

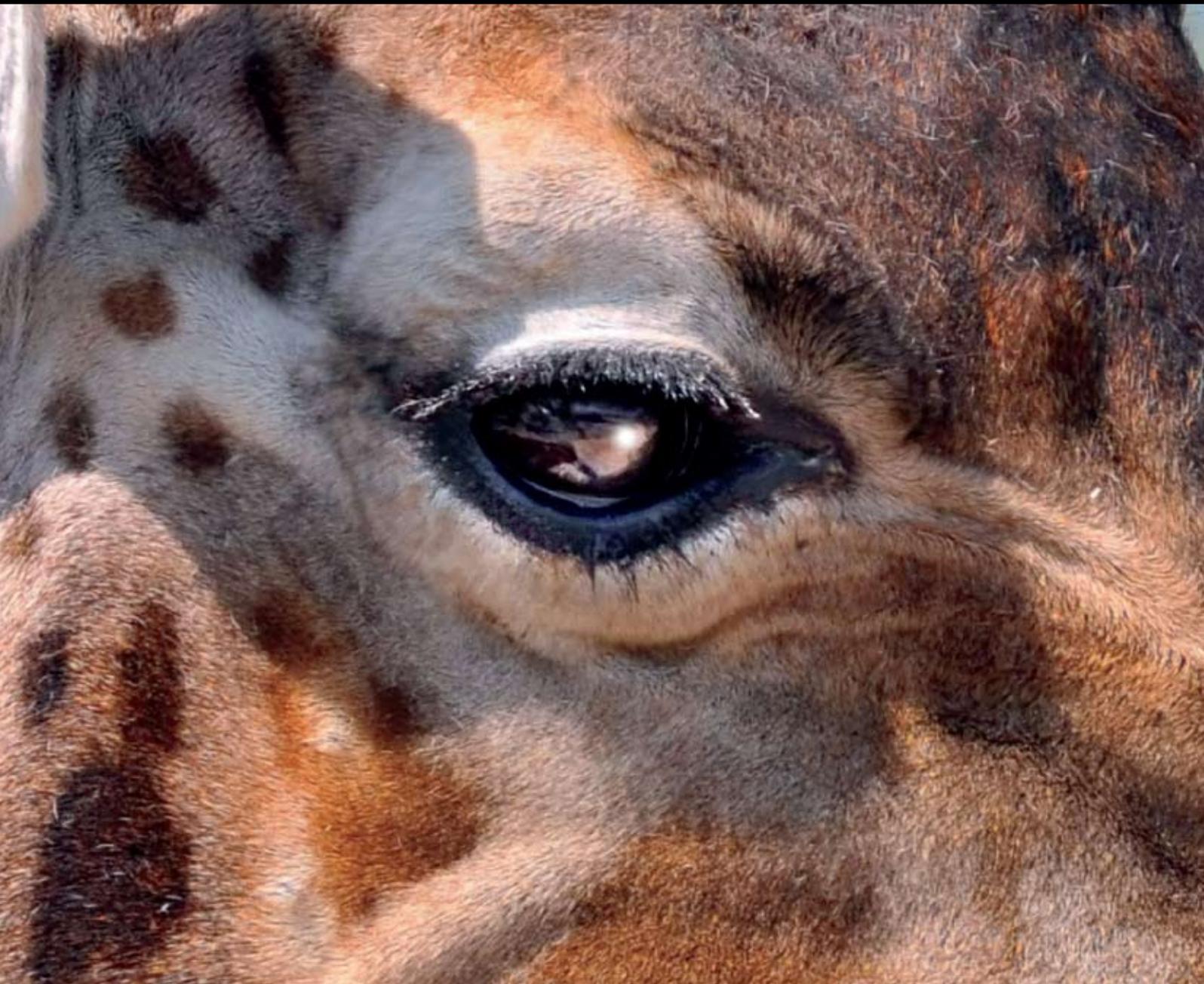
THE EU ZOO INQUIRY 2011

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

LATVIA



Written for the European coalition ENDCAP by the Born Free Foundation



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Country Report **LATVIA**



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ABBREVIATIONS USED

APL	Republic of Latvia's Animal Protection Law (amended 16/12/2010)
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
IAS	Invasive Alien Species
IUCN	International Union for Conservation of Nature
FVS	Invasive Alien Species
NCA	Nature Conservation Agency
NGO	Non-Governmental Organisation
OIE	World Organisation for Animal Health
O185/2001	Cabinet of Ministers' Order No.185 (08/05/2001)
O1033/2010	Cabinet of Ministers' Order No.1033 (09/11/2010)
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 Protection Ethics Council: Consultative body on animal protection law in Latvia.

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 excepted.

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

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

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

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

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

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

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 Latvia.

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

Three zoos in Latvia 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 330 species (including subspecies where appropriate) and 448 *species holdings* were observed in 361 enclosures in the three 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, Animal Protection Law (12/09/1999) (last amended 16/12/2010) and Cabinet of Ministers' Order No.185 (08/05/2001), taking into consideration Cabinet of Ministers' Order No.1033 (09/11/2010), which has recently replaced No.185. Key findings were:

- **Zoo regulation in Latvia is incorporated in the Animal Protection Law (APL)**, which aims to ensure that all species of animal are protected from harm and neglect, and specifically through the Cabinet of Ministers' Order on zoo regulation.
- The Ministry of Environment only appears to recognise two 'zoos' in Latvia, but acknowledges a further approximate 18 'animal collections'. **However, there appears to be no legal basis to differentiate categories of zoo.**
- Zoos are licensed and regulated through the Nature Conservation Agency (NCA) in collaboration with the Food and Veterinary Service and the Regional Office of the NCA. **The results highlight inconsistencies in the interpretation and application of APL and Cabinet of Ministers' Order.**
- **Zoo inspectors do not appear to have the necessary knowledge and expertise to ensure zoos are meeting their legal obligations.**
- **The public could come into direct contact with potentially dangerous wild animals and few zoos appeared to recognise the risks and inform the public accordingly.**
- Whilst some zoos in Latvia maintain higher standards of legal compliance, **evidence indicates that conditions in others remain substandard. All zoos are failing to meet all their legal obligations.**
- **Many of the enclosures were unhygienic and could pose a risk to the health and well-being of the animals.** Unhygienic conditions were observed in 22% of the randomly-selected enclosures.
- **Latvian zoos are making an insignificant contribution to the conservation of European and global biodiversity.** Despite the requirement for zoos to prioritise the breeding of 'endangered species', few species are involved in captive breeding programmes. The majority of species exhibited in the zoos are classified as *Least Concern* (species of low conservation priority) by the IUCN Red List of Threatened Species™.
- **Zoos are making an insignificant contribution to the conservation of nationally recognised 'endangered species'.** Of the 330 species kept by the three zoos, 7% are listed in the Latvian Red Book of protected species.
- **The commitment to and standard of public education in the majority of zoos was poor.** Overall, almost half the signage for species holdings was absent and much of the signage present was either incorrect or did not contain sufficient information about the species (SMZP).
- **Standards of animal welfare and husbandry in many enclosures were poor.**
- **Few of the enclosures provided the animals with any behavioural or occupational enrichment opportunities by way of items, specifically toys or feeding devices.**
- **On average, more than 76% of enclosures were not environmentally complex.** The zoos appear to have given little consideration to the essential biological, spatial and behavioural needs of the animals.

RECOMMENDATIONS

The Ministry of Environment and the Animal Protection Ethics Council should take the necessary measures to:

- 1) Review the findings of this report in relation to identified inconsistencies and ambiguity in the interpretation of requirements and application of Animal Protection Law (APL) and Cabinet of Ministers' Order No.1033 (whilst taking into account No.185). Ensure consistency in the correct identification of a 'zoo' and the consistent interpretation of exemption criteria to ensure compliance with Article 2 of the Directive. Ensure the terms used such as 'zoo', 'animal of wild species' and 'conservation sensitive' are appropriately defined in Part 1 of the Regulation 440/2003 and to consider the issuing of further guidance similar to that of Government Circular 2/2003, DEFRA, as a matter of urgency.
- 2) Revise the Animal Protection Law (amended 16/12/2010) and amend Cabinet of Ministers' Order No.1033 to incorporate: the definition of a 'zoo' (Article 2 of the Directive); duration of a zoo licence; and any specific requirements applicable to zoos; the terms of Article 3 of the Directive (specifically including the need for species-specific enrichment); a developed programme of nutrition; and detailed provisions for all zoos (as defined) to undertake conservation, education and scientifically-valid research activities with the overall aim of benefiting the conservation of biodiversity.
- 3) Develop and implement species-specific minimum standards for the keeping of animals in zoos, including guidance and procedures for enforcement agencies and zoo operators to ensure that animals in zoos are provided with living conditions that address their spatial, physical, physiological and behavioural needs. This should be undertaken by an independent, scientific body using reliable and scientifically-validated information.
- 4) Ensure regional departments of the Food and Veterinary Service (FVS) and the Nature Conservation Agency (NCA) are competent in the implementation and enforcement of Latvian zoo law. This process should be independent of the zoo industry. The FVS and NCA should be familiar with species-specific minimum standards for the keeping of wild animals in zoos and should be provided with the relevant training and skills pertaining to the care and welfare of wild animals in captivity.
- 5) Ensure that all zoos are annually inspected using a structured auditing procedure during the on-site visit by the FVS and NCA. To ensure consistency in zoo inspection and compliance of zoos with all licensing requirements before the granting, refusing, extending the period of, or significantly amending a licence (Article 4(4) of the Directive).
- 6) Establish criteria to evaluate and improve educational and conservation measures in zoos, including species information signage. This should not be developed and implemented by the zoos themselves but through an independent enforcement agency.
- 7) Introduce measures to ensure that sufficient funds are spent on improving the living conditions of the animals, including through increasing the entrance fee to their zoos.
- 8) Ensure that all veterinarians working in zoos, or who provide veterinary support for zoos, are equipped with relevant training and skills relating to the health and welfare of wild animals in captivity.
- 9) Ensure that all zoo keepers, being those people who have responsibility for the care of animals in zoos, are provided with relevant training and skills in animal care and welfare.
- 10) Ensure zoos keep and conserve predominantly indigenous and European Threatened species rather than non-European species.
- 11) Ensure all public contact with Category 1 'Greater Risk' Hazardous Animals and those species known to harbour zoonotic diseases is prohibited. All other public contact must be supervised, controlled, limited and must not be detrimental in any way to the welfare of the individual animals involved.
- 12) Publish guidance, as necessary, to assist zoos, enforcement personnel, veterinarians, NGOs and other stakeholders to effectively interpret the requirements of APL and O1033/2010, specifically with regard to their participation in, and their application of, recognised peer-reviewed conservation and education programmes.

The Nature Conservation Agency, the Food and Veterinary Service and the Regional Department of the Nature Conservation Agency should take the necessary measures to:

- 1) Ensure all permanent establishments open for seven days or more in a year and that display any number of animal species to the public, are licensed, receive regular inspections and meet the specified requirements of APL and O1033/2010..
- 2) Investigate the status of all 'animal collections' and, if the authorities confirm that they meet the definition of a zoo, ensure that they are inspected and licensed accordingly and that they comply with APL and O1033/2010.
- 3) Ensure zoo operators securely lock animal enclosures at all times and sufficiently inform the public of hazardous animals.
- 4) Ensure zoo operators are aware of the need for species-specific environmental enrichment and take the necessary steps to ensure all animals are kept in conditions that meet their species-specific needs.
- 5) 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 (Articles 7 and 8, O1033/2010) to zoos that fail to meet their legal obligations.
- 6) Close any zoo unable, within a specified period of time, to meet the requirements of APL and O1033/2010.

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 responsibility for overseeing and ensuring the effective implementation of the Directive by Member States and for taking legal action in the event of non-compliance.

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

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

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

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

METHODOLOGY

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

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

Implementation and enforcement of Member State legislation

Data were collected and evaluated through:

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

Status and performance of zoos

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

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

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

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

*... 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 methodology are available at 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, Latvia, Malta, Poland, Portugal, Romania, Slovenia and United Kingdom (England only).**

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

LATVIA

Country Report



INTRODUCTION

The Republic of Latvia joined the European Union in May 2004. By April 2005 Latvia, along with 24 other EU Member States, was required to have transposed and implemented the requirements of the European Council Directive 1999/22/EC into its national law. The Directive has been transposed into national legislation by means of the Animal Protection Law, Chapter VI (12/09/1999) (last amended 16/12/2010) (“LV”, 444/445 (1904/1905), 29/12/1999) (‘APL’) and, specifically, the Cabinet of Ministers’ Order No.185 for the ‘*Rules on requirements for keeping of wild animals in captivity and the creation of wild animal collections*’ (08/05/2001) (last amended 05/04/2004) (‘O185/2001’). Order No.185 has since been replaced by the Cabinet of Ministers’ Order No.1033 for the ‘*The requirements for holding wildlife in a zoo and the zoo’s requirements for the establishment and registration*’ (09/11/2010) (‘O1033/2010’). The Food and Veterinary Service within the Ministry of Agriculture has overall responsibility for the implementation of the APL. However, it is the Ministry of Environmental Protection and Regional Development (‘Ministry of Environment’) that has the responsibility for the implementation of the Directive in Latvia (Standard Member State Questionnaire), with zoo licensing administered by the Environmental Protection Administration (Article 32, APL).

As part of this investigation, the Competent Authority was asked to complete a Standard Member State Questionnaire. Information from the response received from the Ministry of Environment (Member State Questionnaire, pers. comm., 28th May 2010), has been included throughout this report. Information has also been reviewed by our Latvian partner organisation, *Animal Friends Foundation*.

In Latvia, zoo licensing is governed by the Animal Protection Law (APL), which aims to ensure that all species of animal are protected from harm and neglect and are provided with conditions that meet their welfare needs (Chapter 1, Section 1 and Section 4, APL). It is within the ‘General Provisions’ of APL (amended 16/12/2010) that a ‘zoo’ is recognised as ‘*a place where species of wild animal are kept in appropriate circumstances that meet their biological needs, species preservation, reintroduction or re-establishment, research or public education purposes*’ and specifically, under Article 10(21) of APL, which approves the establishment and registration of zoos through specific regulations (O1033/2010). Chapter VI of APL specifically addresses the ‘*protection of wild animals*’ and recognises ‘zoos’ in Articles 31 and 32 (APL), and places requirements on the owner/holder of animals of wild species in relation to animal acquisition and care. Cabinet of Ministers’ Order No.1033 (O1033/2010) sets out requirements for zoo registration and operation, and specifically incorporates the ‘*requirements applicable to zoos*’, as specified by Article 3 of the Directive.

At the time of the zoo assessment (May 2009), these requirements were regulated through a different Order: Cabinet of Ministers’ Order No.185 (O185/2001: Article 10(5) of APL (01/01/2000)). However from 1st January 2011, this has been replaced by O1033/2010 and all zoos in Latvia must comply with this new regulation by 1st January 2012. In this Report, the evaluation of zoo status and performance refers to those requirements set out in O185/2001. However, recognising that this regulation will no longer apply after January 2012, consideration has also been given to O1033/2010. Notably, although the majority of requirements for zoos set out in O185/2001 are similar to those in O1033/2010, any differences have been referenced and taken into account, together with an acknowledgement that those assessed zoos could well have made improvements or changes to their collections between May 2009 and the present.

Zoos and ‘animal collections’ are licensed in Latvia by the Nature Conservation Agency (Ministry of Environment) and the Food and Veterinary Service (Ministry of Agriculture) (Articles 4 and 5, O185/2001) (Standard Member State Questionnaire). Licence application must be submitted to both these Government agencies together with a list of the species and their numbers (including documentation to confirm their lawful acquisition and identification) and all necessary information to demonstrate compliance with the licensing requirements as set out in Article 4 of O185/2001 (and Article 4 of O1033/2010). Before a licence can be issued, an initial inspection of the applicant facility is necessary to ensure compliance with zoo requirements (Article 5, O185/2001; Article 6, O1033/2010). Licences were previously allocated by the Environmental Protection Administration for a period not exceeding five years (Article 8, O185/2001),

however, following amendment to the zoo regulation in 2010, zoos are now licensed for an indefinite period. Although, zoos are still inspected at least once a year (Article 10, O185/2001) (Standard Member State Questionnaire). The Nature Conservation Agency (NCA) coordinates the inspections, which are undertaken by inspectors from the Food and Veterinary Service and the Regional Department of NCA (Articles 5 and 10, O185/2001). This may also include the participation of invited 'experts' (Standard Member State Questionnaire). Should a zoo violate any legal requirements and not rectify them within one year from observation, the NCA may decide to revoke the licence and close the zoo (or part thereof) (Article 11, O185/2001; Article 7, O1033/2010).

Under the APL, the Ministry of Agriculture has established an Animal Protection Ethics Council. This is a consultative body that provides advice to the national and local authorities on animal protection law (APL), as well as initiating public education programmes. The Council includes national regulatory authorities, scientific institutions, NGOs and other institutions affiliated with animal protection (Article 11, APL). Provision for the protection of wild animals (including those in zoos) falls under their competency.

At the time of the investigation (2009), the Ministry of Environment recognised two zoos and '*approximately 15 collections that keep more than four different species of wild animal*' in Latvia. In addition, the Ministry of the Environment provided the authors with a list of 18 'animal collections'. According to the Ministry of Environment, all 'zoos' are licensed, however it is not clear if this claim includes the other '*animal collections*'. In this investigation, both recognised 'zoos' were included, together with one example of an '*animal collection*'.

Zoo licensing requirements

In Latvia, zoos are defined as establishments '*where species of wild animal are on public show for more than seven days in a year*' (Article 1 of O185/2001; Article 31, APL). Furthermore, the APL refers to a zoo as '*a place where species of wild animal are kept in appropriate circumstances that meet their biological needs, for species preservation, reintroduction or re-establishment, research or public education purposes*' (Section 1(15), APL (amended 16/12/2010)). This appears to include all kinds of zoological collections from the traditional zoo, animal parks and small menageries, to specialised collections such as aquaria and terraria, as well as dolphinarium (Standard Member State Questionnaire) (referred to as 'zoos' in this report). There are currently no dolphinarium in Latvia.

Article 1 of O185/2001, refers to those establishments exempt from zoo regulation in Latvia. This includes circuses, pet shops, animal shelters and animal boarding facilities. Exemption related to numbers of species or individual animals, as indicated in Article 2 of the Directive, has not been incorporated into Latvian zoo law. In fact, the Ministry of Environment indicates that all facilities exhibiting wild animals for '*even some days per year or keeping dangerous animals*' must be registered (Standard Member State Questionnaire).

Licensed zoos in Latvia are required to meet the specifications of the APL and specifically, O185/2001 (replaced by O1033/2010 (1 January 2011)). Article 2 of O185/2001 (and O1033/2010) stipulates requirements applicable to licensed and operational zoos, whilst Article 4.3 of O185/2001 (and O1033/2010) refers to the zoo's '*planned activities*', similar information that is required upon application for a zoo licence. Zoos are required to comply with the following:

Conservation

Section 1, paragraph 15 of APL states that a zoo is '*a place where animals of wild species are kept (...) [for] species preservation, reproduction or re-establishment, research or public education purposes.*' This definition is included within the Glossary of the APL (amended 16/12/2010) under the term 'zoo', and therefore appears to reflect the specifications of Article 3(1) of the Directive, which specifies requirements in species conservation.

Article 3(1) of the Directive, *'Requirements applicable to zoos'*, has been incorporated into Articles 2 and 4.3 of 0185/2001, requiring the zoo owner to ensure the animal collection:

- *'Provides research on the species conservation and exchanges relevant information;*
(Articles 2.1 and 4.3.1, 0185/2001)
- *'participates in wildlife, especially endangered species, conservation, captive breeding and species re-introduction programmes;'*
(Articles 2.3 and 4.3.3, 0185/2001)

These above requirements are also set out in Articles 2.1, 2.3, 4.3.1 and 4.3.3 of 01033/2010 and therefore, the above will still apply.

The Competent Authority has not provided any guidance to help interpret these requirements and thereby assist zoo operators to understand their obligations concerning the conservation of biodiversity (Standard Member State Questionnaire).

Education

Article 3(2) of the Directive, *'Requirements applicable to zoos'*, has been incorporated into Articles 2 and 4.3 of 0185/2001, requiring the zoo owner to ensure the animal collection:

- *'Promotes public environmental education and ecological awareness, as well as provides information about the species of wild animal exhibited and their natural habitats.'*
(Articles 2.6 and 4.3.6, 0185/2001)

These above requirements are also set out in Articles 2.6 and 4.3.6 of 01033/2010 and, therefore, the above will still apply.

The Ministry of Environment has not provided any further guidance to help interpret these requirements and thereby assist zoo operators to understand their obligations concerning the education of the public (Standard Member State Questionnaire).

Animal welfare provisions

Latvian zoos are governed by the Animal Protection Law (APL), which primarily aims to protect the welfare of animals in all circumstances under human control, including in zoos. Chapter I, Section 4 of APL prohibits the cruel treatment of animals, which includes animal mutilation, neglect, abandonment and the making of animals *'exceed their natural attributes'*. Chapter I, Section 5 of APL imposes a *'duty of care'* on the animal's owner/holders to ensure, amongst other things, their well-being, good health and controlled reproduction. Article 10(21) of APL refers specifically to the requirements of zoos (0185/2001 or 01033/2010), as does Chapter VI, Articles 31 to 34, which includes the requirement that *'a holder of a species of wild animal'* must provide each species with an appropriate natural environment and conditions that meet their physiological and psychological needs.

Article 3(3) of the Directive, *'Requirements applicable to zoos'*, has been incorporated into Articles 2 and 4.3 of 0185/2001, requiring the zoo owner to:

- *'ensure animals are kept under conditions that satisfy the species-specific physiological and psychological needs and provide quality veterinary care;'*
(Article 4(2) (c), R440/2003)

The Food and Veterinary Service is responsible for the welfare and protection of animals in Latvia (Articles 7, 9(1)a and 9(3) of APL) and is required to make an initial, and then regular inspection, of each zoo to ensure compliance with the APL (Article 32(2), APL; Article 5, O185/2001; Veterinary Medicine Act (26.04.2001) (last amended 03.06.2010)). Furthermore, according to the Standard Member State Questionnaire, all licensed zoos must have a full-time veterinarian who is trained in the care of wild animals and that the *'majority of small animal collections have contracts with certified vets'*.

APL and O185/2001 also stipulate other requirements including measures to prevent the escape of animals (Article 29, APL; Articles 2.5 and 4.3.5, O185/2001); protecting captive animals from threats to their health and survival (Article 2.5, O185/2001); and environmental protection measures (Article 4.4, O185/2001). These requirements are also stipulated in O1033/2010 and therefore, the above still apply.

As specified by Article 3(5) of the Directive, there is a requirement for zoos in Latvia to provide an animal stocklist. This is not only a requirement at the time of licence application (Article 4.2, O185/2001 and O1033/2010), but zoo owners are also required to provide an update on species numbers and composition (including births, deaths, sold or acquisitions and numbers of individuals) to the Competent Authority each year (Article 9, O1033/2010) (Standard Member State Questionnaire).

The Zoo Investigation

A total of 3 zoos in Latvia were selected. Data was collected at the following zoos during May 2009 (Fig. 1):

- Riga Zoo
- Mesavairogi Zoo
- Latgales Zoo



Figure 1 Geographical locations of the three zoos visited in Latvia.

RESULTS AND INTERPRETATION

GENERAL ZOO INFORMATION

Overview

The investigation evaluated three zoos in Latvia. Two were Municipally-owned, Riga National Zoological Garden Zoo ('Riga Zoo') and Latgales Zoo, and Mesaviarogi Zoo, a private zoo and an example of one of the 18 recognised 'animal collections' that are apparently also regulated by the Cabinet of Ministers' Order on zoo regulation, but which are not officially recognised as 'zoos' (Standard Member State Questionnaire). All three meet the definition of a 'zoo' (Article 2 of the Directive; Article 31, APL; Article 1 of O185/2001) and were therefore included in the assessment. Entrance fees ranged from 0.4 LVL (€0.56) to 4 LVL (€5.64).

Of the three zoos evaluated, only one zoo appeared to be a member of a zoo association. Riga Zoo is a member of the *European Association of Zoos and Aquaria* (EAZA). EAZA has a total membership of 277 zoos in the EU (EAZA website), but represent a small minority of the total number of regional zoos (8% of an estimated total of 3,500 zoos in the EU). All EAZA zoos are expected to follow the *EAZA Minimum Standards for the Accommodation and Care of Animals in Zoos and Aquaria*.

A total of 330 species (including subspecies where appropriate) were identified in 361 enclosures in the three zoos. A total of 18 *species holdings* could not be identified (see online Methodology).

Despite all three zoos being sent the Standard Zoo Questionnaire which provides an opportunity for the zoo to describe, amongst other things, their conservation and education activities, none of the zoos completed and returned the Questionnaire. Therefore, information concerning their performance and activities was gathered from printed materials produced by the zoos and information contained on zoo websites.

Prevention of animal escapes

Article 4 of R440/2003 stipulates that zoos must:

'Take necessary measures to prevent the escape of animals (into the wild)'

(Article 4(2)(e), R440/2003)

'Non-indigenous animals of wild species should not be released into the wild'

(Article 29, APL)

These above requirements are also set out in O1033/2010 and therefore the above still apply.

Despite the importance ascribed to this issue in the Directive and Latvian zoo law, two of the three zoos did not appear to have taken measures to prevent the possible escape of non-indigenous zoo animals.

Riga Zoo and Mesavairogi Zoo did not appear to have a perimeter fence, of suitable height and strength to contain an escaped animal. Free-roaming species were observed in both of these zoos. Feral cats (*Felis catus*) were observed throughout Riga Zoo and were seen in a number of animal enclosures. Mesavairogi Zoo, a small farm holding with a collection of enclosures displaying wild animals, had numerous free-roaming farm animals, including goats (*Capra hircus*), turkeys (*Meleagris gallopavo*) and chickens (*Gallus gallus domesticus*).

Public placed at risk of injury and disease transmission

Although only one of the three zoos actively encourage members of the public to have direct contact with the animals, the frequently poor design of enclosures, lack of stand-off barriers, lack of available zoo staff and in some cases, unlocked enclosures, allowed for direct contact and possibly placed the public at significant risk. The public could easily come into direct contact with animals in 33 out of the 75 randomly selected enclosures (Section D and E). This included potentially dangerous Category 1 'Greater Risk' Hazardous Animals, as categorised by SMZP, such as, brown bear (*Ursus arctos*), grey wolf (*Canis lupus*) and hippopotamus (*Hippopotamus amphibius*); and Category 2 'Less Risk' Hazardous Animals (SMZP), which included raccoons (*Procyon lotor*) and European polecat (*Mustela putorius*).

Latgales Zoo encouraged direct contact between zoo visitors and some of the wild animals on display. This included reptiles and amphibians. No signage encouraging hand-washing or notifying the public of the risks of direct animal contact were observed. No hand-washing facilities appeared to be available. Signage warning the public of the risks of direct contact with potentially dangerous animals was lacking in all the assessed zoos.

Figure 2

Riga Zoo.

Lack of suitable stand-off barriers encouraged direct contact with animals and potentially placed both the public and the animals at risk. A child reaches out to touch a guanaco, a potentially dangerous wild animal.



CONSERVATION

The conservation of biodiversity is the main objective of the Directive and it requires zoos in the EU to participate in at least one of four possible conservation activities (Article 3 of the Directive). Zoo law in Latvia is governed by the Animal Protection Law and accurately adopts these same requirements through the Cabinet of Ministers' Order on zoo registration and operation (O185/2001 or O1033/2010). Zoos are not only expected to undertake research that benefits species conservation and exchange relevant information, but also to participate in species management programmes with a special emphasis on breeding / conserving 'endangered species'.

However, the results of this investigation have confirmed that the commitment by Latvian zoos to the conservation of biodiversity, particularly in the protection of 'endangered' or Threatened species, is not a priority.

Percentage of Threatened Species

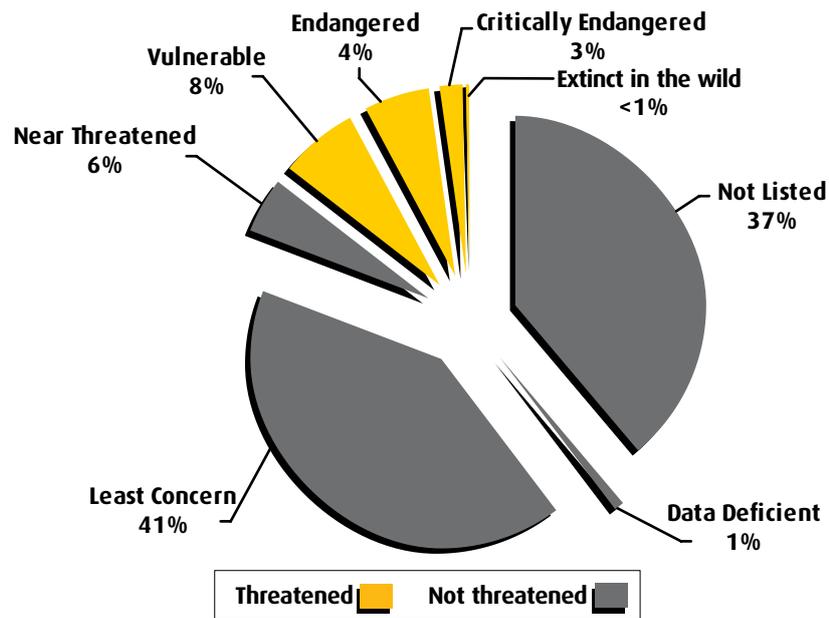


Figure 3 Proportion of the 330 species identified (including subspecies where appropriate) in the three Latvian zoos that are categorised by the IUCN Red List of Threatened Species™ as Threatened and Not Threatened.

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	13	3	30	47	2	26	121	37%
Not Evaluated	0	0	0	0	0	0	0	0%
Data Deficient	1	0	0	1	1	0	3	1%
Least Concern	44	56	5	5	25	0	135	41%
Near Threatened	5	6	7	0	2	0	20	6%
Vulnerable	10	6	8	3	0	0	27	8%
Endangered	6	4	2	0	2	0	14	4%
Critically Endangered	2	1	2	0	3	1	9	3%
Extinct in Wild	1	0	0	0	0	0	1	<1%
Total No. Species	82	76	54	56	35	27	330	100%
Proportion of total no. Species (%)	25%	23%	16%	17%	11%	8%	100%	100%

Table 1 Proportion of the 330 species (including subspecies where appropriate) identified in three Latvian zoos, categorised as Threatened and Not Threatened by the IUCN Red List of Threatened Species™ by taxa.

The results indicate that 15% of the total number of species ($n = 50$ species) from the selected zoos can be described as Threatened (*Vulnerable* (8%), *Endangered* (4%) and *Critically Endangered* (3%)) (Table 1). Of the 50 Threatened species, 36% were mammals, 24% were reptiles, 22% were birds, 10% were amphibians, 6% were fish and the remaining 2% were invertebrates. The remaining 84% of the Not Threatened species were either classified as *Least Concern* (41%) or *Near Threatened* (6%) by the IUCN Red List of Threatened Species™ categorisation, or *Not Listed* (37%) (Fig. 3).

Of the 330 species kept by the three zoos, 22 (7%) are listed in the Latvian Red Book (Latvian Nature website), which included five species of mammal, 10 species of bird, four species of amphibian and three species of reptile. The assessed zoos also kept three species listed on the European Mammal Red List: polar bear (*Ursus maritimus*); Arctic fox

(*Alopec lagopus*); and European Mink (*Mustela lutreola*), and two species listed on the European Amphibian Red list (European Red List website): spur-thighed tortoise (*Testudo graeca*); and European pond turtle (*Emys orbicularis*).

Latgales Zoo, in particular, appears to undertake scientific research in collaboration with the University of Latvia and the zoos of Riga, Kiev and Moscow, with an apparent objective to benefit species conservation (Latgales Zoo Activities Report 2010). This includes Latvian Protected Species such as pond terrapin (*Emys orbicularis*) and fire-bellied toad (*Bombina bombina*). There was no evidence that Riga Zoo or Mesavairogi Zoo (on the zoo's website; in zoo literature; or during the zoo visit), undertook such scientific research. None of the zoos returned the Standard Zoo Questionnaire. However the Ministry of Environment claims that Riga Zoo and Latgales Zoo partake in conservation programmes (Standard Member State Questionnaire).

Participation in European coordinated captive breeding programmes

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, which primarily focuses on endangered species.

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

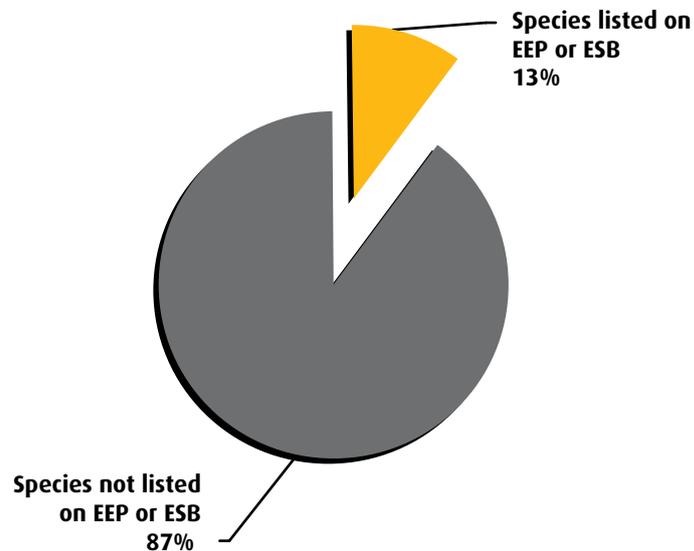


Figure 4 The percentage of the 330 species (including subspecies where appropriate) identified in the three Latvian zoos that are part of an ESB or EEP.

Only 13% (n = 44) of the 330 species in the zoos are listed on the register of European Endangered Species Breeding Programmes (EEPs) or European Stud Books (ESBs). All three zoos kept at least one species listed on either EEP or ESB. Riga Zoo kept the highest number, with 43 species out of a reported total of 405 species (Annual Report 2009) listed on either ESBs or EEPs. The 2008 and 2009 Annual Reports both indicated that all 43 species were participating in the European species management programmes - in fact, the guidebook claimed that there were 60 species participating in such programmes. This could not be confirmed. Furthermore, it was not possible to confirm if the ESB- or EEP-listed species at Latgales Zoo and Mesavairogi Zoo were participating in the species management programmes.

According to Riga Zoo's Annual Report (2008), in 2008, the zoo sent two European mink (*Mustela lutreola*), bred at the zoo, to the 'Lutreola Foundation' in Estonia. Hosted by Tallinn Zoo, the Foundation is captive-breeding and reintroducing this endangered species back into the wild. Furthermore, in the same year, it is reported that Riga Zoo released a juvenile grey seal, a locally Threatened species, into the Baltic during the Year of the Grey Seal (Natural History Museum of Latvia). Between 1995 and 2006, Latgales Zoo reportedly introduced 220 fire-bellied toads (*Bombina bombina*) into the wild (Latgales Zoo website). There is no evidence available that Mesavairogi Zoo has participated

in species reintroduction programmes and no evidence could be found to confirm that any of the zoos are currently involved in species reintroduction programmes. In order to introduce or reintroduce a wild animal species into the wild in Latvia, a permit is necessary through Cabinet of Ministers' Regulation No.1165 (2010).

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). Latvia's O185/2001 has accurately adopted this requirement, requiring zoos to actively educate the public about conservation and the natural environment, in addition to the provision of information about exhibited species, and, in particular, the species' natural habitat (Articles 2.6 and 4.3.6 , O185/2001).

Unlike other EU Member States, there is no specific legal requirement for zoos in Latvia to establish an education programme. According to the Ministry of Environment, no guidance is issued to the zoos to encourage educational practices (Standard Member State Questionnaire).

Of the three zoos, two appeared to engage in, and actively offer, educational activities. This included the Riga Zoo, which provides numerous courses and tours for schools and members of the public, including public events and species feeding demonstrations during the summer season. The Zoo also reportedly takes animals from the zoo into schools for lecture purposes (Annual Report 2009). Both Riga Zoo and Latgales Zoo have classroom facilities and Riga Zoo has a guidebook on sale. Latgales Zoo provides lectures for both teachers and students in collaboration with Daugavpils University, on a variety of topics including 'animal ecology' and 'animal behaviour' (Latgales Zoo website). The classes reportedly cost 0.2LVL per student. For the visiting public, the zoo also offers tours, providing explanation of many of the species exhibited, as well as free advice to the public on exotic pet keeping (Latgales Zoo website). During the investigation, no classes or tours were observed.

Minimal species information

A basic requirement of a zoo is to inform its visitors about the animals exhibited. O185/2001 requires information on all species exhibited to be made available. Results, however, demonstrate that species information was lacking in all the zoos and for a significant number of species.

Proportion of Species Information Signage Present

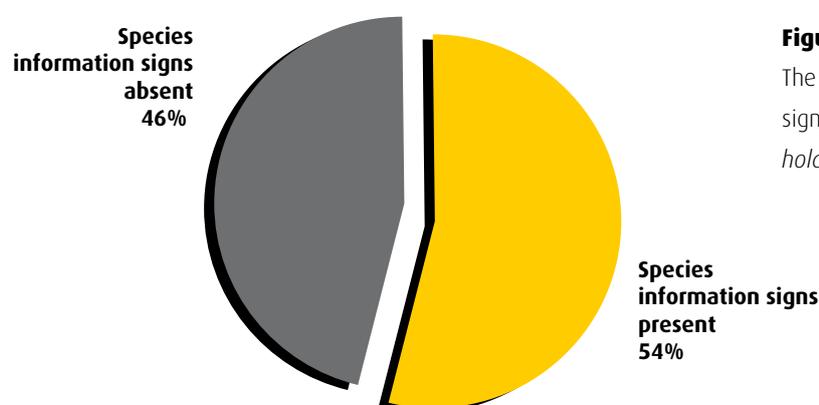


Figure 5

The average percentage of species information signage present or absent (for all 448 *species holdings*) in the three Latvian zoos.

On average, 46% of *species holdings* completely lacked any form of species information signage (Figs. 5 & 6). Species information signage was absent for 67% in Latgales Zoo, 62% in Mesavairogi Zoo and 8% in the Riga Zoo. Signage for six *species holdings* was incorrect (inaccurate species' scientific or common names), whilst others displayed only minimal information about the species. Figure 7 provides an overview of the content of the signage in the zoos.



Figure 6

Latgales Zoo.

Species information signage was absent for many of the animals exhibited, including this Royal python (*Python regius*).

Quality of Species Information Signs

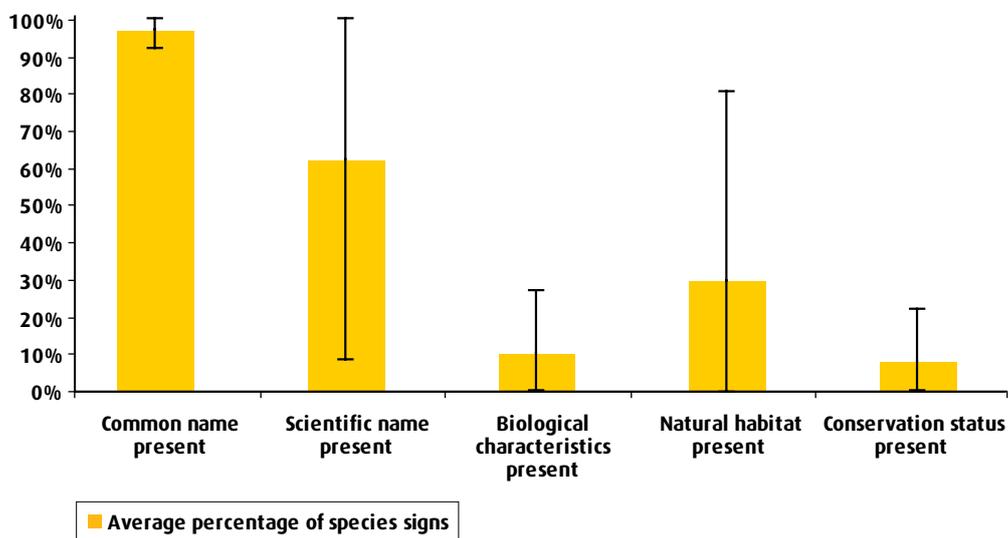


Figure 7 Content of species information signage within the three Latvian zoos. Each column represents specific information, as indicated by best practice criteria (SMZP). Each value (e.g. Conservation status present, 8%) represents the average of the 55 species information signs observed in 30 randomly 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 the scientific name of the species varied considerably between zoos in comparison to the presence of species common name).

Although there is a requirement to include information about the species' natural habitat and inform the public about species ecology and conservation, no further explanation or guidance is provided by the Competent Authority to clarify what type of information should be included on the species information signage. The report authors refer to the SMZP as

best practice criteria. The SMZP specifies that signage should include: common name; scientific name; biological details; natural habitat; and conservation status. The results (Fig. 7) demonstrate that few of the species information signs observed on the randomly selected enclosures contained all the best practice criteria. The majority of the signs observed included the species' common name and scientific name, but few included information on biological characteristics, only 30% included information on species' natural habitat and 92% failed to provide information about the species' conservation status. Only 24% of species information signage from the randomly selected enclosures at Riga Zoo included all the best practice criteria, with none of the signage at either Latgales Zoo or Mesaviarogi fully complying at all.



Figure 8

Riga Zoo.

Numerous information signs were either absent, incorrect, or did not include sufficient information about the species exhibited. This sign is for the mandarin duck (*Aix galericulata*). It not only has insufficient information about the species, but it is also incorrect as the species exhibited is the ruddy shelduck (*Tadorna ferruginea*).

EVALUATION OF ANIMAL ENCLOSURES

To evaluate the suitability and quality of each of the 75 randomly selected enclosures, data relating to 12 criteria regarded as vital to the health and welfare of the wild animals in captivity were analysed using the evaluation method as described in Sections D and E of the Methodology. 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.

Unlike other EU Member States, Latvia has not developed and established minimum standards for the keeping of wild animal species in captivity, or specifically in zoos. Furthermore, the Ministry of Environment does not provide any guidance on species-specific biological requirements, environmental enrichment or appropriate animal care (Standard Member State Questionnaire).

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

Freedom from Hunger and Thirst: Provision of Food and Water

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

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

A number of enclosures did not appear to provide the animals with access to clean drinking water.

Freedom from Discomfort: Provision of a Suitable Environment

'Owners (or holders) of animals of wild species are responsible to ensure the animals are kept in an appropriate natural environment and provide conditions that meet species-specific physiological and psychological needs.'

(Article 34, APL)

'Ensure the animals are kept under conditions that satisfy their species-specific physiological and psychological needs.'

(Article 2.2, 0185/2001)

For many animals, conditions were often cramped and did not adequately take into account the needs of individual species. Far-ranging species for example were often housed in enclosures of an insufficient size to permit exercise and the expression of natural behaviour. This included the Himalyan black bear (*Ursus thibetanus*) and brown bear (*Ursus arctos*) at Riga Zoo and the grey wolf (*Canis lupus*) and raccoon (*Procyon lotor*) at Mesavairogi Zoo. Latgales Zoo houses the majority of their animals in glass tanks or small 'hobby' cages and for the larger snake species, rodents and some of the bird species, in particular, conditions were often cramped and inadequate, so much so that numerous bird species were kept in enclosures that did not allow them sufficient height and space to fly.

The glass-fronted enclosures in Latgales Zoo, which often utilised the crevices within the mock rainforest interior of the zoo building, may well limit suitable ventilation and, together with the lighting, could cause inappropriately high temperatures. This requires further investigation. In outdoor enclosures at Riga and Mesavairogi Zoos, the often sterile enclosures lacked appropriate bedding, shelter and comfort from extreme temperatures, where temperatures in Latvia can reach -28°C (BBC website). If there was an indoor enclosure, access was usually, but not always, permissible, but furnishings to provide shelter or refuge within the outdoor enclosure were frequently absent.



Figure 9

Latgales Zoo. Many of the enclosures were small and cramped for the animal(s) contained and in many cases lacked suitable space to provide the animals comfort, opportunities to seek refuge and an opportunity to exercise and express natural behaviour. This enclosure exhibiting a red-lored amazon parrot (*Amazona autumnalis*) did not provide the animal with sufficient opportunity to fly and to express other natural behaviour (APOS).

Freedom from Pain, Injury and Distress: By Preventative Measures and Provision of Suitable Health Care

'..provide quality veterinary care.'

(Article 2.2, 0185/2001)

'Protect captive animals from threats to health and survival'

(Article 2.5, 0185/2001)

Many animals were housed in unhygienic conditions. Problems included the build-up of faeces, stagnant water and uneaten, rotting food. In particular, the indoor pool of the hippopotamus (*Hippopotamus amphibius*) appeared unkempt; the water was putrid and had a strong smell of decomposing faeces and stagnation. Furthermore, the

carnivore enclosures at Mesavairogi Zoo contained partly consumed, but decomposing carcasses of what looked like beavers (*Castor fiber*), most definitely wild caught.

Many of the enclosures were observed to be in a poor state of disrepair: paint peeling from walls, potentially dangerous exposed parts of furnishings and poor enclosure fencing.



Figure 10

Mesavairogi Zoo. Some enclosures were in a poor state of disrepair, which could expose the animals contained to risk of injury. This could be the case for this red fox (*Vulpes vulpes*).

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)

Many enclosures lacked the appropriate furnishings and materials to allow the species to express normal behaviours. Species requiring features to climb, bathe, fly, or a suitable substrate to dig or burrow in were often housed in conditions where such natural behaviour was compromised or prevented. For example, Himalayan black bear (*Ursus thibetanus*) and brown bear (*Ursus arctos*) were housed in enclosures without suitable substrate to allow the animals to dig.

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)

'Protect captive animals from threats to health and survival'

(Article 2.5, O185/2001)

In some cases predator species were housed alongside of prey species, or in such close proximity as to cause distress or represent a risk of disease transmission. For example, domesticated rabbits (*Oryctolagus cuniculus domesticus*) and pigeons (*Columba livia domestica*) were exhibited opposite foxes (*Vulpes vulpes*). Many enclosures in Latgales Zoo, in particular, were designed to give the public the option to touch the animals, which could cause the animals concerned unnecessary distress. The regular lack of shelters or access to indoor quarters failed to allow the animals the opportunity to escape cage companions, seek refuge or privacy from view.

In a number of cases, typically sociable species were housed alone. This included species such as common eland (*Tragelaphus oryx*), grey wolf (*Canis lupus*) and wild boar (*Sus scrofa*) which were all exhibited on their own.

Environmental Quality of Enclosures

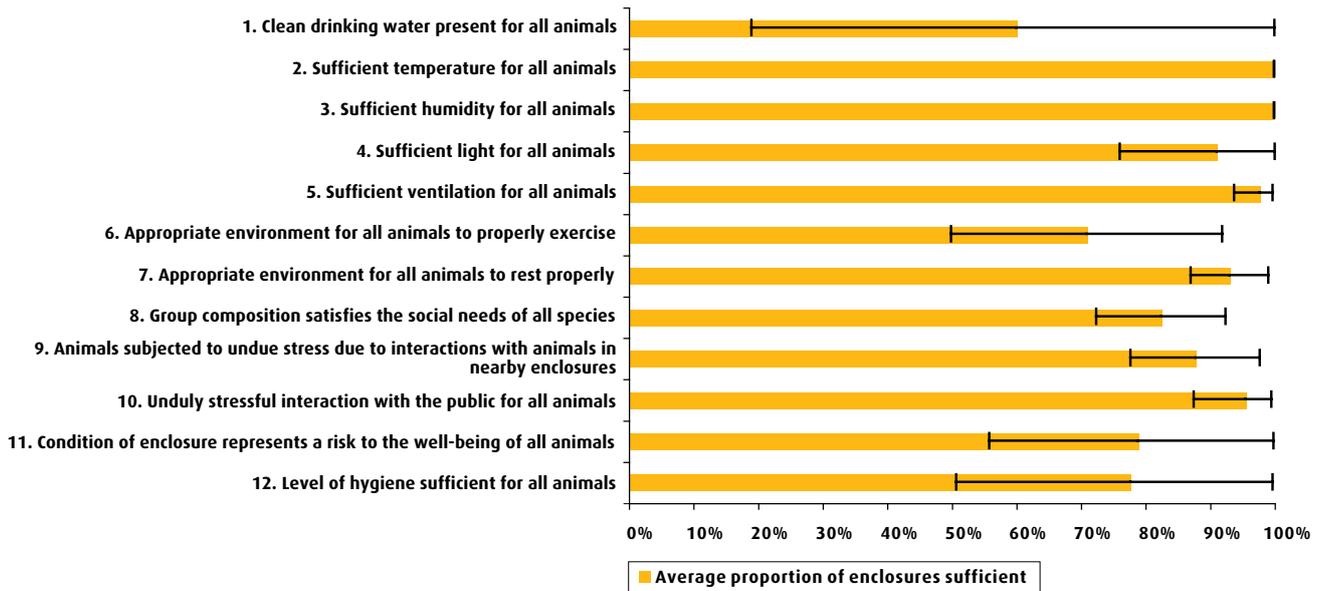


Figure 11 Environmental quality of the 75 randomly-selected enclosures from three Latvian zoos. Each column represents a criterion used to assess the suitability of the enclosures to meet the needs of the animals contained. Error bars are a visual representation of the standard deviation from the mean value, demonstrating the variation in performance amongst selected zoos (e.g. the presence of clean drinking water in enclosures varied considerably between zoos compared to the temperature which was consistently adequate). Where the presence of a condition or factor could not be determined, data were not included.

The results (Fig. 11) demonstrate that while most enclosures appeared to provide the animals with sufficient temperature and humidity at the time of assessment, lower values were recorded for; the provision of clean drinking water and the general cleanliness of the enclosures (on average, 40% of enclosures did not appear to provide clean drinking water and 22% of enclosures were unhygienic); an opportunity for the animal(s) to exercise and express their natural locomotive behaviour (on average, 29% of the selected enclosures were of an inadequate size and complexity); measures to prevent the build-up of harmful pathogens (on average, 21% of enclosures may pose a risk to the health of the animals); the keeping of animals in social groupings consistent with the species (on average, 18% of animals in the selected enclosures were kept in abnormal group compositions).



Figure 12

Riga Zoo.

Unhygienic conditions were observed in many of the enclosures throughout the three assessed zoos. Stagnant water, rotting food and a build-up of animal waste can harbour harmful pathogens, placing the animals at risk of disease. This pool for the hippopotamus (*Hippopotamus amphibius*) was full of foul smelling water.

The majority of the enclosures observed were often devoid of species-specific furniture, apparatus and refuges to allow animals to exercise, rest, hide and express natural behaviours: potentially compromising the needs and welfare of the individual animals.



Figure 13

Riga Zoo. Enclosures for many species lacked suitable substrate and environmental complexity. This brown bear was unable to express normal behaviours such as digging and foraging. The bear was observed ‘begging’ for food from the public.

EVALUATION OF ANIMAL WELFARE

Keeping an animal in a restrictive, predictable and barren captive environment is known to compromise welfare (Mallapur *et al.*, 2002; Lewis *et al.*, 2006) and may result in the development of abnormal behaviours, which can become increasingly more difficult to reverse, even with the application of environmental enrichment techniques (Swaigood & Sheperdson, 2006). The following represents the results of an assessment 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%)

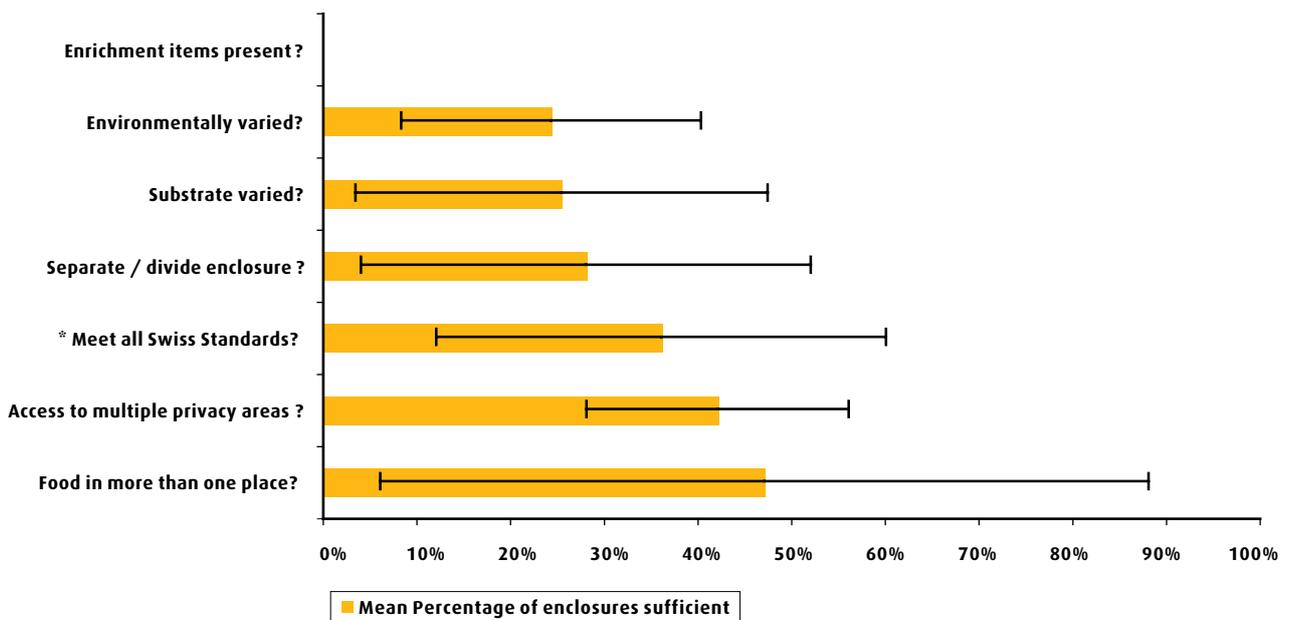


Figure 14 Issues requiring immediate attention following assessment of 75 randomly selected enclosures from the three Latvian zoos. Error bars are a visual representation of the standard deviation from the mean value, demonstrating the variation in performance (e.g. the presence of food in more than one location in exhibits considerably between zoos). Where the presence of a condition or factor could not be determined, data were not included. * Refers to Animal Protection Ordinance of Switzerland Tierschutzverordnung 2008.

The level of animal welfare was assessed in 75 randomly selected enclosures in the three 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 (all enclosures); the lack of environmental variation (76%); and the inability for animals to access multiple privacy areas (58%).

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

- On average, 49% of enclosures were not large enough to allow animals to sufficiently distance themselves from the viewing public.
- On average, 45% of enclosures were not large enough to allow animals to sufficiently distance themselves from potentially aggressive or dominant cage companions.

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

- On average, 27% of enclosures were not large enough to allow the animals to express their full repertoire of natural locomotive behaviours (i.e. swimming, flying, running).
- On average, 24% of enclosures did not contain a variety of species-appropriate permanent features and furnishings.
- On average, 18% of enclosures appeared to be overcrowded.
- On average, 17% of enclosures did not provide the animals with a suitable substrate to allow species-typical movements and behaviours.
- On average, 13% of enclosures exhibited animals that displayed signs of stereotypical behaviour.

The Animal Protection Ordinance of Switzerland, Tierschutzverordnung 2008 (APOS) was used in the investigation to ascertain whether the enclosures were suitable for the species contained. APOS was selected as it represented an independent set of recognised species-specific standards and environmental enrichment from a non-EU Member State. All selected enclosures (from Sections D and E analysis) were assessed against the standards. The results determined that, **on average, 64% of enclosures that exhibited species listed on APOS did not meet these minimum requirements**. In particular, this identified a failure in the majority of enclosures to provide the species contained with their species-specific needs, as required by the APL and O185/2001 (and O1033/2010).

CONCLUSION



This investigation has assessed three zoos in Latvia: two of which are licensed and officially recognised by the Government as 'zoos', and another, a small collection of wild animals, which is an example of 15 or more '*animal collections*' that should be required to comply with Latvian zoo law. Despite a largely accurate transposition of the Directive into Animal Protection Law and Cabinet of Ministers' Order No.185 (replaced by Order No.1033 (January 2011)), overall findings have revealed inconsistency in application, an apparent failure to identify a 'zoo' (as defined), ineffective enforcement of the legislation and substandard conditions in all zoos included in the investigation.

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

1. Implementation of the Directive

The Directive was accurately transposed into Latvian Animal Protection Law (APL) through the Cabinet of Minister's Order O185/2001, to license and regulate zoos to ensure that they meet specified requirements relating to the keeping of animals in zoos. The implementation of zoo legislation is undertaken by the Nature Conservation Agency, on behalf of the Ministry of Environment, and licences are granted following an inspection by representatives of the regional Food and Veterinary Service and the regional Department of the Nature Conservation Agency.

The implementation of the Directive by Member States is an issue for subsidiarity and although transposition is overseen by the European Commission, it is the responsibility of the Member State to accurately transpose all the requirements of the Directive into the respective national law and apply it. Unlike other EC Directives, Directive 1999/22 includes no guidance or explanatory notes. This has led to inconsistencies in its application amongst EU Member States as a result of varying interpretations of important definitions, in particular the definition of a 'zoo'. Latvia is no exception.

In Latvia, the Ministry of Environment only appears to recognise two 'zoos': Riga Zoo and Latgales Zoo. However, there is tacit recognition that other facilities exist, but these are officially referred to as '*animal collections*'. The Ministry estimates there to be approximately 15 animal collections that keep '*more than four different wild [animal] species*', and has provided a further list of 18 '*animal collections*'. This suggests that no definitive number exists (Standard Member State Questionnaire). Despite the apparent differentiation between the larger, Municipality-owned zoos and smaller, privately-owned zoos, both are reportedly registered and regulated through APL and O185/2001 (Standard Member State Questionnaire).

Legally, there are no specifications within Latvian zoo law to distinguish between 'zoos' and 'animal collections' and there is no exemption criteria based on the numbers of species or individual animals (Article 1 of O185/2001; Article 31, APL). Therefore, according to O185/2001, all animal collections (irrespective of their size, ownership or diversity of species) that display animals of wild species to the public for seven or more days in a year, are zoos, which should be licensed and meet the requirements of APL and O185/2001. All 'animal collections' that meet this definition will be referred to as 'zoos' from this point on.

Uncertainty over the ability for the competent authority to effectively identify zoos is indicated by the Standard Member State Questionnaire. The Ministry of Environment indicates that even zoos which exhibit wild animals for '*some days per year or keep dangerous animals*' should be regulated by O185/2001. This specification, which is not included in either O185/2001 or APL, falls outside the remit of the Directive, but clearly indicates that **there is likely to be even more zoos in Latvia than the 17 referenced (Standard Member State Questionnaire)**. This needs further investigation.

It remains unclear why the Ministry of Environment has chosen to differentiate between different types of zoo, when there appears to be no legal basis on which to do so. The failure of zoos to meet all the specified requirements could undermine the Directive and their compliance largely relies on effective enforcement of the law.

At the time of the investigation, zoos were licensed and regulated through Cabinet of Ministers' Order No.185 (2001) but, from January 2012, all zoos must comply with Cabinet of Ministers' Order No.1033 (2010). Both regulations are complementary to the overall aims of the APL and incorporate the majority of the '*requirements applicable to zoos*', Article 3 of the Directive, but there are some notable differences. These specifically concern: the omission from both Cabinet of Ministers' Orders to include specific requirements for zoos to provide their animals with a developed programme of species-specific environmental enrichment (Article 3(3) of the Directive); the definition of a 'zoo' - included in Article 1 of O185/2001, but omitted altogether from O1033/2010; detailed requirements concerning the veterinary inspection prior to zoo registration - included in Article 5 of O185/2001, but the detail is omitted from O1033/2010; and the duration and re-issuing of the zoo licence - included in Articles 8 and 9 of O185/2001, but omitted from O1033/2010. Under this revised regulation, zoo licenses are issued indefinitely (Nature Conservation Agency, pers. comm., 17th May 2011).

The findings from this investigation have identified that whilst there are notable contradictions between the explanations of the Ministry of Environment in the Standard Member State Questionnaire and the requirements of Latvian zoo law, transposition of the Directive has been largely accurate. However, only **minimum requirements had been included**. No additional explanation or guidance has been provided to enforcement agencies or zoo operators by the Competent Authorities, no further requirements for zoos have been established and the Cabinet of Ministers' Order No.1033 appears to contain less detail than that of the previous Order No.185. It is therefore not unreasonable to predict that this lack of guidance and largely ambiguous regulation, and the possible misinterpretation of requirements, has, and will continue to lead to poor law enforcement.

2. Ineffective enforcement

By April 2005, all zoos in Latvia were required to be licensed and meet the specifications of the Directive, through the APL and O185/2001. At the time of the investigation (May 2009), the Ministry of Environment had identified and licensed two 'zoos' and a further 18 'animal collections'. However, as explained above, it is not known how many of these should be regulated as a zoo (O185/2001) and furthermore, whether more zoos exist but are unlicensed. Recognising that these findings could indicate a failure in effective law enforcement. Therefore, this investigation has included a review of the ability of the Competent Authorities to effectively apply the law.

In Latvia, zoo inspection is undertaken by the Food and Veterinary Service and the Regional Department of the Nature Conservation Agency (NCA), under the coordination of the NCA, which reportedly inspect zoos '*at least once a year*'. Reliant upon their knowledge and expertise, the zoo inspection does not appear to follow a specific protocol or structured auditing process other than a brief list of requirements applicable to zoos both before they are licensed, and then once licensed (Articles 4 and 2, O185/2001). Notably, the revised regulation, O1033/2010 fails to provide sufficient detail on how inspections are undertaken. The process is therefore largely open to the interpretation and expertise of the zoo inspectors, including their assertions to the NCA that the information collected is both accurate and complete, and that zoo inspections are carried out and licenses granted consistently. Based on the zoo inspection, a zoo licence is granted, refused or revoked. To date, no zoo in Latvia has been instructed to close for matters of non-compliance (Standard Member State Questionnaire).

Despite assurances by the Ministry of Environment that the inspectorate is '*partly*' knowledgeable in the health and welfare of wild animals in captivity (Standard Member State Questionnaire), the findings from this investigation indicate that further training is required. Findings revealed that whilst some zoos did better than others, none of the selected zoos fully complied with the requirements set out in Latvian law, yet all zoos are reportedly licensed (Standard Member State Questionnaire). Identified problems include failure to contribute to the conservation of 'endangered' or Threatened species, raise awareness of the conservation of biodiversity, provide sufficient information about all the species exhibited and keep animals in an appropriate manner.

Notwithstanding an established system to inspect and license zoos, the regularity, quality and the process of inspection must be further investigated. **Zoo inspectors do not appear to have the necessary knowledge and expertise to ensure zoos are meeting their obligations under Chapter VI of APL and O185/2001 (or O1033/2010).** Zoos appear to be largely left to their own devices.

The Ministry of Environment has recognised the need for further training in the effective inspection of zoos, identification of poor welfare and the appropriate keeping and care of wild animals (Standard Member State Questionnaire). **This should be in addition to the development of national guidance for zoos which will encourage consistency in application of, and compliance with, the law.**

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 from 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.

Latvian zoo law acknowledges the importance of establishing measures to prevent the escape of wild animals from zoos into the local environment but fails to mention the significance, and the need, to prevent the invasion of outside pests and vermin into the zoo (Article 3(4) of the Directive). Two of the three selected zoos did not appear to have a perimeter fence of suitable height and strength to contain an escaped animal. This could therefore pose a risk in the event of an animal escape, specifically in relation to Invasive Alien Species (IAS) as **it has long been recognised that zoos pose a significant risk of presenting pathways for the introduction of IAS** (Fábregas *et al.*, 2010). 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).

4. Public placed at risk of injury and illness

The often poor design, the lack of sufficient stand-off barriers, 'non-secure' enclosures and the lack of zoo staff allowed for possible direct and unsupervised animal contact and in some cases, placed the public at significant risk. **The public could conceivably come into direct contact with potentially dangerous wild animals and few zoos appeared to recognise the risks and inform the public accordingly.** Despite requirements for zoos to prevent animal escapes into the wild, the Cabinet of Ministers' regulation for zoos makes no reference to, or specifies requirements which ensure the protection, health and safety of zoo employees and visitors.

Where contact was openly encouraged at Latgales Zoo, the public were unknowingly being placed at risk of harm and preventative measures, such as warning signage and hand-washing facilities were seemingly overlooked. In addition to the possible risk of physical injury, many animals are carriers of zoonotic diseases that are transmissible and may be harmful to humans. Animals, particularly wild animals, are thought to be the source of >70% of all emerging infections (Kuiken *et al.*, 2005). Around 200 *zoonoses* have been described and over 40 of these are associated with reptiles and amphibians (Warwick *et al.*, 2009). For example, contact with reptiles is responsible for an estimated 74,000 cases of human salmonellosis in the United States annually (CDC Pet-Scripture).

Latvian zoo legislation appears to be failing to take preventative measures to protect the public. Zoos should take a far greater responsibility for the safety of the visiting public.

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) (CBD website). The Ministry of Environment of Latvia has acknowledged this responsibility by requiring zoos to go beyond the parameters set by the Directive and undertake research that

benefits species conservation, exchange relevant information and participate in species management programmes that specifically benefit endangered species.

As with the majority of EU Member States, no further guidance is available to zoo inspectors or operators that would advise zoos how to effectively conserve biodiversity and protect threatened (or 'endangered') species (Standard Member State Questionnaire). For example, it is not clear how '*endangered species*' should be identified and whether these should constitute locally, regionally or internationally 'endangered' species. Generally, the requirements aimed at species conservation specified by the Directive and Latvian zoo law are vague and therefore interpretation broad. Findings reveal that whilst some of the required activities are being implemented by some of the zoos, they do not comply with all the requirements. This suggests that such activities in zoos are left to the discretion of the zoo management rather than imposed as an enforced requirement. According to the Ministry of Environment, only Riga and Latgales Zoos participate in '*conservation work and species conservation programmes*' (Standard Member State Questionnaire). However, with no legal foundation to differentiate categories of zoo and their required activities, all zoos in Latvia should be required to meet all the requirements as stipulated by O185/2001.

Findings have revealed that overall, Latvian zoos **are not making a significant contribution to the conservation of Threatened species** despite the specified requirement to focus on the conservation of endangered species through conservation programmes, captive breeding and species re-establishment projects (Articles 2.3 and 4.3.3 of O185/2001). The great majority of species exhibited in the three zoos 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 15% of the total number of species observed in the zoos and only 13% of the species observed are listed on the register of the European species management programmes, EEPs or ESBs. Concerning regionally and locally endangered species, of the 330 species observed in the three zoos, three mammals and two amphibians are listed on the Mammal and Amphibian European Red List (European Red List website) and 22 species are listed on the Latvian Red Book (16% of the total number of listed species of mammal, bird, reptile and amphibian) (Latvian Nature website).

Furthermore, of the 405 species at Riga Zoo and 33 species exhibited at Latgales Zoo, only 48 and 4 species (respectively) are listed as Threatened (IUCN Red List of Threatened Species™) and only 2% and 0% of the species in each collection are listed as Threatened on the European Red List (European Red List website). Riga Zoo appeared to participate in the highest number of European species management programmes, EEPs or ESBs. However, some of the information provided was factually incorrect. In their Annual Report (2009) it claims that the *Dacelo novaeguineae* and *Felis silvestris silvestris* exhibited at the zoo participate in the ESBs, yet no European management programme appears to exist for either of these species (EAZA website).

Although findings have identified some commitment to species conservation programmes by individual zoos, overall, Latvian zoos are making an insignificant contribution to the conservation of Latvian, European and global biodiversity. Publically displayed information about the conservation of biodiversity is lacking in all assessed zoos. A minimal number of the randomly-selected species information signage included specific information about the species' conservation status, as is required in Latvia.

6. Limited educational value

In addition to a commitment to the conservation of biodiversity, zoos in the EU are required to promote public education and awareness in relation to the conservation of biodiversity, particularly by providing information about the species exhibited and their natural habitats (Article 3(2) of the Directive). The Latvian Cabinet of Ministers' Order O185/2001 (and O1033/2010) requires zoos to promote public education about the environment and ecological awareness as well as provide information about exhibited species but, as mentioned above, largely fail to include information about species conservation. In fact, there was little mention about the significance of conservation of biodiversity at any of the assessed zoos.

The findings of this investigation demonstrate that two of the three zoos offer educational activities for both pre-organised school groups and the general public. Findings suggest that such activities may be left to the discretion of the zoo management rather than imposed as an enforced requirement. Unfortunately, many of the claimed educational activities were not in operation when the zoos were visited and therefore, no quality assessment could be undertaken. Overall, almost half the signage for *species holdings* was absent and, of the signage present, it was either incorrect or did not contain all the best practice criteria (SMZP), particularly information about the species natural habitat and their conservation status. **Required information about the species exhibited and public awareness about the environment and species conservation was largely lacking in Latvian zoos.** To date, no independent quality assurance assessment has been undertaken to identify whether European zoos can effectively deliver these objectives and justify their role in the education of conservation of biodiversity.

Further consideration needs to be given to the enclosure design at the zoos, of which many consisted of an empty shell often lacking form, furnishings, apparatus and vegetation and failing to take into account species-specific needs. There was an indication that Riga Zoo is aiming to improve some its enclosures with the construction of the recently built giraffe house which cost 1,23 million LVL (approximately €1,73 million) (Annual Report 2007). If the enclosure design and the species composition in each enclosure reflect the species' natural habitat and animals arranged in distinct habitat types, it will likely increase the educational potential of the exhibit.

7. Unsuitable living conditions for animals

The assessment of zoo enclosures in Latvia identified a general lack of resources, knowledge and expertise by the zoo operators concerning the appropriate keeping of wild animals in captivity.

For example:

- many species were kept in small enclosures that did not attempt to meet their spatial needs;
- 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;
- many enclosures lacked clean, fresh water;
- some enclosures placed the animals at risk from injury, unsupervised public contact and heightened levels of distress;
- some enclosures often lacked shelters or access to indoor quarters leaving the animals no opportunity to escape cage companions, extreme temperatures, to seek refuge or privacy from view.

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 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.

Latvian zoo law (APL and O185/2001 (and O1033/2010) has recognised these basic needs and has incorporated the requirements of the Directive (Article 3(3) of the Directive), requiring zoos to ensure '*animals are kept under conditions that satisfy the species-specific physiological and psychological needs*' (Articles 2.2 and 4.3.2, O185/2001). However, no further information or guidance is provided by the competent authorities to facilitate understanding and interpretation. Furthermore, knowledge and expertise of the enforcement agencies and the Food and Veterinary Service in the 'appropriate keeping of wild animals in captivity' is reportedly limited and capacity building in these areas required (Standard Member State Questionnaire).

Despite wide variations in the quality of enclosures provided both within and between the zoos assessed, in many instances animals were housed in conditions that compromised their welfare.



Figure 15

Latgales Zoo.

This Chinese softshell turtle (*Pelodiscus sinensis*) is kept in an inadequate enclosure that fails to provide sufficient space and depth of water to swim and dive and no substrate in which to bury, a commonly recognised natural behaviour.

The evaluation revealed a low standard of animal husbandry and general animal care. This was often intrinsically linked with the poor environmental quality of the enclosures. Of the 75 randomly-selected enclosures assessed as part of this investigation, using the Animal Protection Ordinance of Switzerland, Tierschutzverordnung 2008 (APOS), the majority of the enclosures failed to adequately provide the species concerned with their spatial, biological and behavioural needs and specifically, appropriate species-specific environmental enrichment.

It is widely recognised that the inclusion of varied environmental enrichment is integral to reducing the negative impacts of confinement on animals in captivity (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).

The findings identified that the health and welfare of animals is being compromised and more must be done by the Nature Conservation Agency, the Animal Protection Ethics Council, the zoo inspectorate and local Municipalities to make the necessary improvements. The requirements in Articles 2.2 and 4.3.2, 0185/2001 concerning the provision for an animal's biological needs are not being met and, without the effective enforcement of the law in Latvian zoos, any attempt to keep animals in a suitable environment is severely compromised. Specific problems included: a lack of any behavioural or occupational enrichment items such as toys or feeding devices; a lack of environmental variation, including multiple rest, privacy areas and suitable substrates; insufficient space for animals to distance themselves from the viewing public or any potentially aggressive or dominant cage companions; and insufficient space to enable animals to express their full repertoire of natural locomotive behaviours (i.e. swimming, flying, running). Abnormal behaviour such as pacing and swaying was observed in seven of the 75 randomly selected enclosures across the three zoos.



Figure 16

Riga Zoo.

Enclosures often lacked suitable features and furnishings to provide the animals comfort, stimulation and an opportunity to exercise and express natural behaviour. This enclosure exhibiting a polar bear (*Ursus maritimus*) did not provide the animal with sufficient opportunities for climbing, digging and swimming, and to express other natural behaviour (APOS).

Poor hygiene was also identified in many enclosures in all three zoos. Notably this included unclean or stagnant water, an unacceptable build-up of faeces and urine, and in some cases, rotting food. This suggests that enclosures are rarely cleaned and bathing water rarely changed. The potential for the build-up of harmful pathogens is therefore significant. Even within Riga Zoo, 10% of enclosures were identified as unhygienic, despite the specific requirement in the EAZA *Minimum Standards for the Accommodation and Care of Animals in Zoos and Aquaria*, of which the zoo is a member, concerning appropriate standards of hygiene.

Latvian zoos are failing to provide their animals with suitable living environments that provide the opportunity to express normal behaviour and protection from harmful pathogens and parasites. Species-specific guidance and standards would assist zoos and the Competent Authority in ensuring more suitable captive environments.

The Ministry of Environmental Protection and Regional Development, through the Nature Conservation Agency should consider taking stronger steps to ensure improvements in all zoos by implementing relevant penalties (Article 11, 0185/2001 or Article 7, 01033/2010), including zoo closure.

In summary

Latvian zoos are:

- **failing to make a significant contribution to *ex situ* conservation**
- **failing to promote public education and awareness in relation to conservation of biodiversity**
- **failing to provide sufficient information about species on exhibit**
- **failing to take preventative measures to sufficiently protect the public and the animals from potential injury and the transmission of disease**
- **failing to take all necessary measures to prevent the escape of non-indigenous species into the natural environment and the invasion of pests and parasites into the zoo**
- **failing to provide their animals with a suitable environment and to recognise species-specific requirements**
- **compromising the health and welfare of the animals**
- **failing to meet the minimum requirements of the Directive, the Latvian Animal Protection Law and Cabinet of Ministers' Order on zoo regulation**

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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

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

EU Zoo Inquiry 2011

Project Manager: Daniel Turner Bsc (Hons) MBIol 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

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 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 by international wildlife charity the Born Free Foundation, Charity No: 1070906 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, Mairjana Plavac; Nick Yianni; and Tamara Miczki. Special thanks go to Thomas Brzostowski for his attention to detail, patience and determination to help complete this project

