

Primate Standards for Privately Kept Primates in England

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Overarching proposed standards

1. Licensed keepers must have a named competent alternative caregiver (details must be available for inspection) who can provide full care for the primates in the event of the licensed caregiver being temporarily unavailable (e.g. due to illness or holidays). The person asked to care for the keeper's primates should be familiar with their normal behaviour and should be able to recognise signs of physical and mental abnormality
2. All individuals must be microchipped by a veterinarian¹, and details are to be stored in a centralised database available to access by all relevant stakeholders.

1. Nutrition and Feeding

Proposed Standards for Nutrition and Feeding

Water:

3. Constant access to fresh, clean drinking water must be provided and should be protected from soiling and contamination, for example, by wild birds and rodents.
4. The number and placement of drinking receptacles must be appropriate for the number of primates in the enclosure to ensure all animals have the opportunity to access sufficient water and minimise negative interactions and resource guarding and must be accessible in both the indoor and outdoor enclosures.

Diet:

5. All animals in the enclosure must be provided with a diet which is suitable in nutritive value, processing complexity, quantity, quality, and variety for the species and individual animal with respect to their:
 - a) age
 - b) body condition
 - c) size
 - d) physiological status
 - e) reproductive status
 - f) natural life history
6. A detailed nutritional feeding plan must be created for each individual primate being kept and be reviewed at least once a year (more for individuals with specific health needs and for younger and geriatric individuals). All aspects of the animal nutritional feeding plan must be based on advice from either an animal nutritionist, an acknowledged national or international primatology group, a licensed zoo premise, a sanctuary, or from a suitably qualified vet. For instance, this can include consulting published veterinary advice or husbandry guidelines or direct consultation with a specialised veterinarian or animal nutritionist. Sources of evidence and records must be kept and be available for inspection.

¹ From this point onwards, the terms veterinarian or vet refer to a qualified veterinarian who either has a relevant qualification in exotic animal care and/or experience in caring for primates, wild animals, or other exotic species.

7. A written record must be kept for what each individual is given (foods and quantities), including sources of information used to produce or update diets, changes when they are made, and any individual variation made due to life stage, medical or other reasons.
8. All primates must be fed regularly throughout the day and must have access to various feeders in the outdoor and indoor areas, including overnight, to allow for extensive foraging and feeding opportunities.
9. Commercially prepared foods must not comprise the majority of the diet. Fresh produce such as leafy greens, vegetables, flowers, insects, and leafy branches must be provided at least daily. All foods provided must be suitable in nutritional composition, size and form for the kept species (e.g. large pellets or rings are unsuitable for small species such as marmosets).
10. Frugivorous species, such as chimpanzees, orangutans, bonobos, gibbons, and black-and-white ruffed lemurs, must not be fed a fruit-based diet but rather a vegetable-based diet. Fruit provision must be limited to once daily (including fruit fed for training and enrichment).
11. A substantial proportion of the primates' daily diet must include 'Neutral Detergent Fibre' suitable to the kept species, with fibre-rich foods such as vegetables provided at least daily.
12. Natural plantings must be available in outdoor enclosures (see section 2.2.2. Plantings). If browsable trees are not available, for example, during winter months, fresh browse, such as fresh hay, strippable branches, leaves, seeds, flowers, and shoots, must be offered at least daily. Although not all species will eat browse, it will help attract insects for omnivorous species.
13. Dental health should be maintained by providing leafy branches and pelleted or other hard foods, which allow the primates to gnaw and chew.
14. Insectivorous and omnivorous species must be provided with insects at least daily. Where possible, enclosures should contain insect houses which encourage self-sustaining insect populations within the primates' enclosures, providing constant foraging opportunities. Otherwise, live insects should be scattered around the enclosure to increase the foraging time or provided in dispensers which naturally drop insects to be caught. Receipts for live insects or evidence of breeding facilities for insects must be kept (for six months) and be available for inspection.
15. Gummivores with specialised adaptations for gouging and digesting gum must be provided with the opportunity to gouge for gums at least twice daily.
16. Milk and other dairy products must only be fed infrequently or not at all, as they can cause digestive disorders such as diarrhoea and bloating.
17. Meat and meat products must only be fed infrequently or not at all, as overconsumption can lead to various health concerns, such as hypercholesterolemia.
18. Primates must never be fed table scraps, left-over human meals or processed human foods.

Food preparation, storage, and presentation:

19. Food and drink supplies must be protected against dampness, deterioration, mould, and contamination by native wildlife.
20. Food and drinking receptacles and enrichment devices must be cleaned with potable tap water and disinfected at least daily unless species-specific behaviour requires less frequent cleaning. Sources of evidence and decision-making must be available during inspections where cleaning occurs less frequently than daily.
21. A proportion of food must be presented in a way that supports natural arboreal feeding behaviours, including environmental structures that allow foraging or feeding whilst using suspensory arboreal postures.

- 22.** Food enrichment opportunities must be provided at least daily and changed at least every other day.
- 23.** The provision of food, including the timing, number and placement of food receptacles or feeding points, must consider the group's dominance hierarchy to ensure all animals within the enclosure can access balanced diets. If this requires the separation of individuals (within their enclosure) to give them time to eat separate diets or rations, the time they are separated must be kept to a minimum.
- 24.** The timing of food provision must be within the natural active period of the species, and the timing of food provision must not cause undue disruption to nocturnal species.
- 25.** Vitamin C or D3 supplementation may be required, and if so, it must be provided under guidance from either an animal nutritionist, an acknowledged national or international primatology group, a licensed zoo premise, a sanctuary, or from a suitably qualified vet.
- 26.** Where supplements are required, caregivers must be able to demonstrate to an inspector how they consistently deliver them to each individual.
- 27.** Supplements must not be added to water, or dusted over live insects, as consumption cannot be guaranteed.
- 28.** Steps must be taken to minimise the negative consequences of controlled feedings, such as anticipatory or begging behaviours in individuals.

Additional proposed standards for New World species:

- 29.** All New World species must be provided with vitamin D3 supplements under specialised advice from either an acknowledged national or international primatology group, a licensed zoo premise, a sanctuary, or from a veterinarian, unless UV lighting is fitted, and the radiation levels are regularly checked (see section 2.3.4. Lighting).
- 30.** Waxworms are high in fat, and so should not be part of a daily diet but only given infrequently for training or medication.
- 31.** Nocturnal species such as lorises must have access to food overnight to accommodate their nocturnal rhythm.

Additional proposed standards for Old World species:

- 32.** Colobine species have a highly specialised diet, and so their diet must contain browse daily and must be guided by the advice and input from either an animal nutritionist, an acknowledged national or international primatology group, a licensed zoo premise, a sanctuary, or a veterinarian.

Additional proposed standards for Strepsirrhines and Tarsiidae:

- 33.** Lemuridae species must not be given iron supplements unless advised otherwise by a veterinarian, and if given, evidence and rationale from the veterinarian must be provided at inspection.
- 34.** The diet of bamboo (gentle) lemurs and all tarsiers must be designed and guided by the advice and input from either an animal nutritionist, an acknowledged national or international primatology group, a licensed zoo premise, a sanctuary, or a veterinarian.
- 35.** Galagidae and lorisidae species must have sufficient hard elements, such as browse, in their diet to remove tartar or plaque from their tooth combs and canines.

Additional proposed standards for Ape species:

- 36.** All ape species must be provided with food in forms that are cognitively challenging, for example, in puzzle feeders or in forms that provide the opportunity to use tools to obtain food items, such as artificial termite mounds.

2. Environment

Proposed Standards for Environment (general)

- 37.** All individual primates must be kept in the licensed accommodation that is in accordance with these standards at all times, other than when being transported (for strictly necessary purposes, such as for veterinary treatment, to a better facility or a sanctuary) (see section 7. Transport).
- 38.** Enclosures must not be situated within the general shared living quarters of the house.
- 39.** The environmental quality and complexity of enclosures must be suitable for the comfort, welfare and behavioural needs of the species and individual animals at all times, both indoors and outdoors.
- 40.** Enclosures should be located away from busy or noisy areas to reduce stress and interference from passers-by.
- 41.** All individuals must have permanent access to their indoor enclosure and daily access to their outdoor enclosure (except during exceptional circumstances and cleaning, husbandry procedures and severe weather conditions).
- 42.** Either a suitable alternative enclosure or an area that can be sectioned off must be available in case there is a need for an individual to be separated from the group on a temporary basis (e.g., due to ill health or persistent aggressive interactions that negatively impede their welfare). Such facilities must be suitable for fulfilling the needs of all primate individuals until alternative arrangements can be made and cannot result in any individuals being prevented from having indoor access. Temporary facilities should not be used for longer than one week and only in emergencies. If the temporary facility is needed for longer than one week, this must be approved by the veterinarian, and the plan for relocating the individual must be available for inspection.

Proposed standards for Environment (design and dimensions)

Design:

- 43.** Caregivers must consult with an expert from either an acknowledged national and international primatology group, licensed zoo premise or a sanctuary or a veterinarian with regard to enclosure design and size to ensure it meets the physical, behavioural, and psychological needs and the natural history of the species and the individuals being housed especially their three-dimensional needs. This must include appropriate space for the individual primate or their social group and adequate resources to prevent undesirable competition or abnormal behavioural signs of stress. The records must be available for inspection.
- 44.** Caregivers must only enter the primate enclosure when necessary, such as for feeding and cleaning purposes or under exceptional circumstances, such as to remove a potentially dangerous item. Enclosures must be designed so that individuals are not disturbed when caretakers enter their enclosures. Owners must be able to demonstrate to the inspecting authority that their primates can escape the area if needed (e.g., into an outside area, a nest-box, a separate room, or the other end of a very large enclosure).

45. Primate enclosures must have at least one outdoor enclosure, which is of similar complexity to the indoor space. Exceptions can be made for nocturnal species.
46. The indoor space must provide complex year-round accommodation, and the outdoor enclosures must be appropriate to allow access throughout the year.
47. At least two doors or passageways must connect enclosures to create loops and avoid dead ends.
48. Enclosures must be designed to allow for a primate's normal defence reactions, allowing primates to remove themselves visually or physically from other individuals in the same or adjacent enclosure.
49. When an outdoor enclosure is roofed, the material used must consider species-specific needs (e.g., soft mesh for leaping individuals) and, where possible, be used to provide an additional and safe climbing surface.

Dimensions:

50. The length, width and height of the enclosures must be informed by the locomotory patterns and the size of the species being kept, and individuals must be able to display their normal repertoire of locomotory behaviour (walk, climb, run, jump, leap, and swing) and be able to move freely and rapidly in both the indoor and outdoor enclosures. There must be sufficient usable vertical space to allow all individuals to show natural vertical or horizontal flight responses and to place themselves above the head of their caregiver.
51. Unless otherwise stated, the minimum total enclosure dimensions must be calculated by using this formula (Enclosure dimensions are rounded up to the nearest 0.5m):

For groups of 2 or 3 individuals;

- Minimum (usable*) enclosure width = 10 X the species'[±] maximum body length[†] (and a total minimum of 3m)
- Minimum (usable) enclosure length = 15 X the species' maximum body length (and a total minimum of 4.5m)
- Minimum (usable[§]) enclosure height (roofed enclosures) 2.4m + (2 X maximum body length)
- Minimum height of at least two climbing structures 2.4m + (2 X maximum body length)
- For each additional animal, at least 50 X (maximum body length)² must be added to the floor area.

*The minimum dimensions of floor space are measured according to the amount of usable space. If, for example, the primates cannot use a portion of the enclosure, either due to insufficient climbing opportunities or because it is inaccessible, then this area does not count towards the minimum dimensions.

[±]The largest species from the taxonomic family or genera are used to avoid discrepancies.

[†]Body length is measured from head to rump (cm) and, for sexually dimorphic species, is based on the larger sex.

[§]The height of the enclosure is recorded from the highest climbable surface, which may be the tallest part of the climbing structure or the roof itself if it is climbable.

52. The indoor enclosure must be equivalent to at least 50% of the total space requirements, or alternatively, be a minimum of 20%, but with an increased (usable) vertical space of at least 4m + 2x body length of the species.

Additional proposed standards for New World species:

Marmosets and tamarins (Callitrichidae)

53. Based on the body length of the common marmoset species (20cm, a group of 2-3 marmosets must have a total usable enclosure space of at least 13.5m² (3m X 4.5m; minimum), = with a further 11.5m² for each additional animal.
54. Based on the largest body length of the largest tamarin species (Golden Lion Tamarin); 34cm, a group of 2-3 tamarins must have a total usable enclosure space of at least 3.5m X 5m (17.5m²), with a further 17m² per additional individual.
55. The minimum height of a marmoset or tamarin enclosure must be at least 3m, measured from the highest climbable point, with appropriate climbing structures, platforms, and perches to allow all individuals to remain above the caregiver's height.

Capuchin and squirrel monkeys (Cebidae)

56. Based on the largest body length of 49cm (black-capped or brown capuchin), 2-3 capuchin monkeys must have a total usable enclosure space of at least 37.5m² (5m X 7.5m), with a further 24.5m² for each additional animal.
57. The minimum height of a capuchin monkey enclosure must be at least 3.5m, measured from the highest climbable point, with appropriate climbing structures, platforms, and perches to allow all individuals to be simultaneously above the caregiver's height.
58. Based on the largest body length of 37cm (common squirrel monkey), 2-3 squirrel monkeys must have a total usable enclosure space of at least 19.5m² (3.5m X 5.5m), with a further 18.5m² for each additional animal.
59. The minimum height of a squirrel monkey enclosure must be at least 3m, measured from the highest climbable point, with appropriate climbing structures, platforms, and perches to allow all individuals to be simultaneously above the caregiver's height.

Spider, howler and woolly monkeys (Atelidae)

60. Based on the largest body length of 63cm (black-handed spider monkey), 2-3 spider, howler, or woolly monkeys must have a total usable enclosure space of at least 62m² (6.5m X 9.5m), with a further 31.5m² for each additional animal.
61. The minimum height of a spider, howler, or woolly monkey enclosure must be at least 3.5m, measured from the highest climbable point, with appropriate climbing structures, platforms, and perches to allow all individuals to be simultaneously above the caregiver's height.

Saki and titi monkeys (Pitheciidae)

62. Based on the largest body length of 45cm (bearded saki), 2-3 saki or titi monkeys must have a total usable enclosure space of at least 31.5m² (4.5m X 7m), with a further 21.5m² for each additional animal.
63. The minimum height of a saki or titi monkey enclosure must be at least 3.5m, measured from the highest climbable point, with appropriate climbing structures, platforms, and perches to allow all individuals to be simultaneously above the caregiver's height.

Owl monkeys (Aotidae)

64. Based on the largest body length of 37cm (Azara's night monkey), 2-3 owl/night monkeys must have a total usable enclosure space of at least 19.5m² (3.5m X 5.5m), with a further 21.5m² for each additional animal.

- 65.** The minimum height of a night/owl monkey enclosure must be at least 3m, measured from the highest climbable point, with appropriate climbing structures, platforms, and perches to allow all individuals to be simultaneously above the caregiver's height.

Additional proposed standards for Old World species:

Macaques (Macaca)

- 66.** Based on the largest body length of 70cm (Tibetan macaques), 2-3 macaques must have a total usable enclosure space of at least 73.5m² (7m X 10.5m), with a further 35m² for each additional animal.
- 67.** The minimum height of a macaque enclosure must be at least 4m, measured from the highest climbable point, with appropriate climbing structures, platforms, and perches to allow all individuals to remain above the height of the private caregiver.

Vervet monkeys (Chlorocebus)

- 68.** Based on the largest body length of 50cm, 2-3 vervet monkeys must have a total usable enclosure space of at least 37.5m² (5m X 7.5m), with a further 25m² for each additional animal.
- 69.** The minimum height of a vervet monkey enclosure must be at least 3.5m, measured from the highest climbable point, with appropriate climbing structures, platforms, and perches to allow all individuals to remain above the height of the private caregiver.

Additional proposed standards for Strepsirrhines and Tarsiers:

Lemurs (Lemuridae)

- 70.** Based on the largest body length of 50cm (ruffed lemur), 2-3 lemurs must have a total usable enclosure space of at least 37.5m² (5m X 7.5m), with a further 25m² for each additional animal.
- 71.** The minimum height of a lemur enclosure must be at least 3.5m, measured from the highest climbable point, with appropriate climbing structures, platforms, and perches to allow all individuals to be simultaneously above the caregiver's height.

Mouse lemurs (Cheirogaleidae)

- 72.** Based on the largest body length of 14cm (gray mouse lemur), 2-3 mouse lemurs must have a total usable enclosure space of at least 13.5m² (3m X 4.5m), with a further 7m² for each additional animal.
- 73.** The minimum height of a lemur enclosure must be at least 3m, measured from the highest climbable point, with appropriate climbing structures, platforms, and perches to allow all individuals to be simultaneously above the caregiver's height.

Indris (Indriidae)

- 74.** Based on the largest body length of 70cm, 2-3 indris must have a total usable enclosure space of at least 73.5m² (7m X 10.5m), with a further 35m² for each additional animal.
- 75.** The minimum height of an indri enclosure must be at least 4m, measured from the highest climbable point, with appropriate climbing structures, platforms, and perches to allow all individuals to be simultaneously above the caregiver's height.

Lorises and Galagos (Lorisidae and Galagidae)

- 76.** Based on the largest body length of 37cm (Bengal slow loris), 2-3 slow lorises or galagos must have a total usable enclosure space of at least 19.5m² (3.5m X 5.5m), with a further 18.5m² for each additional animal.

- 77.** The minimum height of a slow loris or galago enclosure must be at least 3m, measured from the highest climbable point, with appropriate climbing structures, platforms, and perches to allow all individuals to be simultaneously above the caregiver's height.

Tarsiers (Tarsiidae)

- 78.** Based on the largest body length of 13cm (Horsfield's tarsier), 2-3 tarsiers must have a total usable enclosure space of at least 13.5m² (3m X 4.5m; minimum), with a further 6.5m² for each additional animal.
- 79.** The minimum height of tarsier enclosure must be at least 3m, measured from the highest climbable point, with appropriate climbing structures, platforms, and perches to allow all individuals to remain above the caregiver's height.

Additional proposed standards for Ape species:

The formula is based on groups of 2-3 individuals, apart from chimpanzees and gorillas, where it is calculated for a minimum of five individuals (see below), and orangutans, where it is based on up to two individuals.

For group housing of 5 individuals: (chimpanzees and gorillas):

- Minimum (usable) enclosure width = 25 X the species' maximum body length
- Minimum (usable) enclosure length = 10 X the species' maximum body length
- No change to the height formula.

Gibbons (Hylobatidae)

- 80.** Based on the average largest body length of 90cm (siamang gibbon), 2-3 gibbons must have a total usable enclosure space of at least 121.5m² (9m X 13.5m), with a further 45m² for each additional animal.
- 81.** The minimum height of a gibbon enclosure must be at least 4m, measured from the highest climbable point, with appropriate climbing structures, platforms, and perches to allow all individuals to be simultaneously above the caregiver's height.

Great Apes (Hominidae)

Chimpanzees

- 82.** Based on the average largest body length of 96cm, a group of 5 chimpanzees must have a total usable enclosure space of at least 228m² (10m X 24m), with a further 48m² for each additional animal.
- 83.** The minimum height of a chimpanzee enclosure must be at least 4.5m, measured from the highest climbable point, with appropriate climbing structures, platforms, and perches to allow all individuals to be simultaneously above the caregiver's height.

Orangutans

- 84.** Based on the average largest body length of 97cm (male), 1-2 orangutans must have a total usable enclosure space of at least 138m² (10m X 14.5m), with a further 48.5m² for each additional animal.
- 85.** The minimum height of an orangutan enclosure must be at least 4.5m, measured from the highest climbable point, with appropriate climbing structures, platforms, and perches to allow all individuals to be simultaneously above the caregiver's height.

Gorillas

- 86.** Based on the average largest body length of 120cm (lowland), a group of 5 gorillas must have a total usable enclosure space of at least 360m² (12m X 30m), with a further 60m² for each additional animal.
- 87.** The minimum height of a gorilla enclosure must be at least 4.5m, measured from the highest climbable point, with appropriate climbing structures, platforms, and perches to allow all individuals to be simultaneously above the caregiver's height.

Proposed Standards for Climbing Structures

- 88.** Both indoor and outdoor enclosures must include climbing structures that create three-dimensional spaces to allow arboreal behaviour with horizontal and vertical supports and to encourage musculoskeletal health
- 89.** All individuals must be able to access all necessary parts of the enclosure using the climbing structure (e.g. geriatric individuals and smaller individuals).
- 90.** The dimensions and spacing of climbing structures must be suitable for the housed species (e.g., branch diameter and space between branches).
- 91.** Climbing structures must be robust enough to prevent breakages and injuries and allow for periodic cleaning.
- 92.** Incentives must be provided to encourage the use of all available vertical space (for example, resting places, enrichment devices and viewpoints).
- 93.** Climbing structures must be composed of both rigid and flexible materials (e.g., beams versus ropes) and must vary in diameter, connectedness, and orientation to mimic the functional complexity of the forest canopy and to maintain muscle tone and balance.
- 94.** Whilst considering the needs of individuals (e.g. young and geriatric), the climbing structures must be changed and reorganised periodically to provide the primates with a dynamic environment and be appropriate for primates to locomote on top and for relevant species to hang below. Written records of when climbing structures were changed must be available at inspections.
- 95.** Brachiating species (e.g., spider monkeys) must have sufficient space and structures to brachiate across their enclosure.
- 96.** Species with a prehensile tail must have sufficient space and structures to use their tail for locomotion, postures and balance.
- 97.** Species that often leap to move around must have sufficient space and structures to do so.
- 98.** Gummivores must have appropriate (vertical or horizontal) supports to perform the necessary clinging or posture for accessing exudates and for gouging at a species-appropriate angle.
- 99.** Some species are semi-terrestrial (e.g., macaques, langurs and ring-tailed lemurs) and, therefore, must have access to both the arboreal and terrestrial space and should be encouraged to access all available space.

Additional proposed standards for Strepsirrhines and Tarsiers:

- 100.** Ring-tailed lemurs need sufficient ground-level options to facilitate their natural escape behaviour (running away on the ground) and sunbathing behaviour (moving around to locate sunspots, with or without the group).

Additional proposed standards for Ape species:

- 101.** Complexity must be provided on the ground for African apes (for example, logs, boulders, visual barriers, or vegetation) and arboreally for all apes (for example, visual barriers, variety of supports, range of resting places or enrichment devices).

Proposed Standards for Plantings

- 102.** Natural plantings must be available in outdoor enclosures to provide natural foraging opportunities, privacy, and shade.
- 103.** Primates must not have access to any toxic or harmful plants and their products (e.g., seeds, fruit, spikes and other defensive mechanisms).
- 104.** Ground cover is important in enclosure design for species who forage at ground level (e.g., tamarins, squirrel monkeys, capuchins, great apes, macaques, and lemurs). Live plant cover also encourages natural foodstuffs, like insects, into the enclosure and provides animals with shelter, visual barriers, and play opportunities.

Proposed Standards for Nest boxes, resting sites, and platforms

- 105.** Enclosures must be equipped in accordance with the needs of the primates with bedding material, nesting boxes, nest-building resources, resting sites and platforms designed to aid and encourage appropriate natural behaviours and prevent the development of abnormal behaviours.
- 106.** Resting platforms or shelves must be provided at various heights, in both the indoor and outdoor enclosures, large enough to allow all individuals to rest, groom, sunbathe or feed on them at once.
- 107.** At least one nest box must be provided for each family group in the indoor enclosure, with additional nest boxes being preferable to account for the natural variation of nest sites seen in the wild, as well as to ensure all individuals have access to a nest box in situations when one may be guarded by a dominant group member.

Additional proposed standards for New World species:

- 108.** Nest boxes must be up high, as most species will not sleep near the ground.
- 109.** For callitrichids, at least one well-draining nest box must be provided for each affiliated group, with additional nest boxes being preferable to account for the natural variation of nest sites seen in the wild. More than one nest box is required for groups of four or more individuals.
- 110.** For cebids, enclosures must have multiple options for sleeping and resting, including larger platforms where groups can congregate, nest boxes to accommodate family groups and sufficient space for each individual to rest alone.
- 111.** Elevated, comfortable, and well-draining platforms and branches must be placed in safe positions (quiet, away from bright lighting and entrances) for other New World species to allow for different sleeping site choices.

Additional proposed standards for Old World species:

- 112.** Macaques roost in groups, huddled together in elevated positions, so sufficient elevated space for the whole group is required.

Additional proposed standards for Strepsirrhines and Tarsiers:

- 113.** Nest boxes must be high, as most species will not nest near the ground.
114. Diurnal lemur species need sufficient ground-level space for all individuals to sunbathe.

Additional proposed standards for Ape species:

- 115.** Apes must have sufficient structural supports or baskets to facilitate nightly nest-building behaviours.
116. Sleeping structures should be big enough for mothers to sleep with their young.

Proposed Standards for Shelter

- 117.** Outdoor enclosures must have multiple shelters, or one or two large shelters to allow all individuals to shelter at once and to ensure that animals do not have to choose between physiological needs and security.
118. Shelters must not create 'dead ends' where dominant individuals may corner subordinate individuals, by providing multiple entrances and exits.

Proposed Standards for Substrate

- 119.** Both indoor and outdoor enclosures must have a solid floor (as opposed to a net or mesh flooring), covered in an appropriate and sufficient organic substrate (e.g., wood chip or leaf litter) on the ground to maintain temperature and humidity, promote foraging behaviours, provide activities, encourage nesting behaviour, and cushion any falling individuals.
120. All substrates must be able to drain fully and be suitable for spot cleaning or for full removal for periodic cleaning.

Proposed Standards for Visual Barriers

- 121.** Visual barriers must be available in all parts of the enclosure (indoor and outdoor areas) to allow individuals to hide from one another and from humans.
122. Visual barriers must not create 'dead ends' where dominant individuals may corner subordinate individuals.

Proposed Standards for Temperature

- 123.** Temperature levels must be maintained within an acceptable range for the species and individuals housed (considering additional needs for infants and geriatrics).
- 124.** Automated alerts must be in place to notify the caregiver if the temperature falls outside of the range. Records must be kept and be available upon inspection.
- 125.** All heating and cooling equipment must be fitted so that it does not pose a risk to the health and safety of the housed individuals, including guards on heaters.
- 126.** Back-up climate control systems or power sources must be accessible in case of equipment or power failure lasting longer than 4 hours or when the temperature decreases or increases over 10°C out of the acceptable range for that species.
- 127.** Animals must be provided with a choice in terms of temperature gradients to aid in thermoregulation via access to suitable facilities such as shelters, shaded areas, dense vegetation, or pools.
- 128.** Indoor enclosures must have basking or heated areas (e.g., heated shelves) that are provided in sufficient numbers to accommodate all primates, considering social structure and relationships within and between groups.
- 129.** If the temperature drops below the recommended range or at the lower end of the temperature range, then additional heat sources (and, if applicable, bedding) must be provided in sufficient quantities to maintain their comfort, taking into consideration the social structure and relationships within and between groups.
- 130.** If the temperature increases beyond the recommended range or at the higher end of the temperature range, then additional cooled areas or cooling mechanisms must be provided to allow for all individuals to access them.

Additional proposed standards for New World species:

- 131.** The temperature in indoor enclosures must be maintained between 18°C–32°C.
- 132.** Primates must have access to cooled areas (indoors or outdoors) when the temperature is above 35°C outside.

Additional proposed standards for Old World species:

- 133.** Given the variety of habitats that old world monkeys inhabit, the temperature range of the species should be based upon species-specific needs and in line with current scientific guidance and input from either a veterinarian with knowledge of primates, an expert from either an acknowledged national and international primatology group, a licensed zoo premise or a sanctuary.
- 134.** Primates must have access to cooled areas (indoors or outdoors) when the temperature is above 35°C outside.

Additional proposed standards for Strepsirrhines and Tarsiers:

- 135.** Indoor enclosures for strepsirrhines and tarsiers must be maintained between 18°C–30°C, with the exception of periods of torpor where the temperature can drop to around 10°C.
- 136.** Primates must have access to cooled areas (indoors or outdoors) when the temperature is above 32°C outside.
- 137.** Nocturnal species must be housed in indoor environments with temperatures controlled between 21°C–27°C.

Additional proposed standards for Ape species:

- 138.** Indoor enclosures for ape species must be maintained between 18°C–30°C.
- 139.** Outdoor enclosures must have heated areas when the ambient temperature falls below 13°C (adjusting for windchill).
- 140.** Outdoor enclosures must have cooled areas when the temperature is above 35°C.

Proposed Standards for Ventilation and Humidity

Ventilation:

- 141.** Suitable ventilation must be provided. Indoor enclosures can utilise natural extractor systems, such as adequate doors and hatches or purpose-built extractor systems.

Humidity:

- 142.** Indoor humidity within enclosures must be kept between 50% and 70% and monitored and recorded daily.

Proposed Standards for Lighting

- 143.** Lighting cycles must represent a full 24-hour light period that the species would normally encounter in the wild. Lighting systems should be automatic, with overrides to kick in automatically if levels are too bright/insufficiently light for extended periods of time.
- 144.** Where lights are required to be left on overnight (for exceptional circumstances such as for observations), they must not be strong, and the impact on the primates' must be minimised by allowing them adequate space to rest and sleep away from the lighting.
- 145.** All indoor rooms must each have at least one large window, skylight or similar.
- 146.** Nocturnal species' activity patterns must be accommodated, and due to the negative effect on behaviour and sleep hormones, the use of blue lights and filters must not be used.
- 147.** If UV lighting is fitted, the UV light should be 40 cm away from the basking spot, with a radiation level of 3, and radiation levels must be checked at least monthly to ensure the UV lighting is effective.

Proposed Standards for Hygiene and Safety

Hygiene:

- 148.** A good standard of hygiene must be maintained in enclosures and surrounding areas to reduce the risk of spreading disease among individuals.
- 149.** Enclosures must not be cleaned all in one go to avoid the removal of scents (unless required for disease control).

- 150.** Effective prevention of access by other animals is required to reduce the risk of disease transmission.
- 151.** Handwashing (or equivalent) facilities must be accessible in the immediate vicinity of the primate's enclosure and must use potable water. Care must be taken to ensure primates cannot reach such facilities.
- 152.** Caregivers must not eat, drink, or smoke in the primate area.
- 153.** Caregivers must use footbaths containing DEFRA-approved disinfectant before entering and after exiting the enclosure. Footbaths must be located just outside the enclosure, with care taken to ensure they cannot be reached by the primates.
- 154.** The drainage of all enclosures must be capable of efficiently removing excess water.
- 155.** To avoid injury and zoonotic disease transmission, caregivers should avoid direct contact with their primates and their contaminated fluids (e.g., saliva, food, water, urine, and faeces) by using masks, gloves, disinfectable boots, and specific clothes or overalls as appropriate.

Safety:

- 156.** Enclosures and enclosure barriers must be designed and maintained to minimise the risk of injury or harm to the animals from interaction with enclosure materials or as a result of enclosure design. There must not be any hazards inside the enclosure or accessible from it (for example, sharp or rough edges, fraying ropes, electrical hazards etc.) which may present a risk of injury to an animal.
- 157.** Enclosures and all furniture must be inspected at least daily for faults and damage, and defects in enclosures or barriers, which may compromise the safety of the animals, must be rectified as soon as possible. The animals must be contained in a secure location until repairs have been completed. Animal welfare must not be significantly compromised during containment whilst repairs are made.
- 158.** Any natural or non-natural materials must be assessed for toxicity before being introduced to the animals or animal enclosures.
- 159.** Enclosures must be designed and maintained to deter entry by predators, native wildlife, or other household pets using humane and ethical controls.
- 160.** Where environmental quality and safety in an animal enclosure depend on external utilities, adequate backup facilities must be kept on-site in case of failure.
- 161.** Double doors must be present on all enclosures to prevent escapes and should be securely locked. For category one species (see appendix 1), double doors must be used.
- 162.** All locking systems should be designed and maintained to prevent animals from unfastening the securing devices. Windows must be similarly secure.
- 163.** Any primate escapes must be immediately reported to the licensing authority and the police.
- 164.** The caregiver must have an appropriate plan to ensure the protection of the primates in case of fire or another emergency.

3. Health (physical)

Proposed Standards for Health

Veterinary care and management:

- 165.** The licence holder must be registered with at least one veterinary practice that has specialist knowledge of all species being kept. The licence holder must make sure that their veterinary practice is either:
- a) Able to demonstrate specialised knowledge of preventative and curative veterinary care for all the species in the collection, or
 - b) Has processes in place to obtain specialised knowledge of preventative and curative veterinary care for all the species in the collection by use of external specialist veterinary consultants or another veterinary practice
- 166.** The veterinary practice must have overall responsibility for delivering the following routine activities (documents to be counter-signed by a veterinarian for inspection):
- a) routine inspections (four times a year)
 - b) directing or carrying out treatment for all sick animals
 - c) administration of vaccines, parasite control, disease surveillance, contraception, and other aspects of preventative medicine
 - d) health monitoring of animals, including submission of blood and other samples for laboratory examination, as appropriate
 - e) safe collection, preparation, and dispatch of diagnostic samples
 - f) post-mortem examinations of all animals, where appropriate, to make sure that sufficient evidence is gathered to diagnose the cause of mortality and to identify any significant or notifiable diseases
 - g) maintaining clinical and pathological records for all animals within the collection.
- 167.** The licence holder must have a written and developed programme of preventive and curative veterinary care and nutrition, including a written summary of the healthcare provided for each primate being kept, body condition and weight monitoring, faecal testing for pathogenic bacteria and parasites, vaccinations, infectious disease screening, dental prophylaxis, and, where applicable, geriatric care and management of chronic conditions. The programme must be delivered under the supervision of a veterinary surgeon familiar with current best practices in the care of primates, particularly in the species maintained in the collection.
- 168.** Medicinal products must only be administered under the direction of a veterinary surgeon. The lead veterinary practice must be kept informed of any medication prescribed or administered by other veterinary surgeons involved in providing care. Authorisation must be given by a veterinary surgeon for each occasion or course of treatment, along with written instructions (including potential hazards).
- 169.** The licence holder must keep comprehensive animal health care records for a minimum of six years or the duration of the primate's life (whichever is shortest) and for one year following mortality. These records must contain full and up-to-date records on all aspects of animal health and welfare, including evidence of the provision of the veterinary surgeon's services. These records must be available at inspections and must, at minimum, cover the implementation of the following preventative medicine elements:
- a) clinical medicine and surgery of individuals or groups as appropriate

- b) pathological findings from antemortem testing
- c) results of post-mortem examination and testing
- d) mortalities
- e) veterinary intervention regarding behavioural or welfare issues identified, and remedial actions recommended
- f) contributions of the veterinary surgeon to ethical decision-making

Routine observations and checks:

- 170.** The condition, apparent health and behaviour of all individuals must be checked at least twice daily by the person in direct charge of their care whilst avoiding unnecessary stress or disturbance. Where animals are not checked twice daily, this must be justified, and alternative assessment regimes documented.
- 171.** Any individuals who give cause for concern must be thoroughly assessed as to whether they are distressed, sick, or injured. If so, veterinary advice must be sought immediately. Behavioural signs of ill health include not eating, eating less or sometimes over-eating, not drinking or drinking to excess, inactivity, hiding away and withdrawal and non-responsiveness. Physical signs include but are not limited to poor body condition, poor coat condition (including fur loss and dermatitis), crouching or huddled postures, diarrhoea and vomiting, bloating, discharge from orifices, excessive scratching, and laboured breathing.
- 172.** Primates should be of a suitable weight and body condition for the species and individual (according to the veterinarian). Animals should not be over- or under-weight, lack muscle tone, or show skeletal abnormalities.
- 173.** Individuals should be trained using positive reinforcement methods to voluntarily step onto the scales for non-invasive weighing (and caregivers must be able to demonstrate this at an inspection). If this is not possible, then the caregiver must be able to demonstrate how they use other means to weigh individuals (for example, scales on feeding platforms).
- 174.** Individuals must be weighed monthly (assuming positive reinforcement enables weighing without undue stress to animals) and weekly if there is a significant change in circumstance (e.g., enclosure change, change to social structure etc.). If individuals cannot be weighed without inducing stress, then the caregiver must demonstrate how they use body condition scoring at an inspection.
- 175.** Individual primates' body conditions must be assessed weekly using validated body condition scoring methods where available and recorded to determine if remedial action is needed to get them within a healthy weight range for their species and life stage, based on direct advice from the veterinarian. Accurate and consistent records must be kept and be available for inspection.
- 176.** If an individual's weight increases beyond what is considered (by the veterinarian) to be a healthy range for the individual, necessary interventions must be made to their diet, and food delivery methods and details of weights and remedial action must be recorded.
- 177.** If an individual's body weight decreases by 10% or more (when they are not on an approved weight loss programme), substantially changes beyond their normal fluctuation, or their body condition indicates an unexplained loss of weight, the veterinarian must be notified so that a veterinary examination can be conducted, and action must be recorded.
- 178.** Urine and faecal output should be monitored daily, and any unexpected changes should be recorded and reported to the veterinarian. Repeated and unexplained diarrhoea and constipation, incontinence, and unusual odours in urine should elicit a consultation with the veterinarian and, if necessary, a health examination.

Non-infectious, infectious, metabolic diseases, and ill-health:

- 179.** Caregivers must be fully informed of the range of diseases the species being kept are susceptible to, along with the typical signs and measures of preventative care.
- 180.** The veterinarian must be consulted if any individuals experience repeated bouts of illness, as this may indicate a more serious underlying problem, such as depressed immune competence, that could be linked to chronic stress. The steps taken to investigate the cause of repeated illness and the actions taken to address potential chronic stress must be documented.
- 181.** Any potential of zoonotic disease transfer from people to primates must be considered and mitigated against. For example, due to the risk of fatal infection by herpes simplex in primates, caregivers who have a live cold sore must mitigate the risk by avoiding contact (including food preparation) with primates wherever possible. If it is not feasible, then protective masks and gloves must be worn.

Oral health:

- 182.** The caregiver must be observant of changes in feeding behaviour and other indications of poor oral health (e.g., broken canines and facial abscesses) and report them promptly to the veterinarian.
- 183.** Broken teeth and cavities should be filled or extracted by a veterinarian unless the veterinarian advises otherwise.

Injuries:

- 184.** Potential causes of injuries in primates, including aggressive interactions, falls, inappropriate furnishings, heaters, enrichment, and falling branches, must be minimised wherever possible. All injuries must be documented, along with the cause and the steps taken to reduce the risk of reoccurrence, and the treatment required must be documented. The records must be available for inspection.

Physical discomfort and pain:

- 185.** Caregivers must be vigilant for signs of pain, especially as primates often mask them. Signs of discomfort and pain include loss of appetite, hair-plucking in painful areas, self-mutilation, change in social position within the group, specific vocalisations, unusual posture and activity, withdrawal from the group, unresponsiveness, and other signs that are inappropriate to the species (see also section 4. Behaviour).
- 186.** Caregivers must manage unavoidable discomfort and pain (e.g., from arthritis) as part of the veterinary health plan.
- 187.** Caregivers must monitor all individuals for natural reductions in mobility associated with ageing and record any noticeable changes and the steps taken to adapt the enclosure to facilitate changes in mobility. The records must be available for inspection.

Euthanasia:

- 188.** Euthanasia must only be authorised and performed by a veterinarian, except for the humane destruction of escaped animals or when there is a significant safety threat to humans or other animals which cannot be otherwise resolved through non-fatal methods. The humane killing of an animal is considered justifiable under a number of circumstances;
- a) if, in the opinion of the veterinary surgeon, an animal is suffering from an incurable disease or from severe pain or suffering which cannot be alleviated.
 - b) if the animal poses a serious and unavoidable threat to the safety of human caregivers and/or other animals in the enclosure.

4. Behaviour

Table 1. A non-exhaustive list of normal and positive behaviours often displayed in captive primates. NB. Caregivers must become familiar with the full normal behavioural repertoire relevant to the species and individuals they house. The below list should be used as a guide only.

Normal and positive behaviours

- **Maintenance and care behaviours:**
 - Primates should display maintenance behaviours, including self-grooming, feeding and drinking, defecating and urinating.
- **Social behaviours:**
 - Most primate species are gregarious social animals and should display species-appropriate social behaviours, such as social grooming, group nesting, food sharing, and play behaviours.
- **Locomotory behaviours:**
 - Primates should display species-appropriate locomotory patterns, such as climbing, swinging, jumping, walking, brachiating, and running.
- **Sleeping and resting behaviours:**
 - Primates should display species-appropriate sleeping and resting patterns, such as diurnal or nocturnal patterns and nest building.
- **Foraging behaviours:**
 - Primates should display a wide range of species-appropriate foraging behaviours, such as searching, manipulating and consuming leaves for herbivorous species; capturing and restraining prey for omnivorous and insectivorous species; and hole gouging and gum extraction for exudative species.
- **Normal parenting behaviours:**
 - Primates display extended maternal care beyond nutritional dependency, and captive infants need to be able to remain with their mother and natal group for a species-appropriate length of time.
- **Cognitive behaviours:**
 - Primates are intelligent and inquisitive animals and should be able to display their cognitive abilities, such as manipulation and engagement with enrichment stimuli and tool-use.
- **Olfactory behaviours:**
 - Many primate species engage in olfactory communication, and primates should be able to display species-appropriate olfactory behaviours such as scent-marking.

Table 2. A list of abnormal and stereotypical behaviours that are seen in captive primates. The list is not intended to be exhaustive but highlights the range and complexity of abnormal and stereotypic behaviours seen in primates. It is intended to be used as a guide only. The behaviours are grouped based on the categorisation provided by Jennings et al. (2009).

Stereotypic and abnormal behaviours

- **A restricted behavioural repertoire:**
 - Limited use of the environment
 - Little or no vocalisation
 - Limited foraging behaviours
 - Limited locomotory behaviours
 - Limited curiosity towards novel objects, toys or other stimuli
 - Inappropriate responses to stimuli
 - Increased sleeping
- **An abnormal time budget:**
 - Abnormal amounts of restlessness or hyperactivity
 - Lethargy
 - Unresponsiveness
 - Hyperphagia (excessive eating)
 - Psychogenic excessive water drinking (polydipsia)
 - Excessive scent-marking
 - Excessive scratching
 - Excessive huddling
 - Excessive self-grooming, hair-plucking and self-licking
 - Excessive playing with ears, eyes, or eyebrows
 - Sucking on digits excessively
- **Inappropriate social behaviour:**
 - Increased or excessive aggression towards conspecifics
 - Increased fear towards or withdrawal from conspecifics (e.g., hiding)
 - Over-grooming or hair-plucking of conspecifics leading to hair loss
 - Killing or neglect of young
 - Other changes in behaviour, for example, increased fear or aggression towards human caregivers
- **Other abnormal behavioural patterns:**
 - Locomotor stereotypies: body rocking; pacing; head bobbing; spinning on the spot; head twirling
 - Coprophagy (eating faeces)
 - Drinking of urine
 - Regurgitation and re-consumption of food
 - Teeth-clenching or grinding (bruxism)
 - Self-injurious behaviours

Proposed Standards for Behaviour

General:

- 189.** Caregivers must be familiar with the full normal behavioural repertoire of the species and individuals they keep, including facial expressions, vocalisations, postures, and activities.
- 190.** Primates must be allowed the opportunity to express appropriate natural behaviours, except for those that would impair the welfare of the individual animal or other animals either in the long term or short term (for example, predatory behaviours). These include a full range of maintenance behaviours (e.g., grooming, feeding, and drinking) and defence and escape behaviour to avoid physical and visual contact (e.g., dispersing to other areas and utilising visual barriers when coming into conflict or are presented with an aversive situation or stimulus).
- 191.** Primates must not be clothed or wear nappies.

Abnormal and stereotypic behaviours:

- 192.** Caregivers must be able to recognise signs of good and poor welfare, as abnormal behaviour can indicate disease, injury, or stress, and know what steps to take should signs of poor welfare be observed (see table 1).
- 193.** Unexplained increases and decreases in the performance of maintenance behaviours, general activity levels, foraging and feeding behaviours, and sleeping and resting patterns must be explored and addressed. The caregiver must consult with a veterinarian with knowledge of primates and an expert from either an acknowledged national and international primatology group, a licensed zoo premise or a sanctuary. If necessary, the caregiver should then arrange for a full health examination. The caregiver should also review and document all aspects of the primate's physical and social environment and the degree to which the primate's needs are being met physically and mentally to identify the cause. Records must be available for inspection.
- 194.** Where signs of poor welfare, abnormal behaviours, or evidence of abnormal behaviours (e.g., stereotypical behaviour, a restricted behavioural repertoire, and self-injurious behaviour. See table 2 for more examples) are witnessed, they must be recorded in daily animal records, along with the steps taken to mitigate further development. Where abnormal behaviours are established, steps must be taken to identify and reduce the triggers for such behaviours. Action must be recorded and be available for inspection.
- 195.** Stereotypic behaviours can be a coping mechanism for some individuals and must not be restricted in these cases (for example, stopping an animal from pacing by not allowing access to certain routes). Instead, the trigger for the behaviour must be addressed, and steps must be taken to mitigate the factors driving it. Although it may not be possible to resolve established abnormal behaviours.
- 196.** A written plan must be developed and put into place to address welfare concerns if individuals are performing new abnormal or stereotypic behaviours. Measures must tackle the source of the issue by correcting the causes and may include providing more space, enrichment, and resources. The plan must be available for inspection.

Proposed Standards for Social Needs

- 197.** The caregiver must ensure that animals are normally kept in social groupings consistent with their species, age, and reproductive status. The isolation of naturally gregarious or social primates must only occur in the following circumstances and not for longer than necessary:
- to provide the individual animal with veterinary care
 - to protect the welfare of the individual animal or social group
 - to meet requirements on quarantine and disease management (for example, legislative) ethically approved research
- 198.** Established compatible social groups should not generally be altered. Any changes to social groups should only be undertaken when necessary for welfare reasons and be performed under the guidance of an expert from an acknowledged national and international primatology group, a licensed zoo premise, a sanctuary, or a veterinarian with relevant expertise. All guidance received and the measures taken must be documented and be available for inspection.
- 199.** Social and parenting behaviour is largely learnt. Infants must be raised in species-appropriate social groups to experience events such as births, infant rearing, and appropriate social behaviours. Infants can only be removed from their mothers under exceptional circumstances, such as parental rejection or abuse.
- 200.** Where species-appropriate, females should remain in their natal troop. For example, species such as ring-tailed lemurs display female philopatry. However, care must be taken to regularly monitor all individuals for signs of aggression and possible evictions.
- 201.** Where species-appropriate, males should remain in their natal troop. For example, chimpanzees display male philopatry. However, care must be taken to regularly monitor all individuals for signs of aggression and possible evictions.
- 202.** Measures must be taken to address welfare concerns if individuals show persistent signs of excessive aggression, antisocial behaviour, or prolonged conflict behaviour towards other animals or people. Measures must tackle the source of the issue by correcting the causes and may include providing more space, enrichment, and resources. A written plan must be produced which shows the steps that will and have been taken to address the issues. The plan must be available for inspection.
- 203.** It is never acceptable to mitigate the effects of aggression, for instance, by removing canine teeth for handling or by extended separation or isolation from the group.
- 204.** Introducing new individuals must be undertaken as a "soft introduction". Individuals must have the opportunity to become familiar with one another through visual, auditory, and olfactory contact for several days before being mixed within the enclosure. Specialist advice from acknowledged national and international primatology groups, licensed zoo premises, sanctuaries, or veterinarians must be sought before introductions.
- 205.** All groupings must be undertaken under the guidance of an expert from an acknowledged national or international primatology group, a licensed zoo premise, a sanctuary, or a veterinarian. Below provides guidance on the most common social structures that occur in the wild for each species. It is only provided as recommendations, and each social grouping should be assessed on a case-by-case basis under professional guidance.

Additional proposed standards for New World species:

- 206.** New World species should be provided with opportunities to socialise with multiple compatible conspecifics in group structures appropriate for their species in natural environments, for example:
- Marmosets and tamarins: compatible male and female pair and their offspring.
 - Capuchins and squirrel monkeys: multi-male, multi-female groups, pairs and their offspring.
 - Spider monkeys: small multi-male, multi-female groups that represent their natural fission-fusion societies, with large groups splitting into subgroups for foraging.

Additional proposed standards for Old World species:

- 207.** Old World species should be provided with opportunities to socialise with multiple compatible conspecifics in group structures appropriate for their species in natural environments, for example:
- Baboons and mandrills: a varied composition which includes: an adult male with adult females, juveniles, and adolescents; an adult male and adult females; an adult pair (one male and one female); or larger multi-male and multi-female groups.
Special attention must be given to understanding the complex social structures of Hamadryas baboons, and their social groupings should be guided by advice from acknowledged national and international primatology groups, licensed zoo premises, sanctuaries, or veterinarians.
 - Patas monkeys: single male and multi-female groupings.
 - Colobus monkeys and vervets: multi-male, multi-female groups.
 - Macaques: multi-male, multi-female groups or one male and multi-female groups.

Additional proposed standards for Strepsirrhines:

- 208.** Strepsirrhines must be provided with opportunities to socialise with multiple compatible conspecifics in group structures appropriate for their species in natural environments, for example:
- Lemurs: fission-fusion groups of multi-male, multi-female groups, solitary.
 - Galagos: multi-male, multi-female groups, but tend to forage alone.
 - Lorises: small multi-male, multi-female groups but tend to forage alone.

Additional proposed standards for Ape species:

- 209.** Apes must be provided with opportunities to socialise with multiple compatible conspecifics in group structures appropriate for their species in natural environments, for example:
- Chimpanzees and bonobos: fission-fusion groups of multi-male, multi-female, and bachelor groups.
 - Gorillas: single silverback with multiple females plus offspring and bachelor groups.
 - Gibbons and siamangs: compatible male and female pair and their offspring or larger multi-male, multi-female groups.

Proposed Standards for Mixed Species Groups of Primates

- 210.** Mixed species housing must consider the compatibility of species and each species' natural history. Mixing should be guided by specialists from acknowledged national and international primatology groups, licensed zoo premises, sanctuaries, or veterinarians and be based on available evidence for appropriate mixing.
- 211.** Mixed species housing must ensure that the species held do not pose a disease risk to one another, as many species commonly carry infectious diseases that are of no harm to themselves but can cause serious illness and death in others.
- 212.** Cohabitants must be selected with due consideration to the species' natural history. They must not harm or predate on one another.
- 213.** Mixed species housing must provide sufficient species-specific space and appropriate furnishing that can be separated, if necessary, to provide opportunities to retreat from one another to a safe space and reduce the risk of stress and conflict between species.
- 214.** Mixed species should naturally associate in the wild and compete over resources. Although in captivity, resources, such as food, nest boxes, and basking spots, should be provided in sufficient quantities and in multiple locations to minimise competition.
- 215.** Within mixed-species housing, interactions between individuals of different species must be regularly monitored and assessed. Appropriate action must be taken to address persistent aggressive conflicts, resulting in chronic poor welfare, including providing more space, resources, and enrichment. All remedial actions and their results must be documented and be available for inspection.
- 216.** The introduction of new individuals must be undertaken as a "soft introduction", with animals provided the opportunity to become familiar with one another by having visual, auditory and olfactory contact with each other for several days before being mixed within the enclosure. Advice from acknowledged national and international primatology groups, licensed zoo premises, sanctuaries, or veterinarians must be sought before introducing new species.
- 217.** If housing nocturnal species with diurnal species, care must be taken to ensure the species-specific sleeping and resting patterns of each species are not compromised.

Proposed Standards for Enrichment

- 218.** Enrichment devices must be safe and non-toxic.
- 219.** Each primate enclosure must have a species-specific enrichment programme that is based on accurate knowledge and understanding of the species' life history in the wild and the individual's needs. Enrichment should be designed to provide primates with complexity, choice and novelty within their captive environment. The enrichment plan must be available for inspection.
- 220.** The enrichment programme must be used and adhered to. Any changes or gaps in use must be documented along with the reason, and all documents must be available for inspection.
- 221.** Each enrichment programme must include plans to change or introduce new enrichment opportunities daily whilst ensuring that enrichment is available every day.

222. Enrichment programmes must be reviewed and, if necessary, updated monthly or whenever necessary to promote species and individual-appropriate engagement with the enrichment. Records of all reviews, updates, and changes must be available for inspection.

223. The enrichment programme must include the following;

- Sensory enrichment opportunities that promote the use of different senses, such as different scents, tactile toys, or sprinkler systems;
- Food-based enrichment opportunities, including varying the form of feeding, the use of foraging devices, puzzle feeders, and opportunities for tool use;
- Structural enrichment opportunities that promote different locomotory patterns promote gross and fine-motor skills, encourage activity and offer new ways of engaging with their enclosure. For example, the climbing frames may be periodically changed to imitate the dynamic nature of the wild environment;
- Cognitive enrichment opportunities that encourage the use of cognitive skills, such as puzzle feeders for problem-solving and tool-using enrichment for species who tool-use;
- Social enrichment that promotes engagement within the group, such as play-based activities or cooperative toys.

224. Enrichment must provide primates with choice and control over the captive environment. For example, animals should be able to choose their preferred space within their varied environment at any time.

Additional proposed standards for New World species:

225. New World monkeys with prehensile tails, such as spider monkeys, must be given the opportunity to access enrichment devices that stimulate suspensory postures.

Additional proposed standards for Old World species:

226. Species of primates who swim in the wild should be provided with opportunities to immerse themselves, play, or swim in the water. For example, the crab-eating macaque is highly adapted to swimming and could benefit from a wading pool.

Additional proposed standards for Strepsirrhines and Tarsiers:

227. Exudative species, such as slow lorises, will benefit from enrichment opportunities that allow them to harvest new sources of exudates, whether that is varying the way in which the daily provision is presented or offering completely new opportunities to exploit.

Additional proposed standards for Ape species:

228. To facilitate the high level of cognition in ape species, apes should also be given complex puzzle feeders, cognitive toys, and problem-solving tasks to stimulate their brains and relieve boredom.

5. Breeding

Proposed Standards for Breeding

- 229.** All aspects of breeding and breeding care must be guided by a veterinarian and documented within a breeding health and management plan. Documentation of the veterinarian's approval must be provided upon inspection unless the breeder is part of a recognised international conservation breeding programme. Approval is subject to the following:
- a) The breeding individuals must have appropriate genealogy, not be closely related and must not result in the hybridisation of species.
 - b) The breeding individuals must appear to be well-adapted behaviourally (e.g., minimal stereotypic behaviours, no excessive aggression, or self-injurious behaviours).
 - c) The breeding individuals must be healthy and free from disease and hereditary health conditions.
 - d) The breeding individuals must be within a normal weight range for the species.
 - e) The breeding individuals must be capable of rearing their offspring and have the required species-specific experience for rearing young.
 - f) If the breeding individuals have rejected their young previously, they must not be allowed to breed except under exceptional circumstances (i.e., rejection occurred due to health issues), and in such cases, the evidence must be given to show what steps have been taken to reduce the likelihood of future infant rejections.
 - g) The caregiver can demonstrate strong knowledge or experience of the species-specific behaviours and health and nutritional requirements involved in reproduction, parturition, rearing and infant behaviour.
 - h) The caregiver can demonstrate their ability to home the offspring produced from breeding, as infants must be raised in species-appropriate social groups and can only be removed from their mothers under exceptional circumstances.
- 230.** The breeding health and management plan must protect the genetic health of the offspring, with special consideration taken to prevent inbreeding and subsequent welfare implications.
- 231.** The breeding health and management plan must consider the space required for the group to expand. Breeding must be prohibited if there is not enough space for offspring in accordance with the enclosure dimensions in section 2.1.1.
- 232.** The breeding health and management plan must include a plan for dealing with rejected or non-thriving infants.
- 233.** Primates must be able to display species-specific sexual-related behaviours, such as scent-marking, which play an important role in reproductive and breeding health.
- 234.** Breeding primates must be able to express natural birthing behaviours. For example, lemurs build nests before birth, and no other individuals are welcome within the nest. Exceptions can be made if the veterinarian has deemed intervention to be necessary. Evidence of this decision from the veterinarian must be available for inspection.
- 235.** Placentophagy is common in many primate species, such as marmosets and tamarins. The afterbirth should therefore remain with the mother to allow her (or other group members) to perform this behaviour.
- 236.** Breeding primates must be able to express normal parenting behaviours for a suitable duration appropriate to the species concerned. For example, natural weaning must occur

unless under exceptional circumstances which impact the well-being of the mother or infant (e.g., health concerns), and only when disrupting weaning is advised by the veterinarian.

- 237.** Breeding primates must be encouraged to naturally rear their young, and this must be documented within the breeding plan.
- 238.** When intervention is required for rejected or non-suckling infants, assisted rearing is preferred, whereby the at-risk infant(s) are only removed from their mother for feeding and are then promptly returned to their natal group, providing this can be done without causing undue stress to all primate individuals in the group.
- 239.** A veterinarian must confirm that an infant cannot be safely naturally reared before hand-rearing can occur, and they must also guide the process. Veterinary records of which individuals were hand-reared must be available for inspection.
- 240.** Hand-rearing is only permitted under exceptional circumstances (e.g., where the health of the infant or mother is at risk) and only when the licence holder can demonstrate that they have a plan in place for the individual to be rehabilitated into their natal group or an appropriate alternative social group. If there is no possibility of the infant being reintroduced into a social group after weaning, and assisted rearing is not possible, then the infant must be humanely euthanised as a last resort, upon the direction of a veterinarian, to avoid undue suffering.
- 241.** All non-breeding individuals must be given contraception, surgically sterilised by a veterinarian, or kept in a non-breeding group (e.g., single-sex). The use of contraception methods to prevent unwanted breeding must be guided by veterinarian advice.
- 242.** Mother and infant and infant siblings must not be separated except under exceptional circumstances (e.g., if one of the infants requires urgent veterinary care).

Additional proposed standards for New World species:

- 243.** The breeding health and management plan must take into consideration that marmosets will often give birth to twin and sometimes triplet infants in captivity when planning for the additional space required for the group to expand.
- 244.** The breeding health and management plan must take into consideration that marmoset mothers will struggle to be able to support more than two infants, and the plan must include action plans for dealing with non-thriving infants.

Additional proposed standards for Strepsirrhines:

- 245.** The breeding health and management plan must take into consideration that ruffed lemurs will often give birth to twin and sometimes triplet infants in captivity when planning for the additional space required for the group to expand.

6. Handling and Restraint

Proposed Standards for Handling and Restraint

- 246.** The handling and restraint of primates must only be performed when strictly necessary for their health and welfare and for as short a time as possible. Primates must not be handled for entertainment purposes and must not be kept on harnesses and leads.
- 247.** Manual restraint should not be attempted when multiple primates are in the enclosure unless under exceptional circumstances, such as retrieving a dropped infant.
- 248.** Primates must only be handled by caregivers who are appropriately experienced in handling primates to ensure safe handling. Wherever possible, private caregivers should seek training from acknowledged national and international primatology groups, licensed zoo premises, sanctuaries or veterinarians.²
- 249.** Handling must be performed with care to protect the primates' physical and mental welfare and, wherever possible, be performed out of the view of other individuals to avoid undue stress.
- 250.** Category 1 species (see appendix 1) must never be manually restrained whilst conscious due to the significant risk associated with these species. However, if it is necessary for an emergency (a sick animal needing to go to the vet), then the caregiver needs to make a health and safety assessment regarding the risk.
- 251.** Enclosures must be equipped with facilities for the safe restraint of the individuals being housed (e.g., attachments for holding or transport boxes).
- 252.** All individuals must be trained via positive reinforcement training to voluntarily enter a transport or holding box upon request. Once trained, training sessions must be performed at least weekly so that all individuals are ready in case of an emergency.
- 253.** Caregivers must be able to demonstrate to inspectors through demonstration or video that their primates are willing to voluntarily enter transport or holding boxes and that force is not required. For individuals who cannot be trained to do this, the caregiver must have a humane alternative plan (i.e., not force) documented.
- 254.** Sedation must not be used for the purpose of capture unless it is strictly necessary for the primate's welfare and is performed under veterinary supervision.
- 255.** If sedation is performed, all other animals must be removed from the immediate enclosure first.
- 256.** Sedated individuals must be kept separately from all other primates, including infants, until they have woken and fully recovered from the sedative, under veterinary assessment, to avoid adverse reactions to conspecifics during recovery. In the case of mothers and infants, both individuals should be kept separate, with visual, auditory, and olfactory access, until fully conscious.
- 257.** Sedated mother and infant pairs must be given sufficient time to reconnect and nurse following waking before being placed back into the group.
- 258.** Full consideration should be given to the weather conditions when determining the time of day for capture and restraint, avoiding the hottest part of the day wherever possible.

² Private caregivers of marmosets can access this [online training resource](#). Private caregivers of macaques can access this [online training resource](#).

- 259.** Full consideration should be given to the species' activity patterns (e.g., diurnal/ nocturnal) so that the effects of any given veterinary treatment can be effectively monitored. For example, diurnal species are often most active in the morning.
- 260.** The use of nest boxes for capturing and restraining individuals must be avoided wherever possible to avoid them being associated with a negative experience.
- 261.** Records must be kept for any instances of handling and restraint (for non-hand-reared individuals), including any resulting injuries or illnesses following handling, restraint or sedation.

7. Transport

Proposed Standards for Transport

General:

- 262.** Primates must only be transported when strictly necessary, such as for veterinary treatment, to a better facility, or to a sanctuary.
- 263.** Prior to transport, the primate owner must ensure that the facilities at the receiving end adhere to the requirements as articulated within these standards and that all efforts are made to provide each individual with resources familiar to what they were accustomed to at their prior enclosure, for example, housing, bedding and familiar food items.

Transportation facilities:

- 264.** Suitable facilities for lifting, crating, and transporting all primate species housed must be available.
- 265.** Primates must only be transported in a safe and appropriately designed container and must never be loose in the vehicle.
- 266.** Transport containers must have a viewing window.
- 267.** Transportation containers must be able to maintain primates within an optimum, specified temperature and humidity range at all times during transportation.
- 268.** Facilities for lifting, crating, and transporting primates (including equipment for loading and unloading) must be designed, constructed, maintained, and operated to:
- a) protect the primates from harm (specifically no sharp edges or projections which might cause injury) and meet the needs of the animals
 - b) keep the primates within the species-appropriate thermal range
 - c) prevent the primates from escaping or falling out - they must be strong enough to withstand the stresses of movements of the primates
 - d) provide a sufficient floor area and height for the primates, appropriate to their size and the intended journey. There must be enough space to enable the primates to travel in a natural position, to be able to turn about freely, to be able to stand, lie down, hang or perch, as required, whilst minimising the risk of injury
 - e) have flooring that is anti-slip, and that minimises the leakage of urine or faeces
 - f) ensure that the air quality and circulation can be maintained for the duration of the journey
 - g) provide access to the primates to allow them to be inspected and cared for as necessary
 - h) conform with International Air Transport Association guidelines (for transport by air)
- 269.** Facilities for lifting, crating, and transporting any primates (including equipment for loading and unloading) must be cleaned and disinfected between uses.

Fit for transportation:

- 270.** The individual must be deemed fit for transport by a veterinarian before each journey unless they are being transported directly to a veterinary practice or clinic under the advice of a veterinarian.
- 271.** Pregnant primates must not be transported unless strictly necessary (e.g., for veterinary treatment).

272. Primates must not be sedated for transport unless it is strictly necessary for welfare purposes and only under veterinary supervision.

Transport arrangements:

273. Primates should, where possible, be transported singly due to the risk of conflict under stress and possible injury or even death.

274. Infants and recently weaned juveniles must not be separated from their mothers unless strictly necessary. If this is not feasible, they should preferably be transported in partitioned containers or separate containers loaded adjacent to each other.

275. Containers holding primates must always be kept secure so that jolting and shaking are minimised, and displacement is prevented during transport.

276. Where primates are being transported to a veterinarian for treatment for a potentially infectious disease, there must be barriers between carriers to reduce the transmission of disease, and the vehicle and equipment must be appropriately disinfected following transportation.

277. Transport boxes must not be 'stacked' upon one another. Use of a purpose-designed shelving unit is acceptable, and use of multiple levels is encouraged when transporting several unfamiliar or incompatible individuals.

278. Where primates in containers are placed above one another on shelving units, the necessary precautions must be taken to:

- a) avoid urine and faeces falling on the primates underneath
- b) make sure that containers are stable
- c) make sure that ventilation is not impeded

279. Predator and prey species must not be kept where they can see, smell, or hear one another during transport.

Transportation:

280. Primates must be checked for signs of injury, illness, distress, or fear immediately before, during and after transport. A primate who has fallen ill or become injured during transport must receive prompt first aid or veterinary treatment.

281. Due diligence must be taken to make sure that the personnel transporting the animals are trained or competent as appropriate for this purpose and carry out their tasks without using violence or any method likely to cause unnecessary fear, injury, or suffering.

282. Transportation techniques must take account of the primate's temperament and escape behaviour to minimise injury, damage, and distress.

283. The transport of primates must be carried out without delay to the place of the destination, and the welfare of the primates must be regularly checked. Arrangements must be made to minimise journey lengths and meet the primates' needs during the journey.

284. Primates must be kept in vehicles for the minimum amount of time necessary and must never be left unattended in a vehicle during the journey.

Appendix 1: Primate species risk categories

Family	Genus	Common Name	Risk Category
Lorisidae	Nycticebus	Slow loris- all species	2
Lemuridae	Eulemur	Lemur	2
Lemuridae	Hapalemur	Bamboo lemur	2
Lemuridae	Lemur	Lemur	2
Lemuridae	Prolemur	Greater bamboo lemur	2
Lemuridae	Varecia	Ruffed lemur	2
Lepilemuridae	Lepilemur	Weasel and sportive lemur	2
Indriidae	Avahi	Woolly indri	2
Indriidae	Indri	Indri	2
Indriidae	Propithecus	Sifaka	2
Daubentoniidae	Daubentonia	Aye-aye	2
Callitrichidae	Callimico	Goeldi's monkey	2
Callitrichidae	Callithrix	Marmoset (all species in the genus)	2
Callitrichidae	Cebuella	Pygmy marmoset	2
Callitrichidae	Leontopithecus	Lion-tamarin (all species in the genus)	2
Callitrichidae	Saguinus	Tamarin (all species in the genus)	2
Cebidae	Cebus	Capuchin monkey	1
Cebidae	Saimiri	Squirrel monkey	2
Aotidae	Aotus	Douroucouli	2
Pitheciidae	Cacajao	Uakari	2
Pitheciidae	Callicebus	Titis	2
Pitheciidae	Chiropotes	Bearded saki	2
Pitheciidae	Pithecia	Saki	2
Atelidae	Alouatta	Howler monkey	1
Atelidae	Ateles	Spider monkey	1
Atelidae	Brachyteles	Woolly spider monkey	1
Atelidae	Lagothrix	Woolly monkey	1
Cercopithecidae	Allenopithecus	Allen's monkey	1
Cercopithecidae	Cercocebus	Mangabey	1
Cercopithecidae	Cercopithecus	Guenons	1
Cercopithecidae	Chlorocebus	Vervet monkey	1
Cercopithecidae	Erythrocebus	Patas monkey	1
Cercopithecidae	Macaca	Macaque	1

Cercopithecidae	Mandrillus	Mandrill	1
Cercopithecidae	Miopithecus	Taploin monkey	2
Cercopithecidae	Papio	Baboon	1
Cercopithecidae	Theropithecus	Gelada	1
Cercopithecidae	Colobus	Colobus monkey	1
Cercopithecidae	Nasalis	Proboscis monkey	1
Cercopithecidae	Presbytis	Surili	1
Cercopithecidae	Procolobus	Red and olive colobus monkey	1
Cercopithecidae	Pygathrix	Snub-nosed monkey and douc monkey	1
Cercopithecidae	Semnopithecus	Langur and leaf monkey	1
Hylobatidae	Hoolock (bunopithecus)	Hoolock gibbon	1
Hylobatidae	Hylobates	Gibbon	1
Hylobatidae	Nomascus	Gibbon	1
Hylobatidae	Symphalangus	Siamang	1
Hominidae	Gorilla	Gorilla	1
Hominidae	Pan	Chimpanzee and bonobo	1
Hominidae	Pongo	Orangutan	1