



LIFE with VULTURES

Analysis of implementation of EU sanitary legislation in Cyprus and recommendations (Action A7)

*LIFE WITH VULTURES: SAVING GRIFFON VULTURES IN CYPRUS
THROUGH CONCRETE CONSERVATION ACTIONS
(LIFE18 NAT/CY/001018)*

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About the project

LIFE with Vultures is a targeted conservation project for the protection of the Griffon Vulture in Cyprus. In this four-year endeavor (2019-2023), BirdLife Cyprus, the Game and Fauna Service, Terra Cypria – The Cyprus Conservation Foundation and the Vulture Conservation Foundation have joined forces to tackle the main threats facing the Griffon Vulture and prevent Cyprus' most threatened bird of prey from going extinct. The project has a €1,375,861 budget and is co-funded (60%) by the EU's LIFE programme. Find out more at: www.lifewithvultures.eu

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Table of Contents

1. Background.....	4
1.1. The decline of the Griffon Vulture population in Cyprus	4
1.2. Recent And Current Conservation Efforts	5
2. Introduction.....	5
2.1. Griffon Vulture Diet and Services.....	5
2.2. Sanitary regulations and impact on Vulture species.....	5
2.3. Supplementary feeding	6
3. Legislative Framework.....	9
3.1. EU legislation	9
Key provisions of EU regulation (142/2011).....	11
3.2. Cyprus Legislation.....	14
4. Practical implementation of the regulations in Cyprus.....	15
4.1. Disposal of carcasses: Procedures and economics.....	17
5. Recommendations.....	18
References.....	20

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1. Background

1.1. The decline of the Griffon Vulture population in Cyprus

The Griffon Vulture *Gyps fulvus* is the only vulture species found in Cyprus, and the most common of the four vulture species found in Europe. With the population currently at around 29 individuals (census carried out in December 2023), Cyprus is hosting the smallest breeding population of Griffon Vulture in Europe.

Based on historical references, the Griffon Vulture used to be widespread on the island. The vulture congregations have been compared to “flocks of sheep” by foreign visitors and travelers (Locke 1553 in Cobham 1908), (Mariti 1760-67 in Cobham 1909). According to Flint and Stewart (1983) up to 140 individuals had been observed at a single carcass. A rapid decline followed during the 1960s with the population consisting of at least 100 individuals (Bannerman and Bannerman 1971). The population was estimated at 20- 30 pairs in the mid-1990s (Snow and Perrins 1998) but declined to 8-10 pairs by 2000 (Birdlife International 2004). In 2012 the population was at around 8-10 individuals and after two restocking efforts (from Crete and Spain) and two confirmed mass poisonings the population reached 22 individuals in September 2022. Another release in autumn 2023 and some losses from poisoning, the population reached 29 birds in December 2023.

Possibly, the start of decline was mainly due to decrease of food availability caused by the replacement of working animals (donkeys, mules, horses and camels) by machines and changes in animal husbandry and the decrease of free ranging grazing animals (BirdLife Cyprus 2013). Between 1980 - 1995, the population decline was more intense due to the extensive use of poisons placed for the control of foxes and feral dogs in livestock areas (Kassinis 2009, 2010). Later changes in the sanitary legislation on the disposal of carcasses intensified the issue of lack of available food but poisoning remained a key threat. Currently, the critical low population is vulnerable to extinction and without urgent intervention to reduce the frequency of poisoning incidents it is predicted to be likely extinct within 15 years (Phipps 2020).

The European population is estimated at 32,400-34,400 pairs (BirdLife International 2017), with Spain alone holding around 30100-36500 pairs in 2019 (Terraube 2022). The population in Europe is increasing significantly (around 200% over the past 12 years), largely thanks to the implementation of conservation measures, in particular campaigns to minimize poisoning and to provide safe food at feeding stations. Its distribution range has also expanded thanks to reintroduction projects in France, Italy and the Balkans (Deinet et al., 2013).

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1.2. Recent And Current Conservation Efforts

Conservation efforts in the 21st century have focused on addressing the main threats the species is facing. The GYPAS project implemented in Cyprus between 2011-2013 under the 'Cross Border Cooperation Program Greece-Cyprus 2007- 2013' focused on improving food availability through the construction of two feeding stations and translocated birds from Crete which resulted in enhancing the Cyprus population with 20 birds.

The currently running "LIFE with Vultures CY" project (2019-2023) builds on previous efforts and aims at preventing the extinction of the Griffon Vulture in Cyprus followed by improving the conservation status of the population. To achieve this, the project addresses critical threats to the species, involving key stakeholders in the process and bolstering the local population through restocking to enable its recovery.

The project includes actions against the use of poison baits, actions to reduce collisions with overhead powerlines and actions to increase feeding opportunities for the provision of safe food for Griffon Vultures. In addition, 44 Griffon Vultures transported from Spain in three batches during a period of three years will boost the local population.

2. Introduction

2.1. Griffon Vulture Diet and Services

The Griffon vulture (*Gyps fulvus*) is a necrophagous species, which feeds exclusively on animal carcasses, mainly represented by domestic ungulates. Necrophagous birds are part of the detrital food web of ecosystems and provide the important ecological service of biomass recycling, thus contributing to the removal of "waste", the regulation of diseases and the nutrient cycle. The replacement of some of these services has not only conservation costs, but also unnecessary environmental and economic costs associated with the transport and incineration of carcasses. A first quantitative assessment of how Griffon Vultures could contribute to ecosystem services for Cyprus, estimated that replacing vehicular livestock carcass collection by facilitating carcass consumption by vultures could result in a 43-61% reduction in financial costs and greenhouse house gas emissions. An assessment of contributions to cultural ecosystem services estimated that vulture-related recreation could contribute to €648,818 revenue to core range communities each year (Phipps, W.L. & Vogiatzakis, I.N. 2020).

2.2. Sanitary regulations and impact on Vulture species

Transmissible spongiform encephalopathies (TSEs) are a family of diseases of humans and animals characterized by spongy degeneration of the brain with severe and fatal neurological signs and symptoms (WHO website, 2020). In animals, scrapie is a common disease in sheep

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and goats and bovine spongiform encephalopathy (BSE) is also a TSE, affecting a number of species (cattle, human, cats).

Between 1996 and 2000 the appearance of bovine spongiform encephalopathy became one of the most serious public health and political crises concerning food safety ever experienced in the European Union (EU) (Margalida A. et al., 2010). To manage this crisis the EU introduced sanitary regulations (implementation of Decision 2000/418 / EC) that lead to changes in the management of livestock carcasses and prohibited the abandonment of dead livestock in the field, affecting the food availability for scavenger species, including Vultures (Mateo-Tomás 2009; Margalida et al. 2010). To meet the target of environmental policies the EU introduced a number of dispositions to the EU regulations (2003/322/CE & 2005/830/CE) and enabled conservation managers to provide food to vultures through the creation of vulture feeding station. In 2011 a new regulation was approved ([EC 142/2011](#)) to allow farmers to leave some carcasses of cattle raised in extensive systems in the so-called 'Protection areas for the feeding of necrophagous species of European interest' (PAFs).

2.3. Supplementary feeding

Supplementary feeding is a common and acceptable conservation strategy and it is used for mammals and various avian species mainly in the early stages of reintroduction or restocking projects, especially in situations of lack of naturally available food, to facilitate the adaptation of individuals to the new area. It can have positive impact on species but it is also likely to cause other issues and therefore it should be evaluated individually, and possibly mediated and integrated together with other associated actions (Moreno-Opo et al., 2015).

Supplementary feeding In Griffon Vultures is key especially in areas where there is a lack of available food posed by sanitary legislation (Margalida and Colomer, 2012). The main advantage of dietary supplementation is that it is easy to apply and with short-term effects on demographic parameters (Donazar and Margalida, 2009). However, if food supplementation is managed through a limited number of regularly supplied feeding stations, there are various negative ecological effects (Cortés-Avizanda et al., 2010), such as density-dependent reduction in productivity (Carrete et al. , 2006); changes in dispersal strategies, as the young and immature remain linked to the native population for a longer time due to the high level of attraction created by the large number of conspecifics (Oro et al., 2008); or even effects on the trophism of herbivores due to a predominance of optional scavengers (Cortés-Avizanda et al., 2009). This created the need to change the system of supplementary feeding Vultures to resemble the natural occurrence of carcasses in the countryside (Olea & Mateo-Tomás 2009; Margalida et al. 2010) in various EU countries, like Spain and Italy. In addition, providing food that is more predictable in time and space than natural resources has the potential to disrupt the ecological scavenging service provided by vultures and also,

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social foraging behavior, as individuals who repeatedly use feeding stations may no longer need to interact with conspecifics to gain information regarding food location (Deygout et al. 2009).

Managers have used two main FS types: i) structures receiving large amount of carcasses on a frequent basis, traditionally called 'central feeding stations' (CFS hereafter), and farm feeding stations (FFS), which are light structures where farmers provide carcasses depending on local livestock mortality patterns. The type of feeding stations influences the spatial and temporal predictability of carcasses at such sites, which can in return impact the balance between positive and negative consequences of FS for scavengers.

Central feeding stations promote large aggregations of Griffon Vultures, which increases intraspecific competition. Duriez et al. (2012) showed that a higher proportion of juveniles and immature vultures were present at FFS compared with CFS, especially at the start of the feeding event. Because the nutritive quality of food is overall higher at the start of the feeding event (viscera and muscles), young birds have better access to high-quality food at FFS than at CFS. Therefore, attendance of FFS can boost juvenile survival in Griffon vulture populations and thus support population growth. Investigating the movements of GPS-tagged individuals in Southern France, Monsarrat et al. (2013) also showed that Griffon Vultures systematically preferred FFS to CFS. This is possibly because competition is lower or because these feeding stations better simulate unpredictable resources that vultures would have experienced naturally before the implementation of management actions (Ruxton & Houston, 2004).

The predictability of resources provided through supplementary feeding has raised concerns regarding the emergence of routines in terms of foraging movements liable to make individuals too dependent on human-mediated feeding. Previous research has shown that CFS were more likely to be visited periodically than FFS, suggesting that the frequency and the predictability of carcass provisioning may contribute to the emergence of temporal routine behaviour (Fluhr et al. 2017). The authors highlighted that establishing numerous FFS rather than a few CFS throughout griffon vulture range would help to dilute the availability of carcasses spatially and temporally. In such conditions, Griffon Vultures keep their ability to exploit large portions of their territories outside feeding stations, as it has been demonstrated in Bulgaria (Akumarev et al. 2021). Therefore managers are highly encouraged to apply this type of management to prevent vultures from becoming dependent on artificial sites.

One study from Spain reported decreasing flight distances and habituation towards humans linked to frequent feeding events at CFS. Although Griffon Vultures are wary in natural conditions, Zuberogoitia et al. (2010) suggested that tame or habituation behaviour can emerge once the vultures consider the feeder to be non-threatening. Observations of hundreds of Griffon Vultures waiting for the truck to bring carcasses at CFS have been

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reported in other parts of Europe. This should not be banalized as such changes in behaviour can alter response to potential predators such as humans, increasing mortality risks and human-vulture conflicts (as large groups of 'tame' Griffon Vultures close to CFS are likely to foster negative attitudes from livestock herders and farmers).

In addition, the type of feeding stations can also impact individual health in Griffon Vultures. Recent studies have demonstrated that Griffon Vultures relying heavily on CFS provisioned frequently with carcasses from intensive livestock farming (mainly swine and poultry) had overall poor health. This included high prevalence of bacterial and fungal infections (Marin et al. 2018, Blanco et al. 2019), frequent ingestion of antibiotics (Blanco et al. 2016) and occurrence of antibiotic resistant bacteria (Sevilla et al. 2020). These authors have suggested a negative effect of contamination on nestling survival although this point deserves further research. Overall, research strongly suggests that if carcasses from intensive farms cannot be totally avoided, a high diversity of carcass types is more likely to dilute health risks associated to high concentrations of certain veterinary pharmaceuticals (Plaza et al. 2022).

Finally, feeding stations can also have an impact on competitive interactions between avian scavenger species. High carcass biomass and the high spatial and temporal predictability at CFS tend to favour early arrival of large groups of Griffon Vultures. This dominant species often restrains the attendance of small avian scavengers at such sites, e.g. Red Kites or Egyptian Vultures (Cortès-Avizanda et al. 2010, 2012; Moreno-Opo et al. 2015). Lower access to food resources can have unattended consequences in terms of conservation for these threatened small scavengers. This argument is maybe less relevant for Cyprus where the scavenger community is less diverse than in other European areas, yet it shows again that FFS should be prioritized over CFS in order to restore diverse scavenger communities and the ecosystem services they provide.

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3. Legislative Framework

3.1. EU legislation

EU legislation and regulations

The legal base for the authorization of feeding to endangered or protected species of necrophagous birds and other species living in their natural habitat, for the promotion of biodiversity is found in:

- REGULATION (EC) No 1069/2009 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 21 October 2009 and
- COMMISSION REGULATION (EU) No 142/2011 of 25 February 2011, implementing Regulation (EC) No 1069/2009.

EU regulations for “Animal By-products”: Feeding of endangered species with certain animal material, under specific conditions and after approval by the competent authority of the Member State concerned, is allowed.

➤ REGULATION (EC) No **1069/2009**

Commission Regulation (EC) No **1069/2009**

EU Regulation (EC) no. 1069/2009 allows the feeding of certain Category 1 material to endangered or protected species of necrophagous birds and to other species living in their natural habitat, for the promotion of biodiversity. Noteworthy, this regulation included for the first time the need to consider the natural consumption patterns of scavengers: "[...] It is important that these health conditions take into account the natural consumption patterns of the species concerned as well as Community objectives for the promotion of biodiversity [...]".

According to Regulation 1069/2009, Article 18, the competent authority may authorise:

- ✓ collection and use of **Category 2** material, provided that it comes from animals which were not killed or did not die or suspected of dying from a communicable disease to humans or animals, and of **Category 3**
- ✓ the feeding of the **Category 1** material referred to in Article 8(b)(ii)* to endangered or protected species of necrophagous birds and other species living in their natural habitat, for the promotion of biodiversity.

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* entire bodies or parts of dead animals containing specified risk material at the time of disposal

➤ **REGULATION (EU) No 142/2011**

Regulation (EC) No 142/2011 of 25 February 2011, implementing Regulation (EC) No 1069/2009 of the European Parliament and of the Council lays down health rules as regards animal by-products and derived products not intended for human consumption and implementing Council Directive 97/78/EC as regards certain samples and items exempt from veterinary checks at the border.

- Annex VI, CHAPTER II. Section 2 of that chapter, lays down rules for feeding of certain species with category 1 material, in feeding stations and Section 3, lays down rules for feeding of wild animals with category 1 material, outside feeding stations.

- Annex VIII sets out the rules for transportation of the materials

- This regulation allows for some animal carcasses to be left out in the open for vultures and other scavengers. This regulation is a complex compromise aiming to meet the needs of carcass management, sanitary laws and food for avian scavengers.

Regulation (EU) no. 142/2011 on animal by-products has implemented the measures and derogations necessary to guarantee the food supply of carcasses of domestic animals to various necrophagous animals. These include the four species of European vultures (*Aegypius monachus*, *Gypaetus barbatus*, *Gyps fulvus*, *Neophron percnopterus*), large eagles (e.g. Golden Eagle *Aquila chrysaetos*) and other raptors (e.g. *Milvus milvus* and *M. migrans*). Furthermore, the regulation also took into consideration the protected birds of prey of the orders Falconiformes or Strigiformes listed in Annex I of the Birds Directive (Directive 2009/147 / EC) in the Special Protection Areas that have been established under that Directive.

Regulation (EU) no. 142/2011, art. 14 allows Feeding of certain species in and outside feeding stations and in zoos. The rules for feeding are described in Annex VI, CHAPTER II:

- Section 2 for Feeding of certain species with K1 material, in feeding stations and
- Section 3 for Feeding of wild animals with K1 material, outside feeding stations
- For Category 2 and 3 material, conditions are laid down by the competent authority

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Key provisions of EU regulation (142/2011)

A new regulation adopted in 2011 (142/2011) allows for some animal carcasses to be left out in the open for vultures and other scavengers. This regulation is a complex compromise aiming to meet the needs of carcass management, sanitary laws and food for avian scavengers. The resulting legislation is still restrictive and leads to ambiguities and occasionally contradictions and has been implemented in different ways at national or even regional levels, and in most countries only recently.

In addition to allowing the procurement of domestic animal carcasses from supplementary feeding points, EU Regulation 142/2011 (Article 14, chapter III) allows extensively reared animal carcasses to be left, even without prior collection, within feeding areas that are geographically defined and authorized by the competent authorities for the feeding of scavengers. It is important to note that, in order to allow the feeding of necrophagous the competent authority must also estimate the probable mortality rate of livestock in the feeding areas and the food needs of the necrophagous species under protection.

Below is the provisions of section 3 of Annex VI of Regulation 142/2011 in application of Regulation 1069/2009:

"The competent authority may authorize the use of Category 1 material consisting of whole bodies or parts of bodies of dead animals containing specified risk material for use outside feeding stations, where appropriate without prior collection of the bodies of dead animals, for feeding the wild animals referred to in section 2, point 1 (a) under the following conditions:

➤ the competent authority must be convinced on the basis of the assessment of the specific situation of the species concerned and their habitat that the conservation status of the species will be improved;

2. the competent authority must identify in the authorization the holdings or herds within a geographically defined feeding area under the following conditions:

a) the feeding area does not extend to areas where there is intensive animal husbandry;

(b) animals reared on holdings or holdings in the feeding area must undergo regular surveillance by an official veterinarian for the prevalence of TSEs and diseases communicable to humans or animals;

c) the power supply is immediately suspended in the event of:

(i) suspected or confirmed link with the spread of TSEs on the holding or herd until this risk can be excluded;

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(ii) suspected or confirmed outbreak link of a serious disease transmissible to humans or animals on the holding or herd until this risk can be excluded; or

iii) failure to comply with one of the rules set out in this regulation;

d) the competent authority specifies in the authorization:

(i) suitable measures to prevent the transmission of TSEs and communicable diseases from the bodies of dead animals to humans or animals, such as measures concerning the feeding habits of the species to be conserved, seasonal restrictions on feeding, restrictions on movement farmed animals and other measures to control the possible risks of spreading a disease communicable to humans or animals, such as measures relating to the species present in the feeding area for which no animal by-products are used;

(ii) the responsibilities of persons or entities in the feeding area who assist in the feeding or are responsible for farmed animals, in relation to the measures referred to in point (i);

iii) the conditions for the imposition of sanctions pursuant to Article 53 of Regulation (EC) no. 1069/2009, applicable to infringements concerning the measures referred to in point i) by the persons or entities referred to in point ii) of this point d);

e) if feeding is carried out without prior collection of dead animals, the likely mortality rate of farmed animals in the feeding area and the likely feeding needs of wild animals should be estimated in order to provide a basis for assessment.

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Section 3**Feeding of wild animals outside feeding stations**

The competent authority may authorise the use of Category 1 material comprising of entire bodies or parts of dead animals containing specified risk materials outside feeding stations, if appropriate without prior collection of the dead animals, for feeding to wild animals referred to in point 1(a) of Section 2 under the following conditions:

1. The competent authority must be satisfied, on the basis of an assessment of the specific situation of the species concerned and their habitat, that the conservation status of the species will be improved;
2. The competent authority must identify in the authorisation, holdings or herds within a geographically defined feeding zone under the following conditions:
 - (a) The feeding zone must not extend to areas where intensive farming of animals takes place;
 - (b) Farmed animals in holdings or herds in the feeding zone must be under the regular surveillance of an official veterinarian regarding the prevalence of TSE and of diseases transmissible to humans or animals;
 - (c) Feeding must be immediately suspended in the case of:
 - (i) a suspected or confirmed link to the spread of TSE in a holding or herd, until the risk can be excluded;
 - (ii) a suspected or confirmed outbreak of a serious disease transmissible to humans or animals in a holding or herd, until the risk can be excluded; or
 - (iii) non-compliance with any of the rules provided for in this Regulation;
 - (d) The competent authority must specify in the authorisation:
 - (i) appropriate measures to prevent the transmission of TSE and of transmissible diseases from the dead animals to humans or other animals, such as measures targeted at the feeding patterns of the species to be conserved, seasonal feeding restrictions, movement restrictions for farmed animals and other measures intended to control possible risks of transmission of a disease communicable to humans or animals, such as measures relating to species present in the feeding zone for the feeding of which the animal by-products are not used;
 - (ii) the responsibilities of persons or entities in the feeding zone who are assisting with the feeding or responsible for farmed animals, in relation to the measures referred to under point (i);
 - (iii) the conditions for the imposition of penalties as referred to in Article 53 of Regulation (EC) No 1069/2009 which are applicable to infringements of measures referred to under point (i) by the persons or entities referred to under point (ii) of this point (d);
 - (e) Where the feeding is carried out without the prior collection of the dead animals, an estimate of the likely mortality rate of farmed animals in the feeding zone and of the likely feeding requirements of the wild animals must be carried out, as a basis for the assessment of the potential risks of disease transmission.

Other regulations:

1. Commission Regulation (EC) **No 853/2004** of the European Parliament and of the Council of 29 April 2004 lays down specific hygiene rules for food of animal origin.
2. Commission Regulation **322/2003 and 830/2005**. Regulation (EC) No 322/2003 (12 May), changed by Regulation (EC) No 830/2005 (25th November), with a permanent derogation for the use of materials of Category 1 in feeding some scavenging species in specific zones (Portugal Spain, Greece, Italy and Cyprus).
3. Commission Regulation (EC) No **1774/2002** (Animal by-products Regulation): animal by-products are classified into three categories which reflect the degree of risk that they pose to public and animal health. It also lays down sanitary rules concerning the use of animal by-products not intended for human consumption (category 1) for feeding necrophagous species.

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Regulation (EC) No 1774/2002 and Decision 2003/322 / EC) allowed the use of animal carcasses with specified risk materials (i.e. Category 1 materials) for feeding species in danger of extinction only within fenced areas (i.e. feeding stations) that prevented the access of carnivorous mammals.

4. TSE monitoring programme. According to the Regulation (EC) No 999/2001 the operator of the feeding station must ensure that bovine animals and at least 4 % of ovine and caprine animals intended to be used, are tested in the TSE monitoring programme.
5. Council Directive 97/78/EC as regards certain samples and items exempt from veterinary checks at the border under that Directive (Implementing Regulation).

EU relaxation to regulations between 2003 and 2009 several dispositions to the EU regulations (322/2003, 830/2005 and 1069/2009) enabled conservation managers to adopt rapid solutions (i.e. the creation of vulture restaurants).

3.2. Cyprus Legislation

- The legislation (EC 142/2011) was applied in Cyprus through the legislation 149(I) of 2004 (Ο Περί της Εφαρμογής Κοινοτικών Κανονισμών στον Τομέα της Κτηνιατρικής Νόμος του 2004 (N. 149(I)/2004), - http://www.cylaw.org/nomoi/arith/2004_1_149.pdf.
- The Cyprus legislation on Animal Health (ο Περί της Υγείας των Ζώων Νόμος του 2001 (109(I)/2001)) aims at protecting the public and animals from animal diseases and therefore has common aims with the legislation 149(I) of 2004.
- The Implementation of Community Regulations in Veterinary Sector (Transmissible Spongiform Encephalopathies) Order of 2004Τ (περί της Εφαρμογής Κοινοτικών Κανονισμών στον Τομέα της Κτηνιατρικής (Μετοδιτικές Σπογγώδεις Εγκεφαλοπάθειες) Διάταγμα του 2004).
- The Implementation of a Program for the Breeding of Resistant to the Scrapie Ovine Animals for the Control of Scrapie, Order of 2005 – 2007 (Τα περί Εφαρμογής Προγράμματος Εκτροφής Ανθεκτικών στην Τρομώδη νόσο των Προβάτων Ζων για Σκοπούς Ελεγχού και Εξάλειψης της τρομώδους Νόσου Διατάγματα του 2005 και 2007)

3.3. Operation of Feeding stations based on the regulations

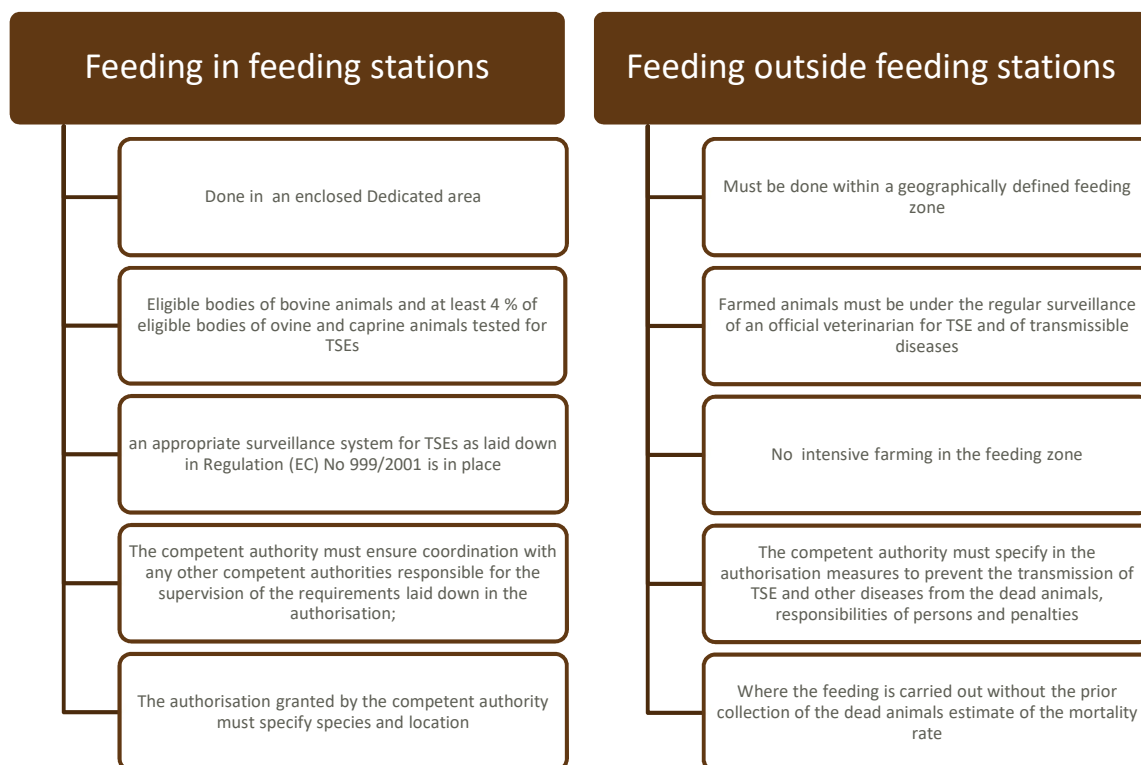
There are two alternatives for the procedure:

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4. Practical implementation of the regulations in Cyprus

Currently in Cyprus the government operates four feeding stations.

Three are operated by Game and Fauna Service, Ministry of Interior and one by the Department of Forests, Ministry of Agriculture, Rural Development and Environment.

For the operation of these feeding stations the Veterinary Services, Ministry of Agriculture, Rural Development and Environment issue a license, upon request and under specific criteria and according to regulations No 1069/2009 and No 142/2011.

- The transport of animal by product should be transported according to Annex VIII, (I), sections 1 and 3 of regulation 142/2011, (i.e. Registered transporters, Leak-proof vehicles or containers which are clean and dry before and after use, Label with category and the statement “Not for human consumption” , Accompanied with “Commercial Document”)
- The material must be fed to species included into the list set out in regulation.

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- The competent authority grants authorisation if satisfied, on the basis of an assessment of the specific situation of the species concerned and their habitat, that the conservation status of the species will be improved.
- This authorization is immediately suspended in the case of:
 - a suspected or confirmed link to the spread of TSE, or
 - non-compliance with any of the rules provided for in the Regulation.
- the feeding should not be used as an alternative way of disposal of fallen ruminants
- an appropriate surveillance system for TSEs (Regulation 999/2001) is in place. (laboratory testing etc)
- The competent authority must ensure coordination with any other competent authorities responsible for the supervision of the requirements laid down in the authorization
- The operator of the feeding stations shall:
 - Dedicate an enclosed area to the feeding to which access is limited to endangered species (fences etc)
 - Ensure that bovine animals and at least 4 % of ovine and caprine animals intended to be used, are tested in the TSE monitoring programme carried out in accordance with Regulation (EC) No 999/2001
 - Keep records at least of the number, nature, estimated weight and origin of the carcasses of the animals used for feeding, the date of the feeding, the location where feeding took place and if applicable, the results of the TSE tests. Note that test result usually takes 1 day to issue.

Procedure to authorize the operation of a feeding station by the Veterinary Services:

- Operator applies for the derogation to the competent authority:
- Standard application form in Cyprus (categories, material to be used, source, contacts etc.)
- Operator submits:
 - ✓ an assessment of the specific situation of the species concerned and their habitat, that the conservation status of the species will be improved
 - ✓ Description of the procedure
 - ✓ Map and coordinates of the feeding station
- Authorisation after on site visit.

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4.1. Disposal of carcasses: Procedures and economics

For the disposal of carcasses, the government has a contract with a private company for the collection, transportation, processing and disposal (including incineration) of carcasses as well as sampling for TSE and updating the ID database. Cattle and poultry, animals culled under TSE eradication measures, and confiscations are handled by the Veterinary Services.

The company operates a call center where the farmers call to report a dead animal. The collection should be done within 24 hours and the carcass is transported to an incineration unit in Kofinou for proper management. The company is also responsible to update the database and remove the animal's identification code from the database.

The law foresees a penalty of 425 euros in case the farmer omits to report and call for the collection of a dead animal.

A private company (Sigan) is then responsible to incinerate the carcass and then remove the animal from the database (based on the ear marking) of the animal.

The private company has a contract with the Veterinary Services and is responsible for the collection, transportation, processing and disposal (including incineration) of fallen stock and also for samples for TSE and Updating the ID database.

The above management costs Cyprus Government around 1million euros per year while the livestock farmers do not pay any significant costs for this service.

Indicatively, across the three core foraging zones (falling within Limassol and Paphos districts) a total of 2489 sheep and goat carcasses were estimated per year (6.81 carcasses per day), based on the mean total of live sheep and goats in 2017 and 2018 and mean average annual mortality rate of 12.14%. If all of these carcasses could be made available to vultures, this amount of carrion is equivalent to 36,962 kg of soft tissue suitable for consumption by vultures each year (101 kg / day), which would be sufficient to meet the food requirements of 195 individuals (Phipps, W.L. & Vogiatzakis, I.N. 2020).

According to Phipps and Vogiatzakis, it is estimated that if carcasses were delivered to the nearest vulture feeding site instead of collection and transportation to the carcass processing plant, that would result in a 43-61% reduction in travel distance (to 40749 km per year) and associated CO₂ emissions (from 11080-16508 t CO₂ to 6361 t CO₂ per year) and transport costs (from €24844-37013 to €14262 per year).

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5. Recommendations

A study conducted by the Vulture Conservation Foundation shows that from a starting population of 20 individuals and a poisoning frequency of 80% (i.e. four poisoning incidents in every five year period), the Cyprus Griffon Vulture was predicted to go extinct within 15 years due to consistent negative population growth rates, largely driven by the high poisoning frequency (Phipps, 2020). The same study shows that eliminating poisoning or reducing the frequency of poisoning incidents to less than 10% in combination with population supplementation and other measures to reduce mortality and increase reproductive output were predicted to increase the probability of population recovery within a 25-year period and enable long-term survival. The Favourable Reference Value (FRV) was estimated in 2016 as 200 individuals based on nest site availability and historical records (I.A.CO and BirdLife Cyprus 2016).

Currently, there are 29 Griffon Vultures in Cyprus while in June 2024, the Game and Fauna Service will release 15 more vultures. Due to intensified conservation efforts in Cyprus the Griffon Vulture population is expected to increase more in the next years, with the aim being the population to reach the FRV value of 200 birds. Through the “LIFE with Vultures CY” project, efforts are focusing on anti-poison actions to reduce poisoning frequency while in total 44 Griffon Vultures have been transferred from Spain to Cyprus for boosting the local population.

Due to the conservation efforts that are expected to result in an increasing vulture population in the next decades it is important to strategically re-consider the feeding scheme of Griffon Vultures in Cyprus and develop a plan for the supplementary feeding sites in Cyprus.

To minimise the adverse effect of central feeding stations, based on the scientific evidence stated in chapter 2.3, we strongly recommend the implementation of farm feeding stations in Cyprus. The development of a sustainable network of feeding points across the Griffon Vulture’s distribution range will strengthen the effectiveness of ongoing conservation actions.

Relevant stakeholders should be involved in the procedure of moving towards this direction in order to agree on the appropriate administration procedures for the operation of these farm feeding stations. These could be implemented in a small scale as pilot to allow identification of challenges and improvement measures.

A standardised method in terms of procedures should be put in place for the authorization and for the operation of farm feeding stations in order to regulate its smooth operation and maintenance. The procedure should also identify the task of each involved party (farmer, GFS, VS).

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The below issues should be taken into account during the development of the implementation plan for the farm feeding stations:

- Ensuring that bovine animals and at least 4 % of ovine and caprine animals are tested in the TSE monitoring program.
- Keeping up-to-date the animal registration database.
- Knowing the medical history of dead in farm animal and the medication history.
- Feeding is not used as an alternative way of disposal of SRM or fallen ruminant.
- The Veterinary Services must be satisfied, on the basis of an assessment of the specific situation of the species concerned and their habitat, that the conservation status of the species will be improved.
- Control of private persons responsible for the feeding stations.
- The competent authority must ensure coordination with any other competent authorities responsible for the supervision of the requirements laid down in the authorization.

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List of relevant literature/publications:

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