species, the organisation and EAZA.

1.3 Accommodation - Comfort and Well-being

1. The environmental conditions, including temperature, humidity, ventilation, seasonal changes and lighting of enclosures to be suitable for the comfort and well-being of the particular species of animal at all times, including holding quarters and/or off-exhibit housing and in particular -
    a. consideration to be given to the special needs of pregnant and newly-born animals;
    b. newly-arrived imported animals to be fully acclimatized bearing in mind that this may be only a gradual process;
    c. tanks for fish and aquatic invertebrates to be adequately oxygenated, and appropriate water quality to be provided.
    d. Animals in outdoor enclosures to be provided with sufficient shelter from inclement weather or excessive sunlight where this is necessary for their comfort and well-being.

1.4 Social group management

1. Facilities for keeping animals shall allow maintaining a social unit that reflects the life history of a given species in the wild, and thus may need to have sufficient flexibility to adapt towards changing group dynamics.
2. Before introducing a new individual to a social group, an assessment should be made of its adaptability to the group and consequently the implications for its individual welfare, as well as the welfare of the animals in the social group.

1.5 Elephant management

1. Historically two different elephant management systems exist: protected and free contact. These two systems are mutually incompatible, and it is very challenging to move elephants from one management system to the other. In the light of this fact, EAZA acknowledges that to integrate elephants to allow for the greatest possible genetic and demographic diversity, adoption of a single management system for both species of elephant in the care of EAZA institutions is required; protected contact is this system.
2. Protected contact (PC) is where the management of the elephant and all contact is undertaken through a purpose-built protective barrier. Protected contact training is achieved through positive reinforcement techniques using targets, food rewards, body positioning and the voluntary participation by the elephant. The elephant and elephant staff do not share the same space; except under conditions where restricted contact (RC) is required as a management tool within a protected contact system.

3. Direct contact with an elephant on restraints (ropes or chains) is not protected contact; it is restricted contact. This is when an elephant, for example, is put on four restraints during a specific procedure such as but not limited to EEHV treatment of calves, transport or rectal examination in an elephant restraint device (ERD) or an artificial insemination (AI).
4. Restricted Contact procedures must be individually risk assessed and carried out by experienced elephant staff.
5. All elephant holders in the EAZA Membership to use Protected Contact coming into effect from January 2030 onwards.

1.6 Encouragement of natural behaviour and minimising of unnatural behaviour

1. Animals kept in EAZA collections should be encouraged to perform as much of their natural behavioural repertoire as possible and acceptable.
2. Members should encourage species-specific behaviour through behaviour management and enrichment programmes. Important elements in achieving this are enclosure design, environmental and behavioural enrichment and feeding regimes (see above).
3. Members should regularly measure and evaluate the behaviour of animals in EAZA collections to ensure it sufficiently reflects the well-being of the animal.

1.7 Furnishings within Enclosures

1. Design must take account of behavioural needs and behavioural management of the species, allowing adequate spatial separation between individuals or subgroups.
2. Provision of a rich environment of appropriate structures within the space that enable the animals to express their behavioural repertoire as fully as possible.
3. Animal enclosures to be furnished, in accordance with the needs of the species in question, with such items as bedding material, perching, vegetation, burrows, variety of substrates, climbing structures, appropriately designed nest boxes, refuges and hiding places and pools.
4. Provide appropriate environmental and behavioural enrichment.

1.8 Mixed exhibits

1. Housing animals in mixed species exhibits can create a more natural display of animals for the visitors, potentially enrich the lives of species or individuals in the exhibit and provide space necessary for population management.
2. When exhibiting animals in a mixed species enclosure EAZA members should ensure that housing conditions are an acceptable standard for the welfare of all species exhibited. The potential positive and negative welfare implications for species combinations should be carefully assessed prior to introduction and monitored after the introduction. At the very least the following points must be part of the assessments:
3. Trauma risk;
4. Hierarchy and potential nutrition-related problems;
5. Transmissible viral and bacterial diseases;

6. Parasitic disease transfer between species.
7. EAZA Members shall conduct research into the successes and failures of mixed species exhibits and share information within the community.

1.9 Free ranging species

1. If animals are being kept free ranging in a zoo, the potential for containing them safely should always be available and the animals should be used to entering this enclosure for management purposes (e.g. veterinary examinations and collection management).
2. Escape into the wild and/or crossbreeding with local species must be avoided at all times.

1.10 Hand rearing

1. Natural rearing is preferred over hand rearing whenever possible. EAZA members should minimise the need for hand rearing by providing appropriate accommodation and care for the individual animals and when applicable the social group.
2. When natural rearing cannot be achieved EAZA members shall assess the need and possibilities for hand rearing considering potential behavioural implications for the individual, the importance for the social group and the overall population.
3. Euthanasia may be an alternative to hand rearing particularly when introduction potential into the group is low, behavioural problems are expected and/or when sufficient future ”quality of life” cannot be guaranteed.
4. In certain species foster rearing could also be considered as an alternative to hand rearing. If EEP species are concerned the coordinator should be consulted before making any decision (time allowing).
5. If hand rearing is decided upon it should be aimed at raising the individual(s) such that it develops as much species-specific behaviour as possible and the animal(s) should be introduced back to its conspecifics as soon as possible.
6. EAZA Members should focus any communication related to hand rearing on the biological considerations and purpose of hand rearing the animal, and avoid anthropomorphic interpretations for the purpose of commercial gain.

1.11 Prevention of Stress or Harm to Animals

1. Enclosures and barriers to enclosures to be maintained in a condition which presents no likelihood of harm to animals, and in particular -
    a. any defect noted in an animal barrier or in any appliances or equipment within animal enclosures to be repaired or replaced without delay;
    b. any defect likely to cause harm to animals to be rectified at once or, if this is not possible, the animals to be removed from the possibility of any contact with the source of the danger;
    c. any vegetation capable of harming animals to be kept out of reach.
2. All plant and fixed equipment, including electrical apparatus, to be installed in such a way that it does not present a hazard to animals and its safe operation cannot be disrupted by them.

3. Rubbish in animal enclosures to be cleared regularly to avoid any possibility of harm to animals.
4. Trees within or near animal enclosures to be regularly inspected and lopped or felled as appropriate to reduce the risk of damage to enclosure barriers and animals being harmed by falling branches or using trees as a means to escape.
5. Smoking is prohibited in animal enclosures, in parts of buildings where animal enclosures are located and in areas where food is stored or prepared.
6. Animals to be handled only by, or under the supervision of, competent trained authorised staff; and this to be done with care, in a way which will avoid unnecessary discomfort, behavioural stress or actual physical harm to animals.
7. Any direct physical contact between animals and the visiting public only to be under the control of zoo staff and for periods of time and under conditions consistent with the animal's welfare and not leading to their discomfort.
8. When organising events, EAZA members must ensure these are organised and performed such that they keep the disturbance to the animals at a minimum. The effect of events on the welfare of individual animals should be assessed and changes implemented where necessary.

1.12 Training and public demonstrations

Training falls broadly into two categories namely for 'Husbandry Purposes' and for 'Public demonstrations.'

1. Animal training for husbandry purposes
   Training as part of some husbandry routines can be helpful in reducing stress and to facilitate management. Physical or chemical restraint of zoo animals can be stressful and the necessity for it can often be avoided by training animals to cooperate with certain husbandry routines. EAZA supports the training of animals for husbandry purposes provided that:
   a. Reinforcement rather than punishment must be used whenever possible. Whereby reinforcement results in similar behavioural responses occurring more often, and punishment decreases future occurrences of that type of behaviour.
   b. The least restrictive procedures likely to be efficient and effective must be used and training procedures should be regularly reviewed and appraised to this effect.
   c. Pain, fear, or anxiety must never be used to influence animal behaviour. The only exception is if an animal or human life is at risk.
   d. The training goals are not detrimental to the welfare of the animal or its conspecifics.
   e. The training process is regularly monitored and reviewed to ensure that the safety of staff and the welfare of the animals are maintained.
2. Use of animals in public demonstrations and ambassador animal interactions
   Zoos and aquaria provide unique animal experiences for guests, including passive exhibits, demonstrations and personal interactions, which have been proven to create an increase in pro-conservation behaviours (Faulk et al. 2007, Skibins and Powell 2013). As such, EAZA Members recognise the need to continue to provide opportunities to engage their guests in such a manner as to

reinforce these positive conservation attitudes, while making animal welfare the highest priority.

EAZA defines demonstrations as any case where an animal is demonstrating behaviours, trained or natural, while under the supervision or control of a trainer in the view of guests, with the intention of educating, inspiring, and entertaining our visitors. This would also include guest interactions and experiences.

Training techniques used for demonstrations should not differ from day to day husbandry training techniques to guarantee animal welfare. Priority should also be placed on behavioural, environmental and social enrichment. For specific taxa guidelines, Members should refer to TAG demonstration guidelines.

a. Animal behaviour demonstrations
   EAZA encourages its Members to focus on behaviours that are demonstrations of their natural intellectual or problem solving ability and their physical attributes. Practices that should be avoided in demonstrations include:
   i. Any practices that provide audiences with a misleading impression of the natural behaviours of wild animals, or makes claims about wild animal behaviour that are not substantiated by scientific evidence.
   ii. The use of props where their use cannot be shown to demonstrate or replicate natural behaviour. Static stage sets would not be defined as props.
   iii. Any behaviour that when implemented poses a demonstrable or probable risk toward animal health. As such, EAZA strongly encourages welfare audits of new behaviours, routines, props or techniques prior to and after its implementation.
b. Human/Animal interaction
   EAZA does not support demonstrations which place humans or animals at a risk of physical or psychological harm, including:
   i. Any situation where an animal, a staff member or guests safety is unnecessarily and knowingly placed at risk.
   ii. Any practice that requires physical disciplining of an animal to provide protection for a staff member who is in contact with that animal for any purpose other than the preservation or improvement of its health or wellbeing.
   iii. Direct physical contact between humans and animals in a demonstration for the sole purpose of entertainment, where there is no accompanying demonstrable educational value.
c. Health of animal
   EAZA does not support the use of rearing or feeding techniques for demonstrations that directly affect the welfare and health of the animal, including
   i. The premature removal of an animal from the mother with the intention of hand-raising specifically for use in a demonstration when

this causes psychological distress to the offspring or mother. Removing techniques that mitigate this stress (double clutch, leaving one offspring) are recommended.

ii. The use of weight control to the point that it risks the health of the animal.

iii. Any techniques that would negatively affect the EEP/ESB breeding programmes without approval of the coordinator.

d. Demonstration and Interactive environment
EAZA does not support placing animals in a performance environment that does not reflect the EAZA Minimum Standards, particularly where these conditions could cause them stress or physical harm.

e. Off-demonstration housing
EAZA Best Practice standards should be followed for all off-demonstration housing, pre-and post-demonstration holding enclosures and areas and conduits used for moving animals between their enclosures and the demonstration space.

f. Animal selection

i. EAZA does not support the use of animals in demonstrations should they contradict any other Position Statement or Standards approved by the Association. This includes featuring animals that display recessive allele characteristics, animals that are physically unfit to participate or animals displaying aggression or symptoms of mental distress.

ii. The use of EEP/ESB animals in demonstrations cannot interfere with the breeding programme recommendations. The breeding programme must take priority over the needs of an individual member's need for a demonstration animal.

iii. Rescued or rehabilitated animals can be used in demonstrations within their specific medical or behavioural needs.

g. Demonstrations carried out by a third party
Any animal demonstration conducted by a third party contractor on behalf of and on the premises of a Member institution must also follow these Standards. It is the responsibility of the Member to investigate the welfare, training techniques, off season care and holding, and breeding responsibility of the contracted organization. The Member is ultimately responsible for ensuring that the contractor's work is in line with these Standards.

1.13 Food and Drink

1. A diet is considered to be "nutritionally balanced" when it provides appropriate levels of known dietary essential nutrients based on current knowledge and information.
2. Veterinary or other specialist advice to be obtained and followed concerning all aspects of nutrition.
3. Food and drink provided for animals to be of the nutritive value and quantity

required for the particular species and for individual animals within each species, bearing in mind the condition, size and age of each animal; the need to allow for special circumstances (e.g. fast days or longer periods of fast or hibernation) and special diets for certain animals (e.g. animals undergoing a course of veterinary treatment, or pregnant animals).

4. A nutritionally balanced diet must be provided in a suitable form and correct proportion based on the most appropriate behavioural and physiological needs of the species.
5. A nutritionally complete diet should also stimulate natural feeding behaviours encouraging, whenever reasonably possible, the animals to obtain food in a manner similar to that in the wild and should allow a similar amount of time to be spent on feeding.
6. Food used for animals should be of adequate quality and checked before it is used to ensure it is in good condition and appropriate to feed.
7. Zoos and aquaria should put effort into ensuring foods have a sustainable origin, wherever possible.
8. When feeding live prey, local legislation must be followed, and the welfare of the prey must be taken into consideration to ensure stress is minimised.
9. Uncontrolled feeding by visitors is not permitted. Where public feeding is allowed this should be supervised and the fed items must be quantified as part of the diet for the animals.
10. Supplies of food and drink to be stored, prepared and offered to the animals under hygienic conditions.
11. Natural behaviour of the animals, particularly social aspects to be considered when offering food and drink, and feeding and drinking receptacles if used, to be placed so as to be accessible to every animal kept within a particular enclosure.

1.14 Sanitation and control of disease

Proper standards of hygiene, both in respect of the personal hygiene of the staff and that of the animal enclosures and treatment rooms, to be maintained, and in particular -

1. Special attention to be given to the cleaning of animal enclosures and equipment within them, to reduce the risk of disease or disease transfer, including in the case of aquatic animals, regular monitoring of water quality.
2. Non-toxic cleaning agents to be readily available, along with supplies of water and the means to apply them.
3. Veterinary advice to be obtained and followed regarding all cleaning and sanitation requirements of enclosures or other areas following identification of an infectious disease in any animal.
4. The drainage of all enclosures to be capable of removing efficiently all excess water.
5. Any open drains, other than those carrying potable water, to be outside the areas to which animals have access.
6. Refuse material to be regularly removed and disposed of.
7. A safe and effective programme for the control of pests and, where necessary,

predators to be established and maintained throughout the institution. Animals must not escape from the zoo or aquarium and create an ecological threat for native wild species.

8. Keeper staff to be instructed to report immediately if they have contracted or are in contact with any infection which they have reason to believe could be transmitted to, and adversely affect the health of, any animal; and management then to take appropriate action.
9. Keeper staff to be instructed to report in confidence any other disability which might affect their capacity to manage the animals in a safe and competent manner; and management then to take appropriate action.

2. Animal Care – Veterinary Aspects

2.1 General Veterinary care

1. Arrangements to be made for routine veterinary attendance. In case of fishes and invertebrates, other specialist attendance is also acceptable. This also applies to all other references to veterinary aspects in fishes and invertebrates in this document.
2. A programme of veterinary care to be established and maintained under the supervision of a veterinary surgeon or practitioner.
3. Routine examinations, including parasite checks, to be carried out and preventive medicine, including vaccination, to be administered at such intervals as may be recommended by a veterinary surgeon or practitioner.
4. Where a full veterinary service is located at the institution, the facilities to include: an examination table; a range of basic surgical instruments; anaesthetic facilities; basic diagnostic instruments; sufficient power points to take light and other electrical fittings; facilities, where appropriate, to take blood and other samples and to prepare and dispatch them; and a comprehensive range of drugs.
5. Where a full veterinary service is not available at the institution, a treatment room to be provided at the premises for use where appropriate for the undertaking of routine examination of animals in clean, ventilated surroundings.
6. A room or rooms to be provided for the care of unduly distressed, sick and injured animals.
7. Facilities to be available for collecting, restraining and, if necessary, for administering a general anaesthetic, for euthanizing animals and for the after-care of animals recovering from sedation.
8. Reserve accommodation to be available, away from other animals, for the isolation and examination of newly-arrived animals, under quarantine restrictions (conditions) where necessary.
9. Newly-arrived animals to be kept isolated as long as is necessary to ensure proper examination before introduction to other animals in the collection.
10. Particular attention to be paid to hygiene in the quarters where isolated or quarantined animals are kept.
11. Where practicable, protective clothing and utensils used by staff in the isolation

area should be used, cleaned and stored only in that area.

12. All animal drugs, vaccines and other restricted veterinary products to be kept safely under lock and key with access by authorised persons only.
13. Except under the direction of a veterinary surgeon or practitioner, members of the staff of the zoo not to possess or administer controlled drugs.
14. Zoo management to seek agreement with the consulting local veterinary adviser regarding the desirability of either the zoo or aquarium, a local hospital or the veterinary surgeon or practitioner himself, of holding supplies of antidotes to potentially toxic veterinary products used at the institution.
15. All unwanted, contaminated veterinary equipment to be disposed of safely and following relevant legislative prescriptions.

2.2 Mutilation

1. Mutilation of any animal for cosmetic purposes, or to change the physical appearance of the animal, is not acceptable. There should be a net welfare benefit to the individual animal and/or its conspecifics before accepting mutilation for educational or management reasons. This also includes pinioning of birds. Closed aviaries of appropriate size are thus preferred to open enclosures where pinioning is the only efficient method of restraint.
2. Marking of animals for identification reasons should always be carried out with the least harmful method available and should only involve mutilation of any sort when no other method has proven feasible. Where mutilation is used it must always be carried out in accordance with approved veterinary protocols.

2.3 Post-Mortem Facilities

1. Dead animals to be handled in a way which avoids the risk of any transmission of infection.
2. The cause of death for each animal dying in the collection needs to be established where reasonable and practicable to do so, including, in the majority of cases, the examination of the specimen by a veterinary surgeon, pathologist or practitioner with relevant experience and training.
3. Institutions should communicate causes of death of programme animals to the EEP coordinator or studbook keeper.
4. Where animal carcasses cannot be quickly removed to a professional veterinary laboratory centre outside the premises, facilities should be provided for conducting post-mortem examinations and the processing of samples resulting from them in a safe and hygienic manner. If immediate post-mortem examination is not possible, then in consultation with the veterinary surgeon or practitioner, refrigerated facilities or a deep freeze for storage to be provided pending the removal in a suitable insulated container to a post-mortem laboratory.
5. Facilities and equipment in any room provided on the premises for post-mortem examinations to include: an efficient drainage system; washable floors and walls; an examination table; an adequate selection of appropriate instruments; facilities for taking and presērving specimens; and, if larger animals are kept in the collection, a hoist.
6. Following post-mortem examinations conducted on the zoo premises, carcasses and organs to be removed swiftly and disposed of safely.

3. Population Management

3.1 Reproductive management

1. Reproduction is an integral part of the quality of life and natural behaviour of each living animal. Reproductive management in zoos considers the interaction between reproduction, animal welfare, health, genetic diversity and husbandry limitations.
2. Under the following circumstances:
    a. contraception should be considered if offspring cannot be kept in house or placed in other suitable conditions elsewhere, and culling is not deemed appropriate;
    b. contraception should be considered if reproduction negatively affects health or contributes to a net reduction in welfare to sire, dam, offspring, or group members. Where a net reduction in welfare is unavoidable, ethical decision-making regarding conservation benefits and potential welfare impacts should be considered.
3. It should be considered that long pauses or late start of reproduction in females may have irreversible consequences on their reproductive health.
4. Following the consideration of immediate and long-term impacts on the health, welfare, and reproductive potential of the species and individual (e.g. see point 3 above), the following contraceptive measures can be considered to extend inter-birth intervals or to limit undesired reproduction:
    a. temporary separation, or contrarily in some cases the continued holding together of mixed-sex groups in species with an alpha male and female breeding strategy;
    b. holding of only one sex of a species; all-male or all-female groups;
    c. removal, shaking or freezing (of part) of egg clutches, and/or replacement with dummy eggs;
    d. hormone treatment by injections, oral medication, or implants in females or males;
    e. immunocontraception of males or females using GnRH or PZP vaccines;#
    f. permanent sterilization of males or females; including vasectomy and castration in males; and salpingectomy, ovariectomy, or ovariohysterectomy in females;
    g. pharmacologic abortion of accidental and/or unwanted pregnancies.
5. Euthanasia of offspring at dispersal age or later, as outlined in section 3.3, may be an alternative to contraception and favours full reproductive behaviour of sire and dam. Members should refer to the EAZA Culling Statement for further guidance.
6. In animals in which reproduction is deficient but yet desired, an assessment of fertility should be considered, specifically prior to transport for breeding purposes.
7. If an EAZA Ex situ Programme (EEP) is in place, Reproductive Management decisions are coordinated in the framework of the programme. Members should refer to the EAZA Population Management Manual for the EEP (non-)breeding and transfer recommendation rules and procedures as well as the EAZA Acquisition and Disposition procedures. The EAZA Reproductive Management Group can furthermore be contacted for expertise and guidance on Reproductive Management. Members are encouraged to monitor the effects of contraception and to share these records with the relevant coordinator and the EAZA Reproductive Management Group.
8. Breeding practices that increase the phenotypic expression of single rare alleles through intentional inbreeding cause clearly abnormal or aberrant external and

internal conditions and characteristics. The predictability of such outcomes from intentional inbreeding to produce phenotypic anomalies means that EAZA Members must not engage in such intentional breeding practices for the expression of rare recessive alleles. This applies in all situations, taking into consideration that:

a. EAZA Members may provide holding and care for animals that were intentionally bred for the expression of rare recessive alleles prior to 1 November 2020.
b. EAZA Members may bring in animals that were intentionally bred for the expression of rare recessive alleles from external parties (non-EAZA members) only when responding to animal rescue requests from local, state, or federal agencies, provided that the delivery of thoughtful educational messages about the unfortunate results of inbreeding are part of any public display.

3.2 Transfer and disposition of animals

1. Members should ensure that institutions receiving animals have appropriate facilities to hold the animals and skilled staff who are capable of maintaining the same high standard of husbandry and welfare as required of EAZA members (in this context circuses would not be regarded as appropriate recipients of animals from EAZA members).
2. Any details of health, diet/nutrition, reproductive and genetic status and behaviour that might affect management of an animal being transferred (or other animals in the group at the receiving institution) should be disclosed at the commencement of negotiations.
3. All animal transfers should conform to the international standards applying to the particular species. Where appropriate, animals should be accompanied by qualified staff and/or timely information provided that will facilitate the animal's adjustment to its new home.
4. For the benefit of the future viability of EAZA/EEP populations, all transfers of EEP animals must be arranged in full consultation with, and the agreement of, the EEP Coordinator.
5. In order to ensure the non-commercial status of EEPs any selling of EEP animals must be avoided.

3.3 Euthanasia

Euthanasia as a structural solution for undesired surplus animals may be acceptable under certain conditions beyond veterinary indication, such as the following:

1. Animals that can/may no longer make a breeding contribution, for example because of old age, genetic over-representation of the possession of undesirable inheritable genetic traits.
2. Young animals born despite reproduction-limiting measures or recommendations that have been recently born, have reached weaning age or another age in which they would naturally leave the parent(s) or natal group.
3. Incompatibility of an animal with its conspecifics.
4. Hybrids and animals of an unknown or undefined subspecies in cases in which this is considered of importance.
5. Animals that are more dangerous than is reasonably expected.
6. Animals that despite changes in conditions (e.g. institution/enclosure/diet) continue to display abnormal behaviour or extraordinary timidity.
7. Animals that for some reason cannot otherwise be placed in suitable facilities.
8. Donated or otherwise acquired injured rehabilitation animals.

4. Safety and Security

4.1 General provisions

1. Local safety and security legislation regarding zoos and aquaria must be applied.

4.2 Enclosures

1. Other than when elsewhere in the control of authorised staff, animals kept for exhibition in the zoo to be kept at all times in enclosures or, in the case of free-running non-hazardous animals, within the perimeter of the zoo.

4.3 Enclosure barriers

1. Enclosure barriers to be designed, constructed and maintained to contain animals within the desired enclosures.

4.4 Stand-off Barriers

1. Where direct contact would be possible between visitors and hazardous animals through or over any enclosure barrier, to the extent that such an animal would be capable of causing injury, a stand-off barrier to be provided sufficiently far back to prevent such contact.

4.5 Perimeter Boundaries

1. The perimeter boundary, including access points, to be designed, constructed and maintained to discourage unauthorised entry and, so far as is reasonably practicable, as an aid to the confinement of all the animals within the perimeter of the institution.
2. No perimeter barrier to include any electrical section less than 2 metres from the ground, except in those cases where it also serves as a normal animal barrier and cannot be reached by the visiting public.

4.6 Warning Signs

1. In addition to a stand-off barrier, an adequate number of clearly visible safety signs to be displayed at each enclosure where there may be significant danger, including electric fences.

4.7 Exits

1. Sufficient exits from the zoo or aquarium to be provided, having regard to the size of the institution and the number of visitors anticipated at any time that may need to leave quickly in an emergency.
2. Exits to be clearly signposted and marked.
3. Each exit from the zoo or aquarium to be kept clear and to be capable of being easily opened from inside to allow the release of persons from the institution. All such gates to be capable of being closed and secured to discourage the escape of animals.

4.8 Drive-Through Enclosures

1. Unless there is stricter local legislation, this chapter will be applied to drive-through enclosures.
2. Where dangerous carnivores are kept in drive-through enclosures, entry and exit to such enclosures to be through a system of double gates, with sufficient space between to allow the gates to be securely closed to the front and rear of any vehicle which may enter or need to enter the enclosures.

3. In the case of dangerous carnivores the access gates to be protected by fencing positioned at right angles to the perimeter fence on each side of the roadway with the enclosure, and of the same standard as that for the main enclosure barrier and extending back from the access for a distance of at least 25 metres.
4. Double gates to be designed and maintained so that, where hazardous animals are within or have access to the enclosure secured by the gates, one gate cannot be opened until the other has securely closed - though, provided no danger to the public is thereby caused, provision may be made for this arrangement to be overridden in the event of an emergency arising.
5. For other hazardous animals, except those grazing or hoofed animals where a cattle grid would be sufficient to contain them, single entry/exit gates, supervised at all times, to be provided.
6. Access points between enclosures to be controlled to prevent animals entering adjoining enclosures.
7. Electrified pressure pads, where used, to be designed and installed to ensure that in the event of their failure, any gate they control will close automatically or otherwise operate to ensure that animals are safely secured within their enclosure.
8. Gates which are mechanically-operated to have an alternative method of control whereby they can be opened and closed manually in the event of an interruption of the power supply or other emergency and to be designed to close automatically when subject to power failure.
9. Operators of mechanically-operated gates to have a clear, unobstructed view of the gates under their control and of the area within the vicinity of those gates.
10. A one-way road system to be used to assist the traffic flow and thus reduce the risk of accidents.
11. Stopping to be permitted only at places where the road is at least 6 metres wide.
12. Where dangerous carnivores and primates and (except where the enclosure is supervised by competent staff in a manner which prevents any danger to the public) any other hazardous wild animal are kept:
    a. no vehicle to be allowed access unless a rescue vehicle capable of effecting its recovery is immediately available;
    b. access to vehicles without a solid roof to be prohibited at all times;
    c. notices, which are readily visible and easy to read, to be displayed to warn visitors whilst in the enclosure to:
        i. Stay in vehicle at all times;
        ii. Keep all vehicle doors locked;
        iii. Keep vehicle windows and sun-roof closed;
        iv. Sound the horn or flash the headlights and await the arrival of a rescue vehicle if they break down.
13. Continuous observation to be maintained over the entire area of each enclosure containing any hazardous animal.
14. The staff member in overall control of supervision to be armed with an appropriate firearm and to be trained in its use so that a hazardous animal can be killed in an emergency if this will save human life or injury.

4.9 Removal of animals from enclosures

1. Hazardous animals not to be allowed out of their usual enclosures for the purpose of direct contact with the public, except, where the zoo operator is satisfied that such animals are not, when under control, likely to cause injury or transmit disease.

2. Where hazardous animals are allowed out of their usual enclosures an authorised and experienced member of the staff to accompany each animal.
3. Zoo operators to exercise caution and discretion in the case of the removal of non-hazardous animals since the behaviour of all animals may be less predictable when away from their usual enclosures.
4. Precautions to be taken to avoid injury to visitors when animals are used for rides.

4.10 Escape of animals from their enclosures

1. Zoo operators to assess whether any danger may arise in the event of an animal escaping from its enclosure and to consider the possible or likely attempted escape route within and from the institution if this were to happen.
2. In the case of the escape of animals emergency plans must be available and fully understood and practised by all staff.
3. This emergency plan should include a member of staff to be readily available at all times to take decisions regarding escaped animals, including the use of firearms if needed.
4. In addition to written emergency plans, animal related emergency drills must be performed at least one time per year.
    a. Examples of drill scenario(s): hazardous animal escape, keeper down, guest in animal area, or similar level of animal related emergency
    b. This would include all relevant staff of the park but does not need to include guests (although carrying our drills when guests are in the park is recommended where possible and practicable).
    c. These drills would include use of communication (zoo emergency numbers, radios vs mobile phones), alarms, gun team readiness, and staff response times. Emergency services (police, ambulance) may also be incorporated in the practice as a pre-arranged response time test, and must be included on a semi-regular basis if they are expected to serve as primary firearm response.
    d. Drills may be surprise or preplanned and discussed beforehand with the staff.
    e. Multiple animal related emergency drills and/or other emergency drills, such as fire, flood, bomb threat, medical emergency etc., should be practiced according to local legislation.
5. Every employee with tasks under the emergency procedures to undergo periodic refresher training and practice.

4.11 Safety of access for the public

1. Buildings, structures and areas to which the public has access to be maintained in safe condition.
2. Trees within areas where visitors are likely to be walking or sitting to be regularly inspected and lopped or felled as appropriate to avoid visitors being harmed by falling branches etc.
3. Warning to be given of all edges where a person might fall, including into water; and, where necessary, such edges to be guarded by a barrier which would be capable of restraining children from falling.

4. Each walkway over an animal enclosure to be designed, constructed and maintained to withstand safely the weight of the maximum of adults who could use it at any time; and maintained, sited or protected so as to withstand any contact by hazardous animals and prevent contact between such animals and visitors.
5. The visiting public not to be allowed to enter any buildings or other areas of the zoo premises which could present an unreasonable risk to their health and safety.
6. Any buildings to which visitors are not allowed on the grounds referred to above, to be kept locked and warning notices to be displayed to indicate that access is both unsafe for, and not permitted to, the public.
7. Other areas to be clearly defined (e.g. by means of barriers and similar warning notices), or by suitable notices together with road markings where frequent access is necessary for vehicles operated by zoo staff along roadways to which the public are not admitted.

4.12 Emergency First-Aid

1. First-aid equipment and written first-aid instructions to be readily accessible on the premises.
2. Where venomous animals are kept, the appropriate and up-to-date anti-venom to be held at the zoo or a local hospital or within a reasonable time frame ensuring the safety of staff and visitors, and kept in accordance with the manufacturer's instructions.
3. Written instructions to be provided for staff on the procedure to be followed in the event of an incident involving any venomous animal and a visitor or another staff member. These instructions would include immediate care instructions, the telephone number of the nearest hospital and poisons centre, and normal emergency contacts. A pre-prepared form that can be sent with the patient being sent to the local hospital should include:
    a. the nature of the bite or sting and the species inflicting it;
    b. the specification, for cross-reference purposes, of the anti-venom which accompanies the patient;
    c. the telephone number of the nearest poisons centre;
    d. the telephone number of the institution.

5. Miscellaneous

5.1 Insurance against liability for damage or injury caused by animals

1. Zoo operators to hold a current liability insurance policy or other legal arrangements which indemnifies them and every other person under a contract of service or acting on their behalf, against liability for any damage or injury which may be caused by any of the animals, whether inside or outside the zoo, including movement by vehicle. Any upper limit on the sum involved which is included in the terms of such insurance to be set at an adequate and realistic level.

5.2 Stock records

1. Animal records are to be kept on a computer system using the Zoological Information Management System (ZIMS), and to be included on the global zoo animal database of Species360, by means of which information can be quickly retrieved.
2. Alternatively, records may be kept by means of an established and globally recognised and accepted record system, that is easily able to share data with ZIMS and that is and maintained in relation to all individually recognised animals and groups of animals. If a Member wishes to use an alternative record system, it shall request prior approval of the Council. The Council shall decide in its absolute discretion.
3. Where animals are disposed of or die, the records to be kept in the appropriate recording system as described in Article 95.
4. The records should provide the following information:
    a. the correct identification and scientific name;
    b. the origin (i.e. whether wild or captive born, including identification of parents, where known, and previous location/s, if any);
    c. the dates of entry into, and disposal from, the collection and to whom;
    d. the date, or estimated date, of birth;
    e. the sex of the animals (where known);
    f. any distinctive markings, including tattoo or freeze brands etc.;
    g. clinical data, including details of and dates when drugs, injections, and any other forms of treatment were given, and details of the health of the animal;
    h. the date of death and the result of any post-mortem examination;
    i. the reason, where an escape has taken place, or damage or injury has been caused to, or by, an animal to persons or property, for such escape, damage or injury and a summary of remedial measures taken to prevent recurrence of such incidents.
5. In addition to the individual records, an annual stock list of all animals to be kept preferably in the form given below. (Estimated numbers should be available for all fish and invertebrate species).
    a. Common and scientific names of the species
    b. Total in the collection at 1 January
    c. Number of arrivals into the collection from all sources during the year
    d. Number of births into the collection during the year
    e. Number which died within 30 days of birth
    f. Number which died older than 30 days after birth/hatching
    g. Number departed collection, including sales, breeding loans, etc.
    h. Total remaining in the collection at 31 December

    This record, giving details of male/female/unsexed animals as appropriate, to be set out in columns for ease of compilation and reference, e.g.:

Common name	Scientific name	Group 1-1-05	Arrive	Born	Neo-natal death	Death	Depart	Group 31-12-05
Bennett's wallaby	*Macropus rufogriseus*	5.1.0	1.0	1.1.8	1.0.3	1.2.0	1.1	4.9.5

6. All records can be kept in the local language or in the English language (in order to facilitate the international exchange of information and cooperation).
7. Surplus animal stock only to be passed on to responsible facilities which have the appropriate facilities and expertise).

5.3 Transportation and Movement of Live Animals

1. Facilities suitable for hoisting, crating and transportation of all the kinds of animals kept within the zoo, to destinations both inside and outside the zoo, to be available if not kept at the zoo.
2. Any animal taken outside the zoo to be in the personal possession of the operator of the zoo, or of competent persons acting on his behalf, and adequate provision to be made for its safety and well-being at all times.
3. Any hazardous animal taken outside the zoo to be kept securely at all times. Such animal to be kept away from direct contact with persons other than the zoo operator or competent persons acting on his behalf, except where the zoo operator is satisfied that it is not likely, when under control, to cause injury or transmit disease.

Annex 1 to the EAZA Standards for the Accommodation and Care of Animals in Zoos and Aquaria

List of dangerous and hazardous animals in zoos and aquaria
This list is specific in the context of terms used in EAZA Standards and other documents. There may be additional or different local legislative requirements relating to 'dangerous and hazardous animals' that Members should also be aware of.

Preface:

- This list applies only to non-domestic animals kept under zoo-, aquarium or safari park conditions;
- The animals listed can do harm to their keepers or to the public due to their physical strength, specific weapons including poison, and behaviour;
- Some animals listed are dangerous only during the breeding season;
- Some animals listed can - under exceptional circumstances (including hand-rearing) and subject to unprofessional handling - in some cases be hazardous;
- Dangerous carnivores are those mentioned with an asterisk (*).

Schedule

Mammalia (Mammals)

Scientific name	Common name or names
Marsupialia	Marsupials
Macropodidae of the species *Macropus rufus* and *M. fuliginosus* and *M. robustus*	Kangaroos (large males of Red and Grey kangaroos and Wallaroos)
Primates	Primates
Pongidae	Apes (adults)
Hylobatidae	Gibbons (adults)
Cercopithecidae	Leaf eating monkeys (males) Macaques (except *Macaca sylvana*; adult males) Baboons (including *Mandrillus ssp.*; adult males) Mangabeys (adult males) Guenons (adult males) Cebidae Woolly monkeys (adult males) Spider monkey (adult males) Capuchin monkeys (adult males) Howler monkeys (adult males)
Carnivora	Carnivores
Ursidae*	Bears*
Ailuropoda melanoleuca	Giant panda
Canidae* (only *Canis lupus*, *C. rufus*,	Dogs* (only Wolves, Red wolf

Lycaon pictus)	and African wild dog)
Mustelidae (*Mellivora spp.*, *Gulo* spp.)	Martens (only Ratel and Wolverine)
Hyaeanidae (*except Proteles* sp.)	Hyaenas (except Aardwolf)
*Crocuta crocuta**	Spotted hyaena*
Felidae: all *Panthera* spp.	Cats (all large species, Lion*, Tiger*, Jaguar*, Leopard*, Snow leopard*, Clouded leopard, Puma and Lynx)
Pinnipedia	Pinnipeds
Otariidae	Eared seals (adult males)
Odebenus spp.	Walrus
Mirounga spp. and *Hydrurga leptonyx*	Elephant and Leopard seals
Halichroerus grypus	Grey seal (adult males)
Cetacea	Cetaceans
Orcinus orca	Killer whale
Proboscidea	Elephants
Elephantidae	All African and Asiatic elephants Of over two years of age
Perissodactyla	Odd-toad Ungulates
Equidae	Wild horses, Asses and Zebras (adult stallions)
Rhinocerotidae	Rhinoceros
Tapiridae	Tapirs (adult males)
Artiodactyla	Even-toed Ungulates Suidae,
Tayassuidae	Swine (all adult individuals)
Hippopotamidae	Hippopotamus (River- and Pygmy hippo)
Camelidae	Camels (males of the Old World Camels during the rut, occasionally males of the New World camels)
Cervidae	Deer
Alces spp.	Moose, all adults
Elaphurus davidianus	Père David´s Deer, Wapiti
Cervus spp.	Red deer, Sika deer, Sambar and other *Cervus* species (males during the rut)
Rangifer spp.	Reindeer (males during rut)
Capreolus spp.	Roe deer (hand-reared males)
	all hand-reared males of Cervidae during the rut
Giraffidae	Giraffes and Okapis
Bovidae	Cattle, Sheep, Goats, Antelopes, etc.

Boselaphus tragocamelus	Nilgai (males)
Taurotragus spp.	Eland and Giant eland
(males) *Hippotragus* spp.	Roan and Sable antelopes
Oryx spp.	Oryx (all species)
Addax nasomaculatus	Addax (males)
Kobus spp.	Waterbucks (males)
Connochaetes spp.	Wildebeest (all species)
Alcelaphus spp.	Hartebeest (all species)
Bison spp., *Bos* spp., *Bubalus* spp.	Cattle (all wild species)
Syncerus spp.	
Ovibos spp.	Muskoxen
Budorcas spp.	Takins (males)
Caprini	Goats and sheep (all males of wild species during the rut)

Aves (Birds)

Ratites	Ratites
Struthio camelus	Ostrich
Dromaius novaehollandiae	Emu (in breeding season only)
Casuarius spp.	Cassowaries
Rhea americana, Pterocnemia pennata	Rheas (in breeding season only)
Ciconiiformes	Storks and Herons
Ardea goliath	Goliath heron (not to be kept in walk-through aviaries)
Ephippiorhynchus senegalensis, Ephippiorhynchus asiaticus, Leptoptilos spp	Saddle billed stork, Black-necked stork, Marabus (not to be kept in walk-though aviaries or behind low fences)
Gruiformes	Cranes
Gruidae	Cranes (can be dangerous during breeding season)
Falconiformes	Birds of Prey
	Large birds of prey, some can be dangerous (e.g. *Harpia harpyja*) and attack intruders of their aviary in breeding season (not to be kept in walk-through aviaries) Tame individuals used for falconry do not fall under the category dangerous
Strigiformes	Large owls
	Some of the large owls attack intruders of their aviaries during breeding-

	season (not to be kept in walk-through aviaries)
Bucerotidae	Hornbills
Bucorvus spp.	Ground hornbills, some individuals attack people (not to be kept in walk-through aviaries)

Reptilia (Reptiles)

Crocodylia	Crocodiles
Alligatoridae, Crocodylidae, Gavialidae (>1,50 m)	Alligators, Crocodiles and Gavials > 1,50 length
Sauria	Lizards
Helodermatidae	Gila monster and Beaded lizard
Varanidae, only *Varanus komodoensis*, *V. varius, V. niloticus* and *V. salvator* (> 1,50 m)	Monitor lizards >1,50 m length
Serpentes	Snakes
Boidae (>3 m)	Giant snakes (Boidae of over 3 m length)
Colubridae, only *Dispolidus typus* and *Thelotornis kirtlandii*	Colubrid snakes (only the venomous species)
Elapidae, Hydrophiidae, Viperidae and Crotalidae	Venomous snakes
Testudines	Turtles
Macroclemmys temminckii	Alligator snapping turtle
Chelydra serpentina	Common snapping turtle

Amphibia (Amphibians)

Dendrobates spp (only wild caught animals)	Poison arrow frogs
Phyllobates spp. (only wild caught animals)	Poison arrow frogs

Pisces (Fishes)

Chondrichtyes	Cartilaginous fishes
Myliobatidae and Dasyalidae	Stingrays
Torpedinidae	Electric rays
Carcharhinidae and Sphyrnidae	Larger pelagic sharks

Osteichtyes	
Scorpaenidae: *Synanceia* sp., *Inimicus* sp. and *Pterois* sp.	Scorpaenid fish
Trachinidae	Weevers
Uranoscopidae: *Uranoscopus* sp.	Stargazers
Muraenidae	Moray eels - only large
species *Conger conger* (large specimens)	Conger eel > 1,50 m
Electrophoridae: *Electrophorus* sp.	Electric eel
Siganidae	Rabbit fishes

Invertebrata (Invertebrates)

Arthropoda	Arthropods
Orthognata and Scorpiones	Spiders and Scorpions (certain species only)
Mollusca	Molluscs
Conidae	Cone shells (certain species only)
Cephalopoda: *Hapalochlaena maculosa*	Cuttlefish

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