

National Code of Good Practice

Zoos, Aquaria & Invasive Alien Species

Common concerns over the significant detrimental impacts of invasive alien species may bring together interest groups to draw attention to those man-mediated actions or interventions that may facilitate the introduction and spread of invasive alien species. In parallel with the drawing up of the National Strategy on Invasive Alien Species, a series of sector-specific codes are being drawn up to raise awareness and promote good practice to curb the risks associated with introducing and using alien species that exhibit an invasive potential. The mandate for such codes is found in Malta's National Biodiversity Strategy and Action Plan (2012-2020). The present document puts forward a series of recommendations to serve as a code in the displaying of animals in zoos and aquaria. The recommendations, which adopt the principle of self-regulation, aim to provide practical and concise guidance in establishing common standards of good practice and responsible attitudes and behaviours when keeping and displaying alien species in zoos and aquaria. The recommendations do not replace established national legislation that regulates activities that use alien species. The recommendations are intended to be complementary to the legally-binding obligations defined in national legislation to entice compliance, and also to support the implementation of the National Strategy on Invasive Alien Species. Wide dissemination of this code to the target stakeholders is of essence in order to create partnerships and encourage voluntary adoption in order to overcome any malpractices that may occur as a result of lack of knowledge or understanding of the risks that alien and invasive species may pose.

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Further Reading:

European Code of Conduct on Zoological Gardens and Aquaria and Invasive Alien Species – Scalera, Genovesi, deMan, Klausen & Dickie, 2016¹

EU Zoos Directive Good Practice Document, European Commission, 2015²

Zoological gardens and aquaria are potential pathways of IAS introduction (both animals and plants) vis-à-vis the **risk of escape from contained holding**. Zoological gardens and aquaria house large collections of exotic animals and also hold plant collections; the latter for food, enclosure/exhibit/tank design, and as part of the overall aesthetic environmental enrichment of the facility. Escapes may occur as a result of **unforeseen events**, such as bad weather, damaged enclosures, cleaning operations in the case of aquaria, and **lack of security**. Prevention of escape into the natural environment of potential IAS from such facilities by adopting responsible and best practices is hence very important, as well as the adoption of **proactive emergency policies** to ensure rapid and effective responses to escape events. Enclosure security, operating with a license and regular inspections are of utmost importance. Such facilities also have an important role in conveying information to visitors and in this respect can contribute significantly to increase **outreach and awareness** on the importance of preventing the introduction of potentially invasive alien species into the natural environment to the wider public.

Council Directive 1999/22/EC on the keeping of wild animals in zoos (otherwise known as the **EC Zoos Directive**) defines “zoos” as ‘*all permanent establishments where animals of wild species are kept for exhibition to the public for 7 or more days a year, with the exception of circuses, pet shops and establishments which Member States exempt from the requirements of this Directive on the grounds that they do not exhibit a significant number of animals or species to the public and that the exemption will not jeopardise the objectives of this Directive*’.³ Zoos can range from **general to specialised collections**, including bird parks, butterfly houses and dolphinariums. Article 3 of the EC Zoos Directive *inter alia* requires all zoos to ‘*prevent the escape of animals in order to avoid possible ecological threats to indigenous species and preventing intrusion of outside pests and vermin. Other relevant measures includes ensuring adequate accommodation facilities for zoo animals with species-specific enrichment of enclosures that aims to meet their biological and behavioural needs, high standards of animal husbandry, contributions to research or conservation activities, education of the visiting public and training of staff*’. Article 6 in turn states: ‘*In the event of a zoo or part thereof being closed, the competent authority shall ensure that the animals concerned are treated or disposed of under conditions which the Member State deems appropriate and consistent with the purposes and provisions of this Directive*’. Members of the **European Association of Zoos and Aquaria** (EAZA) located within the EU are obliged to comply with the EC Zoos Directive. They are also obliged to comply with the provisions set out in a number of documents including the EAZA Standards for the Accommodation and Care of Animals in Zoos and Aquaria (2014)⁴ and the EAZA Code of Ethics (2015).

¹ Available at: <https://rm.coe.int/16806c0687>

² Available at: http://ec.europa.eu/environment/nature/pdf/EU_Zoos_Directive_Good_Practices.pdf

³ Available at: <http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:31999L0022&from=EN>

⁴ Available at: <https://www.eaza.net/assets/Uploads/Standards-and-policies/Standards-for-the-Accommodation-and-Care-of-Animals-2014.pdf> and <https://www.eaza.net/assets/Uploads/Standards-and-policies/EAZA-Code-of-Ethics2015.pdf>

The EC Zoos Directive is transposed into Maltese law via “The Keeping of Wild Animals in Zoos Regulations” (S.L. 439.08) under the Animal Welfare Act (Cap. 439).⁵ The Owning and Keeping of Dangerous Animals Regulations (S.L. 439.19)⁶ comprise a number of provisions on the enclosures of dangerous exotic animals, the registration of keepers and notifications on escaped animals.

The **EU Zoos Directive Good Practice Document** addresses alien and invasive species vis-à-vis Article 3 and its fourth indent on preventing animal escapes and intrusion of outside pests and vermin. This document also directly references the European Code of Conduct on Zoological Gardens and Aquaria and Invasive Alien Species. Section 2.5.2.6 provides information on how to prevent animal escapes in the zoo. The **three lines of action to avoid animal escape**, as explained in the document, are:

- a **perimeter boundary** that aids to the confinement of all the animals within the zoo perimeter;
- **animal enclosures** that have been designed, built and maintained taking into account the physical strength, behaviour, and cognitive abilities of the animals housed;
- a **zoo emergency plan** (with actions on animal capture/retrieval; public protection; and having the right equipment in place) in case of animal escapes as a result of security failures or unforeseen events.

Prevention of intrusion by outside pests and vermin on the other hand requires the adoption of **pest management**. Pests that may infiltrate the zoo are rats, mice, insects such as cockroaches, and stray cats. Management should not however adversely affect non-target species, both in terms of **primary toxicity and relay toxicity**, when using chemical means. Physical means, such as trapping, are preferred over chemical means (baiting, repellents and fumigation). Fumigation can only be done by certified personnel and should be strictly controlled. Adherence to environmental regulations and regulations on the use of pesticides is crucial at all times.

The following recommendations are adapted from the “**European Code of Conduct on Zoological Gardens and Aquaria and Invasive Alien Species**” developed jointly by the IUCN ISSG and EAZA for the Bern Convention/Council of Europe. The information in the EU Zoos Directive Good Practice Document is also applied in the recommendations. These recommendations apply to all zoological gardens and aquaria in the Maltese Islands. The recommendations are intended to prevent the introduction and spread of IAS from zoological gardens and aquaria and to recognise and promote the educational role of such institutions with respect to the spread of IAS. The intended result is the uptake of good practices and the setting of standards in zoological gardens and aquaria in Malta in combination with compliance with EU and national legislation.

✘ NEVER RELEASE water and waste from enclosures and aquaria into the natural environment unless properly screened and treated (e.g. sterilized) as necessary.

✔ BE AWARE OF, IMPLEMENT and COMPLY with the provisions of Council Directive 1999/22/EC on the keeping of wild animals in zoos, Council Regulation (EU) No. 1143/2014 on the prevention and management of the introduction and spread of invasive alien species IAS, CITES requirements, and, transposing national legislation.

✔ ENSURE that living collections within your facility do not represent a source of IAS by adopting effective preventative measures to avoid the escape or unintentional introduction and spread of species held in the facility (especially for establishments with aquaria located near the coastline).

⁵ Available at: <http://www.justiceservices.gov.mt/DownloadDocument.aspx?app=lom&itemid=11047&l=1>

⁶ Available at: <http://www.justiceservices.gov.mt/DownloadDocument.aspx?app=lom&itemid=12462&l=1>

✓ TAKE INTO ACCOUNT the risks of IAS introductions in all purchasing and management decisions of the facility.

✓ ADOPT best practices for supporting early warning and rapid response system for the escape of any IAS held in the facility. A zoo emergency plan should be in place, setting the required protocol and action to be taken in case of escape and by whom. The appropriate equipment should be in place for the capture/retrieval of the escaped animals. Zoo staff need to be appropriately trained on how to deal with such situations.

✓ BE AWARE of the List of IAS of Union concern and the national list of species deemed to be invasive alien species and the legal obligations that apply to these species.

✓ ENSURE that all cages and conditions/infrastructure of contained holdings (enclosures, aviaries, fences, barriers etc.) are well-designed according to the species' requirements (physical strength, behaviour, cognitive abilities and other specific requirements for species that dig/burrow, fly, jump or climb), and are properly secured (the animal should not be able to surpass the barrier), maintained and regularly inspected to avoid escape due to negligence or carelessness (and also breaking-in, or visitors setting the animal free); outdoor enclosures must withstand all reasonable expected weather conditions. There should also be a perimeter barrier around the zoo, with designated access points that should be attended or else be equipped by CCTV surveillance, if unattended.

✓ REPORT all escape events immediately to the relevant stakeholder.

✓ ENSURE strict biosafety conditions, and effective integrated pest control and deterrence (as well as routine inspection) to prevent and timely manage any incursions of pests, pathogens and diseases, including in terms of quarantine, sanitation and proper waste management. Pest control programmes adopted in the zoo should be planned with prior risk assessment of any potential effects on the zoo's animal collection, employees, visitors and non-target animals. Pest control needs to be performed taking into account of ethical and animal welfare considerations. Ensure that pest control is done by certified and properly trained personnel or by a licensed pest control company. Food for the animal collection in the zoo needs to be appropriately stored and well sealed.

✓ ENSURE that all personnel are properly trained and understand the risks related to escape or accidental discharge of species from the facility and know how to prevent such risks.

✓ AVOID open displays of potentially invasive species or species that would cause harm to Malta's native biodiversity and adopt effective safeguard techniques, where appropriate, in accordance with animal health and welfare regulations (e.g. use of males only, use of tracking devices etc).

✓ AVOID including invasive or potentially invasive alien plants (including algae) in the facility for food, enclosure/exhibit/tank design, environmental enrichment and for ornamental purposes in the facility.

✓ PREVENT all risks of escape of species used as live food.

✓ CONSIDER keeping a register/record of all species kept in the facility.

✓ CONSIDER marking schemes for all animals kept in captivity to enable identification and capture in case they escape.

✓ PROACTIVELY engage in awareness and outreach activities providing information to visitors on IAS, their characteristics, and their actual and potential impacts on native biodiversity, distinguishing clearly between what is native and what is alien. This can be done by way of talks, information panels and displays.

These recommendations, if followed by all relevant stakeholders, combined with adherence to EU and national regulations, would help avoid bad practices from occurring and thereby prevent more and new IAS being released into the country. Continued dialogue and cooperation between Government, associations, and zoological gardens and aquaria is of essence to proactively minimise and provide appropriate solutions to the IAS problem via awareness raising and the promotion of these recommendations as an agreed national code of good practice.