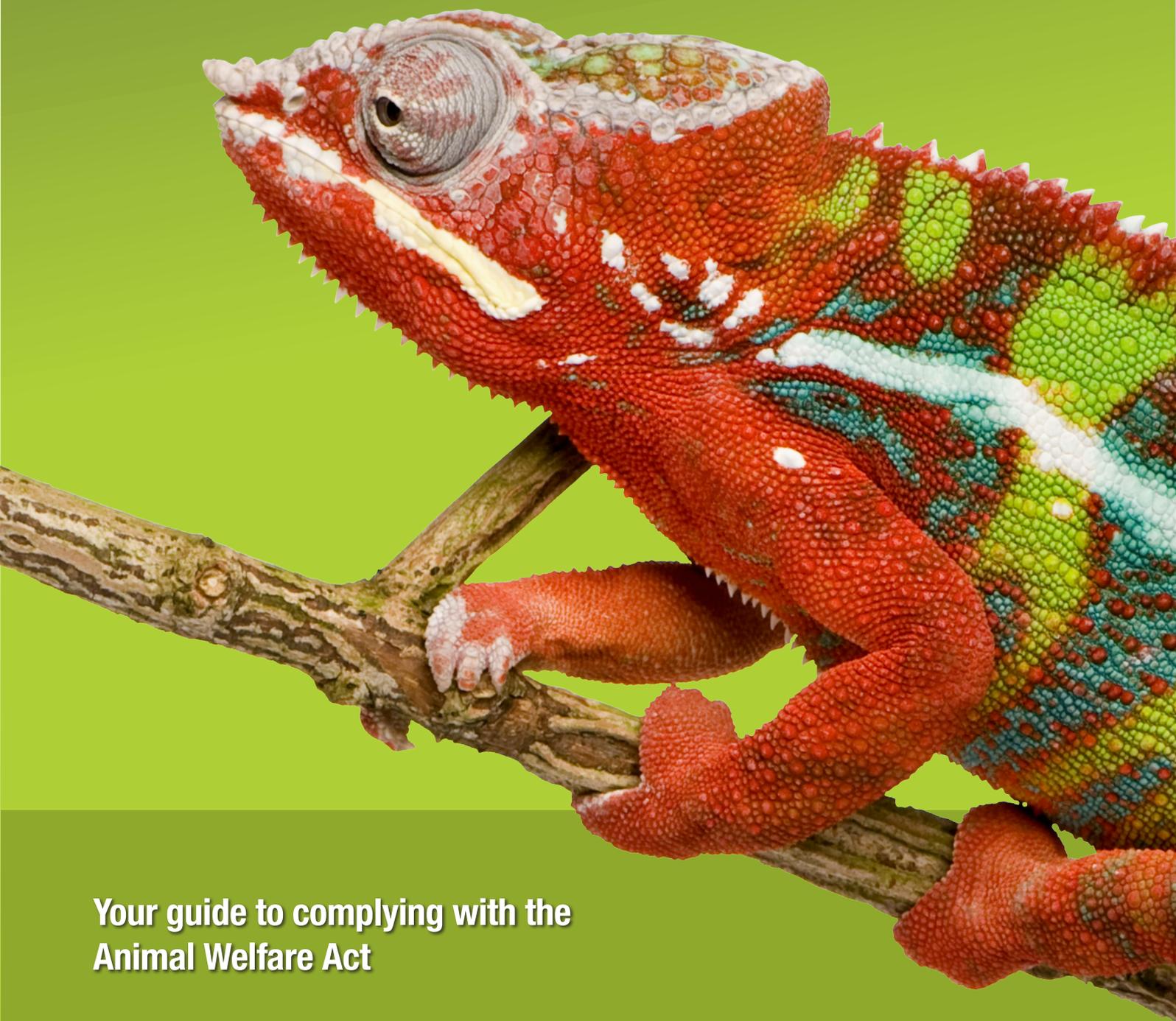


Good Practice Guidelines

For the Welfare of Privately Kept Reptiles & Amphibians



Your guide to complying with the
Animal Welfare Act

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Preface

It is a common misconception that the keeping of reptiles and amphibians is a niche interest but in fact they are the fourth most commonly kept group of companion animals in the UK, with numbers only exceeded by fish, cats and dogs. Today the UK population of pet reptiles and amphibians nears parity with that of dogs, with an estimated population in excess of seven million animals.

Far from being a recent development, the keeping of reptiles as pets dates back nearly four hundred years to 1625, when the then Bishop of London, William Laud, acquired a spur-thighed tortoise which he kept at the Palace of Fulham. When he became the Archbishop of Canterbury in 1633, the tortoise moved with him to Lambeth Palace, where its shell still resides today. The first documented captive breeding of a reptile in the UK took place at the Tower of London Menagerie in 1828.

Today reptiles and amphibians are more popular than ever before as improved technology has expanded the range of species which may be maintained by the amateur keeper to a high standard of welfare. The pet reptile and amphibian market now supports a multi-billion dollar industry globally and over eight thousand related product lines of equipment are currently available.

As compared to some other common companion species, many reptiles and amphibians require comparatively less space, have more limited requirements for companionship or exercise and may better meet criteria than some traditional species for many potential pet owners.

In the early days of reptile and amphibian keeping animals were obtained from wild sources but today in the UK the overwhelming majority, in excess of 95%, are bred in captivity specifically for the companion animal market. Some reptiles and amphibians are now considered domesticated pets which have been reproduced in captive conditions for successive generations, producing animals with a high tolerance for handling in a wide range of colour and pattern variations (or morphs). Many species have a phenotype which makes them almost unrecognisable from their wild ancestors and renders them incapable of surviving in the wild.

The following Good Practice Guidelines are designed to provide a framework which will allow the private animal keeper to maintain reptiles and amphibians to a standard of welfare which ensures that their essential needs are adequately met.

I am very grateful to the range of organisations, including keepers, breeders, veterinarians and welfare groups that have contributed to these Good Practice Guidelines, which will be widely disseminated and kept up to date.

Chris Newman,
Chairman Federation of British Herpetologists
November, 2014

Synopsis

Owning and caring for a pet reptile or amphibian can be a source of great enjoyment, but it is also a great responsibility. Typically reptiles and amphibians are reasonably long-lived animals with many species achieving an average life span of 5-15 years, although some reptiles may live for more than 100 years. Owners should think carefully about all the factors that will affect their ability to care for a reptile or amphibian for their expected lifespan and consider their suitability as a pet which will fit their circumstances. It is essential to consider the financial and time implications of having a pet reptile or amphibian, including the ongoing costs and the possible cost of specialist veterinary care.

There is no single perfect way to care for a pet reptile or amphibian, since each species has different requirements, and it is the owner's responsibility to research the requirements of the desired species prior to acquisition in order to ensure its needs are met. Page fourteen of this document includes a list of suggested sources of information for both prospective and existing keepers.

Animal Welfare Act 2006

These Good Practice Guidelines are designed to provide keepers of reptiles and amphibians with the steps needed to ensure the needs of their animal(s) are met, as required by Section 9 of the Animal Welfare Act 2006, Section 24 of the Animal Health and Welfare (Scotland) Act 2006 or Section 9 of the Welfare of Animals Act (Northern Ireland) 2011, whichever is appropriate. The needs referred to in the Acts are:

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

Breach of any provision(s) in these Good Practice Guidelines is not an offence in itself but if proceedings are brought against you for an offence under section 9 of the Act (Section 24 for Scotland), the Court may look at your level of compliance with the Guidelines in deciding whether you have committed an offence. If you own, or are responsible for, a reptile or amphibian and fail to meet its welfare needs or cause it unnecessary suffering, you may be prosecuted under the relevant Acts.

Introduction to the Guidelines

These Good Practice Guidelines apply to all privately-kept reptiles and amphibians, although the provisions of the Acts apply to all vertebrates considered "protected animals" as defined under the Acts except those under the provisions of the Animals (Scientific Procedures) Act. The purpose of these Guidelines is to provide practical guidance to help owners of reptiles and amphibians comply with the Acts. They do not tell you precisely how to care for a reptile or amphibian, but summarise important issues that the keeper should consider when making decisions about how to best care for these animals.

Under the Acts if you are the animal's owner you are always responsible for your reptile's or amphibian's needs and, if you are a parent or guardian of a child under the age of 16 years old, you are responsible for any animal in their charge. If you are unable to care for your reptile or amphibian at any time, you must make arrangements for another suitable person to look after it on your behalf. It is important to remember that you remain responsible for your animals' needs, even when you are away, although your animal carer will be legally responsible for your pet's welfare in your absence as well.

These Guidelines solely address issues pertaining to animal welfare and do not cover health and safety of keepers or others, nor do they cover risk of disease transmission, although both are important considerations that the keeper should be aware of.

Definitions:

- **Captive-bred:** Animals bred in captivity within human controlled environments.
- **Wild-caught:** Animals harvested from wild population.
- **Ranched/Captive-farmed:** Animals farmed from captive adults in the country of origin or elsewhere or taken from the wild as eggs.

Section 1: General welfare considerations

If you are unsure about any aspect of your reptile or amphibian's health, welfare or behaviour, you should always seek guidance from an expert. A veterinary surgeon, should be consulted if there is any reason to suspect that your animal's health may be compromised. The diagnosis and treatment of health problems affecting reptiles and amphibians must be done under the care of a veterinary surgeon that is familiar with the medicine and surgery of exotic species. Others may be considered specialists in the field of reptile and amphibian care, including: veterinary nurses, staff at animal welfare organisations or specialist retail outlets, members of specialist societies and experienced keepers.

Prospective owners should look at how the species lives and behaves in the wild as this will provide framework for husbandry in captivity. Detecting when reptiles and amphibians are compromised can be difficult and good knowledge of the species and regular observations and checks are vital. Despite common perception, reptiles and amphibians are capable of experiencing pain and suffering.

Record keeping: It is advisable to keep records which will enable you to keep track of any changes in your animals' behaviour patterns which may indicate early signs of health and welfare problems. Data collected will vary according to species but may include: scientific name, origin, sex, distinctive markings, any microchip details, date of birth (where known), date of purchase, feeding records, shedding, egg-laying, weight, veterinary procedures or health issues and date of death (with details). Many reptiles require specialised lighting, the effectiveness of which diminishes over time. It is, therefore, recommended that keepers should make a record of the date that lighting should be changed and check levels.

Health checks: Reptiles and amphibians should be inspected regularly in order evaluate their condition and health. Captive reptiles and amphibians rarely suffer health issues if they are kept correctly in a suitable environment. Most notable issues are likely to be metabolic bone disease or respiratory disease. Early signs of both of these conditions should become apparent if periodical health checks are carried out. Reptiles may also be prone to external parasites (particularly snake mites) which will be detected at an early stage if health checking is in place. New animals should be quarantined for an appropriate period.

Husbandry: Reptiles and amphibians are totally dependent on the artificial environment in which they are kept. It is, therefore, important to keep this environment clean and free from debris, such as waste and uneaten food, the accumulation of which could lead to health problems. Amphibians are particularly susceptible to health issues caused by unsatisfactory environmental conditions.

Clubs and societies: Clubs and societies for reptile and amphibian keepers offer specialist knowledge and advice, as well as a valuable social network. It is strongly recommended that keepers join such an organisation, listed on page 13, in order to avail themselves of the many benefits offered.

The following should be taken into consideration prior to purchase:

- **Do you have the time and commitment to look after the animal for its entire life?**
- **Do you have the equipment to look after it properly?**
- **Have you considered maintenance costs, such as feeding, as well as unexpected outlay, including veterinary charges if your pet is injured or unwell?**
- **Do you have sufficient knowledge in order to fulfill all its basic needs?**
- **Do you have a plan in place should you go on holiday, become ill or are no longer able to look after your animal?**

Section 2: Sourcing and transferral of ownership

Ensuring reptiles and amphibians are ethically sourced and responsibly changing ownership

2.I Sourcing:

The vast majority of reptiles and amphibians kept as companions are bred in captivity (captive-bred), although a small number are obtained from wild populations (wild-caught). Many individuals and organisations consider that buying captive-bred animals is the more ethical choice and may be better for the animals' welfare as the stress of capture and long distance transport is eliminated. Others, however, consider sustainable utilisation of wild populations is a sound conservation practice which enables human indigenous populations in countries of origin to responsibly exploit the resource of native fauna providing an essential revenue stream to help in the fight to halt habitat loss, the largest threat to wild reptile and amphibians.

Captive farming, or ranching, provides another source of supply of animals for the pet trade and this may be carried out in a number of ways. Pregnant (or gravid) females may be collected and any eggs or offspring sold on, after which the adults may be released back into the wild. Adult populations may be maintained on farms or ranches in the country of origin are used to produce juveniles, thus eliminating the stress of capture and decreasing the stress of transportation.

Many reptiles and amphibians, except those sourced direct from the breeder, will be transported commercially. Commercial transport of animals into and within the EU is regulated by Council Regulation (EC) 1/2005 on the protection of animals during transport. The principles of the Regulation apply to all vertebrates, although there are no specific requirements for reptiles and amphibians. The health and welfare of reptiles and amphibians transported from countries of origin will be inspected on arrival into the European Union (EU). Reptiles and amphibians, may be transported across the EU to the United Kingdom, whether bred in the EU or imported from countries of origin outside the EU.

The source of animals should be clearly labelled and potential keepers should make an informed choice based on their own ethical preferences and welfare implications for the animals prior to sale. Any trade in wild reptiles and amphibians must be sustainable and in accord with all legal criteria, including the Convention on International Trade in Endangered Species of Flora and Fauna (CITES) regulations.

2.II Supply:

Reptiles and amphibians are available from many sources and it is important that companion animals are obtained from a suitable supplier. Reptiles and amphibians have specific requirements and suppliers need to provide sufficient information to ensure potential owners can adequately cater for their needs in order that long-term welfare requirements may be met and satisfied that potential owners are able to meet their needs. Over 3,000 species of reptiles and amphibians have been maintained in captivity, although the majority (70%) of trade for the pet market is dominated by six popular pet species:

- **Bearded dragon** *Pogona vitticeps*
- **Crested gecko** *Correlophus ciliatus*
- **Leopard gecko** *Eublepharis macularius*
- **Corn snake** *Pantherophis guttatus*
- **Royal python** *Python regius*
- **Hermann's tortoise** *Testudo hermanni*



2.III Sources of supply:

Mainstream pet store: Many mainstream pet stores, garden centres and chain stores now sell reptiles and amphibians. They generally cater for the less specialised end of the market, typically offering only captive-bred animals of the more popular species. Most stock a range of live and frozen foods and a suitable range of vivaria and equipment. Good pet stores are careful to ensure novice reptile keepers are able to meet their animals' needs prior to point of sale and offer advice and back-up services to ensure on-going welfare needs are met.

Specialist outlet: Specialist reptile outlets offer a wider range of livestock than mainstream pet stores, with many offering a selection of less commonly available animals, both captive-bred and wild-caught species. Specialist outlets will offer a higher level of knowledge and may also offer a range of back-up services, such as holiday boarding, in addition to offering offer a wide range of foods, equipment and sundries.

Direct from breeder: Many welfare organisations, recommend obtaining animals direct from the breeder. Societies affiliated to the FBH organise a number of events at which breeders sell surplus stock which allows potential owners to view a large number of animals from different sources before choosing a companion animal. When buying direct from a breeder the keeper must be sure to source a supply of food items and equipment in order to provide adequately for the needs of their animal. The breeder should provide verifiable contact details in case issues arise after sale.

The internet: As with all areas of retailing, the internet plays an increasing role in the supply of pet animals. Purchase through the internet is the least reliable as the animal cannot always be viewed prior to purchase and the vendor is unable to verify the purchaser's competence to properly care for the animal. If choosing to buy over the internet buyers need to ensure that suppliers follow guidelines to ensure welfare needs are met and it is recommended that pet owners choose classified sites which have signed up to the Pet Advertising Advisory Group (PAAG) Minimum Standards (see page 14). Method of transportation should also be taken into consideration as reptiles and amphibians must never be dispatched via standard postal systems.

Animals in need of rehoming: Animals may require to be rehomed for a number of reasons and such animals are an important ethical source of supply which the potential owner can explore. The FBH and REPTA run a rehoming scheme, further details of which can be found on the FBH website. Many rescue centres and animal welfare charities also offer reptiles and amphibians for rehoming.

2.IV Transfer of ownership:

Companion animals must never be released into the wild. It is an offence under the Wildlife and Countryside Act (as amended) to release, or allow to escape into the wild, any animal which is not ordinarily resident in Great Britain or is not a regular visitor to Great Britain, or is listed in Schedule 9 to the Act. Most reptiles and amphibians will suffer an untimely, and possibly lingering, death because they are not adapted to conditions or the climate in this country. In the unlikely event of survival, introduced alien species may be harmful to the environment or native species.

Never breed reptiles and amphibians without the correct facilities, knowledge and specialist support and ensure that any offspring can be found suitable homes. Selective captive-breeding for desirable traits should be carried out responsibly in order to avoid adverse health and welfare issues which may arise from inappropriate in-breeding associated with the process of domestication.

If the keeper is no longer able to look after animals due to change of personal circumstances, such as ill-health, infirmity or reduced financial circumstances, it is important to pass animals on to responsible rehoming organisations or outlets. Some reptiles (principally chelonians) may be expected to outlive owners and provision, therefore, needs to be made for their long-term care after the keeper has died.

Section 3: Ensuring the needs of reptiles and amphibians are adequately met

3.1: The need for a suitable environment

Ensuring your reptile or amphibian has a suitable place to live

What your reptile or amphibian needs

Reptiles and amphibians are ectothermic which means they are entirely dependent on their environment to maintain their body temperature. Special care must, therefore, be taken to ensure that the temperatures in the animal's environment allow for effective thermoregulation by providing a thermal gradient. Many species have very specific requirements for UV light for the synthesis of vitamin D3 and the environment needs to provide a light source of a suitable quality and intensity.

Reptiles and amphibians need to feel secure and their home needs to include suitable cover or hides to enable them to escape from observation if desired. Substrates are very important to reptiles and amphibians as they play a role in controlling the environment, behaviour and health. For this reason it is essential that the right substrate is selected.

Many species are fairly sedentary, although they do need to have space to move round and exercise sufficiently. The terrarium or vivarium they live in normally forms their entire environment and should provide the correct physical parameters, stimulation and variation suitable for the species kept, including pools for bathing and branches and surfaces for climbing and basking if required. This is commonly known as environmental enrichment. Amphibians have very permeable skins and are very susceptible to poor water quality in their environment.

Steps the keeper needs to take

Provide a heating system that is sufficient and suitable for the species concerned. Particular attention should be made to provide effective thermal gradients to allow the animals to thermo-regulate successfully and the enclosure should be of sufficient size for this to be achieved. This should be regulated by a suitable control system, including thermometer and thermostat if required. Some heating equipment may need to be guarded to prevent animals receiving contact burns.

If required by the species, a suitable UVB emitting bulb of the correct wavelength and intensity should be used in the environment. All light sources that provide UVB have a finite effective life that is significantly shorter than the provision of visible light. It is, therefore, essential that the light source is changed regularly before the production of UVB starts to fall off.

The keeper needs to provide suitable substrates and terrarium decoration which facilitate sufficient hiding places and allow a wide range of natural behaviours, including climbing and basking. Substrates should permit maintenance of good hygiene standards. The housing must be large enough to allow sufficient area for natural behaviour and movement and be suitable to maintain an environment which meets the needs of the species, such as height for arboreal species. In amphibian environments the quality of the water must be monitored to ensure it is appropriate for the species kept.

Housing needs to be secure to prevent escape, free from hazards and kept in a good state of repair.

Section 3.2: The need for a suitable diet

Ensuring your reptile's or amphibian's nutritional needs are met

What your reptile or amphibian needs

Many species of reptile can live for extended periods without food or water, although both should be presented at intervals suitable for the species. The food requirements of individuals will change as the animal matures and the keeper will need to make appropriate changes to the feeding regime.

Fresh water should be available at all times. Some species of reptiles do not require standing water and others may need it to be presented in a particular way, e.g. spraying or mist systems.

Amphibians do not normally drink water but instead absorb it through their skin. Water is normally a major feature in the amphibian environment which they utilise to sit, swim and defecate in as part of their normal activity. This behaviour renders amphibians particularly susceptible to water borne pollutants so the water quality must be maintained at all times.

The wide range of species of reptile and amphibian kept in captivity have vastly different dietary requirements. They may be herbivores, omnivores, insectivores or carnivores and the keeper should be aware of the correct diet for the species. These different foods are also required in different amounts and frequencies, depending on the species in question. An unsuitable diet may lead to serious health problems which can be life threatening. These can include growth and developmental abnormalities, digestive disorders and weight problems.

Reptiles and amphibians are particularly susceptible to vitamin/calcium deficiencies and may require additional supplementation with a product designed for the species.

Steps the keeper needs to take

Fresh water should be made available at all times, if appropriate for the species. The keeper should research the species prior to purchase to determine if the water needs to be presented in a water bowl, dripper, sprayer or other suitable way. Care should be taken to avoid inappropriate water spillage which may cause health issues.

In the case of amphibians (and some aquatic reptiles) the quality of the water should be monitored in order that levels of toxins remain at acceptable levels. This could involve chemical analysis, visual monitoring or an appropriate water change regime. Cleaning products used must be suitable for use with animals and free from harmful agents.

The keeper should determine the correct food for the species and ensure an appropriate feeding regime is in place. As a general guide, rodent feeders, such as snakes, should normally be fed weekly or fortnightly, whilst insect feeders and herbivorous species should normally be fed daily. It is the keeper's responsibility to research the correct requirements for the species and follow an appropriate feeding regime. Food intake should be monitored in order to detect sudden changes that could indicate health problems. The food requirements of individuals will change over time as the animal matures, and the keeper should be aware of this and make gradual changes as appropriate. A specialist reptile vitamin/mineral supplement following an appropriate regime should be used where appropriate to avoid health issues, such as metabolic bone disease.

Food should be prepared under hygienic conditions and food & drink receptacles cleaned as appropriate. Uneaten food should be removed daily and care taken not to introduce excess invertebrate prey which may cause harm.

Section 3.3: The need to be able to exhibit normal behaviour patterns

Making sure your reptile or amphibian has what it needs to behave normally

What your reptile or amphibian needs

“Behaviour” covers a wide range of activities including: foraging, feeding, moving, hiding, interacting with other animals, reproducing and thermoregulation and the exact behaviour will depend on many factors, including species, age, sex and time of year indicated by daylight length. It is useful to consider the natural history of the species, including the environment, climate and dietary requirements.

Reptiles and amphibians are usually kept in self-contained enclosures that must provide for all of their needs with regard to heat, light, humidity and environmental enrichment. They also rely on their environment for thermoregulation and it is, therefore, essential that the environment is suitable for the species kept. Cage decor can be a source of environmental enrichment, breaking the sightline of the animal and providing a source of interest as it explores the cage and forages.

Handling reptiles and amphibians needs to be approached with care. They do not respond in the same way as mammals to human contact and some species may even be harmed by excessive handling. Amphibians in particular have very sensitive skins that can be damaged by contact with dry, warm hands. Reptiles can usually be handled and will become tolerant or even tame, but with the exception of a few domesticated species (e.g. bearded dragons), they do not actively enjoy being petted. Keepers need to be aware that if animals are not accustomed to handling welfare may be compromised during activities which necessitate close contact, such as cleaning out or transporting.

Steps the keeper needs to take

The keeper should understand the need of the species kept and provide suitable temperature gradients to allow the animal to thermo-regulate effectively. There should be suitable control systems, such as a thermostat, in order to ensure that the environment is the correct temperature and cannot exceed safe limits. Many reptiles' and amphibians' behaviour is influenced by day length and the duration and intensity of enclosure lighting should be suitable for the species and the time of year.

There should be enough room to fulfil the behavioral needs of the animal and the enclosure should be sited in a place where your pet feels secure and is not exposed to draughts, direct sunlight, sudden movement, loud noises or other disturbance. You should provide an environment which allows animals to exhibit natural behaviour, including climbing, hiding and bathing (where appropriate) and providing choice of décor, substrates and hides at differing ranges through the thermal gradient is desirable. Skin-shedding can be a stressful time for reptiles and the animal may need a damp place to hide before, during or afterwards.

Reptiles kept as companion animals should be habituated to handling from a young age to reduce associated stress. Children should not handle, feed or clean out animals without adult supervision. Animals should not be handled by anyone who may harm or frighten them. You should only handle amphibians when absolutely necessary. This must be done with wet hands which have been washed to remove any chemicals and keep any handling minimal and brief.

The keeper should ensure that they understand all the requirements of the species before attempting to breed from the animal. Keepers should be able to look after the eggs and young and ensure any offspring can be found suitable homes.

Section 3.4: Any need it has to be housed with, or apart from, other animals

Ensuring your reptile or amphibian has appropriate company

What your reptile or amphibian needs

Reptiles and amphibians are generally solitary and only come together to breed whilst others may live together in colonies. They do not commonly form family groups or socially interact in the same way as mammals. In captivity, most species can be kept singly or in small groups, providing there is sufficient space and cover for them to seek solitude if they wish. Care should also be taken at feeding time to ensure that individuals do not injure each other and that each acquires its fair share of food. Placing food in multiple areas to allow fair access is recommended.

Overcrowding should be avoided as this can lead to health and welfare issues. Females that are preparing to lay eggs or give birth may be particularly susceptible to stress caused by contact with other individuals and may need to be separated. Male individuals of the same species may need to be housed separately as some are highly territorial and fight, leading to injury which could be serious.

Generally different species should not be mixed. It is possible to keep “community tanks”, in much the same way as you see with tropical fish, but the animals need to be selected very carefully, and not all species are suitable for this.

Steps the keeper needs to take

Ensure that your reptile and amphibians are kept either singly, or in small colonies that are suitable for the species, and that the density is low enough to avoid stress and disease caused by overcrowding. Never keep reptiles or amphibians in overcrowded conditions. In general never mix individuals of different species of tortoises together as they can often carry pathogens that may affect a different species more seriously.

Find out if the species that you are keeping is suitable for keeping in a group or if it needs to be housed singly. If males are likely to fight when mature then keep them individually, or in groups of one male to several females. Pairs may be kept together but care must be taken that the male does not unduly disturb the female and cause stress.

Always provide enough hides (or other cover) so that individuals can get away from others if they want to (you should provide at least one hide per animal) and avoid creating dead-ends in the enclosure which prevent animals escaping from each other. If you want to keep a “community tank” of reptiles and amphibians then research the species very carefully to ensure compatibility. Make sure that you do not have too many individuals in the vivarium and monitor for signs of aggression.

In the period leading up to, and during, egg laying or giving birth monitor females very carefully as their behaviour will tell you if they are stressed by the presence of other animals. It is always a good idea to increase the hiding areas for females at this time, and may be necessary to isolate them completely. Most species will need a special “egg laying box” which the female can access easily for the eggs to be deposited in when the time comes.

Avoid siting predator/prey species in proximity (including other family pets) as this may lead to stress.

Section 3.5: The need to be protected from pain, suffering, injury and disease

Making sure your reptile or amphibian stays healthy

What your reptile or amphibian needs

Although reptiles and amphibians do feel pain they react to it, and express it differently to humans and other mammals. They appear to tolerate injuries which are quite serious or even life-threatening whilst continuing to behave relatively normally. This apparent tolerance to pain does not mean they are not suffering and they should be treated with the same degree of care as any other type of animal.

Reptiles and amphibians are susceptible to similar health problems to other animals, including (but not limited to), physical injury, infectious diseases, non-infectious diseases (such as deficiencies or tumours) and stress. There are currently no licensed vaccines against common bacterial and viral diseases that affect reptiles and amphibians, so keepers need to be extra vigilant to spot the early signs of any problem.

Reptiles and amphibians may show discomfort and distress in different ways. They may hide away, refuse to feed, become restless, aggressive or lose their normal colouration. There may also be direct signs of illness, such as swellings, discharge, breathing difficulty, diarrhoea, sores, weight loss or gain, sensitivity or constipation or problems with dysecdysis (skin-shedding). Any change in the normal behaviour of an animal, or a direct symptom, may indicate a problem and should be investigated. Behaviour problems can include persistent aggression, escape behaviour (e.g. snout-rubbing), repetitive behaviour and lethargy.

Diet is very important and you should ensure that your reptile or amphibian is fed the correct diet to avoid obesity. Reptiles and amphibians are susceptible to vitamin and mineral deficiency diseases, symptoms of which may be soft bones, bent legs or poor mobility. If the condition is investigated and the deficiency corrected immediately, further damage may be prevented, although any deformity will persist. A vitamin mineral supplement appropriate for the species and the correct quality of light will prevent metabolic bone disease.

Steps the keeper needs to take

Take sensible precautions to keep your reptile or amphibian safe from injury. Quarantine all new animals and check animals daily to make sure that there are no signs of illness, injury, parasites or disease and ensure someone suitably knowledgeable does this for you when you are away. Make sure that your reptile or amphibian is not subject to conditions that could affect its welfare as this could increase the risk of health problems. If you notice a change in your animal's behaviour check the parameters in the environment as inappropriate temperature, humidity and lighting can impact animal health and welfare.

Make sure that, if needed, the correct UV light is used, along with a suitable vitamin/mineral supplement. As UV output declines over time, reptile lighting needs to be changed at regular intervals according to the manufacturer's instructions. This will help prevent the development of metabolic bone disease, a condition which cannot be reversed once it develops and can be fatal.

If you are unsure of any aspect of health for your reptile or amphibian then seek expert veterinary help immediately, and follow their advice.

Appendix 1:

Glossary of terms:

- **Ectothermic:** Animal whose regulation of body temperature depends on external sources, such as sunlight.
- **Herbivore:** An animal which derives its energy from eating only plant material.
- **Herptiles:** Denoting, relating to, or characterising both reptiles and amphibians.
- **Carnivore:** An animal which derives its energy from eating animals.
- **Insectivore:** An animal which derives its energy from invertebrates, such as insects.
- **Metabolic bone disease:** Disorders of bone strength, usually caused by abnormalities of minerals (such as calcium or phosphorus) & vitamin D.
- **Omnivore:** An animal which derives its energy from eating both plants and animals.
- **Thermal gradient:** A progressive temperature range within a reptile habitat ranging from a suitable high temperature, to a suitable low temperature within the same enclosure to allow the animal to successfully thermoregulate.
- **Thermoregulation:** The ability of an animal to keep its body temperature within certain boundaries, even when the surrounding temperature is very different.
- **UV Light:** Radiation lying in the ultraviolet range between light visible to humans and X rays". In relation to reptiles this is the UV light from 295-400nm.
- **Vivarium:** An enclosure for keeping, raising and observing terrestrial animals under conditions simulating their natural environment.
- **Terrarium:** A glass enclosure for keeping, raising and observing animals and/or plants under conditions simulating their natural environment. Normally used to house aquatic or semi-aquatic species, or animals which require a high degree of humidity.



These Good Practice Guidelines are supported by:

CLUBS & SOCIETIES

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<http://www.fbh.org.uk>

British Herpetological Society

<http://www.thebhs.org>

British Reptile & Amphibian Society

<http://www.b-r-a-s.co.uk>

Eastern Herpetological Society

<http://theehs.webs.com>

Essex Reptile & Amphibian Club

<http://www.essexreptiles.com>

East Sussex Reptile & Amphibian Society

<http://www.esras.co.uk>

International Herpetological Society

<http://www.ihs-web.org.uk>

Kent Reptile & Amphibian Club

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Mid Anglia Herp & Invert Club

<http://www.mahic.org>

Portsmouth Reptile & Amphibian Society

<http://www.pras-uk.co.uk>

Scottish Herpetological Society (IHS)

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Surrey Reptile & Amphibian Society

<http://sras.org.uk>

South Wales Reptile and Exotic Animal Group

www.southwalesreptiles.org.uk

Thames & Chiltern Herpetological Group

<http://www.tchg1979.org.uk>

TRADE ASSOCIATIONS

Reptile & Exotic Pet Trade Association

<http://www.repta.org>

Ornamental Aquatic Trade Association

<http://www.ornamentalfish.org>

Pet Industry Federation

<http://www.petcare.org.uk>

WELFARE ORGANISATIONS

British Veterinary Zoological Society

<http://www.bvzs.org>

Royal Society for the Prevention of Cruelty to Animals

<http://www.rspca.org.uk>

The Pet Charity

<http://www.thepetcharity.org.uk>

Tortoise Welfare UK

<http://tortoisewelfare.co.uk>

Reptile & Amphibian Information Portal:

The internet can be a valuable source of information but the accuracy and authenticity of material available may not always be reliable or up-to-date. The Reptile & Amphibian Information Portal is a source of information that is independent, science-based, peer reviewed and available free of charge to all. Information available from the portal will constantly be kept under review by a panel of experts and updated as appropriate.

Reptile & Amphibian Information Portal: <http://www.raaip.org.uk>

Other Sources of information:

Federation of British Herpetologists: <http://www.fbh.org.uk>

Reptile & Exotic Pet Trade Association: <http://www.repta.org>

British Veterinary Zoological Society <http://www.bvzs.org>

Companion Animal Sector Council: <http://www.casc.org.uk>

ProPets: <http://www.propetsgroup.org.uk>

Pet Advertising Advisory Group: <http://paag.org.uk>

Pet Advisory Committee: <http://www.petadvisorycommittee.org.uk>

Royal Society for the Prevention of Cruelty to Animals: <http://www.rspca.org.uk>

The Pet Charity: <http://www.thepetcharity.org.uk>



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