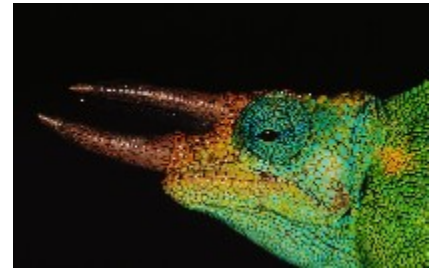


WELFARE, INVASIVES and HEALTH ISSUES related to exotic animals and plants



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1. Overview

People involved in wildlife trade and in the keeping of live animals and plants are legally obliged to take adequate care of the specimen they possess, in order to prevent:

- Unnecessary mortality and suffering among live animals;
- Damage to indigenous flora and fauna from the invasion of exotic species;
- Potential health risks through the escape of dangerous and/or poisonous specimens, or
- The transmission of diseases from animals to humans.

This applies particularly to live animals and plants, and to other kind of vectors that may carry diseases or pests (e.g. meat, seeds or raw timber). It is beyond the scope of this website to deal with these issues in depth, but this fact-sheet provides an introduction to some of the requirements that have to be met and regulations that may apply.

Legislation on animal welfare, invasive species and human safety exists at international, European and national levels (Table 1). The legislation is often complex, varies from country to country, from species to species and disease to disease. It is essential to consult the actual legislation that applies and the appropriate authority that is responsible at that time and in that place. The relevant authority may not necessarily be in the same Ministry as the CITES Management or Scientific Authority.

Table 1. Main laws and measures relevant to animal welfare, invasive species and human safety.

	Animals Welfare	Invasive species	Human Safety
EC Regulations	<p>Art 4.1 (c), 4.2 (b), 4.6 (c) and 9.4 of Regulation (EC) n° 338/97</p> <p>Council Regulation (EC) No 1/2005 of 22 December 2004 (amending Directives 64/432/EEC and 93/119/EC and Regulation (EC) No 1255/97)</p> <p>Council Directive 91/628/EC of 19 November 1991</p> <p>Council Directive 95/29 of 29 June 1995 (amending Directive 90/628/EEC)</p> <p>Council Directive 99/22/EC of 29 March 1999</p>	<p>Art 4.6 (d) of Regulation (EC) n° 338/97</p> <p>Art 11 of the EC Directive on the Conservation of Wild Birds (79/409/EEC)</p> <p>Art 22 of the EC Directive on the Conservation of Habitats and Wild Fauna and Flora (92/43/EEC)</p>	<p><u>Protection against animal disease transmission:</u></p> <p>Council Directive 89/662/EEC of 11 December 1989</p> <p>Council Directive 90/425/EEC of 26 June 1990</p> <p>Council Directive 91/496/EEC of 15 July 1991 (amending Directives 89/662/EEC, 90/425/EEC and 90/675)</p> <p>Council Directive 92/65/EEC of 13 July 1992 (amended by Regulation (EC) No 998/2003 of the European Parliament and of the Council)</p> <p>Council Directive 96/43/EC of 26 June 1996 (amending and consolidating Directive 85/73/EEC and amending Directives 90/675/EEC and 91/496/EEC)</p> <p>Regulation (EC) No 998/2003 of the European Parliament and of the Council of 26 May 2003 on the animal health requirements applicable to the non-commercial movement of pet animals and amending Council Directive 92/65/EEC</p> <p>Council Directive 97/78/EEC of 18 December 1997</p> <p>Council Directive 1999/67/EC of 28 June 1999 (amending Directive 93/49/EEC)</p> <p>Commission Decision 2001/383/EC of 3 May 2001 (amending Decision 2000/666/EC)</p> <p>Commission Regulation (EC) No 1802/2002 of 10 October 2002 (correcting Regulation (EC) No 1282/2002 amending Annexes to Council Directive 92/65/EEC)</p> <p><u>Protection against plant disease transmission:</u></p> <p>Commission Directive 93/50/EEC of 24 June 1993</p> <p>Commission Directive 95/44/EC of 26 July 1995</p> <p>Council Directive 2000/29/EC of 8 May 2000</p> <p>Regulation (EC) No 882/2004 of the European Parliament and of the Council of 29 April 2004</p> <p>Corrigendum to Regulation (EC) No 882/2004 of the European Parliament and of the Council of 29 April 2004</p> <p>Council Directive 2005/15/EC of 28 February 2005 (amending Annex IV to Directive 2000/29/EC)</p> <p>Commission Directive 2005/16/EC of 2 March 2005 (amending Annexes I to V to Council Directive 2000/29/EC)</p>
Council of Europe	<p>European Convention for the Protection of Pet Animals (1992)</p> <p>European Convention for the Protection of Animals during International Transport (revised) (2004)</p>	<p>Recommendation No. R(84)14 (1984) of the Committee of Ministers to the Council of Europe</p> <p>Art. 11.2.b of the Bern Convention Recommendations No.57 (1997) and 77 (1999) of the Bern Convention Standing Committee</p>	
Other International Regulations/Measures	<p>Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)</p> <p>International Animal Health Code, Chapter 1.4. (OIE)</p>	<p>IUCN Guidelines for the Prevention of Biodiversity Loss caused by Alien Invasive Species</p> <p>Decisions 11.64, 11.100 and 11.115 of CITES</p>	<p>International Animal Health Code and International Aquatic Animal Health Code (OIE)</p>

	International Air Transport Association Regulations (IATA)	Art. 8(h) and Decision VI/23 of the Convention of Biological Diversity (CBD)	
National legislations	<u>In most Member State:</u> Anti-cruelty and/or welfare codes	<u>In most Member States:</u> National legislation regarding release of invasive alien species	<u>In each Member State:</u> National health, safety, veterinary and phytosanitary legislation

2. Keeping and caring for animals and plants

2.1 Adequate care for live specimens is essential and a responsibility of traders and keepers alike

Although the EC Wildlife Trade Regulations (see [International Legislation](#)) deal primarily with the regulation of wildlife trade to, from and inside the EU, they also contain provisions for the keeping of and caring for live specimens listed in Annexes A, B, C and D (Article 9.4 of *Reg. 338/97*). For example, persons selling live specimens of species listed in the Annexes to *Council Regulation (EC) No. 338/97* must ensure that the recipient is made aware of the biological and behavioural requirements of the species, and will be able to properly care for the specimen concerned. The above provisions are designed mainly to provide for the welfare of animals, but are also based on conservation considerations, contributing to the long-term survival of live animals and plants in captivity, thereby reducing demand for and pressure on wild specimens.

2.2 Finding information

Over the last decade a vast range of specialised literature regarding the physiological and behavioural requirements of animals in terms of food, space, temperature, humidity and many other factors has become available. Governmental institutions, commercial associations, hobbyist groups etc. have produced specialised books and magazines and “care sheets” for certain groups (e.g. snakes) or selected species (e.g. the Common Iguana *Iguana iguana*). Generally, these materials provide background information about the species’ biology (species distribution and natural habitat, ecology, behaviour etc.), and include information and advice with regard to caring for the specimens in captivity (e.g. space and decoration requirements, soil for plants, food and nutrients, temperature, lighting and humidity, behaviour, diseases, etc.).

2.3 Species manuals, books and care sheets

On this website you can find a number of important internet links to such information materials available on the Internet and on the websites of other relevant organisations (see [Links](#)). Below is a selection of examples of such information and targeted publications that are available to traders and keepers:

- In Germany, the Federal Ministry for consumer protection, food and agriculture has published [guidelines](#) for the keeping of and caring for several animal groups for example, reptiles, amphibians, parrots and birds of prey. The [German Herpetological Society \(DGHT\)](#) and the [German Association for Aquaria \(VDA\)](#) have produced additional guidelines for urodela, amphibians and fish species.
- The [International Herpetological Society](#) gives advice on snake keeping as well as specific advice on the Leopard Gecko *Eublepharis macularius* (accommodation, food, breeding, rearing juveniles and cage cleaning).
- [Docslaw Seaworld](#) has developed materials (in German and English) on seahorses and pipefish, including basic considerations, e.g. tank size and decoration, water, current, light, temperature, security, food, tankmates, information about purchasing seahorses and a checklist for seahorse- or pipefish-tanks. Additionally, general and biological information is provided, as well as detailed advice for breeding seahorses.
- The [British Cactus and Succulent Society](#) explains how cacti and succulents should be grown and addresses subjects such as cultivation, potting and re-potting, watering, pests and diseases and where to grow these plants. Specific advice is given for people who want to grow these plants from seeds (including containers, composts, sowing the seed, propagators, germination and post-germination treatment, pricking out, winter care of seedlings and pests).

- The Dutch [Aquariumhobby](#) website has a database providing species-specific background information and information on care requirements for a range of fish species and other animals kept in marine aquaria.
- Similarly, the Dutch [Pakara](#) website has such a database for a number of parrot species.

2.4 Animal welfare legislation at national level

Most EU Member States have established national legislation covering animal welfare and the keeping and caring for live animals and plant species. In several Member States, commercial breeders and traders have to prove their knowledge and expertise on the keeping of and caring for the animals and/or plants concerned before they will be allowed to breed or trade in these specimens.

3. Transport of live animals and plants

People trading in wildlife are likely also involved in transporting wildlife. There are many related welfare concerns, mostly concerning the mortality of specimens during long travels, waiting periods or intensive handling. However, high mortality rates during transport may result in increased harvest levels to compensate for any losses during transport and to meet the market demand. Several laws address this issue and set minimum requirements that have to be met during the transport of animals and plants.

Article 9.5 of [Council Regulation \(EC\) No. 338/97](#) states that any live specimens that are transported into, from, or within the Community, or are held during any period of transit or transshipment have to be prepared, moved and cared for in a manner such as to minimise the risk of injury, damage to health or cruel treatment and, in the case of animals, transported in conformity with Community legislation on the protection of animals during transport.

The relevant Community legislation is:

- [Council Regulations \(EC\) No 1/2005 of 22 December 2004, on the protection of animals during transport and related operations and amending Directives 64/432/EEC and 93/119/EC and Regulation \(EC\) No 1255/97.](#)

Transport of live specimens has been an issue among CITES parties since the Convention entered into force and the [Guidelines for Transport and Preparation for Shipment of Live Wild Animals and Plants](#) were already developed in 1979. However, these guidelines have not been updated since, and instead, several CITES Resolutions and Decisions dealing with the transport of live animal and plant species have been adopted. Among these, the most relevant is [Resolution Conf. 10.21 \(Rev. CoP 14\) on the Transport of Live Specimens](#), which recommends that the IATA Live Animals Regulations be deemed to meet the CITES Guidelines with respect to air transport of animals, and the IATA Perishable Cargo Regulations with regard to the transport of live plants, as these are amended annually.

In addition, the CITES Transport Working Group has addressed transport related issues and regularly reports to the Animals and Plants Committees. The most recent reports were presented at the 12th Plant Committee Meeting held in Leiden, the Netherlands in May 2002 ([PC12 Doc. 17](#)) and discussed again at PC13 (2003) and PC 14 (2004) and at the 20th Animal Committee Meeting held in Johannesburg, South Africa, in 2004 ([AC20 Doc. 13](#)). The proceedings and plans of the Transport Working Group were discussed at the 18th Plants Committee Meeting in Buenos Aires, Argentina in March 2009 ([PC18 Doc. 21.2](#)). Documents on the transport of live animals were also presented at the 23rd Meeting of the Animals Committee held in Geneva in 2008 ([AC23 Doc. 16](#)).

3.1 International Air Transport Association (IATA) Regulations

CITES Resolution 10.21 (Rev. CoP14) recommends that the Live Animal Regulations (for live animals) and the Perishable Cargo Regulations (for live plants) of [IATA](#) be deemed to meet the CITES Guidelines in respect of air transport of live specimens, and should be followed by all CITES Parties and incorporated into the national legislation. The IATA website on transportation by air of [Live Animals](#) provides useful information, including how to order a copy of the IATA Live Animals Regulations. CITES documents for import, export or movement

of live animals and plants are not valid if the animal has not been transported in accordance with IATA guidelines.

Other relevant associations and sources of information are the [Animal Transportation Association \(ATA\)](#) and the [Independent Pet and Animal Transportation Association \(IPATA\)](#). The ATA has developed a 'Manual for the Transportation of Live Animals' which relates primarily to domestic animals but also contains a chapter on wild species and gives basic information on CITES and its requirements concerning documents.

4. Permanent exhibitions of live animals and plants

There are many permanent exhibitions of animals and plants worldwide, generally in the form of zoos, safari parks, aquaria, botanical gardens and orangeries. All permanent exhibitions of animals and plants have to comply with wildlife trade regulations, as well as with nature conservation, animal welfare, animal transport, veterinary, phytosanitary and Customs laws. In addition, the keeping of wild animals in zoos has been regulated at the EU level since 1999 through the:

- [Council Directive 1999/22/EC of 29 March 1999 relating to the keeping of wild animals in zoos](#)

Several umbrella associations for zoos have been established in the last decades in order to co-ordinate activities relating to e.g. breeding programmes, conservation of species in the wild and education of the public:

- [World Association of Zoos and Aquaria \(WAZA\)](#)
- [European Association of Zoos and Aquaria \(EAZA\)](#)
- [American Zoo and Aquarium Association \(AZA\)](#)
- [Australasian Regional Association of Zoological Parks and Aquaria \(ARAZPA\)](#)
- [Pan African Association of Zoological Gardens, Aquaria and Botanical Gardens \(PAAZAB\)](#)
- [South East Asian Zoos Association \(SEAZA\)](#)

5. Temporary exhibitions of live animals and plants at fairs and exhibitions

Several EU Member States have regulations that address welfare and human health and safety requirements at pet fairs or plant exhibitions. In Germany, for example, organisers of animal trade fairs have to obtain a special permit from the local authorities before such fairs can be convened and there are also a number of additional provisions under the Federal Law on Animal welfare ([Tierschutzgesetz](#)). In addition, the [Gutachten über die Mindestanforderungen an die Haltung von Reptilien](#) ('Minimum requirements for the keeping of reptiles') lays out the conditions for the organization of reptile fairs ("Bedingungen für die Durchführung von Reptilienbörsen"), which includes provisions on the labelling of the animal with German and scientific name, its origin (captive-bred or wild), gender and conservation status. There are also requirements with regard to housing, handling and exhibiting of poisonous animals.

A number of fair organizers have developed their own rules, based on the national law and/or on existing rules of other fairs. Some are very detailed and address subjects such as labelling, housing, handling, human safety and poisonous animals, while others are rather short and simple. For more information: see [Links](#).

6. Invasive animal and plant species

Another important responsibility of pet owners in the EU concerns exotic species that may, if they escape or are voluntarily released into the wild, represent a threat to European species and habitats. If exotic species are able to adapt and breed in their new environment, they become "invasive" or "alien" species. Such animals and plants, even of very small sizes, can pose significant threats to global biodiversity and economies, a fact that is receiving increased attention from nature conservation fora and governments.

6.1 Relevant regulations with regard to invasive species

Several international conventions and EU Directives address the issue of invasive species to some extent.

[Council Regulation \(EC\) No. 338/97](#) also covers species that are known to pose an ecological threat to indigenous species (Art. 3.2(d)) and currently there are two animal taxa listed for these reasons: the **Red-eared Slider Turtle** *Trachemys scripta elegans* and the **American Bullfrog** *Rana catesbeiana*. In addition, under Article 4.6(d), the European Commission can establish an import suspension on the import of live specimens of species (see [Legislation/](#)

International 1.6, Scientific Review Group) listed in Annex B and known to present an ecological threat to indigenous Community fauna and flora. This has been the case for the Red-eared Slider Turtle and the American Bullfrog and imports into the EU of both taxa have been suspended since 1997.

In addition, the EU Member States have their own national laws that contain provisions on invasive species. Some Member States have laws that prohibit the deliberate release of any captive species to the wild, while others make it an offence to contribute to the spread of certain listed invasive species. Therefore, differences in the rules on e.g. import, possession and commercial activities between the Member States regarding such species do exist.

Further, the [Birds Directive](#) (*Directive 79/409/EEC*) and the [Habitats Directive](#) (*Directive 92/43/EEC*) contain articles that address the subject (e.g. Article 11 and 22 respectively). The [Convention on the Conservation of European Wildlife and Natural Habitats](#) (the Bern Convention) and the [Convention of Biological Diversity \(CBD\)](#) also contain provisions with regard to invasive species.

Beyond the legislative provisions, there are simple measures that represent sound practice. In particular, accidental release (or deliberate dumping of surplus) live animals and viable plant material should always be avoided. Special care should be taken with aquatic species as these can spread extremely rapidly (the green alga, *Caulerpa taxiflora*, an aquatic species which has become a pest in the Mediterranean is an example).

The [IUCN / SSC / Invasive Species Specialist Group \(ISSG\)](#) aims to reduce threats to natural ecosystems and the native species they contain by increasing awareness of invasive alien species, and of ways to prevent, control or eradicate them. They have designed the [IUCN Guidelines for the Prevention of Biodiversity Loss caused by Alien Invasive Species](#) in collaboration with other experts on alien invasive species and the IUCN Commission on Environmental Law. The ISSG has also developed the [Global Invasive Species Database](#), which focuses on invasive species that threaten biodiversity and which covers all taxonomic groups from micro-organisms to animals and plants.

7. Animals and human safety

7.1 Keeping dangerous or poisonous animals

When keeping exotic animals, it is not only important to prevent the animals moving into the natural habitat, but also to prevent potential threats to human safety. Relevant legal provisions are often included in national animal welfare legislation, stating that escape of animals should be prevented. In addition, several Member States have specific regulations regarding the exhibition of dangerous and/or poisonous animals to the public for example at fairs ([ref. 5.](#)) and in many instances fair organizers even choose to prohibit the exhibition of poisonous animals or allocate and prepare a special room for dangerous or poisonous animals.

7.2 Transmission of diseases from animals to humans

When importing exotic animals or plants, there is always a risk that the specimen is carrying germs or parasites that are not necessarily pathological to the specimen, but could be highly infectious to humans, and there are some cases in which urgent measures have to be taken to prevent serious consequences.

The lethal disease *salmonellosis* is perhaps the single most famous zoonosis (disease that can be transmitted from animals to people) associated with reptiles. Over 200 types of salmonella (bacteria), all of which are considered to be dangerous to people, have been isolated from reptiles, such as freshwater turtles, land tortoises, lizards, snakes and crocodilians. Hobbyist organizations provide useful information on the subject. E.g. the Californian Turtle and Tortoise Club prepared [Guidelines for Salmonella Prevention for Reptile Owners](#).

Another famous example is the transmission of **rabies** by bats. Many institutions can give additional information on this subject, e.g. the US Westchester County Department of Health designed a webpage that provides information on rabies, including a [brochure on bat rabies](#). Furthermore, Bat Conservation International provides [Answers and Questions about Bats and Rabies](#).

Primates can also carry various diseases that are transmissible to humans, e.g. Hepatitis A, Tuberculosis, Herpes B, etc. The Wisconsin Primate Research Centre has published a detailed analysis of the [Zoonoses Acquired from Pet Primates](#).

The [AFSSA](#) (French Food Safety Agency) website (in French and English) provide general information about animal diseases including numerous documents related to avian influenza.

The [World Organization for Animal Health \(OIE\)](#) is recognized by the [World Health Organization \(WHO\)](#) as the most relevant organization for standards of animal health and zoonoses. For the purpose of wildlife trade, interested parties may consult the [OIE Code](#) and [Aquatic Code](#) chapters that deal with those diseases of economic or zoonotic importance to which wildlife species are susceptible or for which they may act as vectors.

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