Code of Practice for the Welfare of

Primates

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INVESTORS IN PEOPLE

Welfare of Animals Act (Northern Ireland) 2011

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Introduction to the Code

This Code of Practice ("the Code") is a guide to the steps a keeper of primates must take to meet the needs of an animal as required by Section 9 of the Welfare of Animals Act (Northern Ireland) 2011 ("the Act").

The Code aims to educate keepers about the health and welfare responsibilities they have for the animals under their care. It in no way actively promotes the keeping of non-human primates as pets. Although we recognise that primates are kept under private ownership, it is important to note that they are best kept in professionally managed centres and for species conservation.

Breach of a provision of this Code is not an offence in itself. However, if proceedings are brought under the Act, the Court can take into account the extent to which you have complied, or failed to comply, with the Code in deciding whether you have committed an offence. Failure to comply with the provisions in this Code may indicate a breach of your responsibilities under the provisions on a duty of care in Section 9 of the Act.

The needs referred to in Section 9 of the Act are:

- The need for a suitable environment.
- The need for a suitable diet.
- The need to be able to exhibit normal behaviour patterns.
- The need to be housed with, or apart from, other animals.
- The need to be protected from pain, suffering, injury and disease.

Definitions and Scope of the Code

This Code of Practice covers the group of mammals known as non-human primates, thereafter referred to as "primates", kept in private ownership by individuals and corporate bodies. It does not cover such animals in research establishments or zoos, which are regulated under the Animals (Scientific Procedures) Act 1986, the Zoo Licensing Regulations (Northern Ireland) 2003 and the Welfare of Animals Act (Northern Ireland) 1972 respectively.

In the context of this Code the term "keeper" refers to either the owner or the person entrusted with day-to-day responsibility for the care of primates in private collections. The owner of the animals has overall responsibility to ensure that the health and welfare needs of their animals are being met.

The behaviour of primates is complex, and untypical behaviour is likely to be an indication that an animal's needs are not being met. It is, therefore, essential that a keeper has sufficient knowledge to identify untypical behaviour. In terms of Section 9 of the Act, not to acquire that knowledge before keeping primates would represent a failure to take a reasonable and essential step to ensure that the needs of the animals being kept were met. Furthermore, merely possessing that knowledge will not be sufficient in all circumstances. When untypical behaviour is observed, it will be necessary for a keeper to investigate the possible causes of that behaviour and to make every effort to identify any underlying problems giving rise to that behaviour. For this reason, the first section of this Code looks at aspects of natural and untypical behaviour. The second section discusses how to ensure that primates are able to express their natural behaviour, as well as addressing some more practical aspects of primate care.

The Code refers to animal welfare, and does not cover issues such as Health and Safety of keepers or others, nor does it cover the risk of transmission of disease from animals to man (zoonoses). However, these are important considerations that a primate keeper should be aware of.

Primates are long-lived, intelligent, socially-complex animals. They engage in imaginative problem-solving, form intricate social relationships, and display complex patterns of behaviour. Being social is a striking feature of primates, and amongst the most important in terms of meeting their needs. With few exceptions, they live in complex societies that can comprise tens of individual animals.

In relation to their total life history, primates have long infant and juvenile phases, with social independence occurring long after nutritional weaning. This period is crucial for learning about the physical and social environment, parenting, survival, and reproduction. All primate species are long-lived, and need to be managed in old age.

It is highly likely that primates have awareness of pain, suffering and distress, and at least in some species an ability to think and reflect on these things. Such abilities could enhance their capacity for suffering.

A Multiplicity of Species

Throughout this Code, the term "appropriate to the species" is used. Marmosets, capuchins, squirrel monkeys, macaques and lemurs make up the majority of primates kept in private collections, but other species are also kept. It is essential that keepers should have a thorough understanding of the biology and behaviour of each species kept. The best source of information is to observe animals in their natural environment. Keepers will also benefit from observing animals in recognised zoological collections, and through discussion with experienced private keepers.

Primates should not be considered as pets in the accepted sense of the word. They are not a species that can be treated as part of the family in the way that a cat or dog might be. They are wild undomesticated animals that cannot be house-trained or fully tamed.

With the exception of a few solitary species, primates should not be kept singly. They should not generally be kept in domestic living spaces, and instead require specialised accommodation. Furthermore, primates exhibit a wide range of behaviours, in particular social interaction and foraging behaviour.

Keepers should read extensively about the keeping of primates in general, and their chosen species in particular. Using this Code is a good starting point, but further reading is essential. Primate keepers should continue to keep abreast of new information as it is published. Keepers, particularly those with less experience, should learn from others practised in the care of primates. Sources of information include specialist staff in recognised zoological collections, experienced private keepers, and specialist primate rescue centres. Some sources of further information are listed in the Annex to this Code.

Whenever possible, hands-on experience should be obtained by voluntary work with primates before any decision on private acquisition is made.

Primate keepers need to have the financial resources to cater for their animals' needs throughout their lives. Keeping primates is an expensive activity. The initial high purchase

price is only the first item on a list of costs that will need to be met throughout the long life of the primates concerned. Requirements include an appropriately-constructed and sized enclosure which will require year-round heating, specialist veterinary services, a wide variety of foods and supplements, and environmental enrichment.

Primate keepers should have both the time and the aptitude to observe their animals closely, and on a regular basis. Primates must be carefully observed, more so than for many other animals. Recognising good physical condition and normal behaviour when healthy will ensure that early signs of inappropriate behaviours and deterioration in physical health will be detected, so that remedial action can be taken.

Breeding should not be undertaken unless the keeper is confident that offspring can be placed with owners able to provide suitable care. Contraception methods should be utilised to prevent unwanted breeding.

Keepers should undertake regular record-keeping in respect of both husbandry regimes and health.

Primates, like all other animals, will require veterinary attention from time to time. Regular advice and routine health monitoring will be required in addition to emergency care. This should be provided by a veterinarian experienced in primate care. Keepers need to identify a suitably-experienced veterinary practice *before* acquiring any primate.

Keepers should make reasonable provisions in the event that they are themselves unable to look after their animals. There is a requirement for continuity of care, and the responsibility for animal welfare should be passed to a suitably experienced person in the event that the usual keeper is unavailable. 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.

Welfare Assessment

The duty of care includes the provision of appropriate resources, such as a suitable enclosure, food and water. However, it also includes the ability to assess the welfare of animals in your care. The Code refers to welfare "outcomes". As an example, animals need to be provided with wholesome food. The outcomes of a balanced diet include the maintenance of good body condition and normal activity. Animals with very poor welfare may become withdrawn and show a reduction in behaviour. Similarly, poor welfare can also lead to repetitive behaviours, which can be misinterpreted as endearing individual characteristics. A guide to understanding the significance of behavioural and physical indicators of welfare is set out in this section of the Code.

Specialist keepers of primates should provide for all their animals' needs, and achieve all the welfare outcomes outlined below. Considerable research will be required to gain the requisite knowledge to care for individual primates adequately, and thus meet the welfare outcomes outlined here. Keepers should have the ability to assess all welfare outcomes for all their animals, recognise when each is and is not being met, and promptly remedy any shortfalls, including consulting relevant experts where necessary. In order to do so, it is essential that keepers have a thorough understanding of the behaviour, biology and ecology of the species concerned. Advice should be sought from specialists in these disciplines. Consideration should also be given to the age, size, condition, physiological, reproductive and health status of individual animals.

The main resource sections relevant to each welfare outcome are highlighted under "Key Resource Considerations".

1. Expression of Normal Behaviour

Normal behaviour is that expected of physically and psychologically healthy animals. Changes in behaviour and the presence/absence of particular behaviours can provide a valuable indication of the welfare state of an animal.

Keepers should be familiar with the full normal behavioural repertoire of the species and individuals they keep, including facial expressions, vocalisations, postures and activities. They should 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. Qualitative as well as quantitative aspects of behaviour need to be considered, as well as the context in which behaviours are displayed.

1.1 All gregariously social primate species should display social affiliative behaviours, including physical behaviours and vocal and visual displays appropriate to the species. These include, but are not limited to, social grooming, food sharing, communal resting, and interactive play as appropriate to the species. Primates should be housed in stable groups of sufficient size and composition to allow the full expression of these behaviours.

Social interaction with companions of the same species not only provides essential stimulation and learning opportunities, but it also provides a source of comfort, reassurance and enjoyment. Removing a primate from its family or social group may have adverse psychological, emotional and physical welfare implications for the individual, and for the remaining primates. This is particularly so for an infant and its mother, and for species forming pair bonds.

Social grooming is an extremely important behaviour, as it maintains and strengthens social bonds, provides a source of comfort and reassurance, and helps maintain coat condition. However, over-grooming and hair plucking are associated with poor welfare states.

Social interactive play is often used as one indicator of good welfare. This behaviour may not constitute a substantial portion of the overall time budget, particularly in older animals, and so regular, attentive observation is required.

Key Resource Considerations:

- Group size and composition.
- Enclosure size.
- Environmental enrichment.

1.2 Primates should not display persistent signs of aggression, antisocial behaviour or prolonged conflict behaviour towards other animals or people.

Such behaviours include physical aggression, physical or vocal threats, and aggression displays. Conflict is a natural part of the behaviour of many social animals. However, dominant individuals should not dominate or bully to the detriment of the welfare of other individuals in the group. Individual animals may sometimes show aggression towards their keeper, but persistent undue aggression is a cause for concern.

Sporadic, acute aggressive behaviour is relatively common in some primate societies, but this is generally kept in check by learnt social skills. A thorough knowledge of species-typical behaviour is essential for interpretation of observed behaviour. Persistent aggression can develop when the size and structure of the environment does not allow animals to avoid and escape from one another.

Individuals, deprived of the opportunity to learn the full range of social skills, may have problems relating to other animals socially, leading to aggressive interactions. Animals experiencing pain, or frustration, as a result of an inadequate environment, may become overly aggressive.

Changes to group composition can lead to aggressive interactions, and so great care needs to be taken and advice sought to minimise these risks. Established compatible social groups should not generally be altered.

Aggressive interactions can also arise in mixed species environments, either because of species characteristics or individual behaviours.

Problems with aggression should be tackled at the source, by correcting the causes. It is never acceptable to mitigate effects of aggression, for instance by removing canine

teeth for the purposes of handling or husbandry, or extended separation/isolation from the group.

Key Resource Considerations:

- Group composition.
- Changes to group composition.
- Enclosure size.
- Visual barriers.
- Access to resources.
- Security.

1.3 Primates should be able to express appropriate defence and escape behaviours.

In their natural environment, primates that come into conflict can escape from one another to avoid physical and visual contact and, where appropriate, disperse to other areas (e.g. once sexual maturity is reached). They are also free to move away and escape from other stimuli or situations they find aversive. The captive environment places certain restrictions on such strategies, which can lead to stress. It is thus important that adequate refuges and visual barriers are provided, including from people.

Vertical space is particularly important, as escape responses tend to be upwards, and dominance relationships are often expressed, in part, by occupation of perches at different heights.

Key Resource Considerations:

- Visual barriers.
- Enclosure furnishings.
- Three-dimensional design.

1.4 Primates should display the full range of maintenance behaviours appropriate to the species concerned. These include self-grooming, feeding and drinking.

Maintenance behaviours comprise a significant portion of the daily time budget of primates. They are essential for primates' physical well-being, but also constitute an important source of stimulation.

Changes in maintenance behaviours can provide an early warning sign of a problem. For instance, reduced feeding or drinking can indicate a problem before body weight or condition is affected. But likewise, over-drinking and over-eating can be indicative of a problem. Similarly, self-grooming is a normal behaviour, but over-grooming (which has been linked to tension and anxiety) can result in hair loss and skin sores. Hair-plucking is a health concern, especially if the hair is swallowed and forms hair-balls in the digestive tract.

Key Resource Considerations:

- Diet.
- Water provision.

1.5 Primates should display the full range of physical activities appropriate to the species concerned. These include, but are not limited to, walking, running, climbing, turning, reaching, stretching, bending, pushing, pulling, swinging, jumping.

Primates display a wide range of physical activities. For example, tarsiers, some lemurs and bush-babies typically cling to and leap between perches, marmosets and tamarins cling to tree-trunks and gibbons swing from branch to branch. Performance of such natural activities is essential to both the physical and psychological health of primates, and it is important that they are provided with a wide variety of appropriate facilities, of a suitable size and spatial design to display these behaviours.

A change in activity levels, in both directions, can be indicative of a welfare problem.

Key Resource Considerations:

- Enclosure size.
- Enclosure furnishings and enrichment.

1.6 Primates should display sleeping and resting patterns appropriate to the species and individual concerned.

Primate species are generally nocturnal or diurnal. However, some species may be active at times both by day and night, or most active at dawn and dusk. The environment and its management should therefore take account of individual needs.

The manner in which primates sleep and rest differs between species. For instance, some sleep together in groups in tree cavities, others build nests, etc. Furnishings and substrates to enable sleeping and resting behaviours should thus be provided, appropriate to the species.

An increase or decrease in the frequency of sleeping and resting behaviours can be indicative of a welfare problem.

Key Resource Considerations:

- Environmental conditions.
- Enclosure location.
- Group size and composition.
- Enclosure furnishings.

1.7 Primates should display a wide range of foraging behaviours, appropriate to the species. This encompasses exploration, search, capture, restraint (of prey items), manipulation, processing and consumption.

Primates spend a considerable portion of their day foraging for food that may be widely dispersed or patchily distributed. In foraging, they use well-developed memory skills and the ability to solve complex problems, together with an advanced ability to use tools for acquiring food, for instance to extract kernels from hard nuts.

Foraging behaviours vary widely between species, and one species may employ a wide range of strategies. For instance, marmosets typically gouge holes in trees and eat the gum, but also forage for invertebrates among leaves. Keepers should ensure ample opportunities for their primates to perform all such behaviours, in order to provide both mental and physical stimulation.

Key Resource Considerations:

- Diet.
- Environmental enrichment.
- Enclosure furnishings.

1.8 Primates should not show anxiety over access to food.

Care should be taken to prevent any individual animal becoming unduly dominant. All animals must have access to all components of the diet, and food should be dispersed sufficiently widely to ensure that normal social hierarchies do not induce anxiety in subordinate animals and prevent them from having access to food.

Key Resource Considerations:

- Diet.
- Access to resources.

1.9 If allowed to breed, primates should express normal parenting behaviours for a suitable duration appropriate to the species concerned.

Primates have an extended period of maternal dependency, lasting well beyond nutritional dependency. Infants removed from their mother and natal group early, and consequently deprived of the opportunity to learn vital survival and social skills, are likely to develop behavioural and hormonal abnormalities, fail to integrate well with individuals of the same species, and are frequently unable to raise their own young successfully.

A poorly-designed and managed environment for breeding animals can cause stress, impair fertility, inhibit mating behaviour, and adversely affect care of the young, leading to infanticide, abandonment or stealing of young animals.

Key Resource Considerations:

- Breeding and rearing environment.
- Contraception.

Primates of all species display a wide repertoire of activities and behaviours. You should know the normal behaviour in captivity of the species you keep.

- Keepers should be familiar with the range of behaviours appropriate to the species kept. A restricted or restriction of the range of behaviours displayed can be a sign that the environment is not providing for an animal's needs, or that the animal is unwell. A general lack of or limited focus of, activity should be taken seriously as a warning sign.

- Scent-marking is a normal behaviour for many species. It plays a role in the development of social structures, social interaction, reproductive health, and in breeding behaviour. Cleaning regimes should be developed that do not adversely inhibit scent communication.

- Excessive repetition of normal behaviours should also be taken as a warning sign.

Observing your animals and being aware of the physical and psychological consequences of poor welfare.

- The common adverse welfare consequences of poor management include discomfort, boredom, fear, pain and stress, which, if unchecked, may lead to stereotypic behaviour, self-harm, and other abnormal behaviours, such as overt and persistent displays of submission, aggression or anxiety, be they physical or vocal. However, suitable enrichment can help reduce these behaviours, and so advice should be sought. This list is not exhaustive, and any persistent change in behaviour may be indicative of poor welfare.

- Primate groups require an appropriate environment that is both stimulating and which gives individuals a sense of control and choice. Sub-optimal environments that do not provide for primates' needs may be associated with the display of abnormal behaviours and physical indicators of poor welfare. These include, but are not limited to, abnormal repetitive behaviours (e.g. pacing, rocking, self-clasping), self-harm (e.g. self-biting), apathetic/depressed behaviour, and other abnormal behaviours (e.g. over-grooming, consumption of urine and faeces).

- Once primates develop abnormal behaviours as a result of poor welfare, these may persist throughout their lives. Everything possible should thus be done to prevent such behaviours developing, by providing a rich physical and social environment, and by being aware of, and looking for, early indications that the environment is not providing for the animals' needs.

- Signs of fear differ between species, examples include withdrawal, grimace, excessive lip-smacking, aggression and specific vocalisations.

- Some primates may show instinctive fear of other species (e.g. dogs, cats or snakes), and should be protected from the distress of being housed in close proximity to, or in view of, these. The herding and/or predatory behaviour of a dog can easily cause distress to a caged primate.

2. Physical Health

Keepers of primates should be able to recognise signs of good and poor physical health in the animals they keep. This requires a great deal of time, skill and experience, as primates will often conceal signs of illness. Physical and mental health are closely linked. For instance, chronic stress is known to affect immunological responses, making animals more sensitive to illness, as well as reproductive performance, survival of young, body condition and a host of other factors.

Keepers should be registered with a veterinary practice that has specialist knowledge of the species kept. A veterinary health plan is recommended, and keepers should contact their veterinary adviser promptly in the event of disease or injury.

The herpes simplex virus, present in humans with cold sores, is often fatal to marmosets and tamarins if infected. Keepers susceptible to cold sores should not keep such species. The virus may also pose a very serious risk to some other New World primates and to lemurs. Contact between people with cold sores and primates (including food preparation) must always be avoided.

Some species of primate can carry diseases which may be harmless to them, but deadly to other primate species. There is a particular risk of disease transmission between Old World (*native to Africa/Asia*) and New World primates (*native to Central and South America*).

2.1 Primates should be free of significant or persistent physical injuries, in particular injuries that require surgical intervention.

Minor "battle scars" are a natural consequence of social interactions and the development of hierarchies. Potential causes of injury in captive primates, in addition to aggressive interactions, include falls, inappropriate furnishings, falling branches etc.

It is important that social groups are managed to encourage stability and compatibility, and that enclosure design minimises risk of physical harm to animals. However, consideration should be given to removing from groups those individuals that are subject to persistent and damaging bullying, and rehousing them in more suitable groups.

Key Resource Considerations:

- Regular animal checks.
- Veterinary care.
- Enclosure furnishings.
- Enclosure design.
- Group composition.
- Changes to group composition.

2.2 All primates should be free of avoidable physical discomfort and pain.

Signs of discomfort and pain include loss of appetite, hair-plucking in specific locations of pain, self-mutilation, change in social position within the group, specific vocalisations,

unusual posture and activity, withdrawal from the group, unresponsiveness, and other signs inappropriate to the species.

Ageing primates and those that have suffered from injuries may have arthritis and other manifestations of age and experiences. Management of unavoidable discomfort and pain is essential, and a part of a veterinary health plan.

Primates will often mask signs of pain, and so careful vigilance is required to spot these signs, particularly before they become too severe.

The vast majority of primates evolved in tropical climates. This should be taken into consideration when designing housing, to avoid discomfort by ensuring appropriate temperature gradients, humidity and light levels. This will include year-round heating, and may require additional (artificial full-spectrum) light in winter and masking natural light in the summer.

Key Resource Considerations:

- Environmental conditions.
- Enclosure size.
- Enclosure furnishings.
- Shelter.
- Enclosure location.

2.3 Primates should be free of both infectious and non-infectious diseases and signs of ill-health.

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 dehydration, poor body condition, poor coat condition, crouching/huddled posture, diarrhoea and vomiting, bloating, discharge from orifices, excessive scratching and laboured breathing.

Metabolic bone diseases may develop in primates if the diet is not properly balanced for proteins, calcium, phosphorus and vitamin D3.

Appropriate enclosure size and design can help minimise the risks of parasitic infection and the spread of infectious disease. Care should be taken that vegetation within or near enclosures (including material falling from nearby trees) does not present a risk of poisoning.

Repeated bouts of illness can indicate a more serious underlying problem, such as depressed immuno-competence that could be linked to chronic stress.

Key Resource Considerations:

- Hygiene.
- Contact with people.
- Animal checks.
- Veterinary health plan.

- Veterinary screening.
- Quarantine.
- Enclosure furnishings.
- Enclosure location.
- Diet.

2.4 Primates should be of a suitable weight and body condition for the species and individual. Animals should not be over- or under-weight, lack muscle tone, or show skeletal abnormalities.

Primates should forage for food, requiring mental and physical effort. Commercial food is readily available, and it should be presented so as to encourage foraging behaviour. Calorific content of the diet, the amount fed, as well as the quality of the diet, can lead to weight and nutritional problems. Behavioural problems may also arise from boredom if the animal spends too little time foraging. Regular monitoring of body weight is therefore essential. Keepers need to know the normal range for individual animals, taking account of their age and dietary needs.

Insufficient quality of the diet (specifically vitamin deficiencies) is known to be associated with the development of a range of health problems, including metabolic bone diseases such as rickets. Inappropriate diets also frequently lead to diabetes in privately kept primates.

Key Resource Considerations:

- Animal health checks.
- Veterinary health plan.
- Veterinary screening.
- Diet.
- Enclosure size.
- Enclosure furnishings.
- Environmental enrichment.

2.5 Primates should display a suitable degree of physical mobility and flexibility appropriate for the species.

As mentioned above primates in captivity can develop conditions such as metabolic bone disease, “cage paralysis”, as a result of a poor diet and/or inadequate housing. Such conditions can impair mobility and flexibility, and cause deformities of the skeleton. Exposure to natural light, appropriate to the species, aids the production of vitamin D3. New World species in particular require daylight to avoid these problems.

Keepers should be aware of natural reductions in mobility associated with ageing.

Key Resource Considerations:

- Diet.
- Enclosure location.
- Enclosure size.
- Enclosure furnishings.
- Environmental enrichment.

2.6 All primates should have good oral and dental health.

Problems with oral health and tooth decay can develop in captive primates, primarily as a result of an inappropriate diet. Monitoring is an essential component of husbandry, to ensure good health is maintained and that rapid treatment is given, if necessary.

Key Resource Considerations:

- Animal checks and veterinary health plan.
- Diet.
- Environmental enrichment.

Section 2: Resources including Environment and Diet

3. The Need for a Suitable Environment

A suitable environment for any animal encompasses a wide range of needs. It should provide space in which the animals can express their physical and social behaviour. Furthermore, it should be secure and sufficiently hygienic to prevent disease transmission between animals, and between humans and animals. A poor environment is likely to lead to poor health, stress, inappropriate behaviour and failure to thrive. In planning a suitable environment, keepers should provide:

- A suitable location.
- An appropriate amount of space.
- An appropriate enclosure with sufficient three-dimensional content, including climbing structures to facilitate species-specific behaviour.
- The correct temperature, humidity, ventilation, noise levels and lighting.
- Appropriate feeding and sleeping sites.
- A means of, and location for, visual welfare assessment.
- A method of safe capture, handling and isolation of the animals.
- Security to prevent animal escape and unwanted entry by unauthorised people.

Enclosure design and materials used should also ensure:

- A good hygiene regime to avoid disease transmission.
- A safe environment for the animals.
- A good regime of environmental enrichment.
- A wide range of appropriate behaviours (including social behaviours).

An inadequate environment could lead to sub-optimal welfare, stress, inappropriate behaviour, and failure to thrive.

3.1 What a good environment, together with good management, should achieve:

- A well-designed living space that meets group and individual animal needs with good environmental enrichment.

- Prevention of animals within groups being unduly dominated by other individuals, and prevention of the domination by individuals of resources (heat, food, space etc.).

- Prevention of the risk of persistent and unresolved conflict between group members.

- Provide for a primate's normal defence reactions and appropriate "flight" or escape distances.

- Consideration of the special needs of individual animals appropriate to their age and condition, including ill, pregnant and new-born animals. Suitable and, if appropriate, separate accommodation for pregnant animals and animals with young should be available in order to minimise unnecessary stress.

Those animals that could interact in an excessively stressful way should not be kept in close proximity.

3.2 Enclosure location and provision of living space.

Both indoor and outdoor enclosures should be provided and should be of a suitable size, and should also include sufficient vertical space appropriate to the size and social needs of the species. "Suitable" and "sufficient" mean that the welfare outcomes described in the first section of this Code are met.

They should accommodate group expansion if breeding is planned. Overcrowding should be prevented.

The enclosure should be capable of providing for the animals' needs at all stages of their growth and development. Enclosures should be located away from busy or noisy areas, in order to reduce stress and interference from passers-by.

Enclosures should provide sufficient warm basking areas, preferably in natural sunshine, so that all animals have access. Natural light is particularly important for diurnal primates, and indoor and outdoor accommodation should be provided.

3.3 Three-dimensional design and climbing structures.

All primates that are kept by private keepers are arboreal, and should have an appropriate climbing structure within their enclosure. In general, the more complex the climbing structure, the better it is for the animals.

The climbing structure should be robust enough to prevent the animals from breaking it and injuring themselves. Natural branches or man-made timber structures may be used. In indoor enclosures, the material should allow cleaning to be carried out to prevent the build-up of disease. Living plants may be used to provide the climbing structure for some smaller species, particularly in outdoor enclosures, but care should be taken with regard to toxicity. The design should change from time to time to provide variety and new challenges.

Dimensions and spacing of structures should be suitable for the species concerned (e.g. branch width and distance between branches). Cage furnishings should allow animals to fully utilise as much of the enclosure as possible.

Ground cover is important in enclosure design for species that forage at ground level. Live plant cover also encourages natural food stuffs, like insects, into the enclosure, and provides animals with shelter, visual barriers and play.

The importance of enrichment

Enrichment means the provision of furniture (beams, ropes, branches, and stumps), toys, puzzle feeders or novel activities to encourage inquisitiveness, problem-solving, and other behaviour such as foraging, climbing and chasing. The aim should be to meet the animals' biological needs, challenge the animals' intelligence, and prevent boredom. Enrichment efforts are an essential part of primate husbandry, and not an 'optional' extra. Enrichment items should be varied, and changed from time to time to avoid over-familiarity and boredom. However, major changes should be introduced over time, to ensure that they are successful and to prevent anxiety and some well-used items should be retained. Health and safety of the animals should be considered when using enrichment devices.

3.4 Appropriate feeding and sleeping sites

Feeding sites should be provided in locations that are appropriate to the species, and should take account of the needs, especially foraging behaviour, of the individual animals. In general, food should be scattered to encourage foraging behaviour, and more than one feeding site should be provided to prevent aggression at feed times, which can result in the exclusion of subordinate animals. Feeding sites and bowls should be sited to minimise contamination with faeces and urine. Bowls should be easy to clean. Similarly, it is important to locate water sources in places that are accessible, and less likely to be contaminated. Containers should be easy to keep clean. Sleeping sites appropriate to the species should be provided. Some species require a nest-box and nesting material; others may require a shelf on which they can sleep as a group. Other species may require a number of sleeping areas so that the group can separate at night. Sleeping sites should be sufficient in number for all animals, and generally provided at a high level in the enclosure, above the eye level of the keeper. Most primates never sleep on the ground (see paragraph 1.6).

3.5 Environmental control – temperature, lighting, humidity and ventilation

The temperature, humidity, ventilation and lighting (both levels and spectral distribution) of indoor enclosures should be suitable for the comfort and well-being of the species at all times. In particular, cold, draughts and damp should be avoided. Consideration should be given to both indoor and outdoor areas and conditions overnight.

- Indoor enclosures should be maintained at a temperature suitable for the species they contain. Different species may have different temperature requirements. Care must be taken to ensure that the indoor enclosure is heated with

appropriate thermal gradients, and that unacceptable cold spots are eliminated. Heaters should be guarded to prevent burns.

- Warm basking areas should be provided.

- Lighting should provide appropriate day length as well as levels and spectral distribution. Many primates need UV light to be provided to ensure proper skeletal development. Direct access to sunlight in an outdoor enclosure will provide for the UV needs of most primates (note that UV light is screened out by glass).

- Heating will often reduce the humidity of the enclosure. Most primates come from humid forest environments, and low humidity may cause health problems.

- Indoor ventilation should be provided, avoiding draughts. Animals with access to outdoor enclosures should be provided with sufficient shelter for their comfort and well-being. It is important to provide several different shelter areas (e.g. from strong sunlight, wind and rain), so that dominant animals cannot prevent subordinates from seeking shelter.

3.6 Welfare assessment.

The enclosure should be designed to allow easy visual assessment of the animals daily, so that welfare problems or behavioural issues such as aggression within a group are identified promptly.

3.7 Safe handling and capture of the animals.

Animals need to be caught from time to time for veterinary reasons, or for social group management.

Handling can be stressful for animals, particularly for those primates that are not routinely handled. It should therefore be done with great care, and only by suitably experienced people. A consistent and long-term relationship with keepers will help mitigate stress caused to primates at these times. Keepers should satisfy themselves that they have the knowledge, training and competence to handle primates safely and carefully. Capture facilities should be incorporated within an enclosure, for example by providing a trap within a run, a nest-box that can be closed, which may be used as a refuge, or a small area in which an animal can easily be caught with a net.

3.8 Health, hygiene and safety.

Enclosures should be constructed to minimise the risk of escape. Entry by unauthorised persons should be prevented. Double doors should be present on all enclosures to prevent escapes, and should be securely locked. All locking systems should be designed and maintained to prevent animals from unfastening the securing devices. Windows should be similarly secure. Entering an enclosure with most primates is dangerous, so enclosures should be designed compartmentally to allow for safe cleaning. Enclosure design and construction should aim to minimise disease.

However, uniform hard-ground surfaces should be avoided. Primates need a complex environment to facilitate foraging and other behaviour. Consequently, hygiene regimes for the prevention of parasites and other pathogens may depend on management practices. For example, a cleaning regime should be devised that balances the need for cleanliness with the need to allow animals to mark territory. Where cleaning may disrupt the scent-marking behaviour of a particular species, areas of the enclosure should be cleaned in rotation.

The substrate of indoor enclosures should be cleaned and replaced on an appropriate cycle. Outdoor enclosures may have a natural (soil) substrate, but that may have to be replaced periodically to prevent or control the build-up of pathogens. Hard materials should be constructed to allow cleaning and disinfection, or removal and replacement if necessary. Cleaning agents that are safe for use in animal enclosures should be used, and keepers should ensure that they employ recommended safe application methods for the use of such products. Any open drains should be situated outside the enclosure. Husbandry regimes should include precautions to minimise risks of disease transmission from humans to primates.

Checklist – a safe environment for animals

- Any defect or damage to an enclosure, or to any appliance or equipment with which the primates have contact and which is likely to cause harm, should be repaired or replaced or the animals relocated immediately.
- Any vegetation capable of harming animals should be kept out of reach.
- Any synthetic materials (e.g. paint, chemicals) or any treated substrates or treated water, should be assessed for toxicity to the species before use.
- All mechanical equipment, including electrical apparatus, should be installed and maintained in such a way that it does not present a hazard to the animals, and its safe operation cannot be disrupted by them. Where environmental quality is dependent on external utilities, such as heating or lighting, an alternative method of heating etc., should be available in case of power failure.
- Tools and other portable equipment should not be left unattended in places where they could cause animals harm, provide a means of escape, or serve as missiles.
- Trees within or near animal enclosures should be regularly inspected and lopped or felled as necessary, to avoid animals being harmed by falling branches and to prevent escape.
- The perimeter boundary to the property, including access points, should 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 on the premises.
- Premises should have systems in place to minimise the risks of theft, malicious damage or release of animals by intruders.
- Enclosures should not be situated close to the street where people may offer or throw food or objects into the enclosure or tease the primates.
- Enclosures should not be situated within the general shared living quarters of the house.
- Animals should not be provoked for the benefit of friends or visitors to the premises.

4. Nutrition – The Need for a Suitable Diet

Food needs to be offered in a manner and a frequency appropriate to the species, should provide all necessary nutrients and be of adequate quantity, quality and variety. The individual animal's condition, size, physiological, reproductive and health status should also be considered when formulating the diet.

The natural behaviour of the primates, particularly foraging and social feeding behaviour, should be considered when offering food and drink.

A record of all diets should be maintained as part of a care plan. This will assist when investigating health problems, in situations where the animals are re-homed, or when they are managed temporarily by alternative keepers. In addition, the keeper should be familiar with the normal body weight parameters for the species kept, should monitor and record individual body weights on a regular basis, and modify diets accordingly. It is strongly recommended that specialist advice is sought, and further research is carried out, on all aspects of the diet, nutritional needs and any supplements required, not only on a species level, but also on an individual level. Not all animals react to items in the same way, or require the same exact diet, and it is important to take this into account. Care should be taken to monitor individual food intake, to ensure that selection of favoured items (e.g. banana) does not lead to a chronically imbalanced diet.

4.1 Dietary content.

Different species of primates show considerable variation in their natural diets. For example, all marmoset species gouge branches to feed on plant gums, as well as eating fruit, flowers, insects and other small animals such as spiders, lizards and snails. Macaques are omnivorous, and eat both plants and meat. Species differ considerably in their diet and whilst often categorised as eating one main food type, for example frugivorous (fruit-eating), folivorous (leaf-eating) and insectivorous (insect-eating), most primates have varied diets. The diet of primates in captivity should be designed to reflect the appropriate natural diet of the species.

- A balanced diet should, wherever possible, comprise fresh natural foods. However, keepers should ensure that animals receive sufficient proteins, vitamins and minerals, some of which may be deficient in captive primate diets. In particular, deficiencies of Vitamin D3, Calcium and Vitamin A in all primates and Vitamin C and Vitamin D3 in New World primates, especially marmosets and tamarins, are common. Supplementary nutrients, when required, should be obtained from specialist suppliers. A balanced diet will usually be formulated from complete primate pelleted food, fresh fruit, vegetables, insects and leafy branches as appropriate to the species.

- Sufficient roughage (provided by fibre-rich foods, such as leaves and pelleted food) is essential to avoid diarrhoea which can be caused by excessive fruit intake.

- Milk and other dairy products should be fed with caution, as they can cause digestive disorders such as diarrhoea and bloating.

- Sugary sweets should be entirely avoided, and sweet fruits restricted, in order to avoid diabetes.

- Dental health should be maintained through the provision of leafy branches and pelleted or other hard foods, which give the primate the opportunity to gnaw and chew.

- Care should be taken to ensure that any plants and their products, such as seeds or fruit, and naturally-occurring or introduced plants in enclosures are not toxic to the species kept.

- Generally, all primates should have access to natural daylight to ensure proper conversion of pro-vitamin D2 to Vitamin D3. Exposure to daylight may necessarily be low in nocturnal primates, and supplementary feeding of Vitamin D3 may, therefore, be required. Furthermore, owing to low levels of sunlight in the UK, compared to natural habitats, some primate species will be unable to metabolise sufficient Vitamin D3, even if they have access to outdoor areas. This is particularly important for marmosets and tamarins that may die without supplementary Vitamin D3. Keepers should refer to experienced specialist keepers and veterinary advice on supplementary feeding of Vitamin D3.

- Fresh, clean drinking water should be available at all times, and should be protected from soiling and contamination by wild birds and rodents.

- Primates spend considerable amounts of time foraging, up to 70% of the day. They should be fed 3 times or more per day to cut down on waste, decrease boredom, and decrease the incidence of bloating. This also enables rigorous monitoring of individual welfare and group welfare.

Managing dominance hierarchies

Dominance hierarchies are common in primate social groups. Dominant animals may over-eat and become obese, whereas submissive animals can be deprived of an adequate diet. Keepers should be aware of the potential for dominance-related problems, and take steps to eliminate them, for example, by providing multiple feeding stations. Dominant animals may also monopolise sun-basking areas. Submissive animals may consequently become deficient in Vitamin D3. This re-emphasises the need to provide dietary supplement of Vitamin D3.

4.2 Food preparation, storage and presentation.

- Food should be kept and prepared under hygienic conditions.

- Food, both in storage and in the primate enclosure, should be protected against dampness, deterioration, mould, and from contamination by insects, birds and vermin.

- Perishable food should be kept under refrigeration.

- Receptacles for food and drink should not to be used for any other purposes.

- All food and drinking vessels should be of a suitable design and provided in sufficient numbers and at suitable sites to ensure accessibility to every primate within the enclosure.

- Food, water and other drinking vessels should be cleaned at least daily.

- Self-feeders should be used with care, to ensure that each animal's food intake is monitored. Where used, they should be inspected twice daily to ensure that they are working effectively, and do not contain caked or unfit food. Water lines, where used, should also be checked twice a day.

- Uneaten food should be removed at least daily to avoid spoiling, or attracting vermin.

5. Care Plans and Records

5.1 Care plans.

You should keep written animal care and health plans that follows the advice in this Code. The plan should set out what is necessary to meet your responsibilities. The plan will also be useful in the event that others help with day-to-day care, or if you pass your animals into the care of another keeper. The plan should include:

- Daily care routines, including feeding, cleaning and handling.

- Regular inspection of animals, at least daily.

- Specific individual needs of animals.

- A veterinary health plan and the contacts for the keeper's veterinary practice.

The health plan should include:

- Preventive routines, such as parasite control, vaccination and quarantine of ill and imported animals.

- Regular health visits for larger collections, and set out routine health care measures that are the responsibility of the keeper.

- Routine screening, for example for parasitic infection and more common pathogenic bacteria.

- The veterinary provider who should have sufficient expert knowledge of the species kept.

Contingency Planning – it is important that all animal owners and keepers make contingency plans (including ensuring that they understand their veterinary surgeon's system for the provision of out-of-hours veterinary care to have veterinary assistance available at all times.)

Contingency plans should cover:

- Emergency service arrangements and contacts.
- Emergency procedures in the event of a power or other services failure.
- Emergency procedures in the event of fire.
- Procedures in the event of escape.

5.2 Records.

Records are important to enable disease to be managed effectively, and for good assessment and management of both individual behaviour and social relationships. Records should be kept and maintained for all animals and groups of animals on the premises. Where possible, animals should be individually identifiable. In particular, records should provide the following information:

- Identification and scientific name.
- Origin (i.e. whether wild or captive-born, including identification of parents, where known, and previous location/s, if any).
- Dates of entry into, and disposal from, the collection and from/to whom.
- Date, or estimated date, of birth.
- Sex.
- Distinctive markings, including microchips.
- Clinical data, including details and dates of any treatment given.
- Diet and weight recorded at regular intervals.
- Veterinary care including preventive care, diagnosis, treatment and procedures.
- Behavioural and life history data.
- Date of death and the result of any post-mortem examination and laboratory investigations.

6. Breeding

Breeding should only be undertaken if:

- Adequate steps have been taken to protect the genetic health of the offspring, for example to prevent inbreeding or hybridization (*breakdown of species boundaries that could eventually result in the loss of a pure parental* species) and possible

subsequent welfare problems, preferably as part of a recognised and co-ordinated breeding programme.

- There is adequate space for the group to enlarge, or the keeper is confident that offspring can be placed with owners able to provide suitable care.

- There are a number of contraception methods available to prevent unwanted breeding. These can be surgical or medical.

Breeding animals may need specialised accommodation within enclosures, to provide protection from other animals.

Breeding animals and young animals may have particular nutritional requirements.

Young animals have a long dependency period, and they must not be separated from their mothers/families during this time. Therefore weaning does not signal the end of this dependency period. In order to learn vital "life skills" a primate should stay with its mother through the birth and rearing of a sibling, generally until sexual maturity. For example sexual maturity does not occur in capuchin monkeys until approximately over 4 years of age. However capachins are often removed from their mothers at only several months so the infant monkey clings instinctively to whoever is holding it; is pliable, cute and manageable for the first few years. It needs to be understood that early removal is known to have serious negative consequences – from behavioural abnormalities to improper brain development.

Hand-rearing should only be undertaken if essential, for example where baby animals are orphaned or rejected. Specialist advice should be sought.

A breeding health plan should be included in the veterinary health plan.

ANNEX: Sources of further information

The structure and relevant contact details for enforcement of the Welfare of Animals Act (Northern Ireland) 2011 is set out on the DARD web site at the following link:

www.daera-ni.gov.uk/articles/introduction-animal-welfare

Links to relevant legislation

- Welfare of Animals Act (Northern Ireland) 1972
- Welfare of Animals Act (Northern Ireland) 2011
- Noxious Weeds (Northern Ireland) Order 1977
- The Welfare of Animals (Transport) Regulations (Northern Ireland) 2006
- Council Regulation (EC) No 1/2005 on the Protection of animals during transport and related operations

Additional information

- Your vet. You can contact the Royal College of Veterinary Surgeons to find details of vets in your area: www.rcvs.org.uk – the website has a "find a vet" facility.

- Local libraries and bookshops for up to date books on primate care.

- Websites such as:

  Association for the Study of Animal Behaviour: http://asab.nottingham.ac.uk/

  - Association of Pet Behaviour Counsellors: www.apbc.org.uk

  - Blue Cross: www.bluecross.org.uk

  - British Veterinary Association Animal Welfare Foundation: www.bva-awf.org.uk

  - DAERA website: www.daera-ni.gov.uk and www.nidirect.gov.uk - have information on the Welfare of animals Act (Northern Ireland) 2011, Pet Travel Scheme (PETS) and copies of the Code of Practice for the Welfare of Primates.

  - PDSA: www.pdsa.org.uk

  - Pet Care Trust: www.petcare.org.uk

  - Pet Food Manufacturer's Association: www.pfma.org.uk

  - Pet Health Council: www.pethealthcouncil.co.uk

  - Royal Society for the prevention of Cruelty to Animals: www.rspca.org.uk

  - Ulster Society for the Prevention of Cruelty to Animals: www.uspca.co.uk

  - Wild Futures/The Monkey Sanctuary: www.wildfutures.org

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