

# 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.

## BULGARIA



Written for the European coalition ENDCAP by the Born Free Foundation



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Country Report **BULGARIA**



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## ABBREVIATIONS USED

APOS .....	Animal Protection Ordinance of Switzerland, Tierschutzverordnung 2008
BDA .....	Bulgarian Biological Diversity Act (SG 77/09.08.2002 Amended)
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
IUCN .....	International Union for Conservation of Nature
NGO .....	Non-Governmental Organisation
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.

**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 exempt.

**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:** A species observed in a single enclosure, regardless of the number of specimens. Some enclosures may contain more than one species and the same species may also be exhibited in other enclosures within the zoo.

**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:** Any animal not normally or historically domesticated in Bulgaria.

## SUMMARY

Ten Bulgarian zoos 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 327 species (including subspecies where appropriate) were observed in a total of 541 enclosures. Information was collected about a number of key aspects of each zoo's operation including: participation in conservation activities; public education; enclosure quality; public safety; and the welfare of the animals. These parameters were evaluated against the legal requirements of Directive 1999/22/EC and the Bulgarian Biological Diversity Act (SG 77/09.08.2002 Amended). Key findings were:

- **Only 7% of species observed were listed as being part of European co-ordinated captive breeding programmes (EEPs or ESBs).**
- **Nine of the ten zoos did not appear to participate in conservation activities such as scientific research or species reintroduction.**
- **The commitment to and standard of education in all zoos was minimal.** Over half of the *species holdings* lacked informational signage and 93% of signs did not contain all the best practice criteria (SZMP)
- **Nine out of ten enclosures did not provide the animals with any behavioural or occupational enrichment opportunities by way of items, specifically toys or feeding devices.**
- **Nine out of ten enclosures did not provide appropriate environmental variation.**
- **It would appear that only minimal measures were taken to prevent the escape of non-native animals into the local environment.**
- **Poor enclosure design, a lack of stand-off barriers and a shortage of available zoo staff often placed the public at risk of injury.**
- **Over 85% of enclosures did not appear to meet the requirements of Bulgarian Regulation No. 6 (23 October 2003) 'minimum requirements and conditions for keeping animals in zoos and centres for treatment and rehabilitation of threatened species'.**
- **None of the ten zoos fully met the requirements of Bulgarian zoo law.**

## RECOMMENDATIONS

### *The Ministry of Environment and Water should seek to:*

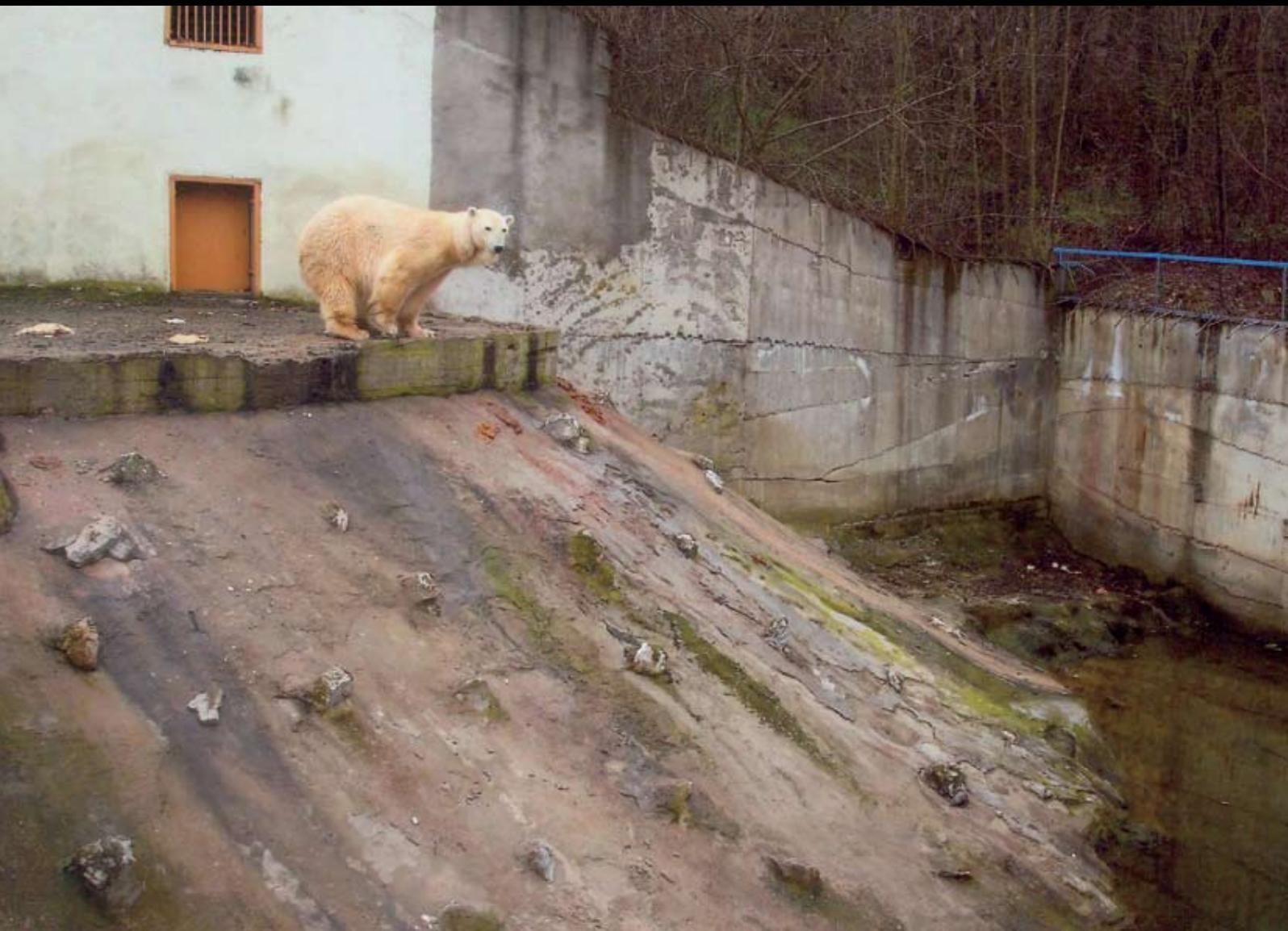
- 1) Establish a licensing procedure that ensures all permanent establishments open for 7 days or more in a year that display *any number* of wild animal species to the public, are licensed, receive regular inspections and meet the requirements of BDA.
- 2) Ensure that all enforcement personnel and state veterinarians involved in the inspection and regulation of zoos are equipped with the relevant training and skills.
- 3) Ensure that all Zoo Keepers, being those people who have responsibility to care for the zoo animals, are equipped with the relevant training and skills in animal care and welfare. The Department for Education should consider establishing a nationally recognised educational qualification for animal keepers.
- 4) Ensure zoos keep and conserve predominantly indigenous and European Threatened species rather than non-European species.
- 5) Raise standards for the keeping of wild animals in zoos through effective enforcement, as stipulated by Regulation No.6 of BDA.
- 6) Apply existing available penalties to zoos that fail to meet the requirements of BDA.
- 7) Where possible, convert failing zoos into animal sanctuaries to provide displaced animals with high standards in lifetime care.
- 8) Publish guidance to assist zoos, enforcement personnel, veterinarians and NGOs to effectively interpret the requirements of Regulation No.1 & No.6, and, specifically, participation in and application of meaningful, peer-reviewed conservation and education programmes.

### *The Municipalities should seek to:*

- 9) Ensure all zoos abide by the requirements of BDA.
- 10) Ensure zoos employ professionals with the relevant training and skills to provide high standards of animal husbandry.
- 11) Introduce measures to ensure that sufficient funds are spent on improving the living conditions for the animals, including increasing the entrance fee to their zoos.
- 12) Limit the numbers of animals kept in each zoo and provide animals with conditions that meet the requirements of Regulation No.6 (BDA).
- 13) Close any zoo unable, within a specified period of time, to meet the requirements of BDA.

# 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<sup>1</sup>, a variety of zoological collections were assessed including: traditional zoos, safari parks, aquaria, dolphinariums, aviaries and terraria. In some cases, national legislation does not use this definition, which can lead to inconsistencies in application. Where this is the case, any variance was noted but zoos, as defined by the Directive, were nevertheless included in the project to maintain consistency.

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

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

Data were analysed using a Zoo Assessment Protocol (Annex II) 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* (EAZA website) (as referred to in the preamble of the Directive). Information and guidance was also drawn from the DEFRA Standards of Modern Zoo Practice 2004 (SMZP) and Zoos Forum Handbook. The Zoo Assessment Protocol was adapted for each Member State dependent upon the specific requirements of national law. The analysis was separated into the following sections:

<sup>1</sup> "...all permanent establishments where animals of wild species are kept for exhibition to the public for 7 or more days a year..." (Art. 2 European Council Directive 1999/22/EC)

- 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.euzoo inquiry.eu](http://www.euzoo inquiry.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 their programmes to provide environmental enrichment and appropriate nutrition.

Resources dictated that the EU Zoo Inquiry 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.

# **BULGARIA**

## Country Report



## INTRODUCTION

Bulgaria joined the EU 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 Biological Diversity Act (SG 77/09.08.2002 Amended) (BDA), which is implemented through secondary legislation: Regulation No.1 (SG 43/26.05.2006) relating to the requirements and procedures for zoo licensing; and Regulation No.6 (SG 105 / 2.12.2003, amended SG 44 / 12.07.2009), which stipulates the 'minimum requirements and conditions for keeping animals in zoos and centres for treatment and rehabilitation of threatened species'. Zoos are regulated by the Ministry of Environment and Water and periodically inspected every five to ten years (dependent on the type of licence) by a Commission of Government-appointed civil servants and scientists.

There are 17 licensed zoos in Bulgaria, all of which are owned and managed by Municipal authorities. Following the initial zoo inspections in 2007/2008, 16 were issued with a Conditional Licence and one, Dobrich Zoo, was issued an Unconditional Licence. Three other zoos, Karnobat, Pleven and Pavlikeni, were ordered to close. Those zoos with Conditional Licences were given two years to improve conditions and meet the legal requirements or face closure. They were apparently re-inspected in 2010. Dobrich Zoo, with an Unconditional Licence, will not be inspected for another eight years and the three closed zoos may reopen after planned renovations (Ministry of Environment and Water, 2010).

### Zoo Licensing Requirements

In Bulgaria, zoos are defined as '*all permanent establishments where wild animals of wild species are kept for exhibition to the public for seven days or more of the year except circuses and pet shops and other establishments that do not exhibit to the public a significant number of animals or species.*' According to Regulation No.1, '*a significant number of animals or species means more than five species of wild animals with more than five specimens of each species.*' Establishments that keep a lower number of species/individuals (regardless of the species) will not be licensed, and therefore not inspected to ensure sufficient provisions are in place. Captive dolphin facilities, or dolphinariums, are not regulated as 'zoos' in Bulgaria, and are instead regarded as circuses, and regulated under a different law.

All zoos in Bulgaria have to meet a series of requirements in order to obtain a zoo operating licence. These include:

#### Conservation:

- *Participation in specific research and conservation (...) including those related to the introduction of wild species into the wild (Art. 60.2.4 BDA)*
- *Participation in ex situ conservation programmes for threatened species to retain genetic diversity and probability for reintroduction into the wild (Art. 60.2.5 BDA)*
- *Information exchange with other likeminded institutions (Art. 60.2.7 BDA)*

Zoos have to perform all these conservation activities. On application for a licence, the zoo must indicate any conservation actions and programmes it undertakes. **The Ministry of Environment and Water does not provide any further guidance.**

#### Education:

- *Provide information to the public about the species in the collection, their biology and natural habitats, and the conservation of biodiversity (Art. 60.2.8 BDA)*
- *Provide education and guidance (Art. 60.2.9 BDA)*

On application for a licence, the zoo must describe their education activities. **The Ministry of Environment and Water does not provide any further guidance.**

### **Animal provisions:**

- *Animals should be kept in conditions that meet their biological and conservation needs (Art. 60.3.1 & 60.3.2 BDA + Regulation No.6)*
- *Maintain a high level of curative and preventative veterinary care and nutrition (Art. 60.3.3 BDA)*

It is a legal requirement for all zoos to comply with Regulation No. 6, which provides species-specific requirements of animal husbandry and housing conditions.

### **The Zoo Investigation**

A total of ten zoos were selected. This included: eight of the 16 municipally-owned zoos, issued with a Conditional Licence; one dolphinarium and an unlicensed small animal collection in a restaurant. Although dolphinariums are not considered zoos under current Bulgarian legislation, the Festa Dolphinarium in Varna was included in this evaluation since dolphinariums are generally regarded as falling within the scope of the Directive.

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

- Blagoevgrad Zoological Gardens
- Festa Dolphinarium, Varna
- Haskovo Zoological Gardens
- Lovech Zoological Gardens
- Plovdiv Zoo
- Restaurant in Varna
- Sofia Zoological Gardens
- Stara Zagora Zoological Gardens
- Varna Aquarium
- Varna Zoological Gardens



**Figure 1** Geographical locations of the 10 zoos visited in Bulgaria.

In May 2010, a follow up visit was made to Sofia Zoological Gardens, Plovdiv Zoo and Stara Zagora Zoological Gardens, three of the 16 zoos issued with a Conditional Licence in 2007/2008. On the understanding that those zoos had been given two years to meet the legal requirements (deadline for which was 2010), a visit was made to determine if there had been any improvements since the 2009 assessment. Any improvements were noted.

## RESULTS AND INTERPRETATION

### GENERAL ZOO INFORMATION

#### Overview

The investigation evaluated half the total known zoos in Bulgaria. All (except Festa Dolphinarium and the restaurant in Varna) are municipally-owned and the majority were located in woodland or parkland on the outskirts of their respective city. Apart from Festa Dolphinarium, entrance fees were minimal or non-existent.

Not one of the zoos evaluated were members of the *European Association of Zoos and Aquaria* (EAZA) or the *World Association of Zoos and Aquariums* (WAZA).

According to the Bulgarian Ministry of Environment and Water, all zoos are licensed but not all have been inspected by the Government-appointed inspectors to ensure they meet legal requirements.

Housing conditions for the zoo animals are generally poor, run-down and restrictive.

A total of 327 species (including subspecies where appropriate) were identified in 541 enclosures in the ten zoos. A total of 22 *species holdings* could not be identified (see online Methodology).

#### Inability to prevent animal escapes

Despite the importance ascribed by the Directive and Bulgarian law to the need to prevent the escape of non-native zoo animals, only half of the zoos evaluated had a perimeter fence that could realistically contain escaped animals. For example, there was no perimeter fence at Haskovo Zoo, the fence at Blagoevgrad Zoo did not appear to encircle the whole zoo and at Lovech Zoo, the perimeter fence appeared to be in a state of disrepair.

*'Take necessary measures to prevent the escape of animals to avoid possible ecological threats to indigenous species'*  
Art. 60, par. 3 (4) BDA (SG 77/09.08.2002 Amended)

Nearly half the zoos (four out of ten) featured free-roaming animals. This included feral cats and dogs.

#### Public placed at risk of injury

Although none of the zoos actively encouraged members of the public to have direct contact with the animals, the repeatedly poor design of enclosures, the lack of stand-off barriers and the shortage of 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 104 out of the 229 randomly selected enclosures (Section D and E). This included enclosures exhibiting Category 1 'Greater Risk' Hazardous Animals as categorised by the SMZP including: lions, jaguars, tigers and bears. Few zoos correctly warned the public, with signage, of the potential risks of injury.



**Figure 2**

Lovech Zoo.

Example of unsupervised direct contact between the public and animals. Here a young girl was observed feeding the brown bear (*Ursus arctos*) inappropriate food through the mesh. There was no stand-off barrier preventing the public from being able to touch this Category 1 'Greater Risk' Hazardous Animal (SMZP).

## CONSERVATION

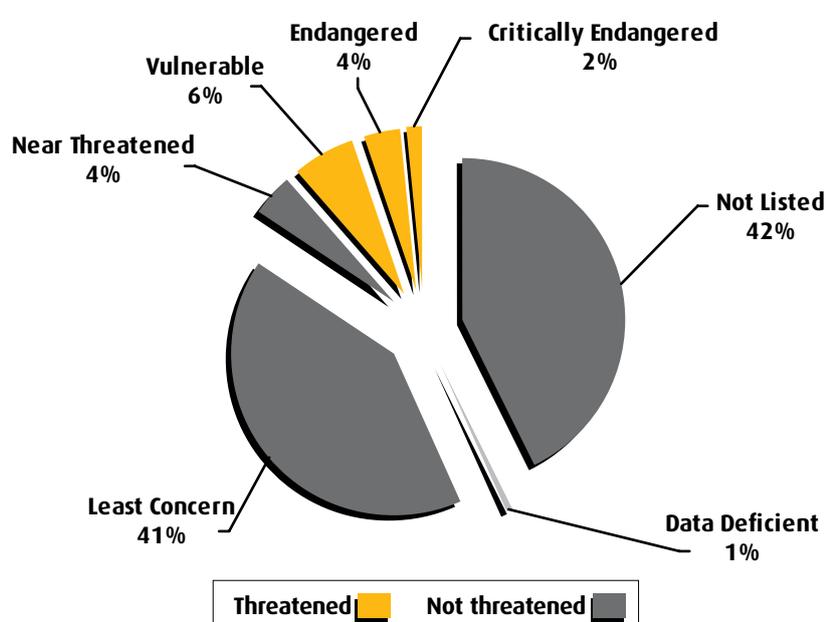
The conservation of biodiversity is the main objective of the Directive and is also given prominence within the BDA:

- '4. organize or participate in scientific and other research related to conservation and keeping of species, including studies concerning re-establishment of wild species;
- 5. provide breeding material from threatened species for their restoration or re-establishment in nature;
- 6. after negotiations provide breeding material from threatened species for establishing plantations for cultivated plants or animal farms;'

Art. 60, par. 2 (4 - 6) BDA (SG 77/09.08.2002 Amended)

Results, however, demonstrate that conservation of biodiversity, particularly Threatened species, does not appear to be a priority. 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™.

### Percentage of Threatened Species



**Figure 3.** Proportion of the 327 species identified (including subspecies where appropriate) in the ten Bulgarian 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	16	4	18	92	0	10	140	42%
Not Evaluated	0	0	0	0	0	0	0	0%
Data Deficient	0	0	0	2	0	0	2	1%
Least Concern	53	66	4	10	1	0	134	41%
Near Threatened	6	4	4	0	0	0	14	4%
Vulnerable	8	5	6	1	0	0	20	6%
Endangered	7	2	1	2	0	0	12	4%
Critically Endangered	3	0	0	2	0	0	5	2%
Extinct in Wild	0	0	0	0	0	0	0	0%
<b>Total No. Species</b>	<b>93</b>	<b>81</b>	<b>33</b>	<b>109</b>	<b>1</b>	<b>10</b>	<b>327</b>	<b>100%</b>
<b>Proportion of total no. Species (%)</b>	<b>28%</b>	<b>25%</b>	<b>10%</b>	<b>33%</b>	<b>1%</b>	<b>3%</b>	<b>100%</b>	

**Table 2.** Proportion of the 327 species (including subspecies where appropriate) identified in ten Bulgarian zoos, categorised as Threatened and Not Threatened by the IUCN Red List of Threatened Species™ by taxa.

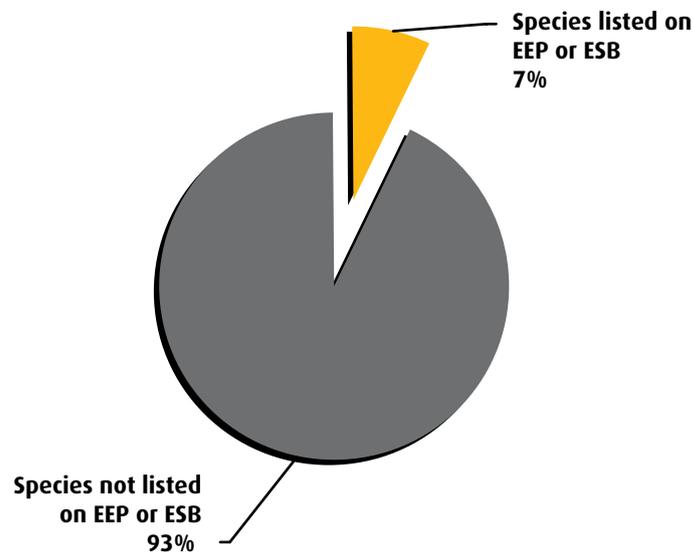
The results indicate that 12% of the total number of species (n=37 species) from the selected zoos are listed as Threatened (*Vulnerable* (6%), *Endangered* (4%) and *Critically Endangered* (2%)) (Table 2). Of the 37 Threatened species, 49% were mammals, 19% were birds, 19% reptiles and the remaining 14% were amphibians. The remaining 88% of the Not Threatened species were either classified as *Least Concern* (41%), *Near Threatened* (4%) or *Data Deficient* (<1%) by the IUCN Red List of Threatened Species™ categorisation, or *not listed* (Fig. 3).

No evidence could be found that any of the selected zoos were undertaking ‘scientific and other research related to conservation and keeping of species’, as required by the BDA. None of the ten zoos returned the Standard Zoo Questionnaire, which could have provided further information on this issue.

### Participation in European coordinated captive breeding programmes

A further indicator of a zoo’s commitment to the conservation of biodiversity is their participation in the *ex situ* captive breeding of animal species. Both the Directive and the BDA promote the significance of this activity and stipulate that zoos should participate.

### Percentage of Species with Coordinated Captive Breeding Programmes (EEPs or ESBs)



**Figure 4.** The percentage of the 327 species identified (including subspecies where appropriate) identified in the ten Bulgarian zoos that have an ESB or EEP.

Only 7% of species (n=24) of the 327 species in the zoos were listed on the European Endangered Species Breeding Programmes (EEPs) or European Stud Books (ESBs), but the investigation was unable to confirm if the individuals of these species were actively participating in the Programmes (Fig. 4). Lovech Zoo and Sofia Zoo had the highest proportion of species with EEPs and ESBs with 11% of their total species kept, but Varna Aquarium for example, had no species with co-ordinated breeding programmes.

No further information about the zoos’ involvement in captive breeding programmes could be found, other than a reference to the breeding and reintroduction of a vulture species by Sofia Zoological Gardens. However, the species was not identified and no further information could be found. As stated, none of the zoos returned completed Standard Zoo Questionnaires which may have provided further information.

## EDUCATION

The Directive states that zoos should promote public education and seek to raise awareness about the conservation of biodiversity. Bulgarian law also requires zoos to: *'provide education'*

Art. 60, par. 2 (9) BDA (SG 77 / 09.08.2002 Amended)

None of the zoos appeared to have an education strategy that benefited the general visiting public. None of the zoos operated species-specific talks and guided tours. Only one of the ten zoos, Sofia Zoological Gardens, offered an educational programme for visiting school groups, which is delivered from the Zoo's Environmental Science Education Centre, which is also used to host seminars for zoo professionals. None of the other zoos appeared to offer any educational classes or courses.

The majority of the enclosures in the zoos consisted of an empty shell, that often lacked form, furnishings, apparatus and vegetation, which might, if designed to reflect the species' natural habitat, have educational value. Equally, none of the zoos arranged their animals in distinct habitat types or geographical regions.

### Festa Dolphinarium, Varna

This was the only zoo that provided an animal show. Five bottlenose dolphins (*Tursiops truncatus*) were displayed to the public in three separate performances a day, six days a week. Each performance lasted approximately 40 minutes, where the dolphins performed a diverse repertoire of tricks and stunts in front of a paying audience. This included spinning hoops on their beaks and balancing balls; unnatural behaviour designed to entertain, rather than to educate the public about dolphins.

### Minimal species information

A basic requirement of a zoo is to inform their visitors about the animals they exhibit. This also includes information about their biology, natural habitat and conservation status. Species information was, however, largely lacking in these zoos despite the requirement in the BDA to:

*'Provide information to the public about the natural habitat and conservation status of species being exhibited'*

Art. 60, par. 2 (8) BDA (SG 77/09.08.2002 Amended)

### Proportion of Species Information Signage Present



**Figure 5.** The average percentage of species information signage present or absent (for all 731 species holdings) from the ten Bulgarian zoos.

On average, 56% of *species holdings* completely lacked any form of species information signage (Fig. 5). Signage for 12 *species holdings* was incorrect (providing information for a different species), whilst others displayed only minimal information about the species. Figure 7 provides an overview of the content of the signage from the zoos.

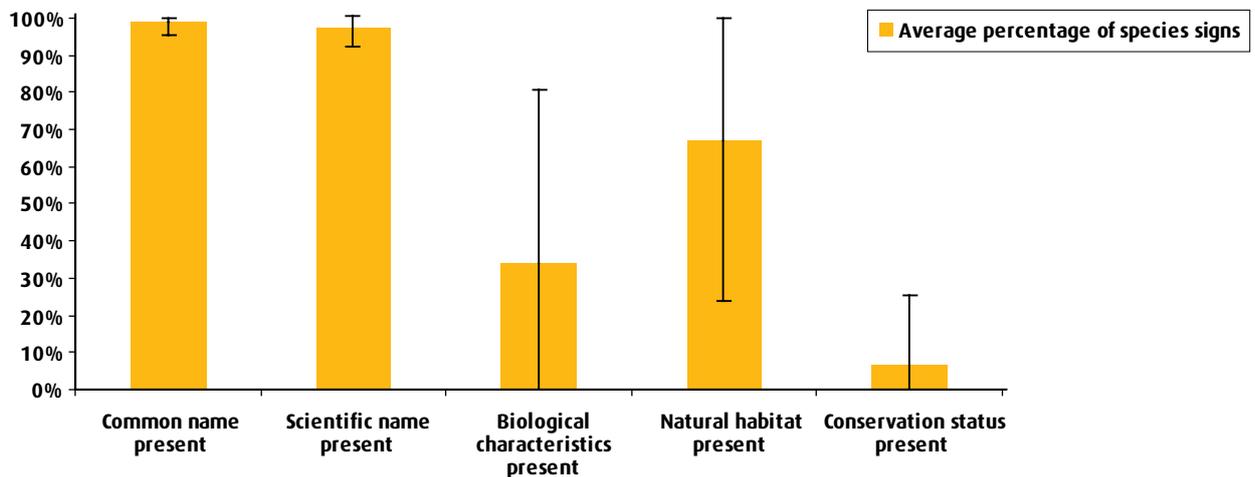
**Figure 6**

Varna Zoo.

This domesticated pigeon (*Columba livia domestica*) was exhibited in an enclosure without any species information signage.



### Quality of Species Information Signs



**Figure 7** Content of species information signage within the ten Bulgarian zoos. Each column represents specific information, as indicated by best practice criteria (SZMP). Each value (e.g. Conservation status present, 7%) represents the average of the 161 species information signs observed in 30 randomly selected enclosures. Error bars are a visual representation of the standard deviation from the mean value, demonstrating the variation in performance amongst selected zoos (e.g. the presence of information related to the natural habitat of the species varied considerably between zoos in comparison to the presence of species common name).

The results (Fig. 7) demonstrate that few of the species signs observed on the randomly selected enclosures contained all the best practice criteria (SZMP): common name; scientific name; biological details; natural habitat; and conservation status. The majority of signage observed included the species common and scientific names. However, 66% failed to provide information about the species' biological details, 33% did not include information about the natural habitat of the species, and only 7% contained information on its conservation status (a specific requirement of the BDA).



**Figure 8**

Stara Zagora Zoological Gardens.

The quality of the signage was poor. For example, here only the species common name and scientific name was provided.

## EVALUATION OF ANIMAL ENCLOSURES

To evaluate the suitability and quality of each of the 229 selected enclosures, data on 12 parameters that are regarded as vital to the health and welfare of the species were analysed using the evaluation method as described in Sections D and E of the Methodology. The 'Five Freedoms' (Farm Animal Welfare Council) were referenced as the criteria on which to base 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 parameters used to assess enclosure quality, the following observations were made:

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

Numerous animals did not have access to clean drinking water (where the presence or lack of water and its state of cleanliness could be obviously determined).

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

Enclosures for wide-ranging species such as jaguars, grey wolves, brown bears and lions, were of an inadequate size and so did not permit their full range of natural locomotive behaviour and, in cases where there was more than one individual, provide appropriate space to escape conflict and seek refuge.

Species requiring height to climb or fly were often housed in conditions where this natural behaviour was compromised and the enclosures generally lacked the appropriate furnishings to encourage natural behaviour.

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 Bulgaria can reach -21°C (BBC Weather). This would need further evaluation.

Enclosures were generally sterile environments, lacking appropriate bedding and comfort 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.

The enclosures generally lacked furnishings to provide the opportunity for the animal to express normal behaviour.

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

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

Art. 25, EAZA Minimum Standards for the Accommodation and Care of Animals in Zoos and Aquaria, 2006

Many animals did not have access to clean, fresh drinking water. In some cases drinking water was stagnant. Generally animals were housed in unhygienic conditions. This included the build-up of faeces; urine; stagnant water; and uneaten food (left to rot). Sweet wrappers and other litter were observed in numerous enclosures raising concern over the suitability of foods provided to the animals by the visiting public and protection from choking or ingestion of foreign bodies.

Some animals observed appeared to be suffering from illness or debilitating conditions; which raises the question whether there is sufficient health care or veterinary attention.

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

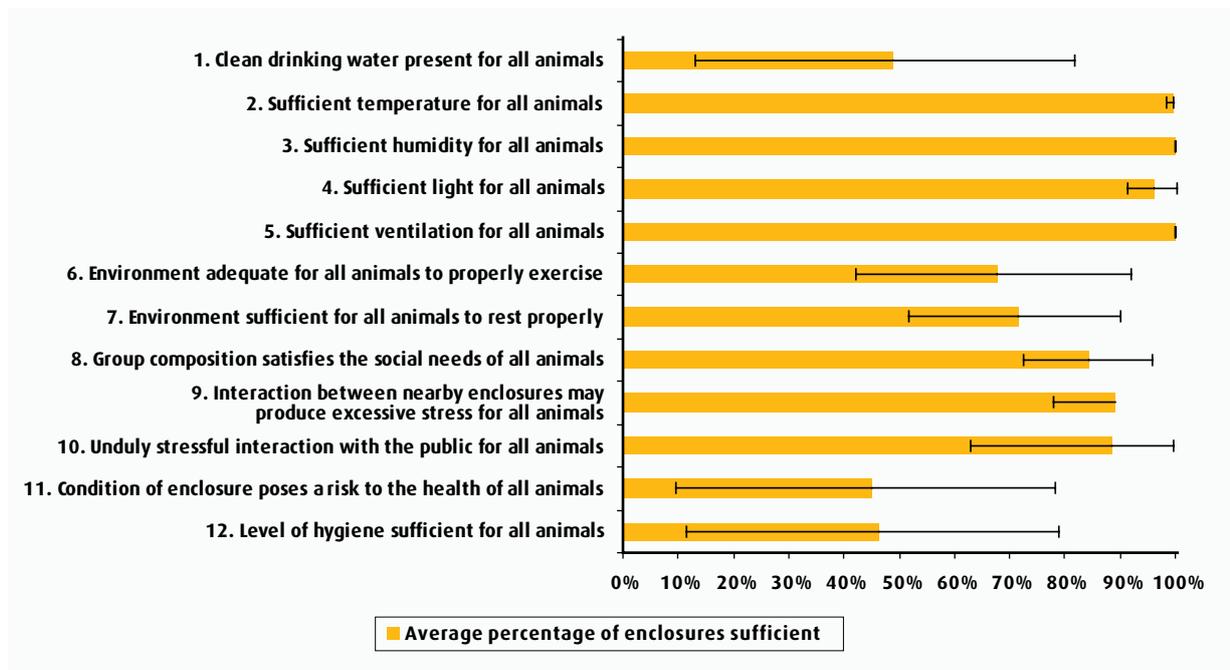
The majority of enclosures lacked the appropriate furnishings and materials to allow the species to express normal behaviours. Most selected enclosures failed to meet the requirements of Regulation No. 6.

### Freedom from Fear or Distress: Ensuring conditions that avoid mental suffering

Predators were often housed alongside or opposite prey species. Many enclosures lacked places of refuge or privacy from public view. The public were observed teasing and provoking aggressive reactions from animals. Some animals appeared to be very nervous towards the public.

The graph below demonstrates an overview of this assessment.

### Environmental Quality of Enclosures



**Figure 9** Environmental quality of the 229 randomly selected enclosures from ten Bulgarian 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 of the enclosures varied considerably between zoos in comparison to the quality of light). Where the presence of a condition or factor could not be determined, data were not included.

The results (Fig. 9) demonstrate that few of the enclosures analysed met all the requirements. While most enclosures appeared to provide the animals with sufficient light, temperature, humidity and ventilation at the time of assessment, low values are observed for the provision of food and water (on average, only 49% of enclosures provided clean drinking water), notably the lack of available fresh water, the cleanliness of the enclosures (on average, the level of hygiene was sufficient in 45% of enclosures), and preventative measures taken to prevent the build-up of harmful pathogens (on average, 55% of enclosures may pose a risk to the health of the animals).



**Figure 10**

Blagoevgrad Zoo.  
Wild boar (*Sus scrofa*)  
observed in an  
unhygienic enclosure.

The results also display the suitability or otherwise of the enclosure to allow the species to properly exercise and display natural locomotive behaviour, and have the ability to rest (on average, 68% and 72% of enclosures sufficient respectively). The majority of the enclosures observed were restrictive in space and often devoid of furniture, apparatus and refuges to allow animals to exercise, rest, hide and express natural behaviours. Enclosures commonly consisted of concrete floors and walls, with a frontage of iron bars, and did not appear able to satisfy the biological needs of the animals, as specified by the Directive and BDA.

**Figure 11**

Blagoevgrad Zoo.  
Red fox (*Vulpes vulpes*)  
enclosure observed with  
unhygienic conditions,  
unconsumed food left on the  
floor and a significant build-up  
of faeces and urine.



**Figure 12**

Blagoevgrad Zoo.  
Enclosure for brown bear (*Ursus arctos*) without suitable climbing features or a suitably sized pool to allow the animal to swim and properly exercise. There are no opportunities to dig, forage or rest comfortably.

**Figure 13**

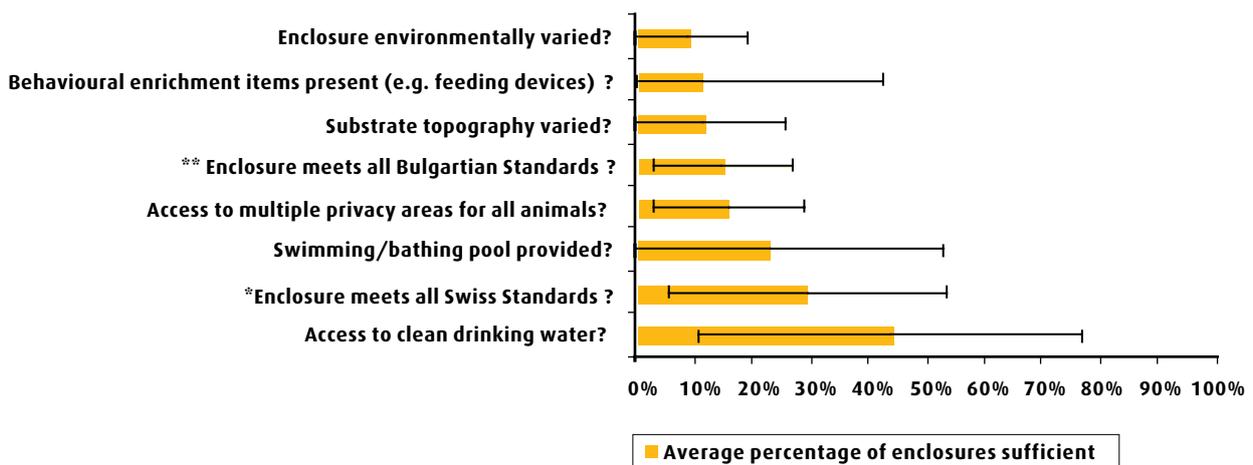
Haskovo Zoo.  
Small enclosure for lion (*Panthera leo*) without any raised climbing platforms or enough space for the animal to exercise properly.



## EVALUATION OF ANIMAL WELFARE

A restrictive, predictable and barren captive environment is known to compromise the welfare of animals (Mallapur *et al.*, 2002; Lewis *et al.*, 2006) and may result in the development of abnormal behaviour, which can become increasingly more difficult to reverse, even with the application of environmental enrichment techniques (Swaigood & Sheperdson, 2006). The following represents the results of an assessment into the ability of the enclosures in those Bulgarian zoos assessed to allow the animals they contain to express their natural behaviour. The results have been ranked, with the most severe issues indicated in the graph below.

**Issues requiring immediate attention** (where the percentages of enclosures complying score below 50%)



**Figure 14** Issues requiring immediate attention as identified from the assessment of 229 randomly selected enclosures from the ten Bulgarian zoos. \* Refers to Animal Protection Ordinance of Switzerland Tierschutzverordnung 2008 and \*\* refers to Regulation No. 6 of Bulgarian law. 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 access to clean drinking water varied considerably between zoos). Where the presence of a condition or factor could not be determined, data were not included.

The level of animal welfare was assessed in 229 randomly selected enclosures in the ten zoos (Fig. 14). Issues requiring immediate attention include: the lack of any behavioural or occupational enrichment items or techniques such as toys or feeding devices (89%); the lack of environmental variation (91%); and the inability for animals to access multiple privacy areas (84%).



**Figure 15**

Lovech Zoo.  
Grey Wolf (*Canis lupus*)  
cub exhibited alone in a small, barren and empty enclosure without access to multiple privacy areas to escape the viewing public.

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

- On average, 46% of enclosures did not appear to offer the animals sufficient space to escape or seek refuge from aggressive behaviour of conspecifics
- On average, 44% of enclosures did not provide a suitable substrate for the species to express its natural behaviour (e.g. burrowing, foraging, etc.);
- A build-up of excrement was observed in, on average, 40% of enclosures (consistent with Section D analysis)
- On average, 34% of enclosures did not appear to offer the animals sufficient space to distance themselves from the public

**Issues of least concern** (where the percentages of enclosures score above 71%)

- On average, 20% of enclosures were situated near loud noise
- On average, 9% of enclosures were overcrowded
- On average, 6% of enclosures exhibited animals that did not appear to have good skin/fur/feather condition
- On average, 5% of enclosures exhibited animals that displayed stereotypical behaviour

Two national sets of minimum standards for the keeping of animals in zoos, which provide species-specific guidance, were used in the investigation to ascertain whether the 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 Bulgarian Regulation No. 6 on minimum requirements and conditions for keeping animals in zoos and centres for treatment and rehabilitation of threatened species. All selected enclosures (from Sections D and E analysis) were assessed against both sets of standards. The results were:

- On average, 70% of enclosures that exhibited species listed on APOS did not meet these minimum requirements.
- Importantly, on average, **85% of enclosures that exhibited species listed on the Bulgarian Regulation No.6, on Minimum requirements and conditions for keeping animals in zoos and centres for treatment and rehabilitation of threatened species, did not meet the requirements of the national minimum standards.**

## **RETURN ZOO VISITS**

In May 2010, a return visit was made to three of the ten zoos evaluated in Bulgaria: Stara Zagora Zoological Gardens, Plovdiv Zoo and Sofia Zoological Gardens.

According to information received from the Ministry of Environment and Water (2009/2010), these were three of the 16 zoos originally issued with a Conditional Licence in 2007/2008, which had two years to implement improvements in order to comply with the law. By 2010 all licensed zoos should have complied with Bulgarian zoo law.

The investigator recorded any observed improvements. These included:

### ***Stara Zagora Zoological Gardens:***

- Some of the enclosures had new, improved signage. However, this was not the case for the great majority of enclosures which either displayed the same signage as observed and evaluated in 2009, or lacked signage altogether.
- Two new enclosures were observed, but these appeared to be for animals that were not previously in the collection in 2009. All pre-existing enclosures remained similar to when evaluated in 2009.
- Despite claims by the authorities that zoos have been instructed not to breed European brown bears unnecessarily (2010 Ministry of Environment and Water, pers. comm., July), two new bear cubs were again housed, alone, near the entrance of the zoo. Two bear cubs had been observed in the same enclosure in 2009.

### ***Plovdiv Zoo:***

- New enclosures had been built for the primates but many of the other animals, including the bears (p26), remained in the same enclosures.

### ***Sofia Zoological Gardens:***

- An improvement had been made to the environmental enrichment provided in the feline indoor and outdoor enclosures, consisting of the inclusion of branches and scratching posts in the large feline indoor enclosures and an improvement to the substrate in the smaller feline outdoor enclosures.

# CONCLUSION



This investigation has covered 50% of the known zoos in Bulgaria. Overall, it has revealed that standards are below those required by the BDA and the EC Directive 1999/22.

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

## 1. Implementation of the Directive

The Directive has been effectively transposed into the BDA (SG 77/09.08.2002 Amended), which is implemented through secondary legislation: Regulation No.1 (SG 43/26.05.2006) and Regulation No.6 (SG 105 / 2.12.2003, amended SG 44 / 12.07.2009). The Directive came into force in Bulgaria 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'. This has resulted in large numbers of zoological collections being exempt from the Directive and, therefore, licensing and compliance with standards. As shown in the breadth of our project, it appears that hundreds of zoos are unregulated, but the main focus of the Directive, the conservation of biodiversity, is not being addressed. Bulgaria is no exception. In the opinion of the authors Festa Dolphinum and the animal collection in a restaurant in Varna should be regulated by the Directive and the BDA and for this reason have been included in this evaluation.

A further obstacle that appears to have hindered effective implementation and enforcement of the zoo law in Bulgaria is local governance by the Municipal Authorities. Municipalities own and operate all the licensed zoos in Bulgaria but do not appear to have the same level of commitment as the Ministry to the effective implementation and enforcement of the BDA. **Local Mayors continue to defend the existence of their zoos but take little action to ensure they meet the required standards** (2010, Ministry of Environment and Water, pers. comm., July)

## 2. Ineffective enforcement

By December 2007 all zoos in Bulgaria were required to be licensed and meet the specifications of Regulations No.1 and No.6. Results demonstrate, however, that at the time of the zoo investigation (August 2009), none of the zoos appeared to fully comply with the Directive or the BDA. Identified problems include failure to: conserve biodiversity; educate the public and; keep animals in an appropriate manner.

According to the Ministry of Environment and Water (2010, pers. comm. July), all zoos issued with a Conditional Licence were given two years from the date of issue to comply with the required standards. The first zoo licences were reportedly issued in November 2007 and all zoos were then expected to comply by 2010 (Standard Member State Questionnaire). During the zoo investigation in August 2009, there were few signs of recent improvements to the zoos' infrastructure. In May 2010, the investigator made a return visit to three of the ten zoos (Sofia, Stara Zagora and Plovdiv) and although there were some noted improvements to signage and a few individual enclosures, the changes were minimal and rare. **Conditions in all Bulgarian zoos assessed remain substandard, and we believe this reflects the situation of the majority of zoos in the country.**

Article 6 of the Directive states that should a zoo fail to comply with the requirements, it should close, yet the majority of failing zoos in Bulgaria remain open and operational. The Ministry of Environment and Water is aware that improvements are necessary but state that without additional funding, many zoos will be unable to meet the requirements. Bulgaria has available a number of administrative measures with which to penalise failing zoos, but these do not appear to have been imposed. This is possibly due to the high number of failing zoos and facilities able to accept and adequately care for displaced animals.

Whereas additional funding would certainly assist in the improvement of living conditions for animals in zoos, it should not be regarded as the sole solution to the problem of poor compliance. It is evident from the investigation,

and following consultation with the Ministry of the Environment and Water, that a lack of knowledge, expertise and training is largely to blame. Competent authorities, which are expected to effectively implement the law, lack previous experience of zoo regulation and requirements; the zoo inspectorate lack the necessary training to identify poor animal health and welfare and to ensure continuity; and the zoo operators appear to have a limited understanding of the needs of wild animals in captivity and what should be regarded as minimum welfare conditions.

**The provision of external guidance and training should be regarded as essential in order for Bulgaria to meet the requirements of the Directive and the BDA.**

### **3. Inability to prevent animal escapes**

The BDA states that zoos should ‘*Take necessary measures to prevent the escape of animals to avoid possible ecological threats to indigenous species*’ (Art. 60, par. 3 (4) BDA (SG 77/09.08.2002 Amended)). There is little evidence that such measures have been taken by a number of the zoos evaluated in this report.

**Only half of the zoos evaluated had a perimeter fence that could realistically contain escaped animals increasing the chances of non-native and potentially invasive species entering the natural environment.**

Furthermore, the prevalence of free-roaming animals in nearly half the zoos (four out of ten) poses an additional risk, particularly if the perimeter fence is not secure. The ability of these animals to move in and out of the zoo grounds at will, could pose risks to indigenous species and the natural habitat, including the risk of disease transmission.

In 2001 the European Commission recognised the need to address invasive alien species 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 Invasive Species (Fábregas *et al.*, 2010).

### **4. Public placed at risk of injury**

Although none of the zoos actively encouraged members of the public to have direct contact with the animals, the often poor design of enclosures, varying degrees of disrepair of the fencing, the lack of stand-off barriers and the shortage of available zoo staff, allowed direct contact to take place and, in some cases, placed the public at significant risk. **The public could potentially come into direct contact with dangerous wild animals, particularly Category 1 “Greater Risk” Hazardous Animals.**

A group of teenagers were observed in Lovech Zoo, teasing a lioness with a bottle and their outstretched hands to provoke the animal to use its paw in a swiping action through the bars of the enclosure. This happened in full view of a zoo keeper, who did nothing to discourage their behaviour, which could have resulted in a severe injury. The risk of members of the public coming into direct contact with potentially dangerous animals was evident in the majority of zoos in Bulgaria that were assessed and is a matter of great concern. **The need for additional preventative measures, such as the positioning of warning signs, deployment of effective stand-off barriers and the employment of trained zoo staff, is acute and urgent.**

### **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 on how to contribute to this common goal:

- “to undertake research from which conservation benefits accrue to the species;
- training in relevant conservation skills;
- the exchange of information relating to species conservation;
- captive breeding, repopulation or reintroduction of species into the wild”

(Article 3, Directive 1999/22/EC).

Zoos must undertake one or more of these options, but no further guidance or interpretation is given. Furthermore, to date, no independent quality assurance assessment has been undertaken to identify whether European zoos can effectively deliver these objectives and assure their role in the conservation of biodiversity.

The BDA has adopted the Directive’s requirements by stipulating that zoos must:

- ‘organise or participate in scientific and other research related to conservation and keeping of species, including studies concerning re-establishment of wild species;
- provide breeding material from threatened species for their restoration or re-establishment in nature;
- after negotiations provide breeding material from threatened species for establishing plantations for cultivated plants or animal farms’

(Art. 60, par. 2 (4 - 6) BDA (SG 77 / 09.08.2002 Amended)).

These are more stringent requirements than those of the Directive, but again no further guidance or interpretation is available to either support the Zoo Commission that inspects the zoos, or to help the zoo operators meet these requirements. In the case of the third stipulation, the objectives and intended outcomes are highly ambiguous.

This investigation indicated that **none of the zoos evaluated are currently participating in, or making a significant contribution to, the conservation of biodiversity.** This has been demonstrated by the minimal number of ‘Threatened’ species identified in the selected zoos (12% of total species, n=37 species), the presence of only 7% (n=24 species) of EEP and ESB-listed species and the apparent inactivity of Bulgarian zoos to support or participate in *in situ* conservation projects. Despite specific requirements by the BDA, none of the selected zoos in Bulgaria appear to be actively involved in European coordinated captive breeding programmes, or the reintroduction and re-establishment of wild species into the wild.

Furthermore, no evidence could be found that any of the zoos are contributing to ‘scientific and other research related to conservation and keeping of species’, as required by the BDA.

Moreover, the majority (84%) of the species kept by the zoos assessed were either listed as *Least Concern* (IUCN Red List of Threatened Species™ categorisation) (41% of total number of species), which are predominantly species of low conservation importance, or *not listed* species (43% of total number of species), which are largely domesticated animals. Species listed as *Endangered* (4% of total species), *Critically Endangered* (2% of total species) or *Extinct in the Wild* (0% of total species), were in the minority. This demonstrates an insignificant commitment by the zoos assessed to conserve biodiversity and, in particular, Threatened species. Mammal and bird taxa predominated in the zoological collections, with amphibians in the minority, despite the fact that the number of Threatened amphibian species worldwide is significantly greater than Threatened mammal species.

The Ministry of Environment and Water recognises that zoos in Bulgaria are currently failing to comply with either the conservation requirements of the BDA or the Directive and have requested guidance and additional information on how best to meet these demands (Standard Member State Questionnaire).

## 6. Limited educational value

In addition to a commitment to the conservation of biodiversity, zoos in the EU must promote education of the public, particularly about the conservation of biodiversity. The BDA requires zoos to educate, but no further guidance is given.

In other EU Member States, more progressive zoos have established written educational strategies, which include guided tours, talks on specific species, classroom facilities for visiting school groups, informative signage and imaginative enclosure design. In Bulgaria, however, **none of the zoos appeared to have established an educational strategy for the visiting public.** No guided tours or species-specific talks were observed; only one of the ten zoos had an education centre, or classroom; and much of the signage in all ten zoos was either incomplete, inaccurate or absent. For example, on average, nearly half the *species holdings* in each of the ten zoos had no signage at all. When signage was present, it was often incomplete, omitting biological information about the species and its conservation status - a specified requirement by the BDA.

Since none of the evaluated zoos completed and returned the Standard Zoo Questionnaire, only those educational materials and activities observed during the assessment were analysed. Sofia Zoo was the only zoo with an education centre that offers workshops to visiting school children and seminars for zoo professionals, but these activities did not appear to be extended to the general public.

Festa Dolphinarium was the only facility which presented animals in a 'performance' context. These acts 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.

**Bulgarian zoos did not appear to deliver in any significant way activities or information that could be described as being of educational value to the general public.**

### 7. Unsuitable living conditions for animals

The assessment of zoo enclosures in Bulgaria identified an apparent lack of resources, knowledge and expertise by the zoo operators concerning the appropriate keeping of wild animals in captivity.

For example:

- social species were often housed alone;
- species were kept in small enclosures that did not attempt to meet their spatial needs;
- limited opportunities were provided for animals to seek refuge or comfort from extreme temperatures;
- the majority of enclosures were devoid of furniture, apparatus and materials to allow the species to exercise and express normal behaviour;
- little consideration had been given to the essential biological and behavioural needs of the animals.



**Figure 16**

Lovech Zoo.

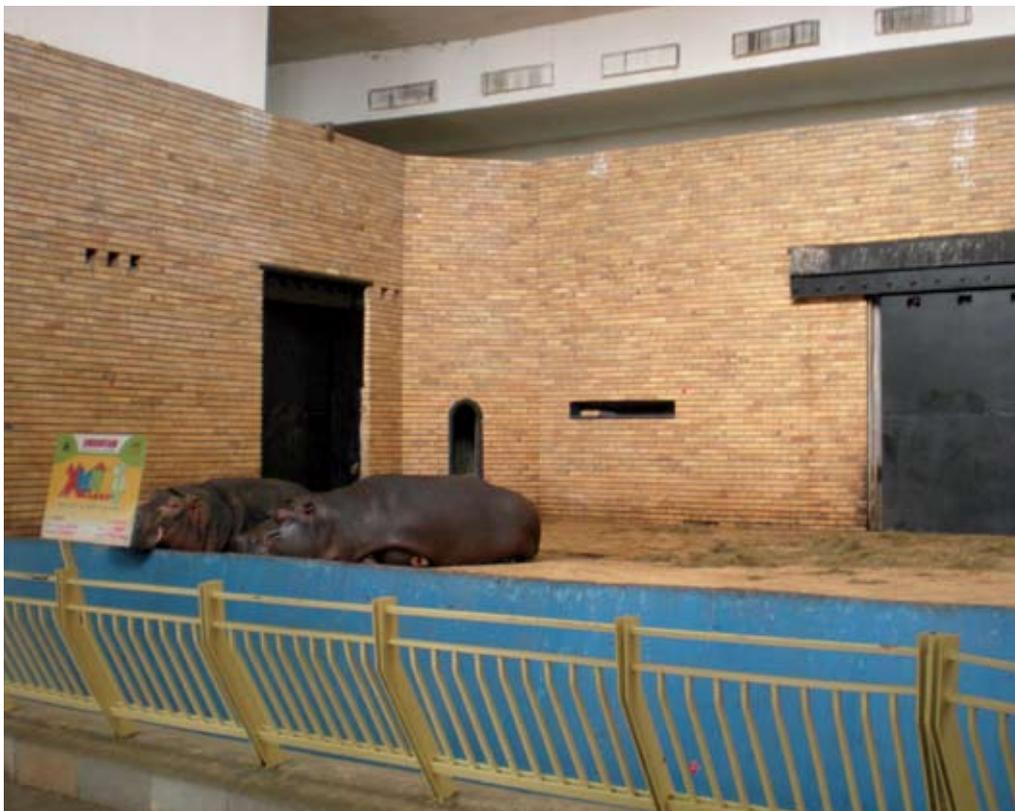
Jaguar (*Panthera onca*) enclosure completely unsuitable for this species which has a home range that varies between 28 and 40km (IUCN Red List website).

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

Bulgarian zoo law (BDA) has recognised 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 3), through species-specific environmental enrichment and good animal husbandry, and it also includes a set of minimum species-specific standards on the appropriate keeping of wild animals in captivity (Regulation No.6). However, without effective enforcement of the law and its application in Bulgarian zoos, any attempt to keep animals in a suitable environment is severely compromised.

In addition to the poor quality enclosures, there appears to be a consistent lack of appropriate animal care by the zoo operators. In numerous enclosures, animals were observed to be without clean water. In some cases uneaten food had been left to rot and the generally unhygienic state of many enclosures suggests that they are rarely cleaned, and bedding (if it existed), rarely changed. The potential for the build-up of harmful pathogens is therefore significant, yet easily addressed.

The health and welfare of animals is being compromised and more must be done by the Government, the Inspection Commission and local Municipalities to make the necessary improvements. Encouragingly, the Ministry of Environment and Water states that this is a priority, but the apparent failure of those zoos issued with a Conditional Licence to meet the required standards by 2010, calls into question whether the zoo operators hold the same view. The lack of resources and the high turnover of zoo staff (Standard Member State Questionnaire) are certainly contributing factors, 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.



**Figure 17**

Sofia Zoological Gardens.

Hippopotamus (*hippopotamus amphibius*) enclosure without any suitable soft substrate to allow the animals to rest comfortably, nor access to any privacy areas to escape the viewing public.

**Bulgarian zoos are failing to provide their animals with suitable environments to allow them to express natural behaviour.**

## 8. Poor levels of animal welfare

The evaluation revealed a low level of animal husbandry and general animal care. This was often intrinsically linked with the poor environmental quality of the enclosures.

The majority of the enclosures were largely unsuitable for the animals they contained. Specific problems include:

- On average, 89% of enclosures lacked any form of behavioural or occupational enrichment;
- little consideration had been given to the species-specific needs of the animals (APOS & BDA, Regulation No.6); there was an inability for all animals to seek refuge from conspecifics or public gaze;
- in many cases, the enclosures did not even meet the animals' basic needs, as required by the Directive.

In many cases, animal welfare appears to have been compromised, perhaps due to the lack of stimulation and the opportunity to exercise and express normal behaviour. For example, far-ranging species (such as large felines, bears and canids) had developed stereotypic behaviour, whilst other animals appeared lethargic and disinterested in the environment around them.

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 BDA require zoos to provide their animals with conditions that aim to satisfy the biological needs of the individual species, the inclusion of species-specific environment enrichment and provision of high standards in animal husbandry. **Bulgarian zoos, however, do not appear to be meeting any of these requirements and animals' health and welfare is being compromised.**

As a matter for immediate attention, zoo operators in Bulgaria must seek to improve the enclosures of their animals. The current sterile captive environments appear to be compromising the welfare of many animals. The consistent failure to meet minimum requirements, as stipulated in Regulation No.6 (minimum requirements and conditions for keeping animals in zoos and centres for treatment and rehabilitation of threatened species), means the physical and psychological state of the animals is poor and likely to worsen.

### In Summary

Bulgarian 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 any activity 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 take appropriate measures to prevent the escape of non-indigenous species into the natural environment**
- **failing to provide their animals with a suitable environment**
- **failing to recognise species-specific requirements**
- **compromising the health and welfare of the animals**
- **failing to meet the minimum requirements of the Directive and the BDA**

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## **Born Free Foundation**

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

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

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

## **ENDCAP**

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

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

## **EU Zoo Inquiry 2011**

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

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**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, Marijana Plavac; Paolo Coluccio; Romano Zilli and Tamara Miczki. Special thanks go to Thomas Brzostowski for his attention to detail, patience and determination to help complete this project.

