

# 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.

## ROMANIA



Written for the European coalition ENDCAP by the Born Free Foundation



## 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.

Country Report **ROMANIA**



# CONTENTS

	page
<b>ABBREVIATIONS USED</b> .....	<b>04</b>
<b>TERMS USED</b> .....	<b>04</b>
<b>SUMMARY</b> .....	<b>05</b>
<b>RECOMMENDATIONS</b> .....	<b>06</b>
<b>THE EU ZOO INQUIRY 2011</b>	<b>07</b>
<b>INTRODUCTION</b> .....	<b>08</b>
<b>METHODOLOGY</b> .....	<b>09</b>
<b>COUNTRY REPORT: ROMANIA</b>	<b>11</b>
<b>INTRODUCTION</b> .....	<b>12</b>
<b>RESULTS AND INTERPRETATION</b> .....	<b>16</b>
GENERAL INFORMATION .....	<b>16</b>
CONSERVATION .....	<b>17</b>
EDUCATION .....	<b>19</b>
EVALUATION OF ANIMAL ENCLOSURES .....	<b>21</b>
EVALUATION OF ANIMAL WELFARE .....	<b>25</b>
<b>CONCLUSION</b> .....	<b>27</b>
<b>REFERENCES</b> .....	<b>34</b>

## ABBREVIATIONS USED

A191/2002 .....	Romania Act for public zoos and aquariums
ANSVSA .....	National Sanitary Veterinary and Food Safety Authority
APOS .....	Animal Protection Ordinance of Switzerland, Tierschutzverordnung 2008
CBD .....	Convention on Biodiversity (1992)
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
FGZAR .....	Romanian Association of Zoos and Aquaria
IAS .....	Invasive Alien Species
IUCN .....	International Union for Conservation of Nature
NEPA .....	National Environmental Protection Agency
NGO .....	Non-Governmental Organisation
MO16/2010 .....	Veterinary Certification
MO1798/2007 .....	Ministerial Order: Approval procedure for issuing an environmental permit
MO742/2004 .....	Guidelines for the authorisation, inventory and registration of zoos and public aquariums
OIE .....	World Organisation for Animal Health
SMZP .....	Standards of Modern Zoo Practice, DEFRA, 2004
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.

**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.

**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 Romania.

**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

Of the 33 known zoos in Romania, 10 were assessed 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 306 species (including subspecies where appropriate) were observed in 470 enclosures across the 10 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, the Romania Act 191/2002, for public zoos and aquaria, Ministerial Order No.1798/2007 and Ministerial Order No.16/2010. Key findings were:

- **Of the 33 recognised zoos in Romania 12 are unauthorised, the majority of which are still operating and open to the public.** This could contravene the requirements of the Directive.
- **Enforcement of Ministerial Order No.1798/2007 and Ministerial Order No.16/2010 appears minimal.**
- **The apparent lack of knowledge and expertise of the enforcement agencies and zoo operators could well be hampering effective enforcement of Romanian zoo law.**
- **Poor enclosure design, poor maintenance of fencing, a lack of stand-off barriers and a shortage of available zoo staff often placed the public at risk of injury and exposure to disease.** Members of the public were easily able to come into direct contact with dangerous species including brown bears and lions.
- **Romanian zoos are making a minimal contribution to the conservation of biodiversity.** Only 14% of the total number of species are categorised as Threatened by the IUCN Red List of Threatened Species™. No zoos appeared to be actively participating in European co-ordinated captive breeding programmes (ECPs or ESBs).
- **The commitment to and standard of education in all zoos was poor.** On average, half of the *species holdings* lacked informational signage and 74% of signs did not include the required information (Romania Act 191/2002).
- **Many of the enclosures were unhygienic and could pose a risk to the health and well-being of the animals.**
- **On average, four out of five enclosures did not provide the animals with any behavioural or occupational enrichment opportunities by way of items, specifically toys or feeding devices.**
- **On average, three quarters of enclosures were not environmentally complex.**
- **The majority of the selected enclosures did not comply with the species-specific minimum standards of Schedule 5, Chapter 2, Section 1 of Ministerial Order No.1798/2007.**

## RECOMMENDATIONS

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

- 1) Make the necessary amendments to the national zoo law, A191/2002, to establish a licensing procedure that ensures all permanent establishments open for seven days or more in a year that display *any number* of wild animal species to the public, are licensed, receive regular inspections and meet the specified requirements of Act 191/2002, Ministerial Order No.1798/2007 (MO1798/2007) and Ministerial Order No.16/2010 (MO16/2010).
- 2) Amend MO1798/2007, Schedule 5, Chapter 2, Section 1, Tables 4 to 7 to ensure zoos and public aquaria ('zoos') provide a suitable environment for their animals which incorporates species-specific environmental enrichment and complexity sufficient to permit animals to express most of their repertoire of natural behaviours.
- 3) Establish national law that licenses travelling menageries and ensure through the implementation of MO16/2010 that the health and welfare of animals in these facilities is safeguarded and welfare standards are in place which should be comparable with Section 1, Chapter 2, Schedule 5 of MO1798/2007.
- 4) Establish and publish a national Collection Plan that includes details of all zoos in Romania: licensing information; improvement plans; allocation of funds; updated progress of implementation of the improvement plans; and species stocklists that conform with international standards.
- 5) Ensure that all funds assigned to zoo upgrades are continuously monitored to ensure effective expenditure and timely project completion.
- 6) Ensure, through effective enforcement, that all zoos (*as defined by the Directive*) abide by the requirements of national zoo law and apply existing available penalties (Article 12 & 13, A191/2002) to zoos that fail to meet the requirements. All 'unauthorised' zoos should either be authorised as soon as possible or for those zoos unable to meet the requirements, closed, thereby reducing the number of zoos in Romania.
- 7) Ensure that all enforcement personnel: the National Environmental Guard; the National Sanitary-Veterinary Authority (ANSVSA) and the local Environmental Protection Authorities involved in the inspection and regulation of zoos are provided with the relevant training and skills pertaining to the care and welfare of wild animals in captivity.
- 8) Establish criteria to evaluate and improve educational and conservation measures in zoos.
- 9) Ensure that all zoo keepers, being those people who have responsibility to care for zoo animals, are provided with relevant training and skills in animal care and welfare. The Ministry of Education, Research, Youth and Sports should consider establishing a nationally-recognised qualification in wild animal care and husbandry which all animal keepers should attain.
- 10) Ensure zoos keep and conserve predominantly indigenous and European Threatened species rather than non-European species.
- 11) Raise standards relating to the keeping of wild animals in zoos through training of zoo inspectors and zoo operators and the introduction of an improved inspection regime.
- 12) Where possible, convert failing zoos into animal sanctuaries to provide displaced animals with high standards of lifetime care.
- 13) Publish guidance to assist zoos, enforcement personnel, veterinarians, NGOs and other stakeholders to effectively interpret the requirements of A191/2002 and MO1798/2007, specifically their participation in and application of recognised, peer-reviewed conservation and education programmes.

# 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 provided 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 regards how application 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 the 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 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 10 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 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.

\*'... 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)

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.

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 the zoo assessment (March – December 2009). However a further report focussing on zoo regulation in **Spain** will be published in 2011.

# ROMANIA

## Country Report



## INTRODUCTION

Romania joined the European Union in January 2007, from which date it was obliged to meet the requirements of the Directive. The Directive has been transposed into national legislation by means of the Act No. 191 (16/04/2002) (Official Gazette No.271, 23/04/2002) ('A191/2002'), which includes requirements reflecting the terms set out in the Directive. In addition, zoos must also comply with Ministerial Order No. 1798 (19/11/2007) ('MO1798/2007') to obtain an Environmental Permit, and Ministerial Order No.16 (07/03/2010) ('MO16/2010'), to obtain Veterinary Certification. The Ministry of Environment and Sustainable Development ('Ministry of the Environment') is responsible for the implementation of the Directive in Romania, which is regulated through the National Environmental Protection Agency (NEPA) and the National Sanitary Veterinary and Food Safety Authority (ANSVSA) (Standard Member State Questionnaire).

As part of this investigation, the Competent Authority was asked to complete a Standard Member State Questionnaire. The response received, including further details on procedures for licensing and inspecting zoos in Romania (Ministry of Environment, pers. comm., 21st October 2010), has been included throughout this report.

At the time of going to press, the National Registry of Zoos (Article 16, A191/2002), which is maintained by NEPA, recognised 33 zoological collections in Romania. Of these zoos, 21 had been '*authorised*', eight were '*undergoing authorisation*' and four were '*unauthorised*' (National Registry of Zoos, 30.11.2010). There was also four rehabilitation centres for the care and treatment of wild animals, which are not regulated by A191/2002, but by Chapter 2, Section 2 of MO1798/2007.

### Zoo Licensing Requirements

In Romania, zoos are defined in terms similar to those set out in the Directive, as '*all permanent establishments where animals of wild species are kept for exhibition to the public for 7 or more days a year*'. This includes all kinds of zoological collections from the traditional zoo and small menageries, to specialised collections such as aquaria, dolphinarium, aviaries and terraria (referred to as '*zoos*' in this report). Only circuses and pet shops are exempt, together with '*other facilities that do not exhibit a significant number of animals or species*' (Article 2, A191/2002). No further guidance or explanation is provided by the Competent Authority to clarify the criteria for Exemption (Standard Member State Questionnaire).

In order to obtain an operating licence, zoos in Romania are required to obtain an Environmental Permit (in accordance with MO1798/2007) and a Veterinary Certification (in accordance with MO16/2010) (Ministry of Environment, pers. comm., 21st October 2010). MO1798/2007 is regulated by the ACPM (NEPA or the regional Environmental Protection Agency), which authorises permanent establishments that keep wild animals as either a zoo and/or public aquarium and/or rehabilitation and/or animal care centres (Schedule 5, Chapter 1(5), MO1798/2007). The Veterinary Certification is specific to the health and welfare of the animals, and is granted by the local Department of Sanitary-Veterinary and Food Safety (Article 3, A191/2002 & Annex 13, MO16/2010).

Permits are issued following an on-site visit by a team of inspectors (Article 8, A191/2002 & Article 8(3), MO1798/2007) that includes a representative from the ACPM, the regional authority for the Department of Agriculture and Forestry, the National Environmental Guard and ANSVSA and a local Government representative (Standard Member State Questionnaire). The zoo operating licence is valid for up to 10 years in accordance with the Government Emergency Ordinance no.164/2008 (Standard Member State Questionnaire).

Regular inspections of zoos are undertaken '*biannually*' by the National Environmental Guard, to ensure they meet the requirements of A191/2002 and MO1798/2007. The health and welfare of the animals is assessed by a representative from the Sanitary-Veterinary Authority, when deemed necessary (Standard Member State Questionnaire) (Article 7, A191/2002; Article 4 of the Directive).

In addition to the requirements of Articles 10 and 11 of A191/2002, zoos must comply with specifications listed in Chapter 2 of Schedule 5 of M01798/2007. This is consistent with the overarching requirements of A191/2002, but includes further provisions for the management and care of animals, pest and disease control, conservation and education activities and public safety. Tables 4 to 7 (Chapter 2) list 'minimum standards', applicable only to 'zoos and public aquaria' (Chapter 1(4), Schedule 5 of M01798/2007), which specify, amongst other requirements, the minimum surface area of enclosures specific to the species and number of animals contained. These standards were originally developed by 'experts' (Standard Member State Questionnaire) and included in the Ministerial Order No.742 ('M0742/2004') 'Guidelines for the authorisation, inventory and registration of zoos and public aquariums'. M0742/2004 has since been repealed by M01798/2007 (Article 2, M01798/2007) and the 'minimum standards' revised and reduced, on the understanding that they were 'badly written' and 'unrealistic' (EZA, pers. comm., 5th March 2007).

The following provides further detail of the requirements applicable to zoos in Romania:

### Conservation

Zoos must 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 10(a), A191/2002 and Article 3 of the Directive)

Whilst Schedule 5, Chapter 2, Section 1 (V) of M01798/2007 includes these same requirements, it also states:

- Any activity that takes place must ensure a sustainable use of natural resources and the conservation of biodiversity (Article 119).
- A zoo that contains endangered species must actively participate in research programmes that contribute to species conservation in the wild (Article 121).
- A zoo must demonstrate measureable performance in respect to conservation, education and research (Article 122).
- Research activities must be compatible and in conjunction with national or international research programmes (Article 128).
- Acquisition and capture of wild animals in nature is discouraged, except where there are reasonable grounds for *ex situ* conservation (Article 55).

Despite the additional requirements in M01798/2007, no further guidance is provided by the Competent Authority to help the local authorities or zoo operators interpret the individual requirements of Article 10, A191/2002.

### Education

- *'Promote education and awareness of the conservation of biodiversity, particularly by providing information about the species exhibited and their natural habitats.'*
- (Article 10(b), A191/2002 and Article 3 of the Directive)

Zoos must provide the following information about the species exhibited:

- *'Scientific name; common name; key aspects of the biology of the species, geographic distribution and the temperature at which they are accustomed; and the natural habitat of the species.'*
- (Article 11(c), A191/2002)

Whilst Schedule 5, Chapter 2, Section 1 (V) of M01798/2007 includes these same requirements, it also states:

- Zoos must establish a public education strategy and action plan (Article 125)
- Zoos must allocate adequate facilities for educational purposes (Article 126)
- Species information signage must include the conservation status (Article 127)

Despite the additional requirements in M01798/2007, no further guidance is provided by the Competent Authority to help the local authorities or zoo operators interpret the individual requirements of Article 10, A191/2002.

### Animal welfare provisions

- *'Accommodating their animals under conditions which meet the biological and conservation requirements of individual species, inter alia, by providing species specific enrichment of enclosures,'*  
(Article 10(c), A191/2002 and Article 3 of the Directive)
- *'and maintaining a high standard of animal husbandry with a developed programme of preventative and curative veterinary care and nutrition.'* (Article 8(3), PD98/2004).  
(Article 10(d), A191/2002 and Article 3 of the Directive)

Whilst Schedule 5, Chapter 2, Section 1 (V) of M01798/2007 includes these same requirements, it also states:

- Enclosure layout should take into account the species' natural habitat, providing for the species biological, physiological and psychological needs (Article 4).
- Enclosures include environmental enrichment that takes into account all stages of their development (Article 5).
- Temperature, humidity, ventilation and noise levels must be adequate to ensure animals' welfare (Article 9).
- Enclosures protect animals from extreme conditions, such as solar radiation, excessive heat, dry and cold (Article 10).
- Enclosures provide refuge for the animals, away from public view and aggressive cage companions (Article 11).
- Enclosures are designed and maintained so as not to injure the animals exhibited (Article 12).
- Enclosures to have adequate standards of hygiene (Article 16).

Furthermore, M01798/2007 includes specifications for vivarium care (no.II) and aquarium care (no.III) and within Section 1 of Schedule 5, Tables 4 to 7 stipulate a *'minimum space requirement for certain species in captivity'*. These species-specific standards stipulate minimum surface area for outdoor and indoor enclosures (dependent upon the number of animals), specify whether the enclosure should include 'shelter', a 'pool', and provides details relating to group composition. No further guidance is provided by the Competent Authority to help the local authorities or the zoo operators interpret the individual requirements of Article 10, A191/2002 and M01798/2007.

A191/2002 and M01798/2007 also stipulate other requirements including measures to prevent the escape of animals (Article 10(e), A191/2002); measures to protect staff and visitors (Article 11(b), A191/2002); measures to warn the public about potentially dangerous animals (Article 11(d), A191/2002) and; the need to maintain a complete and updated record of the species in the zoo (Article 10(f), A191/2002), as stipulated in the Directive. Schedule 5, Chapter 2, Section 1, no.IX of M01798/2007 also stipulates that *'zoos, public aquaria and rehabilitation centres'* must establish an Ethics Committee to review all actions and activities, as well as establish a *'code of ethics'* (to be revised annually) to include policy on euthanasia, veterinary procedure, animal transfer and conservation and education.

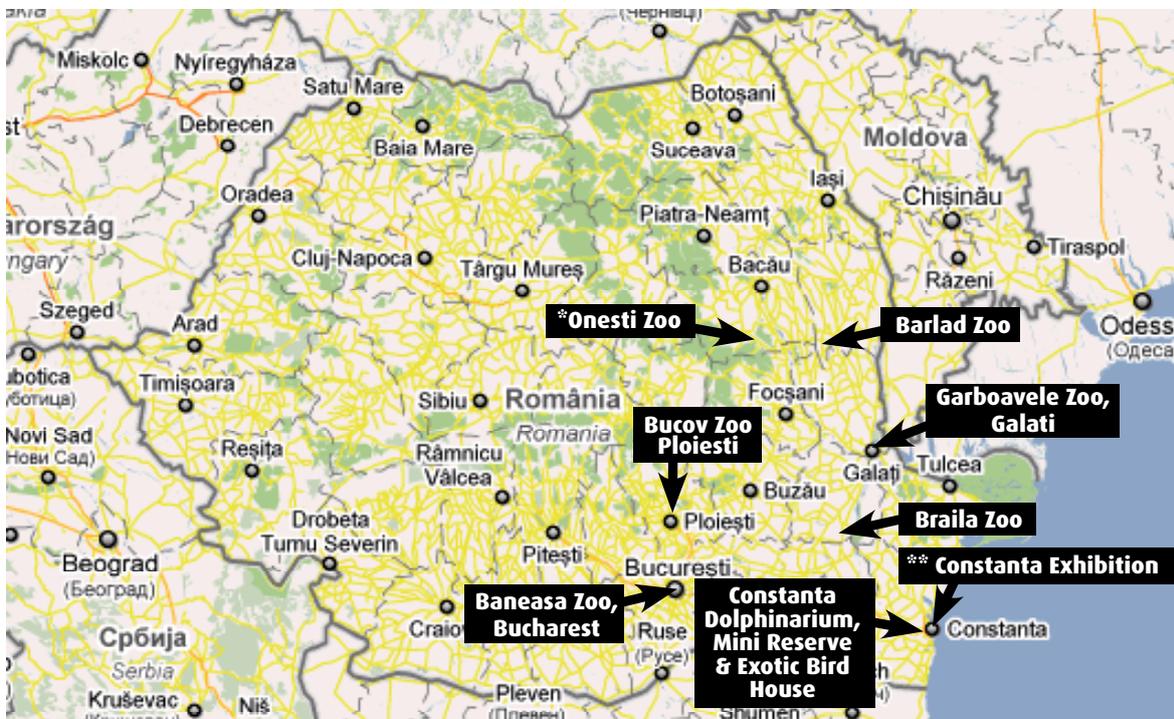
## The Zoo Investigation

A total of 10 zoos in Romania were selected. Data was collected at the following zoos during the months of July and August 2009 (Fig. 1):

Data were collected at the following zoos in October 2009 (Fig. 1):

- Barlad Zoo
- Braila Zoo
- Baneasa Zoo, Bucharest
- Constanta Aquarium
- Constanta Exotic Bird House
- Constanta Dolphinarium
- Constanta Mini-Reserve
- Garboavele Zoo, Galati
- \*Onesti Zoo
- Bucov Zoo Ploiesti
- \*\* Constanta Exhibition

*Character accents have not been included in these place names.*



**Figure 1** Geographical locations of the 10 zoos assessed in Romania plus Constanta Exhibition.

\* Onesti Zoo is unauthorised and reportedly '*closed to the public*' (National Registry of Zoos, 15.02.2010). However, during the assessment the investigator was given full access to the zoo as a member of the public.

\*\* During the investigation, the investigator identified another type of zoological collection which, because of its ability to move location, was not included in the National Register of Zoos or regulated under A191/2002 and M01798/2007. The travelling menagerie was established in Constanta for the whole summer (2009) and displayed numerous animals of wild species to the public (for a period of more than 7 days). A separate assessment was undertaken on this facility which highlights a possible loophole in the regulations and exposes the poor conditions of many of the animals. This establishment was not included in the assessment of Romania's Zoos but requires a mention.

N.B. NEPA appears to license the following establishments (Constanta Dolphinarium, Constanta Exotic Bird House and Constanta Mini-Reserve) as one zoo. However, as each zoo occupies a different facility, in this report each establishment has been assessed as a separate zoo.

## RESULTS AND INTERPRETATION

### GENERAL ZOO INFORMATION

#### Overview

The investigation evaluated 10 out of 33 known zoos in Romania. All were Municipally-owned. Apart from the Constanta zoos, entrance fees were minimal or non-existent.

Of the 10 zoos evaluated, five appeared to be members of FGZAR, the *Romanian Association of zoos and Aquaria* (FGZAR website), which was established (June 1997) in consultation with the *European Association of Zoos and Aquaria* (EAZA) following concerns raised over the conditions in Romania's zoos (EAZA Position Statement, 2007). No individual zoo in Romania is a member of EAZA or the *World Association of Zoos and Aquariums* (WAZA), however FGZAR is listed as a Temporary Associate of EAZA (EAZA website).

According to the Romanian Ministry of Environment and Sustainable Development, at the time of the investigation (August 2009) eight of the selected zoos were authorised (Baneasa Zoo, Barlad Zoo, Braila Zoo, Bucov Zoo, Garboavele Zoo, Constanta Aquarium, Constanta Dolphinarium, Constanta Exotic Bird House and Constanta Mini-Reserve) and one, Onesti Zoo, was 'unauthorised' (Ministry of Environment, pers. comm., 21st October 2010).

A total of 306 species (including subspecies where appropriate) were observed in 470 enclosures across the 10 zoos. A total of 19 *species holdings* could not be identified (see online Methodology).

None of the 10 zoos returned the Standard Zoo Questionnaire, which had been sent to all selected zoos.

#### Prevention of animal escapes

*'To prevent the escape of animals in order to avoid possible ecological threats to indigenous species'*

*(Article 10, A191/2002)*

*'Enclosures are constructed so as to prevent animals from escaping' and 'to develop the appropriate preventative measures'*

*(Articles 69, 71, 140 & 141, Section 1, Chapter 2, Schedule 5, of MO1798/2007)*

The Directive and Romanian law ascribe great importance to preventing the escape of non-native zoo animals and eight of the 10 zoos evaluated had a perimeter fence that could realistically contain escaped animals.

Three of the 10 zoos featured free-roaming animals. This included feral cats at Bucov Zoo, mute swans and horses at Constanta Mini-reserve and emu and red deer at Onesti Zoo. Mute swans (*Cygnus olor*) are registered as an 'established' DAISIE Invasive Alien Species (IAS) (DAISIE website) in Romania. Pests were also observed in numerous enclosures.

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

*'Animals are handled, groomed and trained only by, or under the supervision of, a specialist, ensuring the animals' welfare, avoiding unnecessary discomfort, stress or physical harm.'*

*(Articles 42 & 43, Section 1, Chapter 2, Schedule 5, of MO1798/2007)*

*'Public safety should not be jeopardised by potentially dangerous animals.'*

*(Article 137, Section 1, Chapter 2, Schedule 5, of MO1798/2007)*

Although none of the zoos actively encouraged members of the public to have direct contact with the animals, the frequently poor design of enclosures, lack of stand-off barriers and lack of available zoo staff allowed for direct contact

and in some cases, placed the public at significant risk. The public could easily come into direct contact with animals in 128 out of the 241 randomly selected enclosures (Section D and E), 33 of which contained Category 1 'Greater Risk' hazardous animals (SMZP). This included species such as grey wolf, lion, brown bear and tiger. Of the 10 zoos, 63% of the selected enclosures that contained Category 1 animals did not have the required signage to warn the public of the potential danger (Article 11(d), A191/2002). Enclosures in zoos Bucov, Garboavele, Onesti as well as Constanta Dolphinarium did not have any such signage.

**Figure 2**

Garboavele Zoo.

The poor state of repair of this particular enclosure for a brown bear (*Ursus arctos*) allowed potential contact with this Category 1 'Greater Risk' hazardous animal (SMZP).



**CONSERVATION**

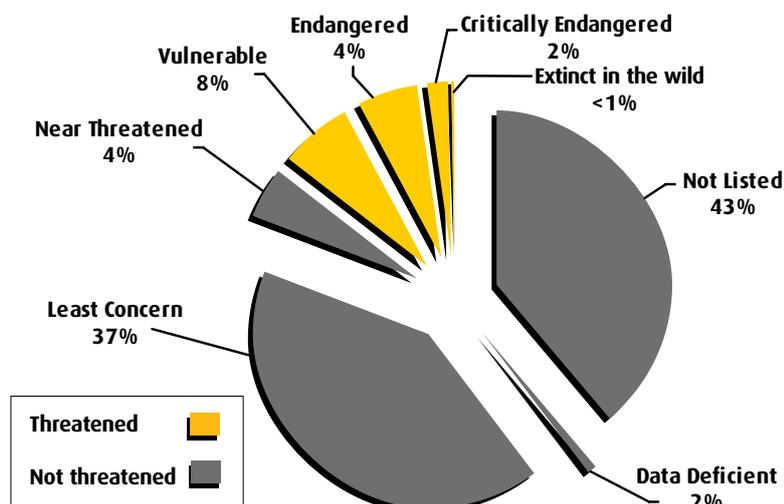
The conservation of biodiversity is the main objective of the Directive and this is also given prominence within A191/2002 and M01798/2007. In Romania all zoos are required to comply with at least one of the following:

- '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 10(a), A191/2002 and Article 3 of the Directive)

With no further guidance available to explain or provide examples of each of these vague requirements, there is likely to be broad interpretation. However, the results demonstrate that the conservation of biodiversity, particularly of Threatened species, is not a priority.

**Percentage of Threatened Species**



**Figure 3**

Proportion of the 306 species identified (including subspecies where appropriate) in the 10 Romanian 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	Proportion of total no. Species (%)
	Mammals	Birds	Reptiles	Fish	Amphibians	Invertebrates		
Not Listed	17	8	15	89	4	17	133	43
Not Evaluated	0	0	0	0	0	0	0	0
Data Deficient	0	0	0	5	0	0	5	2
Least Concern	33	64	3	11	0	33	114	37
Near Threatened	2	6	3	0	0	2	11	4
Vulnerable	5	7	4	7	1	5	24	8
Endangered	5	3	0	2	0	5	12	4
Critically Endangered	0	2	0	4	0	0	6	2
Extinct in Wild	0	0	0	1	0	0	1	<1
<b>Total No. Species</b>	<b>62</b>	<b>90</b>	<b>25</b>	<b>119</b>	<b>5</b>	<b>5</b>	<b>306</b>	<b>100%</b>
<b>Proportion of total no. Species (%)</b>	<b>20%</b>	<b>29%</b>	<b>8%</b>	<b>39%</b>	<b>2%</b>	<b>2%</b>	<b>100%</b>	<b>100%</b>

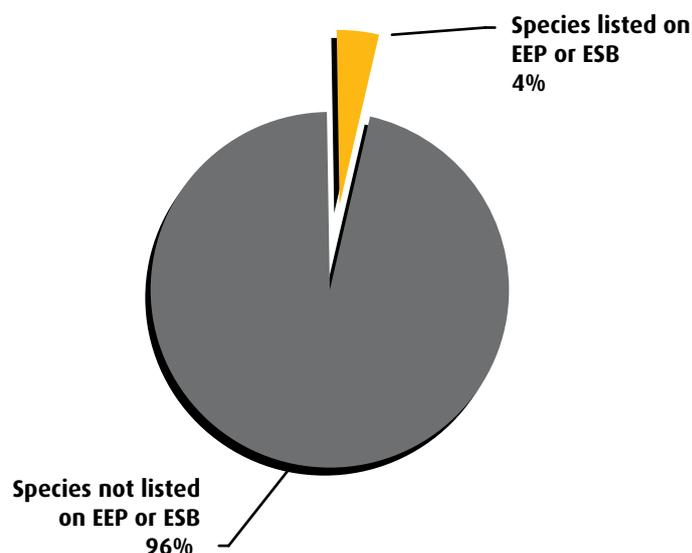
**Table 1** Proportion of the 306 species (including subspecies where appropriate) identified in the 10 Romanian zoos, categorised as Threatened and Not Threatened by the IUCN Red List of Threatened Species™ by taxa.

The results indicate that 14% (n = 42) of the total number of species from the 10 zoos can be described as Threatened (*Vulnerable* (8%), *Endangered* (4%) and *Critically Endangered* (2%)) (Table 1). Of the 42 Threatened species, 31% were fish, 29% were birds, 24% were mammals, 10% were reptiles, 5% were amphibians and the remaining 2% were invertebrates. The remaining 86% of the Not Threatened species were either classified as *Least Concern* (37%), *Near Threatened* (4%) or *Data Deficient* (2%) by the IUCN Red List of Threatened Species™ categorisation, or *Not Listed* (43%) (Fig. 3). **The majority of species exhibited in the zoos are either of Least Concern (species of low conservation priority) or are Not Listed by the IUCN Red List of Threatened Species™.**

### Participation in European coordinated captive breeding programmes

A further indicator of a zoo's commitment to the conservation of biodiversity is its participation in the *ex situ* conservation and management of species through coordinated captive-breeding programmes. This is stipulated as an option under the 'requirements of zoos', Article 3 of the Directive and Article 10 of A191/2002. MO1798/2007, states that if a zoo keeps 'endangered species' it must engage in such programmes to benefit the conservation of the species. However, the results indicated that only a minimal number of species kept by the selected zoos are listed on the register of European captive breeding programmes.

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



**Figure 4** The percentage of the 306 species (including subspecies where appropriate) identified in the 10 Romanian zoos that are part of an ESB or EEP.

Only 4% (n = 12) of the 306 species in the zoos are listed on the register of European Endangered Species Breeding Programmes (EEPs) or European Stud Books (ESBs). The investigation was unable to confirm if the zoos that kept the 12 'endangered species' (n = 7) actually participated in the Programmes (Fig. 4). No evidence could be found on the zoos' websites, in guidebooks (if available), or signage within the zoos to confirm participation in captive breeding programmes.

Furthermore, no evidence could be found on the zoos' websites, in guidebooks (if available), or signage within the zoos to confirm participation in, or support for, *in situ* conservation. However, four of the 10 zoos did appear to participate in research activities. This includes, a collaboration between Constanta Aquarium and Constanta Dolphinarium assessing anthropogenic pressures on biodiversity along the Black Sea coast, and claims by the Constanta Aquarium, Exotic Bird House and Mini-reserve that research is undertaken into the '*biology, ecology and ethology of animals*' (no further information was provided). This information was not provided by the zoos themselves, on their websites, in guidebooks, or signage within the zoos, but was instead reported on the website maintained by the Ministry of Environment (NEPA website).

## **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). This is transposed into both A191/2002, which states that zoos must educate the public about the species exhibited and their conservation, and M01798/2007 which requires zoos to establish an education strategy and provide educational facilities.

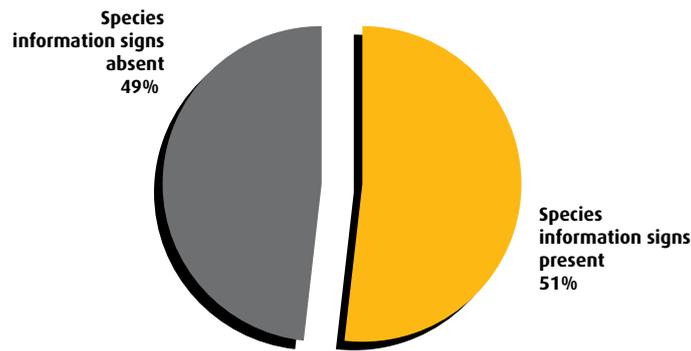
Although no evidence could be found during the assessment that the zoos were meeting these obligations, both the Ministry of Environment's website (NEPA website) and the completed Standard Member State Questionnaire contain information that suggests seven of the 10 selected zoos are involved in educational activities. This includes: four of the 10 zoos (Bucov Zoo, Constanta Dolphinarium, Constanta Exotic Bird House and Constanta Mini-Reserve) having access to a classroom facility; three of the 10 zoos facilitating pre-organised school groups (Barlad Zoo, Braila Zoo and Constanta Dolphinarium); four of the 10 zoos (Baneasa Zoo, Constanta Dolphinarium, Constanta Exotic Bird House and Constanta Mini-Reserve) operating public guided tours; and three of the 10 zoos are affiliated with scientific institutions (Bucov Zoo, Constanta Aquarium and Barlad Zoo). However, there was no evidence to confirm that any of the selected zoos had established an educational strategy as required by Schedule 5, Chapter 2, Section 1 (V) of M01798/2007 (Article 125).

### **Minimal species information**

A basic requirement of a zoo is to inform its visitors about the animals exhibited. A191/2002 states that this information should include: the species common name; scientific name; key aspects of its biology; geographic distribution and; the natural habitat of the species. Article 127 of M01798/2007 stipulates that this must include conservation status.

Despite these requirements, species information was lacking in all the zoos.

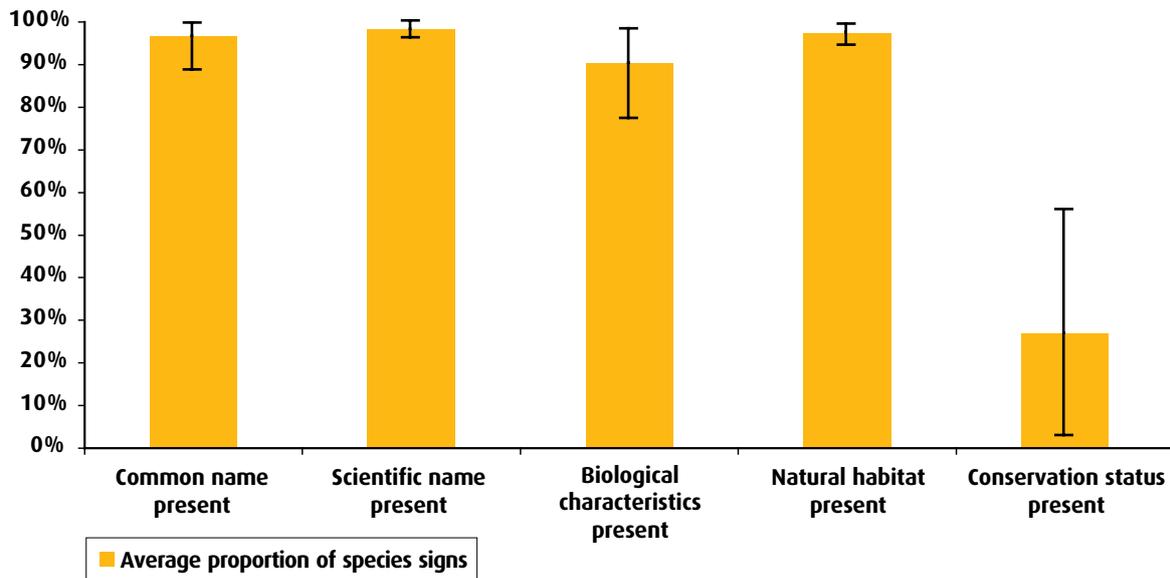
## Proportion of Species Information Signage Present



**Figure 5** The average percentage of species information signage present or absent (for all 652 *species holdings*) in the 10 Romanian zoos.

On average, 49% of *species holdings* completely lacked any form of species information signage (Fig. 5). Signage for eight *species holdings* was incorrect (inaccurate species' scientific names or incorrect species natural habitat) whilst others displayed only minimal information about the species. Figure 6 provides an overview of the content of the signage in the zoos.

## Quality of Species Information Signs



**Figure 6** Content of species information signage from the 10 Romanian zoos. Each column represents specific information, as indicated by best practice criteria (SZMP). Each value (e.g. Conservation status present, 27%) represents the average of the 212 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 species conservation status information on signage varied considerably between zoos in comparison with the presence of the species scientific name, which was almost universally present).

The results (Fig. 6) demonstrate that on average, 74% of species information signage did not contain all the required information (Article 11(c) of A191/2002) and on average, 73% of species information signage did not specifically include information on the conservation status of the species (as required by Article 127, Section 1 (V) Chapter 2, Schedule 5 of M01798/2007).



**Figure 7**

Barlad Zoo.

Many species information signs were in a bad condition and displayed minimal information about the species.

## EVALUATION OF ANIMAL ENCLOSURES

To evaluate the suitability and quality of each of the 241 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 and the Romanian standards (Articles 10(c) & (d) and 11(a), A191/2002 and Section 1 (I to IX) of Schedule 5, M01798/2007).

The 'Five Freedoms' (OIE Terrestrial Animal Health Code, 2010) 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 are to be kept in the appropriate hygienic conditions.'*

(Article 19, Chapter 2, Section 1 (I) of M01798/2007)

Many animals did not appear to 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 Standards (2006), which is similar to Chapter 2, Section 1 (I), Article 4 & 5 of M01798/2007)

Enclosures for wide-ranging species such as tigers (*Panthera tigris*), grey wolves (*Canis lupus*), brown bears (*Ursus arctos*) and lions (*Panthera leo*) were often of an inadequate size and therefore did not permit natural locomotive behaviour and, in cases where there was more than one individual, did not provide appropriate space to escape conflict and seek refuge.

Species requiring features to climb, bathe, height to fly, or a suitable substrate to dig or burrow in were often housed in conditions where natural behaviour was compromised. Enclosures generally lacked the appropriate furnishings or substrate to enable the animals to express natural behaviours.

At the time of assessment (August 2009) the enclosures appeared to provide the animals appropriate temperature and ventilation, but this may not be the case in the winter months, where temperatures in Romania can reach -32°C (BBC website). This would need further evaluation.

Enclosures were generally sterile environments, lacking appropriate bedding and protection from extreme temperatures. If there was an indoor enclosure access was usually given, but other furnishings to provide shelter or refuge within the outdoor enclosure were frequently absent.

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

*‘To prevent the occurrence and spread of pests and pathogens’*

(Article 1(d), Chapter 2, Section 1 (I) of MO1798/2007)

It appeared that many animals did not have access to clean, fresh drinking water. Many animals were housed in unhygienic conditions. Problems included the build-up of faeces, urine and stagnant water. Pests were observed in some of the zoos. Some enclosures were in a poor state of repair and could potentially place the animals at risk of injury.

*‘A complete programme in veterinary care is required and operated under the supervision of a veterinarian familiar with wild animal care’*

(Article 30, as well as Article 31 & 32, Chapter 2, Section 1 (I) of MO1798/2007)

Some animals observed appeared to be malnourished in some of the selected zoos. This raises questions about the provision of suitable husbandry expertise, health care and veterinary attention.

**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)

The majority of enclosures lacked the appropriate furnishings and environment enrichment to allow the species to express natural behaviours. Most selected enclosures failed to meet the requirements of the minimum standards in Tables 4 to 7 of Section 1, Schedule 5 of MO1798/2007.

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

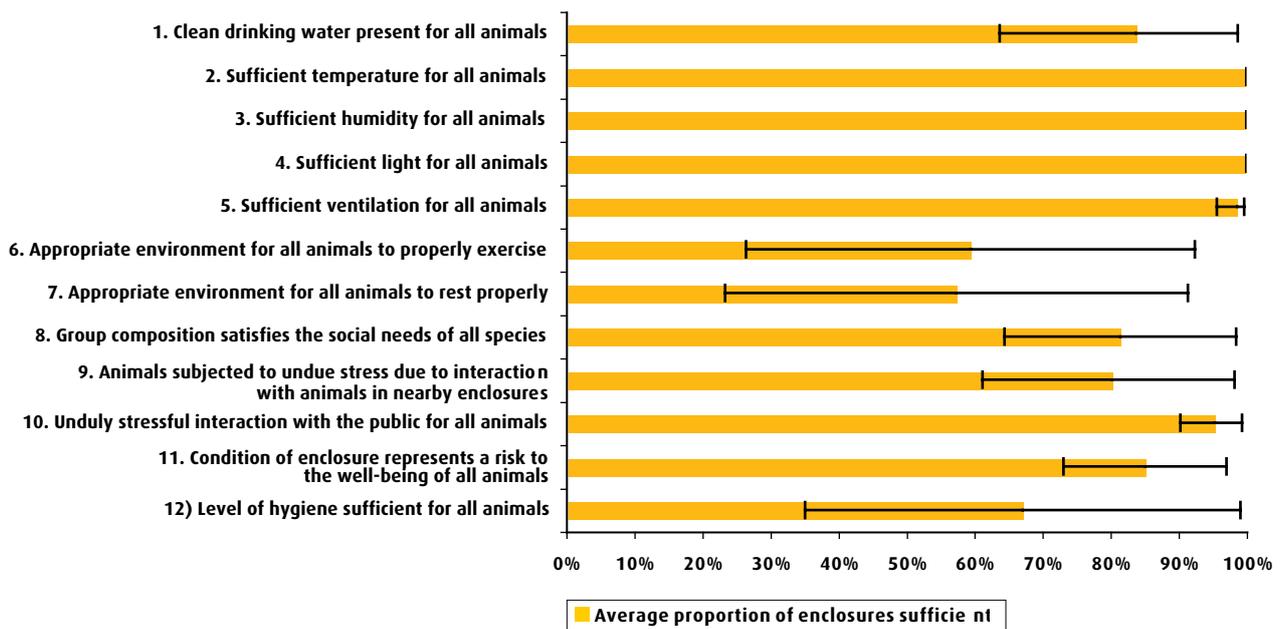
*‘Any direct physical contact between animals and the visiting public only to be under the control of zoo staff and for periods of time and under conditions consistent with the animals welfare and not leading to their discomfort’*

(Article 19, EAZA Minimum Standards for the Accommodation and Care of Animals in Zoos and Aquaria, 2006)

In some cases, predators were housed in close proximity to each other, opposite prey species, or in overcrowded conditions, which could cause the animals distress. Many enclosures lacked places of refuge or privacy from public view. The public were observed teasing and provoking aggressive reactions from animals.

The graph on the opposite page demonstrates an overview of this assessment

## Environmental Quality of Enclosures



**Figure 8** Environmental quality of the 241 randomly selected enclosures from the 10 Romanian 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 level of hygiene varied considerably between zoos in comparison to the quality of temperature). Where the presence of a condition or factor could not be determined, data were not included.

The results (Fig. 8) demonstrate that while most enclosures appeared to provide the animals with sufficient light, temperature, humidity and ventilation at the time of assessment, lower values were recorded for the provision of: clean drinking water (on average, 16% of enclosures did not provided clean drinking water); an appropriate level of hygiene in the enclosures (on average, 33% of enclosures were unhygienic); the availability of suitable facilities to allow the animals to rest (on average, 43% of the selected enclosures failed to provide appropriate structures or facilities to allow the animals to rest properly); and a suitable area to allow the animals to properly exercise and express their natural locomotive behaviour (on average, 41% of the selected enclosures were inadequate).



**Figure 9**

Barlad Zoo.

Many species, including this tiger (*Panthera tigris*) were exhibited in enclosures that failed to provide sufficient space and environmental complexity.



**Figure 10**

Onesti Zoo.

This enclosure fails to provide sufficient space to allow these lions (*Panthera leo*) to exercise and to escape aggression from cage companions.



**Figure 11**

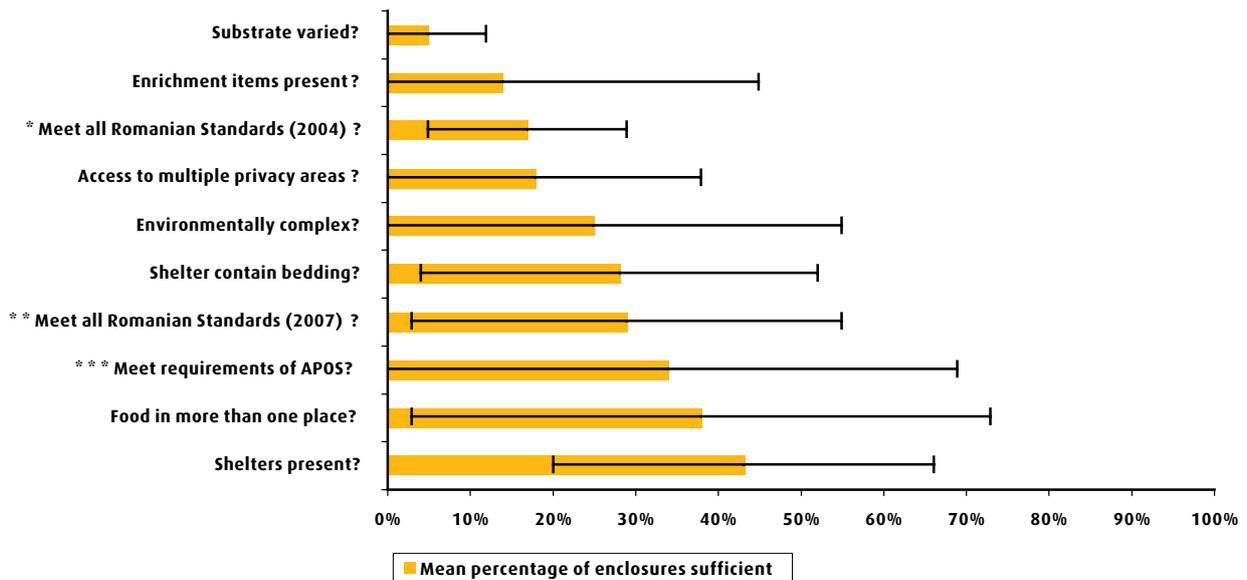
Barlad Zoo. Silver fox enclosure completely unsuitable for this species, there are no opportunities to dig or exercise properly.

The majority of the enclosures observed were devoid of species-specific furniture, apparatus and refuges to allow animals to exercise, rest, hide and express natural behaviours. In many cases, zoo enclosures consisted of bare concrete floors and did not satisfy the biological needs of the animals, as required by the Directive, A191/2002, M01798/2007 and M016/2010.

## 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 graph represents the results of an evaluation into the suitability of those enclosures assessed to permit the expression of most natural behaviours. The results have been ranked, with the most severe issues indicated in the graph below.

### Issues requiring immediate attention (where the percentage of enclosures complying is below 50%)



**Figure 12** Issues requiring immediate attention following assessment of 241 randomly selected enclosures from the 10 Romanian zoos. \* refer to Standards in Schedule 11 of M0742/2004, \*\* refers to Standards in Schedule 5, Tables 4 to 7 of M01798/2007 and \*\*\* Refers to Animal Protection Ordinance of Switzerland Tierschutzverordnung 2008. Error bars are a visual representation of the standard deviation from the mean value, demonstrating the variation in performance (e.g. there was far more variability in enclosures that provide the animals with enrichment items than enclosures that met all Romanian standards). Where the presence of a condition or factor could not be determined, data were not included.

The level of animal welfare was assessed in 241 randomly selected enclosures in the 10 zoos (Fig. 12). Issues requiring immediate attention include: the lack of any behavioural or occupational enrichment items or techniques such as toys or feeding devices (in 86% of enclosures); the inability for animals to access multiple privacy areas (82%); the lack of environmental complexity (75%); and the availability of appropriate shelters in the enclosures (18%).



**Figure 13**

Garboavele Zoo.

This red fox (*Vulpes vulpes*) enclosure lacks environmental complexity that would encourage the animal to express natural behaviours.



**Figure 14**

Onesti Zoo.

Bar-biting is an abnormal behaviour often arising as a consequence of an impoverished environment.

**Widely Represented Issues of Concern** (where the percentages of enclosures complying score between 51% and 70%)

- On average, 42% of enclosures did not appear to be large enough to allow the animals to sufficiently distance themselves from potentially aggressive or dominant cage companions;
- On average, 37% of enclosures did not appear to provide the animals with suitable substrate to allow species-typical movements and behaviours;
- On average, 35% of enclosures did not appear large enough to permit the animal to express its full repertoire of natural locomotive movements (such as flying, swimming, running).

**Less Widely Represented Issues of Concern** (where the percentages of enclosures score above 71%)

- On average, 19% of enclosures were overcrowded;
- On average, it appeared that 13% of enclosures could not properly mitigate climatic extremes;
- On average, a build up of excrement was observed in 8% of enclosures.

Two national sets of minimum standards for the keeping of animals in zoos, which provide species-specific guidance, were used in the study to ascertain whether enclosures were suitable for the species contained. These were: the Animal Protection Ordinance of Switzerland, Tierschutzverordnung 2008 (APOS), chosen as an independent set of standards from a non-EU Member State, and the Romanian standards of '*minimum space requirement*' (Section 1 of Schedule 5, Tables 4 to 7, M01798/2007). All selected enclosures (Sections D and E analysis) were assessed against these standards. The results determined that, on average, **71% of the enclosures failed to meet the specified requirements described in Tables 4 to 7 of Section 1, Schedule 5 of M01798/2007** and 63% of enclosures that exhibited species listed on APOS did not meet these minimum requirements.

# CONCLUSION



This survey has covered almost one third of the known zoos in Romania. Overall, it has revealed that standards are below those required by Romanian law (A191/2002 & MO1798/2007) and the EC Directive 1999/22.

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

### **1. Implementation of the Directive**

The Directive was effectively transposed into the Romanian law no. 191 in 2002 (A191/2002), which established the means to license and inspect zoos and ensure that they meet the specified requirements (Article 3) of the Directive. In addition, zoos in Romania are required to comply with the Ministerial Order for Environmental Protection (Schedule 5, MO1798/2007) and Veterinary Certification (MO16/2010). The Directive came into force in Romania in January 2007.

Although the implementation of the Directive by 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'. In other Member States, this has resulted in large numbers of zoological collections being exempt from the Directive and, therefore, licensing and compliance with standards. However, in Romania the authors believe that the majority of zoos (as defined) have been correctly identified by the authorities but, poor enforcement through a lack of expertise appears to have resulted in inconsistent application.

Travelling menageries, however, do require a mention. During the investigation, the investigator visited a travelling exhibition in Constanta that displayed numerous wild animals to the public for more than seven days, which included Humboldt penguins (*Spheniscus humboldti*) and species of shark and piranha. The housing conditions certainly appeared to compromise the welfare of these animals, species conservation was not mentioned and there was limited educational value. As this was not a permanent establishment, it is not regulated by either A191/2002 or MO1798/2007, but it should be inspected by local veterinary services (Chapter II, Section 2(f) & Chapter VI, Schedule 1 of MO16/2010). **NEPA should seek to ensure all establishments, permanent and temporary, that display wild animals to the public are licensed and meet specific standards that protect the animals concerned.**

Since the implementation of A191/2002, the Ministry of Environment and Sustainable Development and NEPA has made significant efforts to establish standards that comply with requirements of the Directive and to try to improve the conditions in zoos in the country. This has included: collaboration with EAZA to '*amend and improve*' the Romanian zoo regulations (EAZA, pers. comm., 5th March 2007); the training of enforcement personnel through collaboration with the Romanian Association for Animal Protection (APAR) and the Born Free Foundation (BFF) (workshop, 2nd & 3rd July 2007) and subsequent report (BFF & APAR, 2007); a further workshop involving Government departments and NGOs, focused on 'animal welfare in Romanian zoos' on 13th May 2008 (Workshop Minutes, 2008; BFF, APAR & WSPA, 2008); the relocation of individual animals from closing zoos; and the provision of financial support to upgrade failing zoos (Ministry of Environment Press Release, 2007). The May 2008 meeting concluded that both the zoo inspectorate and zoo staff required further training (Workshop Minutes, 2008), however, no evidence is available that this was implemented.

On 7th December 2007, the Ministry of Environment and Sustainable Development announced that €38 million (75% from the State Budget + 25% from local authority budget) had been assigned to the upgrading of zoos in Romania (Government Decision no.1500/2007). The funds would be allotted to the respective regional administrative authorities over a six-year period (Ministry of Environment, pers. comm., 21st October 2010) for zoos that had submitted a project proposal detailing intended improvements. To date, plans for 14 out of the 33 recognised zoos have been authorised and of these, eight have been assigned funding (Ministry of Environment, pers. comm., 21st October 2010). In addition, Sibiu Zoo has also reportedly undergone modernisation (Daily News, 2006) and the Constanta zoos were allocated funds from the EU Romania-Bulgaria Trans Border Cooperation Programme (Novinite, 2010). However, as a matter of concern, there does not appear to be any procedures in place to verify whether the funding has been effectively assigned or that the proposed improvements have been achieved (NEPA, pers. comm., 11th August 2009).

Based on previous zoo visits, Baneasa and Braila Zoos have made some improvements to the conditions. **It is not known what assistance is available to those zoos that have not been allocated funds for upgrading or if they will be able to comply with the provisions of M01798/2007 and obtain an operating licence.**

According to the latest in a series of published reports from NEPA concerning the registration of zoos in Romania, 21 zoos have been authorised; eight are unauthorised but are *'in the process of being authorised'*; and four remain unauthorised and *'closed to the public'* (National Registry of Zoos, 30.11.2010).

The Ministry of Environment has indicated in the past the need to reduce the numbers of zoos in the country and called upon some local authorities to phase-out their collections (Ministry of Environment Press Release, 2008a). Since the implementation of the Directive, seven zoos have been closed and the animals relocated (Standard Member State Questionnaire & Ministry of Environment, pers. comm., 21st October 2010). It is of concern that the 12 'unauthorised' zoos, which are required to display a sign stating *'Establishment without permit'*, including zoos like Onesti Zoo, which is reportedly *'closed to the public'* (Ministry of Environment, pers. comm., 21st October 2010), are permitted to operate and be open to the public. **This could contravene the requirements of the Directive.**

An obstacle that appears to have hindered the implementation and enforcement of the Directive in Romania is local governance by Municipal authorities. Municipalities own and operate the majority of zoos in the country but do not appear to have the same level of commitment as the Ministry to achieving the effective implementation and enforcement of A191/2002 and specifically M01798/2007. Despite the Notice of 11th March 2008 (Ministry of Environment Press Release, 2008a), local Mayors continue to defend the existence of their zoos **but take little action to ensure they meet the required standards.**

## **2. Ineffective enforcement**

In 2010, the National Environmental Guard apparently undertook 58 inspections at zoos in Romania, which resulted in the issuing of 103 conditions for authorisation and two sanctions. Reportedly, the official inspections have shown that most zoos have an Environmental Permit; conditions for the animals are in accordance with M01798/2007; animals are maintained in a good state of health and welfare; and preventative measures are in place to protect the public (pers. comm., 21st October 2010). Results from this zoo investigation (August 2009), give a very different picture: none of the zoos appear to fully comply with the Directive or Romanian law; zoos are failing in their obligation to conserve biodiversity, to educate and protect the public and; many animals are being kept in completely inadequate conditions. Whilst further investigation is required to ascertain what improvements have taken place in the 10 selected zoos in the last 13 months, **the authors are hesitant to assume that all the identified problems have been effectively addressed, especially when the Ministry of Environment has acknowledged the need for further guidance and training of the zoo inspectorate (Workshop Minutes, 2008 and Standard Member State Questionnaire).**

Article 6 of the Directive states that should a zoo fail to comply with the requirements, it should close, yet 'unauthorised' zoos in Romania remain open and operational. Furthermore, assessment of 'authorised' zoos, as part of this investigation, has revealed that none of them actually comply with all the requirements of A191/2002 & M01798/2007, or the Directive. In particular, their commitment to the conservation of species and providing appropriate living conditions for their animals remains weak and does not meet the legal specifications. The majority of enclosures do not comply with the 'minimum standards' described in Tables 4 to 7, Chapter 2, Schedule 5 of M01798/2007).

These results call into question the ability and competence of the National Environmental Guard, ANSVSA and the local Environmental Protection Authority to effectively enforce the law.

The millions of Euros allotted by the Ministry of Environment and local authorities to upgrade the infrastructure in Romanian zoos will no doubt bring about some improvements, but without monitoring of the allocated funds and a similar

investment in increasing the knowledge and expertise of the enforcement agencies, it is believed that little improvement in overall compliance will result. **The provision of external guidance and further training should be regarded as essential in order for Romania to meet the requirements of the Directive, A191/2002 and M01798/2007.**

### 3. Prevention of animal escapes

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

Romanian environmental protection law (M01798/2007) includes numerous articles that recognise the risks of animal escapes and requires zoos (and other establishments that keep recognised IAS) to adopt preventative measures. The results of this investigation indicate that the majority of the zoos assessed had a secure perimeter fence and that in those cases where free-roaming animals were observed, their escape from the zoo grounds seemed unlikely. It should be noted that during the assessment many enclosures appeared to be in a poor state of repair and, whilst there were no obvious signs that animals contained could escape, pest animals were seen entering through holes in the fencing.

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 impacts (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'. In the Spanish investigation, 80% of these enclosures housed non-indigenous species, including 21 species listed by the European Inventory of IAS (Fábregas *et al.*, 2010). The escape of two tigers from their enclosure in Hunedoara Zoo, Romania in 2009 (SkyNews, 2009), substantiates the need for the ACPM to ensure secure fencing is in place in all facilities keeping wild animals and to undertake regular risk assessment.

### 4. Public placed at risk of injury and illness

Although none of the zoos actively encouraged members of the public to have direct contact with the animals, the often poor design and poor condition of the enclosures, the lack of stand-off barriers and the lack of zoo staff created the opportunity for direct contact and in some cases, placed the public at significant risk. The public could easily come into direct contact with potentially dangerous wild animals, which included enclosures exhibiting Category 1 'Greater Risk' Hazardous Animals as categorised by the SMZP. Few zoos correctly warned the public with appropriate signage of the potential risks of injury, a particular requirement of Article 11(d) of A191/2002 and Article 79 of M01798/2007.

### 5. Poor record for conservation

The Directive requires all zoos in the European Community to 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 are given a number of options as to how they can contribute to this common goal:

- *'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 10(a), A191/2002 and Article 3 of the Directive)

As with the majority of Member States, no further guidance is available to zoo inspectors or operators that would advise zoos how to effectively conserve biodiversity and protect threatened species (Standard Member State Questionnaire). The options listed above are vague and interpretation broad, but further requirements in M01798/2007

stipulate that Romanian zoos must demonstrate measurable performance in respect to conservation, education and research (Article 122) and, should a zoo keep endangered species, it must actively participate in research that contributes to species conservation in the wild (Article 121).

The results of this investigation, however, demonstrate that conservation of biodiversity, particularly threatened species, is not a priority in Romanian zoos. The great majority of species exhibited are either categorised as *Least Concern* (species of low conservation importance) or are *Not Listed* by the IUCN Red List of Threatened Species™. Threatened species (*Vulnerable*, *Endangered* and *Critically Endangered*) constituted only 14% of the total number of species observed in the 10 zoos. Moreover, only 4% of the species are listed on the register of EEPs or ESBs but, no evidence could be found to suggest that any of the zoos were participating in national or international captive breeding programmes. Romanian zoos do not appear to be meeting their obligations to species conservation and any evaluation of performance appears to be failing in its endeavours.

Less than half of the selected zoos appeared to participate in research activities, a requirement of all zoos (as specified by A191/2002 and M01798/2007). This information was not conveyed by the zoos themselves but instead on a website maintained by the Ministry of Environment, which stated that only six out of the total number of zoos in Romania (recognising the Constanta zoos as individuals) are involved in research activities (NEPA website). However, it is not known if the research undertaken actually benefits 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.

One notable issue of concern has been the apparent uncontrolled breeding of lions in Romanian zoos, which in the past have been sold to individuals and used for commercial purposes, e.g. the use of lions as photographic props in tourist resorts (Minister of Environment, pers. comm., 7th March 2008). This practice clearly has no value to species conservation.

**Overall, the results demonstrate that Romanian zoos are making an insignificant contribution to the conservation of biodiversity.**

## **6. Limited educational value**

In addition to a commitment to the conservation of biodiversity, zoos in the EU are required to educate the public, particularly about the conservation of biodiversity. The Romanian law A191/2002 and M01798/2007 require zoos to establish an education strategy, to allocate facilities for educational purposes and to inform the public about the species exhibited and their conservation.

The Ministry of Environment claims that seven of the 10 selected zoos participated in some kind of educational activity. However, only four seem to have access to a '*facility for educational purpose*', three are affiliated with a scientific institution and four of the 10 appear to provide guided tours (NEPA website). During the evaluation of the zoos for this report no evidence could be found to substantiate these claims, nor any of the selected zoos had an established educational strategy. None of the evaluated zoos completed and returned the Standard Zoo Questionnaire.

The results demonstrate that much of the signage in all 10 zoos was either incomplete, inaccurate or absent. Romanian law requires all species exhibited to have information signage that includes details of their taxonomy, biology, ecology and conservation. Only half of all the *species holdings* had species information signage and of the signage that was present, 74% did not contain all the required information. Furthermore, enclosure design, which can have a degree of educational value, was limited in Romanian zoos. The majority of enclosures in most of the zoos consisted of an empty

shell that lacked form, furnishings, apparatus and vegetation, and did not meaningfully represent or replicate the species' natural habitat.

Constanta Dolphinarium was the only facility which presented animals in a 'performance' context through a show involving Californian sea lions (*Zalophus californianus*). The performance did not appear to be based on observed wild behaviours and did not, in the view of the investigator, provide meaningful educational value to the viewing public.

**The majority of Romanian zoos did not appear to deliver activities or information that could be described as being of educational value to the general public.**

## **7. Unsuitable living conditions for animals**

This assessment of zoo enclosures in Romania identified a general lack of resources, knowledge and expertise by the zoo operators and enforcement agencies concerning the keeping of wild animals in captivity.

For example:

- some species were kept in small enclosures that did not attempt to meet their spatial needs;
- social species were often housed alone;
- the majority of enclosures were devoid of furniture, apparatus and materials to allow the species to exercise and express natural behaviours;
- some enclosures had an inappropriate build-up of faeces and urine that could be harmful to the animals;
- little consideration had been given to the essential biological and behavioural needs of the animals.

It is widely recognised that the keeping of animals for prolonged periods in 'impoverished' and cramped captive conditions can compromise both their physical and mental health and their general welfare. Conditions that fail to provide the animal with its basic needs can cause 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.

Romanian zoo law recognises these basic needs and has incorporated the requirements of the Directive that all zoos should '*aim to satisfy the biological and conservation requirements of individual species*' (Article 10(c)), through species-specific environmental enrichment and good animal husbandry. It also includes a set of minimum species-specific standards on the appropriate keeping of wild animals in captivity (M01798/2007). However, **without effective enforcement of the law and its application in Romanian zoos, any attempt to ensure that captive animals are kept in a suitable environment is severely compromised.**

The results of this investigation demonstrate that the majority (71%) of the selected enclosures failed to meet the species-specific minimum standards of M01798/2007. Interestingly, evaluating the same enclosures using the former standards included in M0742/2004 (repealed by M01798/2007), resulted in an 83% failure rate. Although improvements to enclosures were noted (compared to previous visits), these were often minimal (e.g. Braila Zoo).

The health and welfare of animals is being compromised and much more must be done by the Government, the National Environmental Guard, the ANSVSA, the ACPM and local Municipalities to make the necessary improvements. Encouragingly, the Ministry of Environment recognises this as a priority, but the apparent failure of the majority of zoos to meet the required standards, four years after the implementation of the law, calls into question whether zoo operators hold the same view. A lack of resources (Standard Member State Questionnaire) is certainly a contributing factor, but when there is an obvious failure by the zoo operators to meet their responsibilities, the Government should consider taking stronger steps to ensure improvements or implement relevant penalties, including zoo closure. **Species-specific guidance and standards would assist zoos and the Competent Authority in ensuring more suitable captive environments.**

## 8. Poor level of animal welfare

This investigation revealed a low standard of animal husbandry and general animal care. This was often intrinsically linked with the poor environmental quality of the enclosures and possibly a lack of appropriate knowledge by zoo operators and inspection authorities. The majority of the enclosures did not provide the animals with a suitably varied and complex captive environment and, due to a lack of stimulation and the opportunity to exercise and express natural behaviours, examples of abnormal behaviours were observed, particularly in some far-ranging species.

It is widely recognised that 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) and without it animals are likely to develop abnormal repetitive behaviours, recognised as indicators of poor animal welfare (Mason and Rushen, 2006). Equally, a cramped and 'predictable' captive environment can lead to obesity and muscular atrophy, which may in turn lead to welfare impacts with secondary health consequences (Fowler & Mikota, 2006; Harris *et al.*, 2008).

Both the Directive and Romanian law require zoos to provide their animals with conditions that aim to satisfy the biological needs of the individual species, to include environmental enrichment in enclosures and provide high standards in animal husbandry. In Romania, zoo operators are expected to check the health and welfare of their animals on a daily basis (Article 27, M01798/2007). However, conditions are still substandard and there have been some concerning reports confirming that animal welfare has been compromised (Ionescu, 2007; EAZA Position Statement, 2007; Stirile Pro TV, 2009). **Overall, Romanian zoos do not appear to be meeting any of these legal requirements and animal health and welfare is being compromised.**

As a matter for immediate attention, the Government must seek to improve the species-specific minimum standards of M01798/2007 and incorporate relevant and effective species-specific environmental enrichment that will allow the individual animals to express natural behaviours. In the current captive environments, the physical and psychological state of many animals is unacceptably poor and likely to worsen

### In summary

Romanian zoos are:

- **failing to participate in or make a significant contribution to the conservation of biodiversity**
- **failing to make a significant contribution to *ex situ* conservation**
- **failing to deliver activities or information of significant educational value to the general public**
- **failing to take preventative measures to sufficiently protect the public from potential injury and the transmission of disease**
- **failing to provide their animals with a suitable environment**
- **failing to recognise species-specific requirements that will allow animals to express natural behaviours**
- **compromising the health and welfare of the animals**
- **failing to meet the minimum requirements of the Directive, A191/2002 and the Ministerial Order 1798/2007**

## REFERENCES

- BBC Weather. [http://www.bbc.co.uk/weather/world/city\\_guides/results.shtml?tt=TT004200](http://www.bbc.co.uk/weather/world/city_guides/results.shtml?tt=TT004200) (last accessed on 18th January 2011).
- Born Free Foundation (2004). *UK Zoo Review 2004*.
- Born Free Foundation & Romanian Association for Animal Protection (2007). *Implementation and enforcement of Directive 1999/22/EC + Romanian law specific to the keeping of wild animals in zoos*. Zoo Work Plan.
- Born Free Foundation, Romanian Association for Animal Protection & WSPA (2008). *Implementation and enforcement of Directive 1999/22/EC + Romanian law specific to the keeping of wild animals in zoos*. Zoo Work Plan.
- Crockett, C., Bielitzki, J., Carey, A. & Velez, A. (1989). Kong toys as enrichment devices for singly-caged macaques. *Laboratory Primate Newsletter*, **28**: 21-22.
- Council Directive (EC) 1999/22/EC of 29 March 1999 relating to the keeping of wild animals in zoos.
- Daily News (2006). Oldest zoo in Romania to become the most modern. Available from [http://www.daily-news.ro/article\\_detail.php?idarticle=22132](http://www.daily-news.ro/article_detail.php?idarticle=22132) (last accessed on 1st February 2006).
- Delivering Alien Invasive Species Inventories for Europe (DAISIE): [www.alien-europe.org](http://www.alien-europe.org) (last accessed on 18th January 2011).
- Department for Environment, Food and Rural Affairs (2004). *Standards of Modern Zoo Practice 2004*. Available from <http://www.defra.gov.uk/wildlife-pets/zoos/zf-handbook.htm> (last accessed on 18th January 2011).
- Department for Environment, Food and Rural Affairs (2008). *Zoos Forum Handbook*. Available from <http://www.defra.gov.uk/wildlife-pets/zoos/zf-handbook.htm> (last accessed on 18th January 2011).
- Email from the Permanent Representation of Romania to the EU on behalf of the Ministry of Environment, 20th September 2010 (including NEPA National Registry of Zoos, 15.02.2010).
- Email from the Permanent Representation of Romania to the EU on behalf of the Ministry of Environment, 21st October 2010.
- Email from European Commission DG Environment, 7th January 2008 (the vast majority of funding used to upgrade Romanian zoos was from the national budget).
- Email from Chair of EAZA Technical and Animal Welfare Committee, 5th March 2007.
- ENDCAP (2009). *Animal Welfare Excellence in Europe*. Available from [www.endcap.eu](http://www.endcap.eu) (last accessed on 18th January 2011).
- Eurogroup for Animals (2008). *Report on the Implementation of the EU Zoo Directive*. Available from <http://www.eurogroupforanimals.org/pdf/reportzoos1208.pdf> (last accessed 18th January 2011).
- European Association of Zoos and Aquaria (EAZA). [www.eaza.net](http://www.eaza.net) (last accessed on 18th January 2011).
- European Association of Zoos and Aquaria (2007). *EAZA Position Statement on the circumstances of the death of an elderly elephant at Bucharest (Baneasa Zoo), Romania*. Dr. Leobert E. M. de Boer (Chairman EAZA).
- Fàbregas, M. C., Guillén-Salazar, F. & Garcés-Narro, C. (2010). The risk of zoological Parks as potential pathways for the introduction of non-indigenous species. *Biol Invasions*, DOI 10.1007/s10530-010-9755-2.
- Fowler, M. E. & Mikota, S. K. (2006). *Biology, medicine, and surgery of elephants*. Oxford, Blackwell Publishing Ltd.
- Harris, M., Harris, S. & Sherwin, C. (2008). The welfare, housing and husbandry of elephants in UK zoos. Report to DEFRA. University of Bristol.
- InfoZoos, (2006). *La salud de los zoos, adecuación de los parques zoológicos españoles a Ley 31/2003*.
- InfoZoos, (2008). *La salud de los zoos, adecuación de los parques zoológicos de las Islas Canarias al real decreto 31/2003*.
- International Union for Conservation of Nature (IUCN) Red List of Threatened Species™: [www.iucnredlist.org](http://www.iucnredlist.org) (last accessed on 18th January 2011).
- Ionescu, C. (2007). Elephant left to die as Romania's zoos struggle. *The Telegraph*, 1st July. Available from <http://www.telegraph.co.uk/news/worldnews/1556191/Elephant-left-to-die-as-Romanias-zoos-struggle.html> (last accessed on 19th January 2011).
- Jordan, B. (2005). Science-based assessment of animal welfare: wild and captive animals. *Rev. sci. tech. Off. int. Epiz.*, **24** (2), 515-528.

- Lewis, M., Presti, M., Lewis, M. & Turner, C. (2006). The neurobiology of stereotypy I: environmental complexity. In Mason, G. & Rushen, J. *Stereotypic animal behaviour: fundamentals and applications to welfare 2nd edition*. Trowbridge, Cornwall, Cromwell Press.
- Mallapur, A., Qureshi, Q. & Chellam, R. (2002). Enclosure design and space utilization by Indian leopards (*Panthera pardus*) in four zoos in southern India. *Journal of Applied Animal Welfare Science*, **5** (2), 111-12.
- Mason, G. & Rushen, J. (2006). *Stereotypic animal behaviour: fundamentals and applications to welfare 2nd edition*. Trowbridge, Cornwall, Cromwell Press.
- Meeting with the Minister of Environment and Sustainable Development on 7th March 2008.
- Meeting with the National Environmental Protection Agency on 11th August 2009.
- Ministry of Environment and Sustainable Development (2002). *Law no. 191 of 16th April 2002 public zoos and aquariums*. Available from <http://freelex.wolterskluwer.ro/DocumentView.aspx?DocumentId=00054851> (last accessed on 19th January 2011).
- Ministry of Environment and Sustainable Development (2004). *Order no. 742 of 22 November 2004 approving the Guidelines for the authorisation, inventory and registration of zoos and public aquariums*. Available from <http://freelex.wolterskluwer.ro/DocumentView.aspx?DocumentId=00080993> (last accessed on 19th January 2011).
- Ministry of Environment and Sustainable Development (2007a). *Order no. 62 of 7 March 2007 approving Sanitary veterinary norm regarding the procedure for registration and licensing of veterinary facilities and means of transport in health and welfare*. Available from <http://freelex.wolterskluwer.ro/DocumentView.aspx?DocumentId=101225> (last accessed on 19th January 2011).
- Ministry of Environment and Sustainable Development (2007b). *Order no. 1798 of 19 November 2007 for approval Procedure for issuing environmental permits*. Available from <http://www.eu-wildlifetrade.org/pdf/natleg/MinisterialOrder1798-2007ro.pdf> (last accessed on 19th January 2011).
- Ministry of Environment and Sustainable Development (2007). *PRESS RELEASE: MESD will finance the modernisation of zoos, 07.12.2007*. Available from [http://www.mmediu.ro/vechi/biroul\\_de\\_presa/comunicate\\_de\\_presa/12\\_Decembrie\\_2007/07.12.07a.pdf](http://www.mmediu.ro/vechi/biroul_de_presa/comunicate_de_presa/12_Decembrie_2007/07.12.07a.pdf) (last accessed on 18th January 2011).
- Ministry of Environment and Sustainable Development (2008a). *PRESS RELEASE: Visit by Attila Korodi (Minister of Environment and Sustainable Development) to the bear sanctuary in Zarnesti, 11.03.2008*. Available from [http://www.mmediu.ro/vechi/biroul\\_de\\_presa/comunicate\\_de\\_presa/03\\_Martie\\_2008/11.03.08a.pdf](http://www.mmediu.ro/vechi/biroul_de_presa/comunicate_de_presa/03_Martie_2008/11.03.08a.pdf) (last accessed on 18th January 2011).
- Ministry of Environment and Sustainable Development (2008b). *PRESS RELEASE: Visit by Attila Korodi (Minister of Environment and Sustainable Development) to Baneasa Zoo, 13.03.2008*. Available from [http://www.mmediu.ro/vechi/biroul\\_de\\_presa/comunicate\\_de\\_presa/03\\_Martie\\_2008/13.03.08a.pdf](http://www.mmediu.ro/vechi/biroul_de_presa/comunicate_de_presa/03_Martie_2008/13.03.08a.pdf) (last accessed on 18th January 2011).
- National Environmental Protection Agency (NEPA). [www.anpm.ro](http://www.anpm.ro) (last accessed on 18th January 2011).
- National Environmental Protection Agency (2010). *National Registry of Zoos (30.11.2010)*. Available from [http://www.anpm.ro/articole/gradini\\_zoologice\\_acvarii\\_publice\\_centre\\_de\\_reabilitare-159](http://www.anpm.ro/articole/gradini_zoologice_acvarii_publice_centre_de_reabilitare-159) (last accessed on 18th January 2011).
- Novinite (2010). EU Grants Bulgaria, Romania Zoos Over EUR 1M. Available from [http://www.novinite.com/view\\_news.php?id=115566](http://www.novinite.com/view_news.php?id=115566) (last accessed on 18th January 2011).
- Pruetz, J. D. & Bloomsmith, M. A. (1992). Comparing two manipulable objects as enrichment for captive chimpanzees. *Journal of Animal Welfare*, **1**: 127-137.
- Romanian Association of zoos and Aquaria (FGZAR): <http://www.federatiAZOO.ro/> (last accessed on 19th January 2011).
- SkyNews (2009). Tigers Amaze Officials With Mystery Zoo Escape. Available from <http://www.foxnews.com/world/2009/09/26/tigers-amaze-officials-mystery-zoo-escape/> (last accessed on 18th January 2011).
- Shine, C., Kettunen, M., ten Brink, P., Genovesi, P. & Gollasch, S. 2009. Technical support to EU strategy on invasive species (IAS) – Recommendations on policy options to control the negative impacts of IAS on biodiversity in Europe and the EU. Final report for the European Commission. Institute for European Environmental Policy (IEEP), Brussels, Belgium. 35 pp. Available from [http://ec.europa.eu/environment/nature/invasivealien/docs/Shine2009\\_IAS\\_Final%20report.pdf](http://ec.europa.eu/environment/nature/invasivealien/docs/Shine2009_IAS_Final%20report.pdf) (last accessed on 28th October 2010).

Standard Member State Questionnaire, received by email on 19th August 2010.

Stirile Pro TV (2009). "Calul ucis era bolnav, a fost anesteziat, dar ingrijitorii s-au grabit". Available from <http://stirileprotv.ro/stiri/eveniment/calul-ucis-era-bolnav-a-fost-anesteziat-dar-ingrijitorii-s-au-grabit.html#video> (last accessed on 19th January 2011).

Swaisgood, R. & Sheperdson, D. (2006). Environmental enrichment as a strategy for mitigating stereotypies in zoo animals: a literature review and meta-analysis. In Mason, G. & Rushen, J. *Stereotypic animal behaviour: fundamentals and applications to welfare 2nd edition*. Trowbridge, Cornwall, Cromwell Press.

The Swiss Federal Council (2008). *Animal Protection Ordinance of Switzerland (Tierschutzverordnung)*. Available from <http://www.admin.ch/ch/d/sr/4/455.1.de.pdf> (last accessed on 18th January 2011).

World Association of Zoos and Aquariums (WAZA): [www.waza.org](http://www.waza.org) (last accessed on 18th January 2011).

World Organisation for Animal Health (2010). *Terrestrial Animal Health Code 2010*. Available from [http://www.oie.int/eng/normes/mcode/en\\_sommaire.htm](http://www.oie.int/eng/normes/mcode/en_sommaire.htm) (last accessed on 18th January 2011).

Workshop Minutes (2008). "Animal Welfare in Romanian Zoos", 13th May 2008. Ministry of Environment and Sustainable Development – Conference Hall. Received by email from the Ministry of Environment on 20th May 2008.

## **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 deliver improved welfare conditions for wild animals currently held in zoos. Our Compassionate Conservation agenda ([www.compassionateconservation.org](http://www.compassionateconservation.org)), seeks to 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)

## **EU Zoo Inquiry 2011**

Project Manager: Daniel Turner Bsc (Hons) CBiol MSB. A biologist.

Daniel is Senior Operations Officer for the Born Free Foundation and has worked for the organisation since 2000, following two year's voluntary work in field conservation projects overseas. He is part of the team responsible for developing and managing Born Free's agenda for captive wild animal welfare, under the auspices for the organisation's core project, Zoo Check.

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

**Contact details:** To discuss the issues raised in this document, or for further information on ENDCAP and the *Europe's Forgotten Animals initiative*, please contact Daniel Turner - [daniel@bornfree.org.uk](mailto:daniel@bornfree.org.uk) c/o Born Free Foundation, 3 Grove House, Foundry Lane, Horsham, W.Sussex RH13 5PL, UK. + 44 (0)1403 240 170

**Produced for the ENDCAP coalition [www.endcap.eu](http://www.endcap.eu) by international wildlife charity the Born Free Foundation,** Charity No: 1070906 [www.bornfree.org.uk](http://www.bornfree.org.uk)

The Born Free Foundation wishes to thank the following for their help and support in delivering the EU Zoo Inquiry 2011: ENDCAP Member Organisations; Bill Procter; Blas Cernuda; Marcos Garcia-Gasco Romeo, Mirjana Plavac; Tamara Miczki; Monica Minciu and Ionut Lesovici. Special thanks go to Thomas Brzostowski for his attention to detail, patience and determination to help complete this project.





