

# THE EU ZOO INQUIRY 2011

An evaluation of the implementation and enforcement of the EC Directive 1999/22, relating to the keeping of wild animals in zoos

## FRANCE



Written for the European coalition ENDCAP by the Born Free Foundation



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## ABBREVIATIONS USED

|             |       |   |
|-------------|-------|---|
| A10/08/2004 | ..... | Arrêté du 10 août 2004 (JORF du 30/09/2004)                           |
| A10/07/1976 | ..... | Arrêté du 10 juillet 1976   |
| A25/03/2004 | ..... | Arrêté du 25 mars 2004 (JORF du 01/04/2004)                           |
| A30/03/1999 | ..... | Arrêté du 30 mars 1999 (JORF du 03/04/1999)                           |
| A21/11/1997 | ..... | Arrêté du 21 novembre 1997 (JORF du 05/02/1998)                       |
| AFdPZ       | ..... | Association Française des Parcs Zoologiques                           |
| APOS        | ..... | Animal Protection Ordinance of Switzerland, Tierschutzverordnung 2008 |
| CBD         | ..... | Convention on Biodiversity (1992)                                     |
| CDNPS       | ..... | County Commission of Nature, Landscapes and Sites                     |
| DDPP        | ..... | Department of Veterinary Services                                     |
| DEFRA       | ..... | UK Department for Environment, Food and Rural Affairs                 |
| EAZA        | ..... | European Association of Zoos and Aquaria                              |
| EEP         | ..... | European Endangered Species Breeding Programme                        |
| ESB         | ..... | European Studbook   |
| EU          | ..... | European Union  |
| IAS         | ..... | Invasive Alien Species  |
| IUCN        | ..... | International Union for Conservation of Nature                        |
| NGO         | ..... | Non-Governmental Organisation   |
| OIE         | ..... | World Organisation for Animal Health                                  |
| SMZP        | ..... | Standards of Modern Zoo Practice, DEFRA, 2004                         |
| SNDPZ       | ..... | Syndicat National des Directeurs de Parcs Zoologiques Français        |
| WAZA        | ..... | World Association of Zoos and Aquariums                               |

## TERMS USED

**Animal:** A multicellular organism of the Kingdom Animalia including all mammals, birds, reptiles, amphibians, fish, and invertebrates.

**Animal Sanctuary:** A facility that rescues and provides shelter and care for animals that have been abused, injured, abandoned or are otherwise in need, where the welfare of each individual animal is the primary consideration in all sanctuary actions. In addition the facility should enforce a non-breeding policy and should replace animals only by way of rescue, confiscation or donation.

**Circus:** An establishment, whether permanent, seasonal or temporary, where animals are kept or presented that are, or will be, used for the purposes of performing tricks or manoeuvres. Dolphinarium, zoos and aquaria are excluded.

**Collection Plan:** A detailed written justification for the presence of every species and individual animal in the zoo related to the institutional mission, incorporating plans for re-homing and ensuring animal welfare in the event of zoo closure.

**Domesticated Animal:** An animal of a species or breed that has been kept and selectively modified over a significant number of generations in captivity to enhance or eliminate genetic, morphological, physiological or behavioural characteristics, to the extent that such species or breed has become adapted to a life intimately associated with humans.

**Environmental Quality:** A measure of the condition of an enclosure environment relative to the requirements of the species being exhibited.

**Free-roaming Animals:** Animals that have been deliberately introduced to the zoo grounds and that are free to move throughout the zoo.

**Not Listed:** Species of animal that are not listed on the IUCN Red List of Threatened Species™, including species that have yet to be evaluated by the IUCN and domesticated animals.

**Pest:** An animal which has characteristics that are considered by humans as injurious or unwanted.

Representative sample: The randomly selected sample of zoos, assumed to be representative of zoos in France.

**Species Holding:** The presence of a species in a single enclosure. For example, two separate enclosures both exhibiting tigers would be classed as two *species holdings*; while a single enclosure exhibiting five species of birds would be classed as five *species holdings*.

**Threatened Species:** A species that is categorised by the IUCN Red List of Threatened Species™ as *Vulnerable*, *Endangered* or *Critically Endangered* (IUCN Red List website).

**Wild Animal:** An animal that is not normally or historically domesticated in France. Zoonoses: Those diseases and infections which are naturally transmitted between vertebrate animals and man.

**Zoo:** All permanent establishments where animals of wild species are kept for exhibition to the public for seven or more days in a year, with the exception of circuses, pet shops and establishments which Member States exempt from the requirements of the Directive on the grounds that they do not exhibit a significant number of animals or species (Directive 1999/22/EC).

## SUMMARY

This investigation assessed 25 zoos randomly selected from the 943 zoos thought to exist in France, as part of a pan-European project to evaluate the effectiveness and level of implementation and enforcement of European Council Directive 1999/22/EC (relating to the keeping of wild animals in zoos) in European Union (EU) Member States. A total of 1155 species (including subspecies, where appropriate) were observed in 1372 enclosures across the 25 zoos. Information was collected about a number of key aspects of each zoo's operation including: participation in conservation activities; public education; enclosure quality; public safety; and the welfare of the animals. These parameters were evaluated against the legal requirements of Directive 1999/22/EC and French laws Arrêté 25/03/2004, Le Code de l'environnement and Le Code Rural. Key findings were:

- **The Competent Authority recognises 300 licensed zoos in France. However, another reliable source claims there to be a total of 943 zoos in France. Inconsistency in the identification and licensing of a 'zoo', and the interpretation of the law appear to be the main problem.**
- **Application and enforcement of the Directive and A25/03/2004 appear to be inconsistent between Préfectures.**
- **Only 17% of the total number of species observed in the 25 selected zoos are listed as Threatened (*Vulnerable* (8%), *Endangered* (6%) and *Critically Endangered* (3%)),** indicating a low level of commitment to conserving species threatened with extinction.
- **Of the 6,714 vertebrate species categorised as Threatened by the IUCN Red List (IUCN Red List website), only 193 (3%) were kept in the selected French zoos.**
- **Overall, only 14% of the total number of species observed in the 25 selected zoos appeared to be actively participating in European Endangered Species Breeding Programmes (EEPs) or European Stud Books (ESBs).**
- **Less than half (11) of the 25 zoos appeared to contribute (financially or otherwise) to in situ conservation programmes.** Five of the 25 randomly selected zoos appeared to participate in in-house research activities.
- **Overall, French zoos are not adequately educating the public about the conservation of biodiversity.** Furthermore, nine of the zoos hosted animal performances, the majority of which failed to provide information about species conservation.
- **It would appear that only minimal measures were taken to prevent the escape of non-native animals into the local environment.**
- **On average, one in five zoos placed the public at risk of injury and exposure to disease.**
- **On average, a quarter of enclosures were not suitably environmentally complex.**
- **Three of the 25 zoos assessed as part of this investigation did not appear to fully comply with the conservation objectives of A25/03/2004.**

## RECOMMENDATIONS

### *The Ministry of Environment, Energy, Sustainable Development and Sea should take the necessary measures to:*

- 1) Establish a licensing procedure that ensures all permanent establishments open for seven days or more in a year and that display any number of non-domestic animal species to the public are licensed, receive regular inspections and meet the specified requirements of A25/03/2004 and *Le Code de l'environnement*.
- 2) Ensure terms used such as a 'significant number of animals or species' are appropriately defined, that the Préfet is provided with further explanation on the exemption procedures related to A25/03/2004 and *Le Code de l'environnement* and consider addressing the findings of this investigation by issuing further guidance to the Préfets, similar to those in Circulaire DNP/CFF No.2008-03, 11/04/08, as a matter of urgency.
- 3) Raise the welfare standards for wild animals in zoos through the development of species-specific guidance, which includes environmental enrichment.
- 4) Establish a mandatory requirement for all zoos to implement an environmental enrichment programme.
- 5) Ensure that all enforcement personnel and State veterinarians involved in the inspection and regulation of zoos, are equipped with the relevant training and skills pertaining to the care and welfare of wild animals in captivity.
- 6) Publish guidance to assist zoos, enforcement personnel, veterinarians and NGOs to effectively interpret the requirements of A25/03/2004 and, specifically, participate in the application of meaningful, peer-reviewed conservation and education programmes.
- 7) Ensure zoos keep and conserve (predominantly) species listed under Articles L.441-1 and L.441-2 of *Le Code de l'environnement* and other European Threatened species rather than non-European species.
- 8) Establish criteria to evaluate and improve educational and required conservation measures in zoos.
- 9) Encourage the zoo associations AFdPZ, SNDPZ and EAZA to assist all zoos in the Republic of France to meet their legal obligations and the required criteria to become an accredited member of these national and international zoo associations.
- 10) Ensure regular training of zoo inspectors and an annual audit of the quality of the review process to help ensure greater consistency in application and compliance with A25/03/2004 and *Le Code de l'environnement*.
- 11) Ensure that animal feeding and direct contact with animals, particularly those species listed under A21/11/1997 (listing 'dangerous' animal species) and those known to carry zoonoses, is prohibited.
- 12) Make a concerted effort to investigate and identify the total number of zoos in France. There is huge discrepancy between the officially recognised 300 zoos and the independently identified 943 zoos, which could indicate that hundreds of zoos are operational but unregulated.

### *The Préfets should take the necessary measures to:*

- 1) Ensure, through effective enforcement, that all zoos (*as defined by A25/03/2004*) abide by the requirements of national zoo law and that existing, available penalties (*Le Code de l'environnement*) are applied to zoos that fail to meet the 'conservation measures' stipulated in Chapters 6 & 7 of A25/03/2004.
- 2) Ensure, through effective enforcement and training, that all zoos (*as defined by A25/03/2004*) abide by the requirements of national zoo law and that existing, available penalties (*Le Code de l'environnement*) are applied to zoos, and persons with a 'certificat de capacité', that fail to provide their animals with adequate conditions that meet their species-specific requirements, as stipulated in Chapters 3, 4 & 5 of A25/03/2004.
- 3) Ensure zoos employ professionals with the relevant training and skills to provide high standards of animal husbandry.
- 4) Close any zoo unable, within a specified period of time, to meet the requirements of A25/03/2004.

# THE EU ZOO INQUIRY 2011

## Introduction and methodology

### INTRODUCTION

Council Directive 1999/22/EC ('the Directive'), relating to the keeping of wild animals in zoos, was adopted in 1999. The Directive came into force in April 2002, when the EU comprised 15 EU Member States. Since then, all countries that are Members of the EU have been obliged to transpose the requirements of the Directive into national legislation and, from April 2005 (2007 in the case of Bulgaria and Romania), fully implement and enforce its requirements. The European Commission has the responsibility to oversee and ensure the effective implementation of the Directive by Member States and to take legal action in the event of non-compliance.

The Directive provides a framework for Member State legislation, through the licensing and inspection of zoos, to strengthen the role of zoos in the conservation of biodiversity and the exchange of information to promote the protection and conservation of wild animal species. This is in accordance with the Community's obligation to adopt measures for ex situ conservation under Article 9 of the Convention on Biological Diversity (1992). Member States are also required to adopt further measures that include: the provision of adequate accommodation for zoo animals that aims to satisfy their biological needs; species-specific enrichment of enclosures; a high standard of animal husbandry; a programme of preventative and curative veterinary care and nutrition; and to prevent the escape of animals and the intrusion of outside pests and vermin.

Although the Directive has been transposed in all Member States, national laws often lack detailed provisions relating to educational and scientific activities, guidance on adequate animal care, licensing and inspection procedures, as well as clear strategies for dealing with animals in the event of zoo closure. The Directive's requirements themselves are relatively ambiguous and allow for inconsistencies in interpretation. Competent Authorities in Member States have not been provided with comprehensive guidance or training to facilitate the adoption of the provisions of the Directive and, as a consequence, many are failing to ensure these provisions are fully applied by zoos (Eurogroup for Animals, 2008; ENDCAP, 2009).

Estimates place the total number of licensed zoos in the EU to be at least 3,500. However, there are thought to be hundreds of unlicensed and unregulated zoological collections that have yet to be identified and licensed by the Competent Authorities. No more than 8% of the total number of zoos in Europe are members of the European Association of Zoos and Aquaria (EAZA) which therefore should not be regarded as a representative of zoos in the European Community.

Preliminary investigations revealed that many zoos in the EU are substandard and are failing to comply with the Directive. Furthermore, EU Member States are inconsistent in their application of the Directive, but little effort has been made to identify and address the reasons behind this. The project aims to assess the current situation in the majority of Member States, identify any issues requiring attention and provide recommendations with regard to how implementation can be improved.

## METHODOLOGY

Between March and December 2009, an assessment of 200 zoological collections in 20 EU Member States was made as part of an evaluation of the level of implementation and enforcement of European Council Directive 1999/22/EC. The project included an evaluation of national laws pertaining to zoos in each EU Member State compared to the requirements of the Directive, an analysis of the implementation and enforcement of those laws and an assessment of the status and performance of randomly-selected zoos in each Member State.

A Zoo Assessment Protocol was developed and tested to ensure consistency in data collection. For certain Member States (England, France, Germany, Ireland, Italy, Malta and Portugal) individual, locally-fluent investigators were contracted to undertake the work. In other Member States (Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Poland, Romania and Slovenia) a single investigator from the UK, collected and analysed the data.

### Implementation and enforcement of Member State legislation

Data were collected and evaluated through:

- Completion of a questionnaire by the Competent Authorities in each Member State
- Informal interviews with the Competent Authority
- Reviewing national zoo legislation

### Status and performance of zoos

Using the definition of a zoo in the Directive\*, a variety of zoological collections was assessed including: traditional zoos, safari parks, aquaria, dolphinariums, aviaries and terraria. In some cases, national legislation does not use this definition, which can lead to inconsistencies in application. Where this is the case, any variance was noted but zoos, as defined by the Directive, were nevertheless included in the project to maintain consistency.

Zoos were selected for evaluation using two methods: A. For those Member States with large numbers of zoos, 25 zoos were randomly-selected (France, Germany, Italy and England). B. For those Member States (n = 16) with a small number of zoos, between three and ten collections were selected, dependant upon the total number of zoos in the country and their accessibility. Zoos were identified by referring to Government records (if these exist), using online resources, published media and information from local NGOs.

Data were collected using a video camera which recorded a complete overview of the structure and content of each zoo, including: all enclosures; all visible animals; signage; public education facilities; any talks, shows or interactive animal handling sessions; public/animal contact and security issues. Additional information was collected from the zoo website and literature that was, occasionally, provided by the zoos themselves. Data collection was undertaken without the prior knowledge of the zoo management and therefore only areas accessible to the general public were recorded. Thus, for example, off-show areas, food preparation and storage rooms, quarantine and veterinary facilities were not included.

Data were analysed using a Zoo Assessment Protocol that had been developed and refined during an assessment of zoos in Spain (InfoZoos 2006 - 2008) and which took into consideration the requirements of the Directive, national zoo law and the EAZA Minimum Standards for the Accommodation and Care of Animals in Zoos and Aquaria (available on the EAZA website and referred to in the preamble of the Directive). Information and guidance was also drawn from the DEFRA Standards of Modern Zoo Practice 2004 (SMZP) and Zoos Forum Handbook. The Zoo Assessment Protocol was adapted for each Member State dependent upon the specific requirements of national law.

The analysis was separated into the following sections:

- A. General Zoo Information.
- B. Conservation Commitment.
- C. Public Education.
- D. Evaluation of Animal Enclosures.
- E. Animal Welfare Assessment.

\*... all permanent establishments where animals of wild species are kept for exhibition to the public for seven or more days a year... (Article 2, European Council Directive 1999/22/EC)

Further details of the assessment method are available at [www.euzooinquiry.eu](http://www.euzooinquiry.eu)

All zoos included in the evaluation were asked to complete a Standard Zoo Questionnaire that asked for details of their participation in: European coordinated captive breeding programmes; in situ conservation projects; public education; and current research activities.

The Questionnaire also sought information relating to levels of staff training; veterinary care; and programmes to provide environmental enrichment and appropriate nutrition.

Resources dictated that the EU Zoo Inquiry 2011 included an assessment of the following EU Member States: **Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Estonia, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Malta, Poland, Portugal, Romania, Slovenia and United Kingdom (England only).**

The remaining seven Member States were not included in this zoo assessment (March – December 2009). However a further report focussing on zoo regulation in **Spain** will be published in 2011.

# FRANCE

## Country Report

### INTRODUCTION

France is a founding Member State of the European Union. By April 2002, France, along with 14 other EU Member States, was required to transpose the requirements of the European Council Directive 1999/22/EC into its national law. This was not fully achieved until 2004, following intervention by the European Commission. Arrêté du 25 mars 2004 (JORF du 1/04/2004) (A25/03/2004) was adopted in March 2004, under Sections 21-40 of the nomenclature of classified installations for Environmental Protection (JO 01/04/2004), and established regulations concerning the operation and management of zoos, as required by the Directive, in the Republic of France. All EU (25) Member States were required to fully implement and enforce the requirements of the Directive by April 2005. Some Articles within A25/03/2004 have since been modified by Arrêté du 19 mai 2009, however A25/03/2004 is still officially referenced, and therefore is referenced as such throughout this report.

France operates under a decentralisation system of governance. There are 96 Departments (départementales) in the 22 administrative regions of 'métropolitaine' France, each led by the regional administration (Préfectures). The licensing and regulation of public services, including all zoological collections, are governed at a local level through the départemental by the Préfecture. Zoos and all other establishments that keep 'non-domestic animal species' are licensed and regulated through the Environment Code (*Le Code de l'environnement*) (Act no. 2002-276 of 27 February 2002 Article 132, amended 01/12/10), an extensive and comprehensive legislative structure that governs all environmental protection in France, together with the Rural Code (*Le Code Rural et de la Pêche Maritime* ('*Le Code Rural*')) (Ordinance No. 2010-462 of 06/05/10, modified 25/11/10), which includes animal health policy, and specific Decrees (Arrêtés) (such as that specific to zoos, A25/03/2004).

The Government Departments with overall responsibility for the implementation of *Le Code de l'environnement*, *Le Code Rural* and related laws, such as the Directive and A25/03/2004, are the Ministry of Environment, Energy, Sustainable Development and Sea (DREAL) (also called 'Ministry of Ecology') and the Ministry of Agriculture, Food, Fisheries and Rural Affairs. However, it is the Ministry of Ecology that appears to have overall responsibility for zoos and the implementation of A25/03/2004 (Circulaire DNP/CFF No.2008-03, 11/04/08). Advised by the National Consultative Commission for captive wildlife (*Decree No.2009-883, 21/07/2009*), the Ministry of Ecology provides support and guidance to the Préfectures through the publication of Circulars, e.g. Circulaire DNP/CFF No.2008 - 03, 11./04/2008.

As part of this investigation, the Ministry of Ecology was asked to complete a questionnaire that would have provided details about the licensing and inspection procedure, and requirements applicable to zoos in France. However, at the time of going to press, the Government had not provided these details. Interpretation of the French law has been undertaken by the authors, which has been reviewed by our French partner organisation, Code Animal.

According to the Ministry of Ecology, there are 300 zoos (as defined) in France (Ministry of Ecology, pers. comm., 22nd December 2010). However, the actual number of establishments that fall under the definition (Article 1, A25/03/2004) remains unclear as other sources contest this 'official' number. These include 233 zoos (Zoonaute website), 417 (Eurogroup 2008) and the comprehensive website 'Les zoos dans le monde' claims that there are 943 zoos (last accessed on 22nd December 2010) in France. Similar discrepancies have been identified in other EU Member States and this is usually as a result of inconsistent enforcement. Based upon previous experience, and taking into account the apparent popularity of zoos in France, the authors believe 943 zoos to be a more realistic number of zoos in France.

### Zoo licensing requirements

The licence to operate a permanent establishment '*holding non-domestic animal species*' is granted by the Préfet (Head of the Préfecture) following an application process described in Book IV (Flora and Fauna), Chapter III of *Le Code de l'environnement*, Articles L.413 and R.213. Applications are made to the Direction Départementale de la Protection des Populations (Department of Veterinary Services (ex Direction des Services Vétérinaires)) (DDPP) and processed, in the majority of Préfectures, by DREAL, in consultation with the National Consultative

Commission for captive wildlife, la Commission Départementale de la Nature, des Paysages et des Sites (CDNPS) (County Commission of Nature, Landscapes and Sites) and the Veterinary Services (Circulaire DNP/CFF No.2008-03, 11/04/08).

Any establishment that aims to *'breed, sell, hire or temporarily house non-domestic animal species'*, which includes the 'zoo', is required to have two different types of licence: an operational licence for the establishment (Chapter III, Section I, Subsection 2 of *Le Code de l'environnement*), and a licence held by at least one full-time employee in the facility known as a *'certificat de capacité'* (Article 4, A25/03/2004 and Chapter III, Section 1, Subsection 1 of *Le Code de l'environnement* (Article R413-13). A *'certificate de capacité'* is a document awarded to a person permitting them to keep *'non-domestic animals'*. Both licences are granted by the Préfet, following a review of the applicants' knowledge and ability to comply with requirements and provide appropriate animal care (Paragraph IV of Article R.413-4, *Le Code de l'environnement* and Arrêté 04/10/2004 specific to Articles R.213-4 and R.214-7, *Le Code Rural*). The operational permit is authorised through the Conseil d'Etat decree (Supreme Administrative Court) and the CDNPS, with its term decided on a case-by-case basis. *Le certificat de capacité* can be issued for a fixed or unlimited term (R413-7, L.413-2, *Le Code de l'environnement* & Circulaire DNP/CFF No.2008 – 03, 11/04/2008).

In France, zoos are defined in terms similar to those set out in the Directive, *'all permanent establishments where live animals, of local or foreign wildlife, are kept for exhibition to the public for at least seven days in one year'* (Article 1., A25/03/2004). This includes all kinds of zoological collection from the traditional zoo, safari park and small menageries, to specialised collections such as an aquarium, dolphinarium and terrarium. Only circuses, pet shops and game farms (not open to the public) are exempt from A25/03/2004 (Article 1), as are establishments that keep only *'domestic'* animals (as specified by Articles R.211-5 and R.213-5, *Le Code Rural*, Instruction NP/94/6 of 28/10/1994\*, referred to in Articles R.211-5 and R.413-8, *Le Code de l'environnement*) and *'other facilities that do not exhibit a significant number of animals or species'* (Article 1, A25/03/2004 & Article R413-9, *Le Code de l'environnement*). Applications for an exemption to A25/03/2004 are made to the Préfet (Article L411-2c of *Le Code de l'environnement*).

Zoos are subject to other specifications, based on the animal species they keep. On application for a licence under Articles L.413-3 & L.413-4, *Le Code de l'environnement*, the applicant must include the list of proposed species. Various conditions are then imposed, largely based on the specified *'risk'* the species may pose on the natural environment (A10/08/2004), and the specification attached to *Le certificat de capacité* (Paragraph IV of Article R.413-4, *Le Code de l'environnement* & Circulaire DNP/CFF No.2008 – 03, 11./04/2008). Once a zoo has been granted a licence, and is subject to any operational requirements specified by A25/03/2004, further specifications are imposed concerning the zoo's required conservation measures (Article 1, A25/03/2004). For example a zoo that only keeps the *'non-domestic animal species'* listed by A30/03/1999 (amended by Article 2, A21/01/2010) under Section R.413-6 of *Le Code de l'environnement* is not obliged to comply with Chapter 6 of A25/03/2004 *'participation in conservation activities'* (Article 1, A25/03/2004). The list includes: *Bison bison* (American bison), *Bison bonasus* (European Bison), *Macropus rufogrisues* (Bennett wallaby), *Struthio camelus* (ostrich), *Phoenicopterus chilensis* (Chilean flamingo), all species of Columbidae, all bird species used in hunting activities and reptile species of genus: *Chrysemys*, *Pseudemys*, *Trachemys*, *Graptemys* and *Clemmys* (A30/03/1999 and Article R.413-6, *Le Code de l'environnement*). However, all other requirements of A25/03/2004 apply.

A25/03/2004 consists of 10 Chapters that specify activities related to public security, collection management, conservation measures and animal care. Regular inspections are undertaken by Minister-appointed officers (Chapter III, Section 4, Articles R.413-44 and L.415-1 of *Code de l'environnement* and Chapter 5 of A25/03/2004) and the DDPP (Article 42 of A25/03/2004 and Article L.214 & Article R.214-17 of *Le Code Rural*) to ensure compliance with requirements (Chapter III, Section 4, Article R.413-44 of *Code de l'environnement* and Chapter 5 of A25/03/2004). Penalties are imposed for any violations to the law, which are described in Chapter III, Section 5, Subsection 2, *Le Code de l'environnement*.

\*The list has since been amended by Circular DNP/CFF N ° 2004-04, 12/10/2004, but as this was partially annulled in 2006, following a complaint ([www.jaco-animaux.com/listedomestique.htm](http://www.jaco-animaux.com/listedomestique.htm)), therefore the 1994 list was used in our analysis.

Chapter III of Title 1 of Book IV of *Le Code de l'environnement* requires establishments holding non-domestic animal species to meet four main objectives:

- ensure the well-being of captive animals,
- ensure the safety of persons,
- encourage the conservation of wildlife by encouraging those responsible institutions to implement sound management of their workforce, and
- to enhance the function of the individual responsible for the maintenance of animals.

These objectives have been adopted by A25/03/2004 on zoo licensing and regulation; specifically Chapters No.3 to No.8 of A25/03/2004, which describe the 'requirements for zoos', which reflect the '*Requirements applicable to zoos*' in Article 3 of the Directive. These include the following:

### Conservation

The Directive's main requirement, the conservation of biodiversity, has been given the same prominence within French legislation A25/03/2004 and *Le Code de l'environnement*. Article 1 of A25/03/2004 alludes to the specific role of zoos in ex situ species management programmes (Article 1 of the Directive) and, in particular, the coordinative captive-breeding of non-domesticated animal species (referred to in Article 17, A25/03/2004 and Article L.413-4, *Le Code de l'environnement*).

Chapter No. 6 of A25/03/2004, specifies a zoo's '*participation in conservation activities on animal species*' irrespective of whether the species are situated in the wild or kept in captivity (Article 53 of A25/03/2004). All licensed zoos, with the exception of those that only keep animals listed under Section R.413-6 of *Le Code de l'environnement* (see above), are required to:

- '*Participate in at least one of the following activities:*
  - ♦ *Research from which conservation benefits accrue to the species*
  - ♦ *Training in relevant conservation skills*
  - ♦ *The exchange of information relating to species conservation*
  - ♦ *Where appropriate, captive breeding, repopulation or reintroduction of species into the wild'*  
(Article 53, A25/03/2004 and Article 3 of the Directive)

The degree to which a zoo is expected to participate is dependent upon the size of the establishment and the kinds of species and numbers of individual animals exhibited. All zoos (except those exempt from Chapter 6) are required to provide a report of their conservation activities to the DDPP at least once every three years (Article 53, A25/03/2004).

No further guidance is provided by the Competent Authority to help the local authorities or the zoo operators interpret the individual requirements of Article 53.

Zoos that keep conservation-sensitive species, however, are required to deliver greater conservation measures than those zoos that do not keep such species. Articles L.441-1 and L.441-2 of *Le Code de l'environnement* (A10/07/1976) (updated by Circulaire DNP/CFF No.2008-03, 11/04/08) refer to a list of species that are deemed conservation-sensitive species in France, whilst Annex A of the Council Regulation (CE) no. 338/97 of 9th December 1996 (CITES Regulation) refers to species given greater protection in the EU. A zoo containing any number of individuals of these species, present on either list, is required to comply with Articles 54 and 55 of A25/03/2004 (Article 1 of A25/03/2004):

- '*Participate in the exchange of animals that promote the conservation and management of captive animal populations. Contribute to national and international breeding programmes and keep animals of species involved in these programmes.'*  
(Article 54, A25/03/2004)
- '*Contribute to the breeding of non-domestic species, or organisations involved in the conservation of biodiversity, sharing of information concerning the breeding techniques of wild animals in captivity, knowledge of their biology or knowledge relevant to the conservation of biological diversity.'*  
(Article 55, A25/03/2004)

Article 17 of Chapter No.3, A25/03/2004, specifies that establishments should not allow the interspecific breeding between species and subspecies, unless this is controlled and has a scientific perspective.

Therefore, zoos that keep conservation-sensitive species must participate in national and international captive breeding programmes that are of benefit to the species. Breeding of animals for other purposes is discouraged.

### Education

Chapter No.7 of A25/03/2004 requires all licensed zoos to provide 'information to the public on biodiversity'. It states that zoos must:

- *'Promote public education and awareness in relation to nature, the biology of species and the conservation of biodiversity, particularly by providing information about the species exhibited and their natural habitats'; and that*
- *'The means undertaken by the zoos (...) are proportionate to their size and the volume of their activity.'*

(Article 57, A25/03/2004)

Zoos must provide the following information about the species exhibited:

- *'As a minimum: scientific name; common name; taxonomic identification; geographic distribution; key aspects of the biology and ecology of the species in its natural habitat, and where relevant, the level of protection of the species; threats affecting the conservation of the species; and the actions undertaken for the conservation of species.'*

(Article 58, A25/03/2004)

No further guidance is provided by the Competent Authority to help interpret these requirements and thereby assist zoo operators to better understand their obligations concerning the education of the public.

### Animal welfare provisions

The Directive requires all licensed zoos to *'[accommodate] their animals under conditions which aim to satisfy the biological and conservation requirements of the individual species'*, to provide *'species specific enrichment'*, to maintain *'a high standard of animal husbandry'* and to develop a *'programme of preventative and curative veterinary care and nutrition'* (Article 3 of the Directive). The French law A25/03/2004 seeks to uphold these requirements by incorporating the internationally recognised 'Five Freedoms' (OIE Terrestrial Animal Health Code, 2010): the basis for minimum standards for the keeping of animals in Chapters No.3 to No.5 of A25/03/2004 and Article R.214-7 of *Le Code Rural*.

Chapter No.3, A25/03/2004 seeks, amongst other things, requirements relating to:

- The composition of groups of animals is determined by the space available, and the behaviour and physiological of the animals (Article 11).
- The welfare of animals and prevention of behavioural abnormalities are mainly addressed by relevant improvements to breeding conditions appropriate to the biological needs of each species (Article 12).
- Animals should be protected from predators from outside the establishment (Article 13).
- Caring for animals includes reducing sources of stress, discomfort and the risk of injury. Any interference or disruption needs to be banned. It is forbidden to provoke/agitate the animals, in the presence or absence of the public. It is forbidden for staff to smoke when they are working near animals or when preparing food (Article 15).
- Nutritional programmes should be developed for each species or species groups in order to provide a sufficient supply of healthy, balanced and quality food to meet the needs of each species (Article 19).
- Clean water should be provided regularly (and should be changed frequently). It should also be constantly protected from frost and be available to the animals as they choose. (Article 19).

Chapter No.4, A25/03/2004 seeks, amongst other things, requirements relating to:

- Enclosures and their enrichment should be adapted to the habits of each species, ensuring that the animals are safe and can express their natural behaviour (Article 27).
- The facilities must allow them to escape the hostile or aggressive behaviour of cage companions, allowing them to express normal behaviour relating to defense or escape (Article 27).

- In particular, the geographic location within establishments, where animals are housed should be organised as to prevent aggressive interactions or sources of stress from occurring between species (Article 27).
- Temperature, humidity, quantity and quality of lighting and other physicochemical parameters should be maintained at appropriate levels where animals are housed. (Article 29).
- Animals kept in outdoor enclosures should have access to shelters or other premises to allow them to avoid the negative effects of climate (Article 29).

**Despite these additional details, the Competent Authority does not provide any further guidance or species-specific minimum standards.**

Other requirements include measures to prevent the escape of animals (Chapter No.1, Article 2; Chapter No.2, Article 7; and Chapter 4, A25/03/2004), measures to protect staff and visitors (Chapter No.2, A25/03/2004) and measures to provide appropriate veterinary care (Chapter 5, A25/03/2004 and Article L.221-11, *le Code Rural*).

## The Zoo Investigation

A total of 25 zoos were visited and assessed as part of the investigation into the status and performance of zoos in France. The zoos were randomly selected from an initial, random selection from the 22 administrative regions of «métropolitaine» France. This provides a representative sample population of zoos in France.

Data was collected at the following zoos during the months of July and August 2009 (Fig. 1):

- Aquarium le Septième Continent
- Le Grand Aquarium de Saint Malo
- Aquarium du Périgord noir
- Zoo de la Bourbansais
- Marineland d'Antibe
- Parc Zoologique et Botanique de Mulhouse
- Musée de la mer de Biarritz
- L'Océarium du Croisic
- Parc animalier et botanique de Branféré
- Parc Terre des Oiseaux
- Parc animalier de Treffendel
- Touroparc
- Zoo de Bordeaux Pessac
- Parc Zoologique du Bois d'Attilly
- Zoo de Beauval
- Zoo de Doué
- Parc zoologique de Fréjus
- Zoo de la Barben
- Zoo de la Boissière du Doré
- Zoo de la Flèche
- Zoo du Mont Faron
- Zooparc de Trégomeur
- Zoo des Sables d'Olonne
- Zoo du Bassin d'Arcachon
- Zoo du parc Cap-Ferrat\*

\* Zoo du parc Cap-Ferrat has since been closed, however it has still been included in this evaluation.



**Figure 1** Geographical locations of the 25 zoos visited in France.

## RESULTS AND INTERPRETATION

### GENERAL ZOO INFORMATION

#### Overview

The investigation evaluated 25 zoos, randomly selected from an estimated total of 943 zoos, the majority of which appear to be privately-owned.

Of the 25 evaluated zoos, four are members of the *Syndicat National des Directeurs de Parcs Zoologiques Français* (SNDPZ), eight are members of the *Association Française des Parcs Zoologiques* (AFdPZ) and 13 are members of the *European Association of Zoos and Aquaria* (EAZA) of which two are also members of the *World Association of Zoos and Aquariums* (WAZA). Both the AFdPZ and SNDPZ are associate Member associations of EAZA and, like EAZA, assist their Members in meeting higher standards than those often required by national law. The SNDPZ has a membership of 35 zoos and AFdPZ has 70 Members in France, whilst EAZA has a total of 282 Members throughout Europe and the Mediterranean (SNDPZ, AFdPZ and EAZA websites).

According to the Ministry of Ecology, there are 300 licensed zoos in France that are regularly inspected to ensure that they meet the legal requirements.

A total of 1155 species (including subspecies, where appropriate) were observed in 1372 enclosures within the 25 zoos included in this evaluation. A total of 108 *species holdings* could not be identified (see online Methodology).

Only two out of the 25 zoos, Zoo de la Boissière du Doré and Zoo de Bordeaux Pessac, completed and returned the Standard Zoo Questionnaire, which was sent to all selected zoos as part of the investigation.

#### Prevention of animal escapes

This is a priority issue for all establishments that keep non-domestic animals in France. Zoos are required to:

- *'The boundaries of establishments are embodied by an outer enclosure, different pens, impeding the passage of people and animals whose characteristics are designed to prevent disturbance to the animals by persons outside the institution and ensure the safety of persons.'*  
(Article 2, Chapter 1, A25/03/2004)
- *'Animals should not be allowed to cross the walls of their enclosures.'*  
(Article 31, Chapter 4, A25/03/2004)
- *'The fencing is firmly established on the ground. Fences are secure'*  
(Article 32, Chapter 4, A25/03/2004)

Further preventative measures are included in Article 33 and Article 34, A25/03/2004. Article 49 requires establishments to prevent the invasion of pests and Articles 64 and 67 refer to the possible ecological threats to indigenous species and the local environment. Zoos are required to report any escapes to the Préfecture (Annex 1, A25/03/2004).

Five zoos had free-roaming animals, which including waterfowl, peafowl and domestic rabbits, and Sable d'Olonne zoo had free-roaming Bolivian squirrel monkeys (*Saimiri boliviensis*). Peafowl, bar-headed geese, domestic geese and domestic rabbits are listed as Invasive Alien Species (IAS) on the DAISIE website.

Nine of the 25 zoos were observed to have a perimeter fence that could adequately prevent the escape of zoo animals and all those zoos with free-roaming animals appeared to have an adequate perimeter fence.

### Public placed at risk of injury and disease transmission

Chapter 4, Article 40 of A25/03/2004 specifies that public contact with non-domestic animals should only occur: under supervision; if there is an educational benefit; when animal welfare is not compromised and; when there is no risk to the public. When contact is permitted, Article 40 stipulates that handling should be limited and the public should wash their hands following contact.

Of the 16 zoos that encouraged animal contact, only one zoo appeared to have signage informing the public to wash their hands after contact. Marineland d'Antibes, permitted the public to touch dolphins and sea lions. Both species are listed on Arrêté du 21 novembre 1997 (JORF du 05/02/1998) (A21/11/1997) (listing 'dangerous' animal species). Zoo de la Flèche and Aquarium du Perigord noir, encouraged the public to hold snakes and other reptiles. Furthermore, at Zoo de la Flèche, the public was able to feed the Humboldt penguins (*Spheniscus humboldti*) but at no time was the public required to wash their hands.

Further requirements in A25/03/2004 refer to measures that must be taken by the zoo to prevent unsupervised public contact with animals (Article 36, A25/03/2004). This mainly refers to enclosure design and the existence of stand-off barriers, but zoos are also required to undertake risk assessments (Chapter 2, A25/03/2004) and ensure animals are screened for zoonoses (Chapter 5, A25/03/2004). Zoos are required to keep a record of incidents and provide this information to the Préfecture (Annex 1, A25/03/2004).

The zoo investigation revealed that in five of the 25 randomly selected zoos, the public was potentially placed at risk of physical injury or exposure to disease from free-roaming species (e.g. Bolivian squirrel monkeys (*Saimiri boliviensis*)). The public were able to come into direct contact with non-domesticated animals in 100 out of the 726 randomly selected enclosures selected across all 25 French zoos (Sections D and E). A total of 48 of these enclosures contained potentially 'dangerous' species, listed in A21/11/1997. This included American bison (*Bison bison*), rhea (*Rhea americana*), emus (*Dromaius novaehollandiae*), ostriches (*Struthio camelus*), plains zebra (*Equus quagga*) and ring-tailed lemur (*Lemur catta*).



**Figure 2**

Touroparc.

This enclosure lacks a stand-off barrier that would protect the public from these rheas (*Rhea americana*), a species which is listed as 'potentially dangerous' in A21/11/1997. This is a breach of Article 36 of A25/03/2004.

### CONSERVATION

Zoos, except for those that only keep species referred to in Section A.413-6 of Le Code de l'environnement, should comply with at least one of the following:

- 'Participate in at least one of the following activities:
  - ♦ Research from which conservation benefits accrue to the species
  - ♦ Training in relevant conservation skills
  - ♦ The exchange of information relating to species conservation
  - ♦ Where appropriate, captive breeding, repopulation or reintroduction of species into the wild'

(Article 53, A25/03/2004 and Article 3 of the Directive)

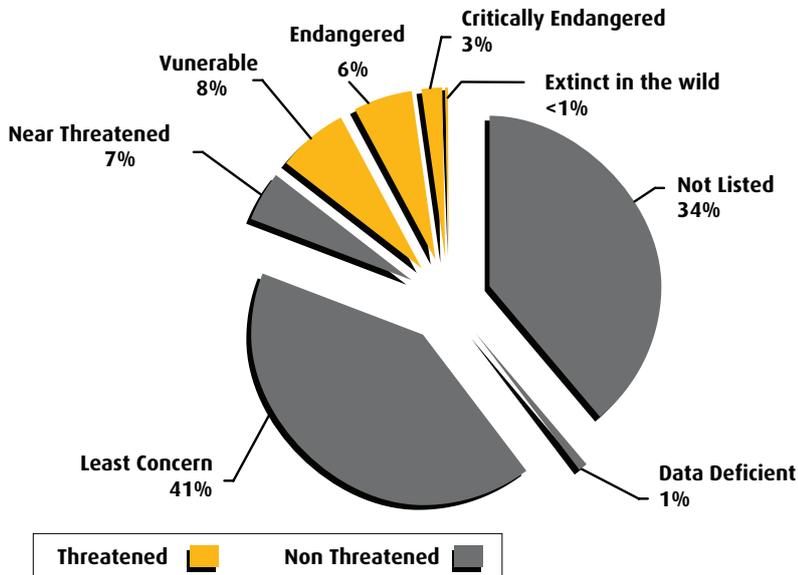
None of the 25 randomly selected zoos contained only those species referred to in Section R.413-6 of *Le Code de l'environnement*. Therefore, all would be required to participate in at least one of the above conservation measures.

Each of these requirements have been evaluated independently:

### Conserving biodiversity

The proportion of Threatened species compared to Not Threatened species (IUCN Red List of Threatened Species™) kept by a zoo might indicate the degree of commitment accorded to the conservation of biodiversity, particularly where Threatened species are nearing extinction. Results indicate that the majority of species exhibited in the randomly selected French zoos are Not Threatened, and are either of the category *Least Concern* (species of low conservation priority) or *Not Listed* by the IUCN Red List of Threatened Species™.

### Percentage of Threatened Species



**Figure 3** Proportion of the 1155 species identified (including subspecies where appropriate) in the 25 randomly selected French zoos that are categorised by the IUCN Red List of Threatened Species™ as Threatened and Not Threatened

### Percentage of Threatened Species and Taxa

| IUCN Red List of Threatened Species™ Categorisation | Taxonomic Group |            |           |            |            |               | Total No. Species <sup>1</sup> | Proportion of total no. Species (%) |
|---|-----------------|------------|-----------|------------|------------|---------------|--------------------------------|-------------------------------------|
|   | Mammals         | Birds      | Reptiles  | Fish       | Amphibians | Invertebrates |                                |                                     |
| Not Listed  | 13              | 8          | 37        | 311        | 1          | 26            | 396                            | 34%                                 |
| Not Evaluated                                       | 0               | 0          | 0         | 0          | 0          | 0             | 0                              | 0%                                  |
| Data Deficient                                      | 2               | 0          | 0         | 12         | 0          | 0             | 14                             | 1%                                  |
| Least Concern                                       | 91              | 228        | 16        | 126        | 10         | 0             | 471                            | 41%                                 |
| Near Threatened                                     | 25              | 29         | 9         | 11         | 3          | 1             | 78                             | 7%                                  |
| Vulnerable  | 35              | 27         | 12        | 17         | 0          | 0             | 91                             | 8%                                  |
| Endangered  | 36              | 16         | 5         | 10         | 1          | 0             | 68                             | 6%                                  |
| Critically Endangered                               | 20              | 7          | 2         | 4          | 1          | 0             | 34                             | 3%                                  |
| Extinct in Wild                                     | 2               | 1          | 0         | 0          | 0          | 0             | 3                              | <1%                                 |
| <b>Total No. Species</b>                            | <b>224</b>      | <b>316</b> | <b>81</b> | <b>491</b> | <b>16</b>  | <b>27</b>     | <b>1155</b>                    | <b>100%</b>                         |
| <b>Proportion of total no. Species (%)</b>          | <b>19%</b>      | <b>27%</b> | <b>7%</b> | <b>43%</b> | <b>1%</b>  | <b>2%</b>     | <b>100%</b>                    |                                     |

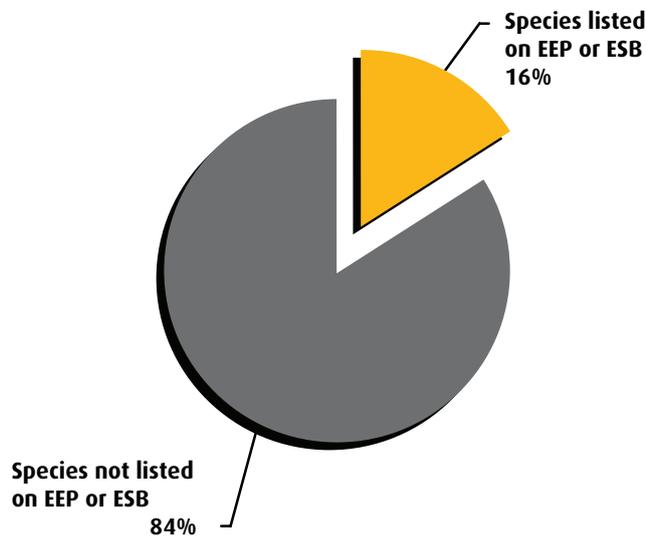
**Table 1.** Proportion of the 1155 species (including subspecies where appropriate) identified in the 25 randomly selected French zoos, categorised as Threatened and Not Threatened by the IUCN Red List of Threatened Species™ by taxa.

The results indicate that 17% of the total number of species (n = 193 species) from all 25 zoos can be described as Threatened (*Vulnerable* (8%), *Endangered* (6%) and *Critically Endangered* (3%)) (Table 1). Of the 193 Threatened species, 47% were mammals, 26% were birds, 10% were reptiles, 16% were fish and 1% were amphibians. The remaining 83% of the Not Threatened species were either classified as *Least Concern* (41%), *Near Threatened* (7%) or *Data Deficient* (1%) by the IUCN Red List of Threatened Species™ categorisation, or *Not Listed* (34%) (Fig. 3).

### Participation in European coordinated captive breeding programmes

A further indicator of a zoo's commitment to the conservation of biodiversity is its participation in ex situ species management programmes – such as European Endangered Species Breeding Programmes (EEPs) or European Stud Books (ESBs). Both the Directive and Chapter 6 of A25/03/2004 promote the need for zoo involvement in captive breeding.

### Percentage of species in French Zoos involved in coordinated captive breeding programmes (EEPs or ESBs)



**Figure 4** The percentage of the 1155 species (including subspecies where appropriate) identified in the 25 randomly selected French zoos that are part of an ESB or EEP.

Only 16% of species ( $n = 183$ ) of the 1155 species in the zoos are listed on the register of European Endangered Species Breeding Programmes (EEPs) or European Stud Books (ESBs). It was possible to confirm through species information signage, zoo guidebooks, zoo websites and the Standard Zoo Questionnaires that 160 of the 1155 species were actively participating in the captive breeding programmes.

### Support and funding of in situ conservation

*In situ* conservation includes the funding of local conservation projects within a species' range States and involvement in local breeding and release programmes.

According to their websites, guidebooks (if provided) and signage, 11 of the 25 zoos appeared to contribute to in situ conservation programmes. This included: a collection box observed at Zooparc de Trégomeur for the International Snow Leopard Trust; and reference to various conservation projects (e.g. Le Grand Aquarium de Saint Malo (elasmobranchs), Zoo de Doué, through a partnership with the Biodiversa Foundation (spider monkeys) and Zoo de Beauval (various species)). Furthermore, of the 13 EAZA Member zoos assessed as part of this investigation, Zoo de Beauval, Zooparc de Trégomeur, Zoo de la Bourbansais and Zoo de la Boissière de Doré displayed information about the EAZA Carnivore 2009/2010 Campaign. Parc Animalier et Botanique de Branféré displayed information about the former EAZA Amphibians Campaign (2007/2008) and Zoo de la Boissière de Doré, EAZA's Tiger Campaign (2002 to 2004).

Seven of the 25 zoos also claimed to participate in the reintroduction of captive-bred wild species into the wild. This included, Zoo de Doué (*Grus japonensis*, *Grus vipio*, *Neophron percnopterus*), Parc Zoologique et Botanique de Mulhouse (*Emys orbicularis* and *Aegypius monachus*) and Zoo de la Boissière de Doré (*Leontopithecus rosalia*). However, no further information was provided, or could be found, about the 'status or success' of these species reintroductions.

### Participation in research that benefits conservation

Five of the 25 randomly selected zoos (Parc Zoologique et Botanique de Mulhouse, Zoo de la Flèche, L'Océarium du Croisic, Zoo des Sables d'Olonne and Zoo de Beauval (through the 'Association Beauval Conservation & Research')) appeared to participate in in-house research activities. However, it was not clear whether the research was benefiting the conservation of the species (Article 53, A25/03/2004). In the remaining 20 selected zoos, no evidence could be found (from the zoo visit, the website or literature available at the zoo) that any such research is undertaken.

Those zoos that keep conservation-sensitive species (Articles L.441-1 and L.441-2 of *Le Code de l'environnement* or Annex A of Regulation (CE) no. 338/97) are required to participate in national and international breeding programmes (Article 54, A25/03/2004) and to either contribute to in situ conservation, or the sharing of knowledge '*relevant to the conservation of biological diversity*' (Article 55, A25/03/2004).

Of the 25 randomly selected zoos, 24 kept conservation-sensitive species. Only Aquarium le Septième Continent did not keep any such species. Therefore, 24 of the 25 zoos are required to comply with Articles 54 and 55 of A25/03/2004. **Of the 24 zoos that kept conservation-sensitive species, 21 were involved in EEPs and ESBs and either contributed to in situ conservation or the exchange of information to bring benefits to species conservation.**

### EDUCATION

The Directive states that zoos should 'promote public education and seek to raise awareness in relation to the conservation of biodiversity, particularly by providing information about the species exhibited and their natural habitats' (Article 3). Chapter No.7 of A25/03/2004, requires all licensed zoos to provide 'information to the public on biodiversity' by:

- '*Promote public education and awareness in relation to nature, the biology of species and the conservation of biodiversity, particularly by providing information about the species exhibited and their natural habitats*'

(Article 57, A25/03/2004)

It was possible to confirm that 16 of the 25 zoos appeared to have established an education programme that included more than just the minimal provision of species-specific signage. This included: classroom facilities and programmes for pre-organised school groups (six of the 25 zoos); the possibility for the public to purchase or obtain educational literature at the zoo's entrance (11 of the 25 zoos); and species-specific talks (13 of the 25 zoos) and guided tours for the visiting public (13 of the 25 zoos).

Nine of the 25 zoos randomly selected in this investigation did not appear to undertake specific activities to educate the general public about species and their conservation.

Nine of the 25 zoos hosted animal performances. This included performing dolphins at Marineland d'Antibes; performing sea lions at Touroparc, Zoo de la Flèche, Zoo de Beauval and Parc zoologique de Fréjus; bird of prey flying displays at Zoo de Beauval, Zoo de la Bourbansais and Zoo de la Flèche; a circus 'métropole' of performing wild animals at Parc Animalier de Treffendel; and parrot shows and other bird shows at Zoo de Bordeaux Pessac, Zoo de la Flèche and Parc Animalier et Botanique de Branféré. All these 'performances' had an entertainment focus and although the majority had a degree of educational content, this varied considerably between zoos.

The parrot show at Zoo de Bordeaux Pessac and the circus 'métropole' at Parc Animalier de Treffendel appeared to have limited educational value, with minimal information provided about the species involved. For example, the parrot show at Zoo de Bordeaux Pessac mostly comprised of parrots performing unnatural behaviours such as riding miniature plastic cars and roller-skating.

### Minimal species information

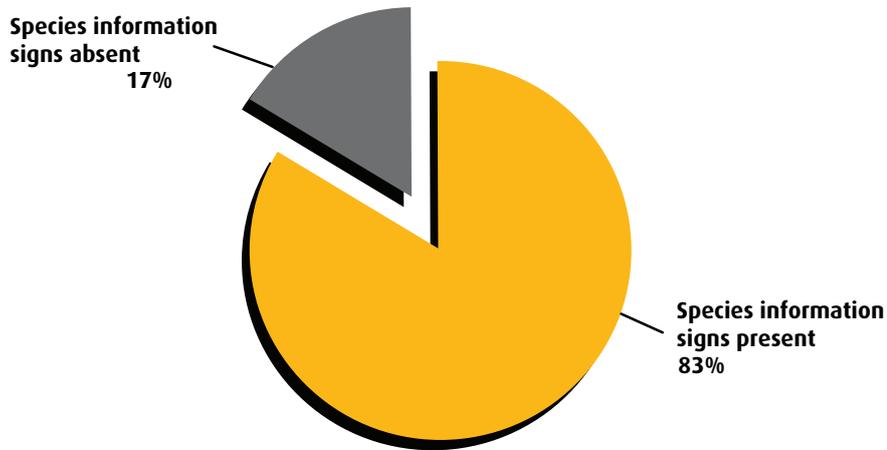
Furthermore, zoos must provide information about the species exhibited:

- '*As a minimum: scientific name; common name; taxonomic identification; geographic distribution; key aspects of the biological and ecology of the species in its natural habitat, and where relevant, the level of protection of the species; threats affecting the conservation of the species; and the actions undertaken for the conservation of species.*'

(Article 58, A25/03/2004)

Providing information about the species exhibited, should be regarded as a basic, but vital requirement of a zoo.

### Proportion of Species Information Signage Present



**Figure 5** The average percentage of species information signage present or absent (for all 2655 *species holdings*) in the 25 randomly selected French zoos.

On average, 17% of *species holdings* completely lacked any form of species information signage (Figs. 5 & 6). Figure 7 provides an overview of the content of the signage in the zoos.

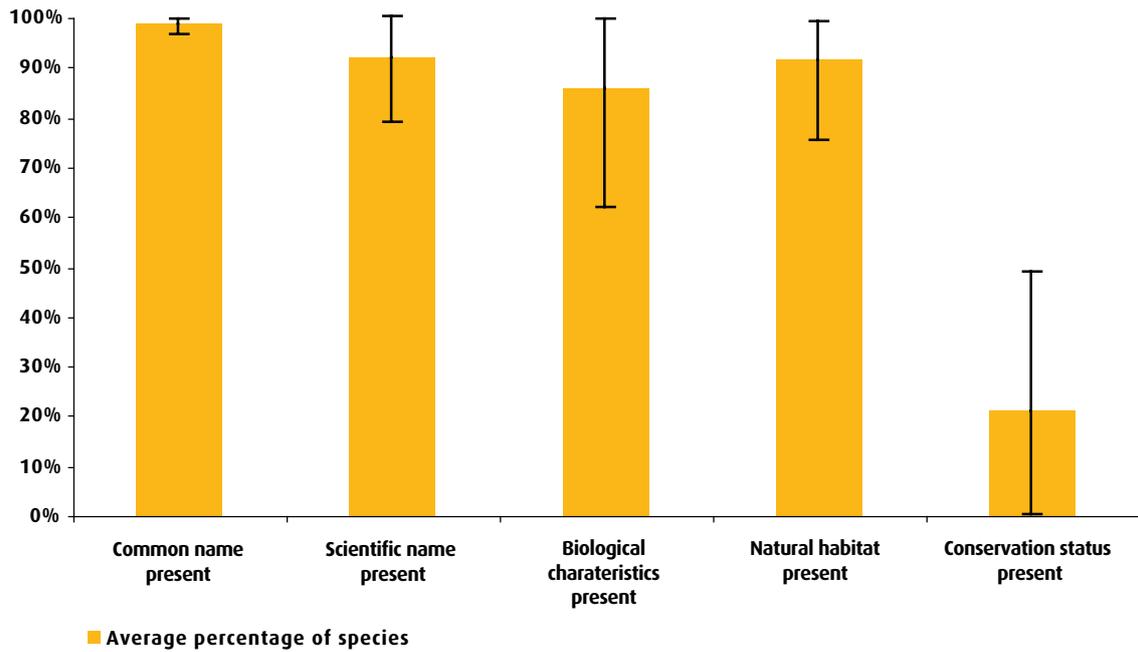


**Figure 6**

Parc zoologique de Fréjus.

This enclosure exhibiting Swainson's toucan (*Ramphastos swainsonii*), is not only inadequate for the species (Articles 27 & 28, A25/03/2004), but also lacks species information signage.

## Quality of Species Information Signs



**Figure 7** Content of species information signage from the 25 randomly selected French zoos. Each column represents specific information, as indicated by best practice criteria (SMZP). Each value (e.g. Conservation status present, 21%) represents the average of the 1172 species information signs observed in 30 randomly selected enclosures. Error bars are a visual representation of the standard deviation from the mean value, demonstrating the variation in performance amongst selected zoos (e.g. the presence of information relating to the conservation status of the species varied considerably between zoos (some had none and some had 50%) in comparison to the presence of species common name (where the range was between 96% and 100%)).

The results (Fig. 7) demonstrate that few of the species' information signs observed on the randomly selected enclosures contained all the specified criteria (Article 58, A25/03/2004): common name; scientific name; biological details; natural habitat; and conservation status. The majority of the signage observed included the species' common name, scientific name, biological characteristics and information about their natural habitat. However, 79% failed to provide information about the species' conservation status (a specific requirement of A25/03/2004).



**Figure 8**

Parc Zoologique du Bois d'Attilly. Species' information signage at this zoo did not display all the required information. This enclosure exhibits black-casqued hornbill (*Ceratogymna atrata*).

## EVALUATION OF ANIMAL ENCLOSURES

To evaluate the suitability and quality of each of the 726 randomly selected enclosures, data relating to 12 criteria regarded as vital to the health and welfare of wild animals in captivity were analysed using the evaluation method as described in Sections D and E of the Methodology. The 'Five Freedoms' were referenced as the basis for minimum standards for the keeping of animals, but species-specific needs were also taken into account, particularly in relation to the suitability of the captive environment.

In reference to the Five Freedoms and the 12 criteria used to assess enclosure quality, the following observations were made:

### **Freedom from Hunger and Thirst: Provision of Food and Water**

*'Food and drink provided for animals to be of the nutritive value and quantity required for the particular species...'*

(Article 20, EAZA Minimum Standards for the Accommodation and Care of Animals in Zoos and Aquaria, 2006)

Some animals did not have access to clean drinking water.

### **Freedom from Discomfort: Provision of a Suitable Environment**

*'Animal enclosures to be furnished, in accordance with the needs of the species in question, with such items as bedding material, perching, vegetation, burrows, nesting boxes and pools'*

(Article 11, EAZA Minimum Standards for the Accommodation and Care of Animals in Zoos and Aquaria, 2006)

Many enclosures were sterile and overly restrictive environments while others lacked appropriate bedding and protection from extreme temperatures. Where an indoor enclosure was present, access was usually available, but other furnishings providing shelter or refuge within the outdoor enclosure were frequently absent. Enclosures in a number of zoos were observed to be in a poor state of repair which potentially placed the animals at risk or provided opportunities for escape.

### **Freedom from Pain, Injury and Distress: By Prevention and Provision of Suitable Health Care**

*'Proper standards of hygiene . . . be maintained'*

(Article 25, EAZA Minimum Standards for the Accommodation and Care of Animals in Zoos and Aquaria, 2006)

Some of the animals did not have access to fresh drinking water and, in some cases, the water appeared to be stagnant. An inappropriate build-up of excrement was observed in a number of enclosures. Pests were observed in enclosures in three of the 25 zoos.

### **Freedom to Express Normal Behaviour: Provision of Suitable Space and Proper Facilities**

*'Animals to be provided with an environment, space and furniture sufficient to allow such exercise as is needed for the welfare of the particular species.'*

(Article 3, EAZA Minimum Standards for the Accommodation and Care of Animals in Zoos and Aquaria, 2006)

Bird of prey flight shows were hosted at three of the 25 zoos. The majority of the birds were tethered. This greatly restricts their ability to fly, exercise and express normal behaviours. A number of enclosures were observed which did not provide suitable features to allow the animals to express natural behaviours. For example, concrete flooring in an enclosure for crested porcupines (*Hystrix cristata*) at Parc Zoologique du Bois d'Attilly prevented digging and an enclosure at Zoo de Beauvel was not of an appropriate size to allow Californian sea lions (*Zalophus californianus*) to properly swim and dive. In addition, in some cases, social species were housed in inappropriate group compositions, such as the brown hyaena (*Hyaena brunnea*) which was housed alone at Zoo Mont Faron.



**Figure 9**

Zoo de Beauval.

The enclosure for the Californian sea lions (*Zalophus californianus*) did not permit individuals of this species the opportunity to express their full repertoire of natural behaviour (Article 12), such as diving, provide appropriate space to escape aggressive behaviour from cage companions and find privacy from public view (Article 28).



**Figure 10**

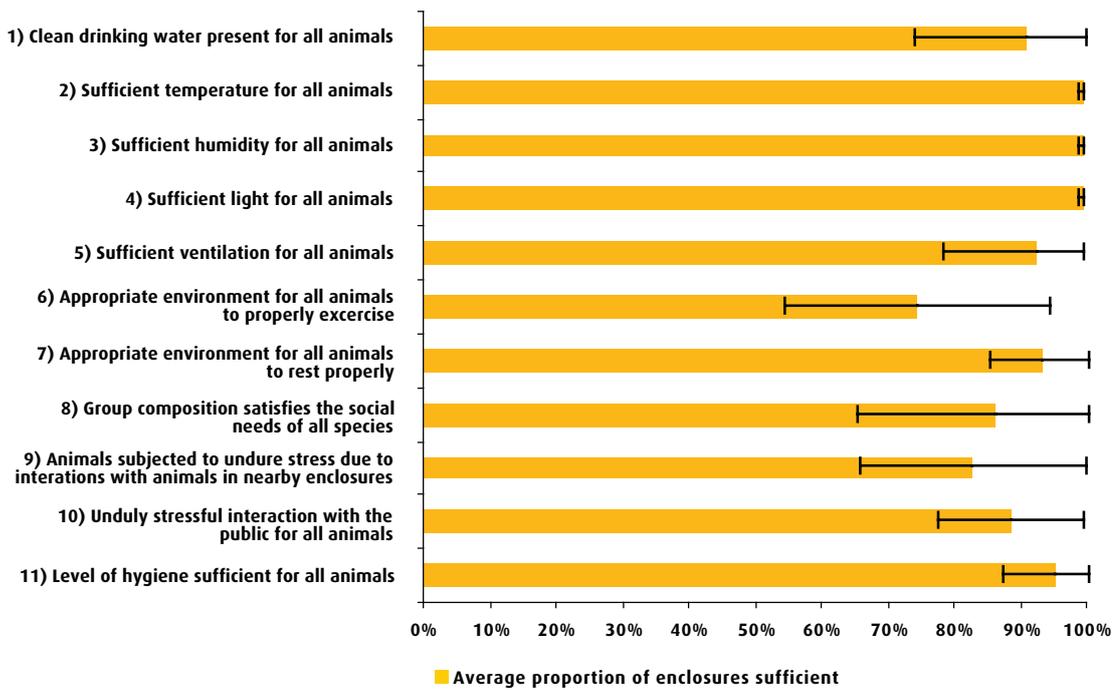
Parc Zoologique du Bois d'Attilly.

The enclosure exhibiting crested porcupines (*Hystrix cristata*) failed to provide the appropriate environmental complexity and substrate to allow members of the species to express their natural behaviours.

### **Freedom from Fear or Distress: Ensuring that conditions do not cause mental suffering**

Many enclosures provided the animals with no refuge or lacked sufficient space to allow individuals to distance themselves from potential predators, cage companions, or find privacy from the viewing public (Articles 27 and 28, A25/03/2004). At Parc Zoologique de Fréjus and Zoo de Bordeaux Pessac wild animals were made to perform circus-style stunts. These conditions may subject the animals to high levels of unnecessary stress and discomfort.

## Environmental Quality of Enclosures

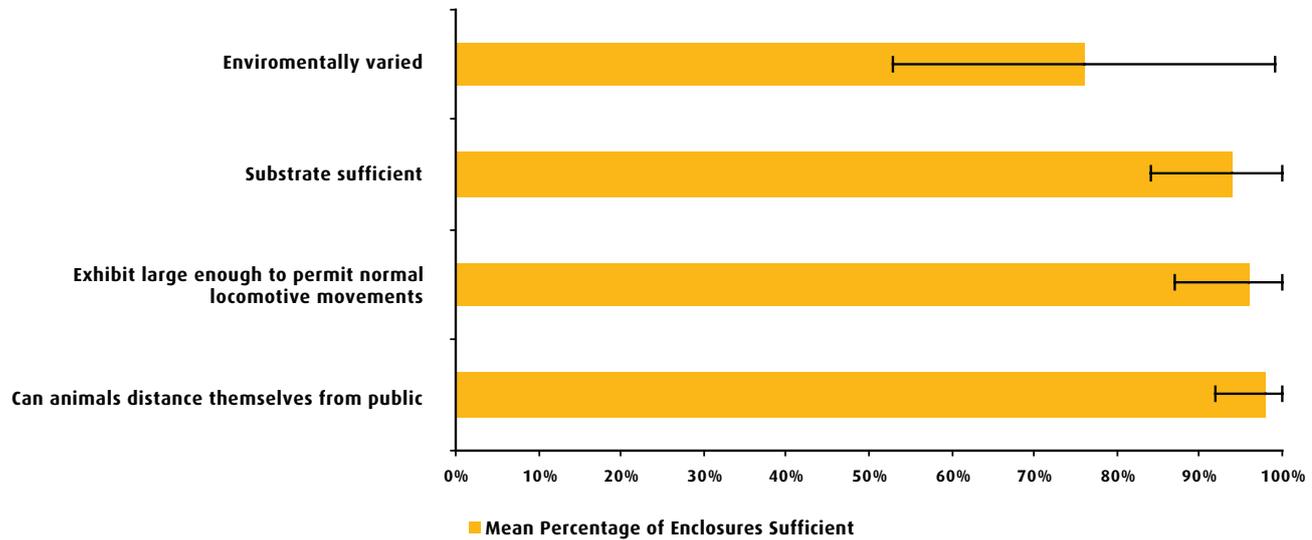


**Figure 11** *Environmental quality* of the 726 randomly selected enclosures from the 25 randomly selected French zoos. Each column represents a parameter used to assess the suitability of the enclosures to meet the needs of the animals contained. Error bars are a visual representation of the standard deviation from the mean value, demonstrating the variation in performance amongst selected zoos (e.g. the environment's ability to allow animals to rest properly varied considerably between zoos in comparison to the suitability of the temperature which was consistently acceptable). Where the presence of a condition or factor could not be determined, data were not included.

The results (Fig. 11) demonstrate that numerous enclosures analysed failed to meet all the requirements. While most enclosures appeared to provide the animals with sufficient light, temperature, humidity and ventilation, far fewer enclosures provided appropriate environments for the animals to exercise properly or live in appropriate social groupings. Similarly, lower values were recorded for the average percentage of enclosures that adequately protected animals from stressful interactions with the public and other species in adjacent enclosures.

## EVALUATION OF ANIMAL WELFARE

Keeping an animal in a restrictive, predictable and barren captive environment is known to compromise welfare (Mallapur *et al.*, 2002; Lewis *et al.*, 2006) and may result in the development of abnormal behaviours, which can become increasingly more difficult to reverse even with the application of environmental enrichment techniques (Swaigood & Sheperdson, 2006). The following represents the results of an assessment as to the suitability of randomly selected enclosures to permit the expression of most natural behaviours. The results have been ranked, with the most severe issues indicated in the graph below.



**Figure 12** Issues requiring attention following assessment of 726 randomly selected enclosures in the 25 randomly selected French zoos. Error bars are a visual representation of the standard deviation from the mean value, demonstrating the variation in performance (e.g. the environmental variability was considerably diverse between zoos). Where the presence of a condition or factor could not be determined, data were not included.

The level of animal welfare was assessed in 726 randomly selected enclosures in the 25 zoos (Fig. 12). Issues requiring attention include: the lack of environmental variation; the lack of sufficient substrate to allow animals to dig, burrow or forage and the lack of space to permit animals to express normal locomotive movements.

Despite the majority of enclosures appearing to provide animals with adequate welfare requirements, there were still a number of serious instances where the welfare of animals was severely compromised (e.g. Figs. 13 & 14).

### Figure 13

Parc Zoologique et Botanique de Mulhouse. Polar bear (*Ursus maritimus*) enclosure lacks the required environmental complexity to allow the species to express natural behaviours.



### Figure 14

Parc Zoologique du Bois d'Attilly. Racoons (*Procyon lotor*) were housed in inadequate and unhygienic conditions: lacking environmental complexity, appropriate climbing apparatus, soft substrate and water.



## CONCLUSION

This investigation assessed 25 zoos randomly selected from a believed total of 943 zoos in France. This selection was assumed to be a representative sample of the total population of zoos in France.

**Overall, the investigation of zoos in France has revealed that although the EC Directive 1999/22 has been accurately transposed into A25/03/2004, there are inconsistencies in application. Some zoos clearly complied with the law more than others, but the inconsistencies identified are, perhaps, indicative that the enforcement of the law varies across the country. However, overall, 13% of the *representative sample* failed to meet the conservation requirements of A25/03/2004, the main objective of the Directive. Those selected zoos affiliated with EAZA appear to participate in more conservation measures, as compared to non-affiliated zoos.**

These Conclusions are divided into seven sections for ease of reading:

### 1. Implementation of the Directive

In France, the regulation of zoos is covered by numerous pieces of legislation: *Le Code de l'environnement* for the licensing and inspection of zoos; *Le Code Rural* for the relevant veterinary procedures; and A25/03/2004, which provides the general rules of zoo operation. Together, as specified by Article 5 of the Directive, the above legislation provides a comprehensive system that contains all required provisions for zoo licensing, operation and regulation as specified by the Directive.

Although the implementation of the Directive by EU Member States is an issue for subsidiarity, it is important to note that the interpretation of the Directive by Member States lacks uniformity, which has led to inconsistencies in its application. This includes varying interpretations of important definitions, in particular the definition of a 'zoo'. This has resulted in large numbers of zoological collections currently being exempt from the Directive and, therefore, licensing and compliance with standards, which appears to compromise the objective of the Directive. In France, the Ministry of Ecology recognises 300 individual zoos. However, a reliable source claims there to be a total of 943 zoos which suggests the majority are unregulated. Further investigation into this possibility is necessary but, if this proves to be the case, it could render the primary objective of the Directive meaningless.

**Despite the fact that the Ministry of Ecology has successfully transposed the requirements of the Directive into French law, failure to properly identify and licence all relevant establishments at the *départemental* level, could not only compromise the objectives of Book IV, Title I, Chapter III of *Le Code de l'environnement* but, also the main focus of the Directive: the conservation of biodiversity (Article 9, CBD).**

### 2. Inconsistent enforcement

The licensing of zoos, and all establishments keeping non-domesticated animal species in France, is undertaken at a *départemental* level by the Préfecture. Efficiency of this procedure is therefore dependent upon the competency of the Préfet, the relevant authority dealing with such matters (e.g. DREAL) and the DDPP, specifically in relation to the identification of a 'zoo', the correct interpretation of terms used, and the application of *Le Code de l'environnement*, *Le Code Rural* and A25/03/2004.

Despite the regular publication and distribution of '*Circulaires*' by the Ministry of Ecology to the Préfets (e.g. Circulaire DNP/CFF No.2008-03, 11/04/08), mis-interpretation of terms could be a reason for the apparent large number of unregulated zoos in France. Unlike other EU Member States, French law has significantly reduced mis-interpretation of the term '*animal of wild species*' (Article 2 of the Directive) and the identification of a '*non-domestic animal species*' (Book IV, Title I, Chapter III of *Le Code de l'environnement*), by the establishment of a species list under Section R.413-6 of *Le Code de l'environnement*. However, the procedure for exemption from *Le Code de l'environnement* and A25/03/2004 appears to lack clarity and remains at the discretion of the Préfets and the CDNPS (Article L411-2, Paragraph 4.c of *Le Code de l'environnement*). No guidance could be found that clarifies the term '*significant number of animals or species*' (Article R413-9, *Le Code de l'environnement*). Therefore, zoos with smaller numbers of non-domestic animals or species or perhaps specialist zoos, like falconry centres, vivariums or aviaries, could well be evading licensing and regulation.

By April 2005, all zoos in the Republic of France were required to be licensed and meet the specifications of A25/03/2004. Results demonstrate that at the time of the zoo investigation, many zoos appeared to comply with A25/03/2004. However, identified problems include failure to: demonstrate a commitment to conserve biodiversity; provide detailed information about the exhibited species and; keep animals in an appropriate manner. Taking all requirements of A25/03/2004 and *Le Code de l'environnement* into account, **living conditions for the animals in 36% of the selected French zoos were substandard.**

In France, representatives from the relevant departments in the Préfecture are responsible for zoo inspection. It is possible that inconsistencies in application of the law are a result of poor guidance and limited training opportunities. **Therefore, clarity of the exemption procedure, further training in the care of wild animals and the provision of external guidance could help to ensure a greater consistency in the application of and improved compliance with A25/03/2004.**

### 3. Ability to prevent animal escapes

There are two recognised barriers that prevent the escape of a zoo animal into the natural environment: the enclosure fencing, which prevents an animal escaping from its enclosure; and the perimeter fence, which prevents an escaped animal leaving the zoo grounds. Both barriers should be secure and of an adequate height and strength to contain the animals.

Results indicate that despite strict requirements in A25/03/2004 and *Le Code de l'environnement* to prevent animal escapes, protect the public and avoid possible ecological threats (IAS) to indigenous species, some of the selected zoos appeared to be failing to recognise potential risks and take the necessary preventative measures.

In 2001 the European Commission recognised the need to address IAS as an integral part of halting biodiversity decline and initiated the development of an EU strategy to substantially reduce their likelihood and impact (Shine *et al.*, 2009). **It has long been recognised that zoos pose a significant risk of presenting pathways for the introduction of alien species**, from the invasion of the ruddy duck (*Oxyura jamaicensis*) into Europe, which now threatens the indigenous white-headed duck (DAISIE website) to, more recently, an investigation of 63 zoos in Spain (2010), which found that 75% had enclosures that were 'non-secure', allowing inward and outward migration. In the Spanish investigation, 80% of these enclosures housed non-indigenous species, including 21 species listed by the European Inventory of Invasive Species (Fàbregas *et al.*, 2010).

### 4. Public placed at risk of injury and disease transmission

Permitting the public direct contact with potentially dangerous wild animals has an obvious risk, but zoos should also take into account the potential transmission of disease (zoonoses) that can cause significant harm to humans.

The results indicate that the poor design of some enclosures, inadequate fencing, the lack of stand-off barriers and the shortage of available zoo staff or appropriate signage, allowed direct and unsupervised or planned contact to take place and, in some cases, placed the public at significant risk. This was particularly the case in two zoos where the public were sold popcorn to feed the animals. No guidance was provided on the risks involved or what risk mitigation measures should be taken. The distribution of food to the public for animal feeding is prohibited under Article 23, A25/03/2004.

Where contact was openly encouraged, in 64% of the *representative sample*, the public were, unknowingly, being placed at risk of harm, and preventative measures, such as hand-washing, were often overlooked. Many animals are carriers of zoonotic diseases that are transmissible and may be harmful to humans. Animals, particularly wild animals, are thought to be the source of >70% of all emerging infections (Kuiken *et al.*, 2005) and of the 200 *zoonoses* that have been described, over 40 are associated with reptiles and amphibians (Warwick *et al.*, 2009).

**Zoos should take a far greater responsibility for the health and welfare of their animals - and the safety of the visiting public. To safeguard the well-being of the public, direct contact with animals, particularly those listed in A21/11/1997 and those known to carry zoonoses, should be prohibited.**

## 5. Poor conservation record

The involvement of zoos in the conservation of biodiversity, and specifically *ex situ* conservation, became a legal obligation in the EU with the introduction of the Directive. Zoos have often promoted themselves as animal 'arks' and centres for the conservation of biodiversity.

The Directive requires all zoos in the European Community to undertake *conservation measures* that contribute to the conservation of biodiversity in accordance with the Community's obligation to adopt measures for *ex situ* conservation under Article 9 of the *Convention of Biological Diversity* (1992). Zoos in France are required to partake in one or more of the following, unless the establishment only keeps animal species listed under Section 1, Article R.413-6 of *Le Code de l'environnement*:

- 'Research from which conservation benefits accrue to the species
  - Training in relevant conservation skills
  - The exchange of information relating to species conservation
  - Where appropriate, captive breeding, repopulation or reintroduction of species into the wild'
- (Article 53, A25/03/2004 and Article 3 of the Directive)

All of the *representative sample* of zoos were required to partake in one or more of the above requirements, with 24 of the 25 zoos required to partake in national or international captive breeding programmes (Article 54, A25/03/2004) and either, contribute to *in situ* conservation, or the exchange in knowledge of species conservation (Article 55, A25/03/2004).

Overall the results indicate that zoos in France are failing to meet all their obligations with regard to species conservation and the conservation of biodiversity. The majority of animal species in the *representative sample* were Non-Threatened (IUCN Red List), of low conservation importance, with only 6% *Endangered* and 3% *Critically Endangered* of the total species observed in the 25 zoos. Furthermore, mammal and bird taxa dominated the overall species inventory kept by the selected zoos, whilst Threatened amphibian species were massively under-represented (1% of all Threatened species). Overall, of the 6,714 vertebrate species categorised as Threatened by the IUCN Red List (IUCN Red List website), only 193 (3%) were kept in the selected French zoos. In addition, many of the species listed in Section R.413-6 of *Le Code de l'environnement*, and therefore exempt from Chapter 6 (A25/03/2004) and *ex situ* conservation, are Threatened species (e.g. *Bison bonasus* and numerous species of Columbidae). **Decisions taken concerning the proportion of the different Threatened taxa to be kept by the zoos and which species are to be included in conservation programmes, do not appear to be influenced by their risk of global extinction.**

The participation of French zoos in coordinated captive breeding programmes (EEPs and ESBs) was less than comprehensive. Only 16% of all the observed species were registered EEP or ESB species, with 14% of the total number of species partaking in the international breeding programmes. Of the conservation-sensitive species, either listed under Articles L.441-1 and L.441-2 of *Le Code de l'environnement*, or Annex A of Regulation No. 338/97, in the 24 zoos, 67% appeared to be involved in captive breeding programmes. In addition, of the 25 selected zoos, 44% appeared to contribute to *in situ* conservation projects; 28% in species reintroduction programmes; and 20% in in-house research. However, the minimal information made available by the zoos failed to confirm whether these activities, particularly their in-house research, benefited species conservation.

According to Rees (2005) most current zoo research is concerned with [captive animal] behaviour, environmental enrichment, nutrition and reproduction, and is therefore largely irrelevant to conservation. A good deal of zoo research is unsuitable for publication in academic journals. By its very nature, such research is conducted in unnatural conditions and often with small samples of animals (Rees, 2005). These deliberations question the significance of zoo research.

**These results do not demonstrate a significant commitment by French zoos to conserve biodiversity and, in particular, Threatened species.**

To date, no independent quality assurance assessment has been undertaken to identify whether the European zoo community as a whole either currently is, or has the potential to effectively and significantly contribute to the conservation of biodiversity and thereby justify their existence under the terms of the Directive.

## 6. Limited educational value

In addition to a commitment to the conservation of biodiversity, zoos in the EU must provide an educational experience to the public, which must include information about the conservation of biodiversity. Chapter 7 of A25/03/2004 stipulates that all zoos must not only provide substantial, scientifically-valid information about the animal species, but also ensure all activities include information about the species' natural habitat, biology and their conservation.

Overall, the results demonstrate that while basic information about the species (species information signage on the enclosures) was present for the majority of *species holdings*, **this rarely included all the required information (Article 58, A25/03.2004)**. Information about the species' ecology and conservation was often absent.

It was possible to confirm that 64% of the selected zoos appeared to have an education programme. This consisted of providing resources for visiting schools and pre-organised groups together with species-specific talks and guided tours. Although some zoos certainly participated in more educational activities than others, such activities were only undertaken by half of the *representative sample*.

As a matter of concern, just under half of the *representative sample* hosted wild animal performances. The majority were entertainment-based and, whilst some did include some information about the species displayed with information about their natural attributes, many involved tricks that required animals to perform unnatural behaviours. This has minimal educational value. Performances including cetaceans, sea lions, parrots and large felines, were little more than a 'circus', which appeared to compromise the animal's welfare and provide negligible information about the species and its conservation. **Such animal performances appear to be incompatible with the specified requirements of the Directive, Le Code de l'environnement, Le Code Rural and A25/03/2004.**

Despite the fact that zoos affiliated with national and international zoo associations achieve better results, **overall French zoos are not adequately educating the public about the conservation of biodiversity.**

To date, no independent quality assurance assessment has been undertaken to identify whether the European zoo community as a whole is either currently, or has the potential to effectively and significantly contribute to the education of the public, thereby justifying their existence under the terms of the Directive.

## 7. Animal husbandry and care

This assessment of zoos in France has identified an apparent lack of consideration for the species-specific needs of all the wild animals concerned and their care in captivity.

For example:

- some species were kept in small enclosures that did not attempt to meet their spatial needs;
- some animals were not provided with the necessary apparatus and materials to allow the species to exercise and express normal behaviour;
- in some instances, social species were housed alone;
- some species were not provided adequate refuge or privacy from potentially aggressive cage companions or the viewing public;
- the majority of species were not provided with behavioural or occupational enrichment opportunities by way of items such as toys or feeding devices.

It is widely recognised that the keeping of animals for prolonged periods in 'impoverished', cramped, captive conditions can compromise both their physical and mental health and their general welfare. Conditions that fail to provide an animal with its species-specific needs, can give rise to abnormal behaviour, disease and early mortality. Zoos must therefore seek to provide all their animals with more suitable environments that encourage exercise and natural behaviour.



**Figure 15**

Zoo du Mont Faron.

This jaguar (*Panthera onca*) was exhibited in an inadequate enclosure that failed to provide the appropriate environmental complexity, climbing apparatus, refuge and privacy required.

French law (specifically *Le Code Rural* and A25/03/2004) requires zoos to ensure their animals are provided with appropriate conditions that meet species-specific needs and high standards in animal care. However, there were many cases, during the investigation of the 25 zoos, where animals were kept in completely inadequate conditions, where their welfare may well have been compromised and where housing conditions failed to provide the animal an opportunity to express normal behaviour. **This may indicate that the zoo operators, and indeed individuals with a 'certificat de capacité', do not have the necessary knowledge to maintain wild animal species in appropriate conditions.** Unlike other EU Member States, France has not established species-specific minimum standards of animal keeping, which could benefit zoo operators and enforcement personnel.



**Figure 16**

Parc Zoologique du Bois d'Attilly.

These black-casqued hornbills (*Ceratogymna atrata*) were housed in an enclosure that was too small to allow natural behaviour, such as flight, and did not appear to have adequate ventilation for the birds.

Whilst not recorded in every zoo included in this investigation, many of the enclosures were in a poor state of repair where crumbling concrete, exposed structural materials or damaged fencing could pose a risk to the animals or an opportunity for escape. Poor hygienic conditions were also observed, where the build-up of faeces, rotting food or aging, stagnant water attracted pests or a build-up of harmful pathogens. Unsupervised public feeding was encouraged at two of the zoos where bags of popcorn were on sale. This practice is not only prohibited in France (Article 23, A25/03/2004), but could pose a risk to the health and welfare of some species, as well as the health and safety of the public.

The majority of enclosures observed lacked the environmental complexity necessary for their occupants to express normal behaviours. The inclusion of varied environmental enrichment is integral to reducing the negative impacts of confinement on animals in captivity (maintaining healthy animals in a captive environment) (Pruetz & Bloomsmith, 1992; Crockett *et al.*, 1989; Jordan, 2005). Without it animals are more likely to develop abnormal repetitive behaviours, recognised as indicators of poor animal welfare (Mason & Rushen, 2006), or physical disorders like obesity or muscular atrophy, leading to secondary health consequences (Fowler & Mikota, 2006; Harris *et al.*, 2008). Many of the selected zoos featured tethered birds of prey, for example, which is not only highly restrictive but can cause severe behavioural problems such as repetitive bating (jumping from the perch, which can result in the fracture of both legs), feather plucking and screaming. This can be addressed through environmental enrichment (Rees Davies, 2005).

The evaluation of enclosures revealed that whilst half of the selected zoos had a generally proficient level of basic animal care and husbandry, others were failing to provide their animals with adequate care and protection. **The establishment of additional guidance, providing species-specific information and guidance on environmental enrichment would be beneficial for zoo operators in France and the animals they are responsible for.**

### **In summary**

French zoos are:

- failing to significantly contribute to species conservation and the conservation of biodiversity
- failing to provide significant and valuable information about the species exhibited to the general public
- failing to adequately educate the public about the conservation of biodiversity
- failing to take responsibility for the health and welfare of all their animals
- failing to recognise and address species-specific requirements
- failing to ensure consistency in the application of requirements of A25/03/2004
- overall, 13% of the representative sample failed to meet the conservation requirements of A25/03/2004

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### **Born Free Foundation**

Born Free Foundation is an international wildlife charity, founded by Virginia McKenna and Bill Travers following their starring roles in the classic film Born Free. Today, led by their son Will Travers, Born Free is working worldwide for wild animal welfare and compassionate conservation.

Born Free supports and manages a diverse range of projects and campaigns. We embrace both compassion and science in setting an agenda that seeks to influence, inspire and encourage a change in public opinion away from keeping wild animals in captivity, while in the short term working with governments, the travel industry and like minded organisations to seek compliance with existing legislation and improve the welfare conditions for wild animals currently held in zoos. Via our Compassionate Conservation agenda, we provide protection for threatened species and their habitats across the globe. Working with local communities, Born Free develops humane solutions to ensure that people and wildlife can live together without conflict.

[www.bornfree.org.uk](http://www.bornfree.org.uk)

### **ENDCAP**

ENDCAP is a European coalition of 27 NGOs and wildlife professionals from 20 European countries that specialise in the welfare and protection of wild animals in captivity. Working with the European Institutions, national governments and experts, ENDCAP aims to improve knowledge and understanding of the needs of wild animals in captivity, uphold current legislation and seek higher standards, whilst challenging the concept of keeping wild animals in captivity.

[www.endcap.eu](http://www.endcap.eu)

### **Code Animal**

Code Animal is a French NGO specializing in the relationship between man and animal. Focusing on animals in circuses, zoos, dolphinariums and those kept as pets, Code Animal promotes the idea of respect for all living species. Since 2005, they have lobbied officials and policy-makers, participated in numerous conferences and debates, and work to improve education in schools. They have also published several reports and arranged the rescue of wild animals from captivity. Code Animal works with several French and European associations, and is also a member of ENDCAP.

[www.code-animal.com](http://www.code-animal.com)

### **EU Zoo Inquiry 2011**

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Report Methodology: For full details of methodology and to view the other Reports published as part of this project [www.euzoo inquiry.eu](http://www.euzoo inquiry.eu)

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