

# FLYWAY ACTION PLAN FOR THE CONSERVATION OF THE CINEREOUS VULTURE

- *Aegypius monachus* -



1<sup>st</sup> DRAFT





**Adopting Frameworks:** The Flyway Action for the Conservation of the Cinereous Vulture (CVFAP) was prepared by the Vulture Conservation Foundation under a contract with the Coordinating Unit of the Convention on Migratory Species (CMS) Memorandum of Understanding on the Conservation of Migratory Birds of Prey in Africa and Eurasia ([Raptors MoU](#)). This Action Plan was developed in parallel with the Multi-species Action Plan to Conserve African-Eurasian Vultures ([Vulture MsAP](#)), and alongside the development of the EU Species Action Plan for the Cinereous Vulture through EuroSAP Project: [LIFE14 PRE UK 002 “Coordinated Efforts for International Species Recovery EuroSAP”](#).

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**Milestones in the production of the Plan:**

- Vulture MsAP online questionnaire: August 2016
- Development of Species Status Report for Europe (Life EuroSAP): October 2016
- European Vulture MsAP Workshop in Monfragüe, Spain: October 2016
- Asian Regional Workshop in Mumbai, India: 29-30 November 2016
- EU SAP review online questionnaire: December 2016
- Middle East Regional Workshop in Sharjah, UAE: 6-9 February 2017
- Review of existing EU Species Plan: March 2017
- First draft of the new EU SAP: May 2017
- Workshop session at the Vulture Conservation Foundation scientific board meeting: April 2017
- First draft of the CVFAP: May 2017
- Final draft of the CVFAP:

**Geographical scope:**

*Global range of distribution for the species, all Range States (67):* Afghanistan, Albania, Algeria, Armenia, Austria, Azerbaijan, Bahrain, Bangladesh, Belgium, Bhutan, Bosnia and Herzegovina, Brunei Darussalam, Bulgaria, Cambodia, China (People's Republic of), Croatia, Cyprus, Denmark, Egypt, Estonia, France, Georgia, Germany, Greece, India, Iran (Islamic Republic of), Iraq, Israel, Italy, Jordan, Kazakhstan, Korea (Democratic People's Republic of), Korea (Republic of), Kuwait, Kyrgyzstan, Lao PDR, Lebanon, Macedonia (the FYR of), Moldova, Mongolia, Morocco, Myanmar, Nepal, Netherlands, Oman, Pakistan, Poland, Portugal, Qatar, Romania, Russia, Saudi Arabia, Serbia, Slovakia, Slovenia, Spain, Sudan, Switzerland, Syrian Arab Republic, Tajikistan, Tunisia, Turkey, Turkmenistan, Ukraine, United Arab Emirates, Uzbekistan and Yemen.

**Lifespan of Plan:** this Flyway Action Plan is for implementation over 12 years, and should be reviewed and updated half way through the implementation period (after 6 years) in 2024/25.

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# TABLE OF CONTENTS

<b>0</b>	<b>EXECUTIVE SUMMARY</b>	<b>4</b>
<b>1</b>	<b>BACKGROUND</b>	<b>5</b>
<b>2</b>	<b>APPROACH AND METHODOLOGY</b>	<b>5</b>
<b>3</b>	<b>BIOLOGICAL ASSESSMENT</b>	<b>6</b>
3.1	IDENTIFICATION	6
3.2	TAXONOMY AND BIOGEOGRAPHIC POPULATIONS	6
3.3	DISTRIBUTION THROUGHOUT THE ANNUAL CYCLE	7
3.3.1	MOVEMENTS	7
3.4	DIET	10
3.5	HABITAT REQUIREMENTS	10
3.6	PRODUCTIVITY AND SURVIVAL	10
3.7	STATUS, POPULATION SIZE AND TREND	11
3.7.1	EUROPE	13
<b>4</b>	<b>THREATS</b>	<b>14</b>
4.1	GENERAL OVERVIEW OF THE THREATS	14
4.2	OVERVIEW OF MAJOR THREATS AT REGIONAL LEVEL	14
4.3	HIGH PRIORITY THREATS TO THE SPECIES	15
4.3.1	UNINTENTIONAL POISONING (BY POISON BAITS)	15
4.3.2	ELECTROCUTION AND COLLISION	15
4.3.3	DECLINE OF FOOD AVAILABILITY	15
4.3.4	HABITAT DEGRADATION	16
4.3.5	HUMAN DISTURBANCE	16
4.3.6	DIRECT PERSECUTION	16
<b>5</b>	<b>POLICIES AND LEGISLATION</b>	<b>18</b>
5.1	INTERNATIONAL AND REGIONAL CONSERVATION AND LEGAL STATUS OF THE SPECIES	18
5.2	NATIONAL LEGISLATION AND POLICIES	18
5.3	IDENTIFIED LEGISLATION GAPS	20
5.4	ACTION PLANS	21
<b>6</b>	<b>CONSERVATION BACKGROUND</b>	<b>23</b>
6.1	IMPLEMENTATION REVIEW OF THE EUROPEAN SPECIES ACTION PLAN FOR THE CINEREOUS VULTURE	24
<b>7</b>	<b>ACTIONS</b>	<b>28</b>
7.1	GOAL, OBJECTIVE, EXPECTED RESULTS AND ACTIONS OF THE FAP	28
7.2	FAP DELIVERY AND COORDINATION MECHANISM	33
<b>8</b>	<b>REFERENCES</b>	<b>34</b>
	<b>ANNEXES</b>	<b>38</b>
	ANNEX I – ABBREVIATIONS	39
	ANNEX II – CONTRIBUTORS	40
	ANNEX III – RANGE STATES	44
	ANNEX IV – THREATS	45
	ANNEX V – ACTIONS	48

## 0 EXECUTIVE SUMMARY

The global IUCN Red List Category for Cinereous Vulture (*Aegypius monachus*) is Near Threatened (C1), as the species has a moderately small population which appears to be suffering an ongoing decline in its Asiatic strongholds, despite the fact that in parts of Europe numbers are now increasing. In Europe, the species does not meet regional IUCN Red List criteria, and its European Threat Status is *Rare* (BirdLife International, 2017). The species is listed in Annex I of the European Union Birds Directive and in Appendix II of the Bern Convention.

According to recently collected data for this study (2016/17 - through the Vulture MsAP questionnaire and during the Vulture MsAP development process), we estimate the global Cinereous Vulture population from 9657 to 12306 breeding pairs, from which Europe holds from 2536 to 2838 breeding pairs. A positive or increasing population trend has been recorded in the European range countries, but for the trend across Asia is believed to be in decline, although there is lack of quantified data.

A total of 67 countries are considered as Range States for the Cinereous Vulture, the species breeds in 19 of these, it is recorded as vagrant or wintering visitor in further 34, and in 14 countries it is considered extinct. For the CVFAP, extinction is assumed if the species had not been recorded within the last 30 years.

The main stronghold countries for Cinereous Vulture are: Mongolia, which holds approximately 50% of the species global population and Spain which hosts more than 20% of the global population (90% of the European population). These facts have been considered during the identification and assessment of the global threats that affect the species and during the development of action framework.

Apart of the biological assessment of the species, the CVFAP clearly defines all identified threats to the Cinereous Vulture. Some of these threats cause direct mortality of individuals, but others negatively impact on the reproduction of the birds or influence the distribution of the species. Poisoning is the most severe threat to vulture species. This normally unintentional with vultures being secondary or tertiary victims of poison used against predators (foxes, wolves, feral dogs, etc.) regarded to be in conflict with human activities such as livestock farming and hunting. Other key threats with strong negative effects to the species population are: electrocution and collision with power generation and transmission infrastructure, decline of food availability (due to the decrease of wildlife and/or livestock), disturbance caused by human activities, habitat degradation and deliberate killing, this last threat being more relevant for the Asian part of the species distribution range.

The CVFAP aim to target precisely these threats by proposing 72 conservation actions under 12 detailed objectives, foreseen to be implemented within the next 12 years (2018-2029).

**CVFAP Main goal:** To restore the Cinereous Vulture in its original distribution range and to stop decline and maintain the current populations with favourable conservation status.

**CVFAP High Level Objective:** Enhance recolonization of the former range by reduction of the threats in all relevant range states and establish corridors and links between populations.

# 1 BACKGROUND

The only existing international Action Plan for conservation of the species is the European Action Plan for the Cinereous Vulture (Heredia, 1996), developed in 1993 and adopted in 1996 by the European Union and the Bern Convention. Its implementation has been reviewed four times (the latest available in section 6.1) and in all four, was concluded to have good implementation.

The effectiveness and the positive results of this SAP are evident, the European population of the Cinereous Vulture is marking remarkable increase since the adoption of the Plan. Nevertheless, the European SAP is covering only from 20% to 25% of the global species' population, corresponding precisely to the part of the population with positive trend.

Therefore, this Flyway Action Plan is aiming to integrate the European action framework and best practice experience into the global picture and to propose a coordinated and coherent framework for conservation of the Cinereous Vulture in its entire distribution range.

## 2 APPROACH AND METHODOLOGY

The Flyway Action for the Conservation of the Cinereous Vulture (CVFAP) was prepared alongside with the Multi-species Action Plan to Conserve African-Eurasian Vultures and the development of the new EU Species Action Plan for the Cinereous Vulture. The three Action Plans are fully compatible and have been developed in parallel through the following steps:

The **Vulture MsAP Questionnaire** was circulated in mid-August 2016, by which we gathered information about the biology, status, threats and conservation effort for the vulture species. Within a period of two months we received 208 responses, from which 93 provided relevant information about the Cinereous Vulture. List of questionnaire respondents available in **Table 3. from Annex II**.

Four **Regional Workshops** were organized along the Vulture MsAP process: Africa Regional Workshop in Dakar, Senegal – October, 2016; Europe Regional Workshop in Monfragüe, Spain - October 2016; Asian Regional Workshop in Mumbai, India - November 2016 and the Middle East Regional Workshop in Sharjah, UAE - February 2017. The overall aims of these workshops was to understand deeply the reasons for vulture declines (threats identification) and develop a comprehensive framework for conservation actions. The CVFAP gained mostly from the European Regional Workshop outcomes, as the European Vulture MsAP range also includes the countries from Central Asia (total of 58 Range States), which is most of the Cinereous Vulture distribution range. However, information relevant for the species that come from the other regional workshops have also contributed to the FAP.

The development of the new **European Species Action Plan for the Cinereous Vulture**, basically involved: preparation of the Species Status Report for the Cinereous Vulture (produced in November 2016, just after the European Regional Vulture MsAP Workshop), Implementation Review of existing EU SAP (specific questionnaire distributed in December, 2017, report produced in March 2017) and development of the 1<sup>st</sup> draft of the new EU SAP for the Cinereous Vulture (April, 2017).

## 3 BIOLOGICAL ASSESSMENT

### 3.1 Identification

The Cinereous Vulture is believed to be the largest bird of prey in the world (Ferguson-Lee and Christie 2001). Females are slightly larger than males. This huge bird measures 98–120 cm (3 ft 3 in–3 ft 11 in) long with a 2.5–3.1 m (8 ft 2 in–10 ft 2 in) wingspan. Males can weigh from 6.3 to 11.5 kg (14 to 25 lb), whereas females can weigh from 7.5 to 14 kg (17 to 31 lb). It is thus one of the world's heaviest flying birds. Among standard measurements, the wing chord is 73–89 cm (29–35 in), the tail is 33–41 cm (13–16 in) and the tarsus is 12–14.6 cm (4.7–5.7 in) (Brown and Amadon 1986, Ferguson-Lee and Christie 2001). It is a large, dark brown bird, has broad wings which have a serrated appearance to their trailing edges, owing to the pointed tips of the secondary feathers (Clark, S. (1999). In flight, the tips of the wings show seven deeply splayed 'fingers', and this species has a short, slightly wedge-shaped tail (del Hoyo 1994). The bare skin on the head and neck of the Cinereous Vulture is blue-grey, and there is some blackish down on the head (del Hoyo 1994) and a brown 'Elizabethan' ruff of feathers around the hind neck (Clark, S. (1999). This ruff is paler in older individuals (del Hoyo 1994) and gives the Cinereous Vulture its alternative name of 'monk vulture', as it is thought to resemble a monk's hood. It has a very powerful bill, which is mostly dark but has a lighter area at the base. The legs and feet of this species are pale in colour (Clark, S. 1999). Juvenile Cinereous Vultures are generally darker than adults and often look almost black. Unlike adults, they lack the pale line on the underside of the wing, and have pinkish to pale grey skin on the head (del Hoyo 1994, Clark, S. 1999). As the juvenile Cinereous Vulture gets older, the down on its head gets paler and its eyes change from dark brown into reddish-brown (Clark, S. 1999). In flight, individuals fly with slow, powerful wingbeats and soar with flat wings (Clark, S. 1999).

### 3.2 Taxonomy and biogeographic populations

<b>Kingdom:</b>	Animalia
<b>Phylum:</b>	Chordata
<b>Class:</b>	Aves
<b>Order:</b>	Accipitriformes
<b>Family:</b>	Accipitridae
<b>Subfamily:</b>	Aegypiinae
<b>Genus:</b>	<i>Aegypius</i>
<b>Species:</b>	<i>Aegypius monachus</i> (Linnaeus, 1766)

The species belongs to the *Accipitridae* family, and is the only species in the genus *Aegypius*. Scientific name: *Aegypius monachus* (Linnaeus, 1766). Common names: Cinereous Vulture, Eurasian Black Vulture, European Black Vulture, Monk Vulture. No subspecies identified (*Global Raptor Information Network*. 2016), although there are evidences of an East-West clinal distribution of different lineages but with a low overall genetic variability which involves that populations of the Iberian Peninsula, the Balkans, the Caucasus and Central Asia can be considered evolutionary significant units (Poulalakakis et al. 2008). Body size increases from west to east, with the birds from southwest Europe averaging about 10% smaller than the vultures from Central Asia (Ferguson-Lees et al. 2001).



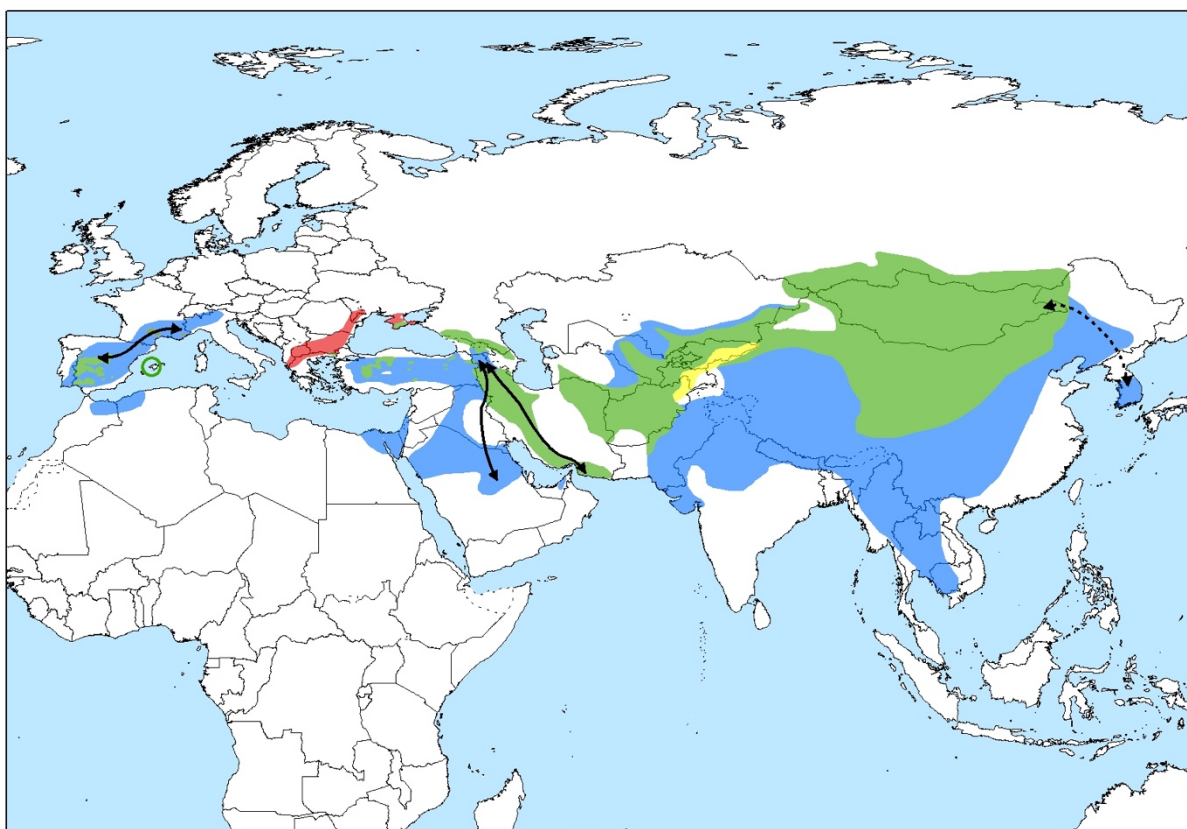
### 3.3 Distribution throughout the annual cycle

The Cinereous Vulture has a large distribution range across Europe, Asia and North Africa. This species breeds in Portugal (recently recolonized), Spain, France (reintroduced population) Greece, Turkey, Armenia, Azerbaijan, Georgia, Ukraine, Russia, Uzbekistan, Kazakhstan, Tajikistan, Turkmenistan, Kyrgyzstan, Iran, Afghanistan, northern Pakistan (A. Khan, A. Parveen and R. Yasmeen *in litt.* 2005), Mongolia and mainland China (Heredia 1996, Heredia *et al.* 1997, WWF Greece 1999, V. Galushin *in litt.* 1999). The wintering range includes additional states to the south of the breeding range, in Saudi Arabia, Iran, northern India, Nepal, Bhutan, Bangladesh, DPR Korea and Republic of Korea (North and South Korea, respectively). It appears to be very rare and of irregular occurrence in Africa (e.g. Egypt: Goodman and Meininger 1989), with no reliable records in Sudan (Nikolaus 1987). Detailed information regarding Range States and status of the species in each one of them is available in **Table 1**.







#### 3.3.1 Movements

The species is partial migrant (Bildstein 2006). Sedentary in some areas, but many individuals winter south of the breeding range, and there is also a good deal of nomadism. Gavashelishvili and McGrady (2006) recorded long range movements by a bird that fledged in Georgia, travelled south to Saudi Arabia, and then headed north into Russia. All individuals migrated in the autumn after hatching, wintered in Iran and Saudi Arabia, and then migrated north the following spring, initiating spring migration about the time of hatching of Cinereous Vultures in the Caucasus (March–April) (Gavashelishvili *et al.* 2012). Many adults and juveniles in Mongolia apparently migrate in autumn to wintering areas in the Republic of Korea (South Korea) (Batbayar 2004, Batbayar *et al.* 2006), while birds from central Asia migrate to the Indian subcontinent, southern China, Russian Far East, and the Republic of Korea (Batbayar 2006). In Europe the adults are mostly sedentary while the juvenile birds disperse over larger areas. In Spain, the movements of the juveniles are mostly limited to the western part of the Iberian Peninsula and in the surroundings of the breeding colonies (Moreno-Opo 2009). Movements of individuals from/to Spain, France and Italy have been recorded in recent years. Also birds from Dadia colony in Greece are regularly visiting the close vulture feeding sites in southern Bulgaria and even go to Turkey. In the last few years an individual with unidentified origin is regularly visiting Serbia and Macedonia. Reports of Cinereous Vultures as regular winter visitors to Africa (Egypt and Sudan) appear to be unfounded, at least at the present time, although very small numbers have been recorded (less than annually) in Egypt.





**Figure 1.** Global distribution range of the Cinereous Vulture.

Legend for range map	
	Resident: resident throughout the year, and breeding
	Breeding visitor: occurs regularly only during the breeding season, and known to breed
	Non-breeding visitor: occurs regularly during the non-breeding season. In the Eurasian context, this encompasses 'winter'. For vultures, this covers all non-breeding movements outside the breeding range
	Probably extinct: formerly occurred in the area, but it is most likely that the species no longer occurs
	Extinct: formerly occurred, but it is almost certain that the species no longer occurs and there have been no records in the last 30 years
	Arrows indicate approximate migration routes where there may have been few actual observations, but data clearly indicate occurrence regularly, even if during a relatively short period of the year, on migration between breeding and non-breeding ranges. Solid arrows indicate a route confirmed by multiple tracking datasets; dashed arrows show a route inferred from point locality information.

Total of 67 countries are considered as Range States for the Cinereous Vulture: in 19 countries the species is breeding, in 34 countries recorded as vagrant or wintering<sup>1</sup> and in 14 countries extinct. For more details, please see **Table 1** below.

<sup>1</sup> In some of the Range States the species is considered a non-breeding visitor, but might have become extinct as a breeder at least 30 years ago.

**Table 1.** Cinereous Vulture Range States and species status (breeding, wintering or vagrancy and extinct).

Breeding (19 countries)	Non-breeding visitor or vagrant (34)	Extinct (14)
Afghanistan	Algeria	Albania
Armenia	Austria	Bosnia and Herzegovina
Azerbaijan	Bahrain	Brunei Darussalam
China (People's Republic of)	Bangladesh	Bulgaria
France	Belgium	Croatia
Georgia	Bhutan	Cyprus
Greece	Cambodia	Israel
Iran (Islamic Republic of)	Denmark	Italy
Kazakhstan	Egypt	Jordan
Kyrgyzstan	Estonia	Macedonia (The FYR of)
Mongolia	Germany	Moldova
Portugal	India	Romania
Russia	Iraq	Serbia
Spain	Korea (Democratic People's Republic of)	Slovenia
Tajikistan	Korea (Republic of)	
Turkey	Lao PDR	
Turkmenistan	Lebanon	
Ukraine	Morocco	
Uzbekistan	Myanmar	
	Nepal	
	Netherlands	
	Oman	
	Pakistan	
	Poland	
	Qatar	
	Saudi Arabia	
	Slovakia	
	Sudan	
	Switzerland	
	Syrian Arab Republic	
	Tunisia	
	United Arab Emirates	
	Yemen	

### 3.4 Diet

Like all vultures, the Cinereous Vulture eats mostly carrion. Its diet consists mainly of carrion from medium-sized or large mammal carcasses, although snakes and insects have been recorded as food items as well. Live prey is rarely taken (Batbayar *et al.* 2006). It mainly feeds on the carcasses of rabbits, sheep and wild ungulates (Hiraldo 1976, Corbacho *et al.* 2007). However, changes in the availability of prey over the last 30 years have led to a decrease in the number of rabbits in its diet and an increase in the consumption of domestic ungulates (Corbacho *et al.* 2007, Costillo *et al.* 2007, Moreno-Opo *et al.* 2010). In Mongolia, at least, the species is reliant on livestock numbers for successful nesting (Batbayar *et al.* 2006). Studies in Spain show that the species prefers individual, medium-sized muscular pieces and small peripheral scraps of meat and tendon (Moreno-Opo *et al.* 2010) and non-adult individuals are showing preference to carcasses from ovine and caprine species (Moreno-Opo *et al.* 2014). Detailed knowledge of its diet and which specific anatomic parts of a carcass it prefers may constitute a fundamental tool for the design of conservation strategies (Margarida *et al.* 2009, Moreno-Opo *et al.* 2014).

### 3.5 Habitat requirements

The species inhabits forested areas in hills and mountains at 300-1,400 m in Spain, but occurs at higher altitudes in Asia, where it also occupies scrub and arid and semi-arid alpine steppe and grasslands up to 4,500 m (Thiollay 1994). As nesting-sites in the westernmost part of its distribution range (Iberian Peninsula to Caucasus) it generally selects steep and south-facing slopes, great cover of large trees and wide distance to human activities (Moreno-Opo *et al.* 2012). The Cinereous Vulture nests are located in different tree species such as oaks in the Iberian Peninsula (*Quercus suber* and *Q. rotundifolia*) and pines which are the most widely used. In its easternmost range, it prefers arid hilly and montane habitats, including semi-desert, establishing their nests in rocky ledges and ground.

It spends much time soaring overhead in search of food, above different types of habitats such as treeline, agricultural habitats with patches of forests, bare mountains, steppe and open grasslands. It is a central-place forager around the breeding colonies (Carrete and Donazar 2005) being more common in areas with a higher prey abundance, especially extensive livestock, wild ungulates and lagomorphs (Moreno-Opo and Guil 2007). Moreover, non-breeding individuals tend to concentrate in other areas where food is likely predictable such as supplementary feeding sites and hunting estates (Moreno-Opo *et al.* 2015). It perches more often on trees than on cliff faces or on the ground. Not numerous, but in places of abundant food, the species may congregate in large flocks (Flint 1984).

### 3.6 Productivity and survival

The Cinereous Vulture has the longest breeding period of all raptors in Europe. The incubation period is on average 57 days but can vary from 50 to 68 days. Only one egg is laid. The young spends between 110 and 120 days in the nest (with extreme ranges from 88 to 137 days) (Moreno-Opo and Guil 2007). After leaving the nest, for a while the young still returns to the nest to obtain food from the adults and also to spend the night (Mebis & Schmidt 2006). In Spain most eggs are laid during the end of February and the first half of March with some eggs laid earlier and the last eggs in April (Moreno-Opo & Guil 2007). In Turkey, the breeding season

begins between the second week of February and April. The first young hatch on the third week of March and the first young fledge the nests on the second week of August (Cihangir Kirazlı and Elif Yamaç 2013). Nests are normally built on trees, sometimes on cliffs or even on the ground (Mebs & Schmidt 2006). In Spain, nests are built either on different species of oaks or different species on pines (Moreno-Opo & Guil 2007). The nest is huge and can have a diameter of up to 254 cm and a height of 129 cm though normally they are a little smaller. In Spain, nests on oaks were on average 160 cm wide and 93 cm high (Moreno-Opo & Guil 2007).

Breeding parameters of the species are not well known at its whole breeding range. In Spain, the latest national coordinated census in 2006 released an overall productivity (number of chicks reared/total observed pairs) of 0.60 and a breeding success (number of chicks reared/pairs starting incubation) of 0.68 (De la Puente et al. 2007). These values could be considered as sustainable for maintaining a positive population trend if no serious threats such as poisoning, shooting or electrocution impact regionally, and reflects a possible minimum reference for well-managed breeding areas of the species (Moreno-Opo and Margalida 2014). The breeding success values, which are the most accurate for studying the demographic traits of the species, in other regions (Dobado and Arenas 2012) vary from 0.27 to 0.55 (2001-2003) in France, 0.57 in Uzbekistan and from 0.53 to 0.94 (1993-1997) in Greece (Vlachos et al. 1999). Survival / mortality rates have not been studied for the species in a detailed way.

### 3.7 Status, population size and trend

The most recent global population estimate for Cinereous Vulture (according to BirdLife International (2017)) is 7,800-10,500 pairs, roughly equating to 15,600-21,000 mature individuals. This consists of 2,300-2,500 pairs in Europe (BirdLife International 2004, Anon. 2004) and 5,500-8,000 pairs in Asia. The population in The Republic of Korea (South Korea) has been estimated at c.50-10,000 wintering individuals (Brazil 2009). The estimate roughly equates to 23,400-31,500 individuals (BirdLife International 2017).

According to data collected during 2016 and 2017, via questionnaires and other information gathered during the preparation of the Vulture MsAP, the Cinereous Vulture population is increasing in Europe: by 48% during the last decade (Deinet 2013), specifically in Spain (2,068 breeding pairs in 2012, 2,198 – 2,258 breeding pairs in 2015, increasing population); Portugal (18 pairs, increasing); and France (31 pairs in 2016, increasing). In Greece, the population is located at a single colony (21-35 breeding pairs, stable or slowly increasing) and in the Caucasus, population estimates are available only from a few countries and the population trend seems to be stable. The trend across Asia is believed to be an ongoing moderate decline, although there is lack of quantified data for this major part of the population.

Recent national population estimates and trends are presented in **Table 2**, according to which we estimated the global Cinereous Vulture population from 9,657 to 12,306 breeding pairs, and for Europe from 2,536 to 2,838 breeding pairs.

It is very important to highlight that the main strongholds of the Cinereous Vulture population; Mongolia holds approximately 50% of the species' global population and Spain more than 20% (representing 90% of the European population). These facts must be kept in mind when identifying global threats to the species and when developing conservation actions.

Only partial information is available on trends in the non-breeding (wintering) range of the species; wintering numbers appear to be declining in Nepal and significantly increasing in India and South Korea (due to establishment of feeding sites). The latest population count for wintering Cinereous Vultures in South Korea was 2,532 individuals in 2012 (Cultural Heritage Administration 2012), and during the previous count in 2004-2005 approximately 1,600 birds were recorded (Choi 2012). The number of individuals wintering in Pakistan is estimated to be 4,500-5,000 individuals.

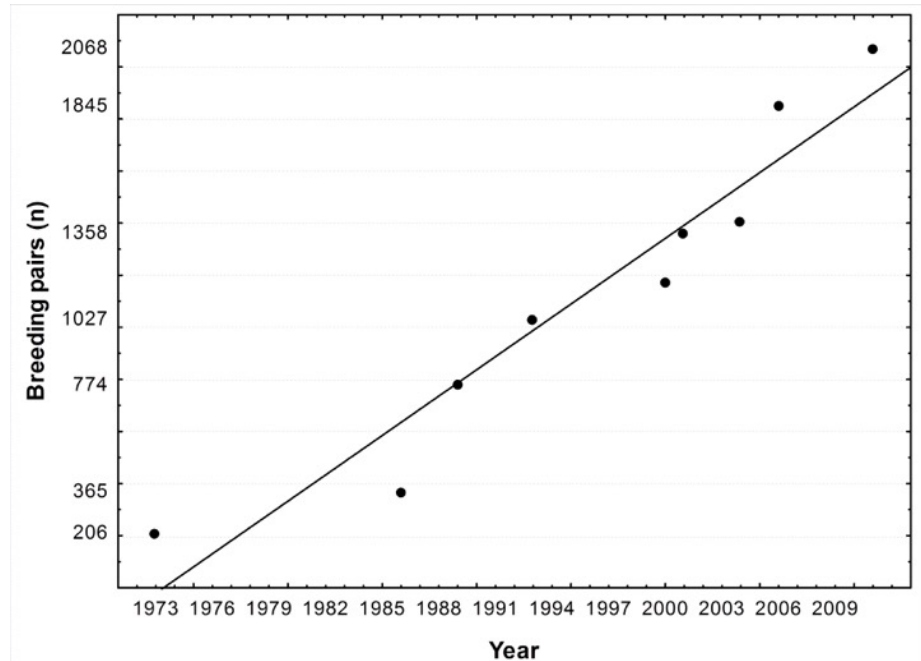
**Table 2.** *Cinereous Vulture national population estimates and trends in all breeding Range States.*

Country	Breeding pairs	Data quality	Year(s) of estimate	Breeding Population trend in the last 10 years	Data quality
Afghanistan	No data	M			
Armenia	50	M	2007-2009	stable	M
Azerbaijan	20-100	M	2000-2016	stable	M
China (People's Republic of)	1760		1991		
France	31	G	2016	small increase	G
Georgia	10-25	G	1995-2016	stable	G
Greece	21-35	G	2006-2015	stable	G
Iran (Islamic Republic of)	No data				
Kazakhstan	150-300	M	2012	stable	M
Kyrgyzstan	50-60	M	2007		
Mongolia	5000 -7000	P	2016	small decline	P
Portugal	18	G	2016	large increase	G
Russia (Caucasus)	63-102	M	2004	small decline	M
Russia (Altai-Sayan)	71-96	G	2009	moderate increase	G
Spain	2198 - 2258	G	2015	moderate increase	G
Tajikistan	10-100	P	2016		
Turkey	80-200	M	2013	decline	M/P
Turkmenistan	30-32	M	2013	decline	M
Ukraine	15-19	G	2016	stable	G
Uzbekistan	80-120	M	2005	small decline	P

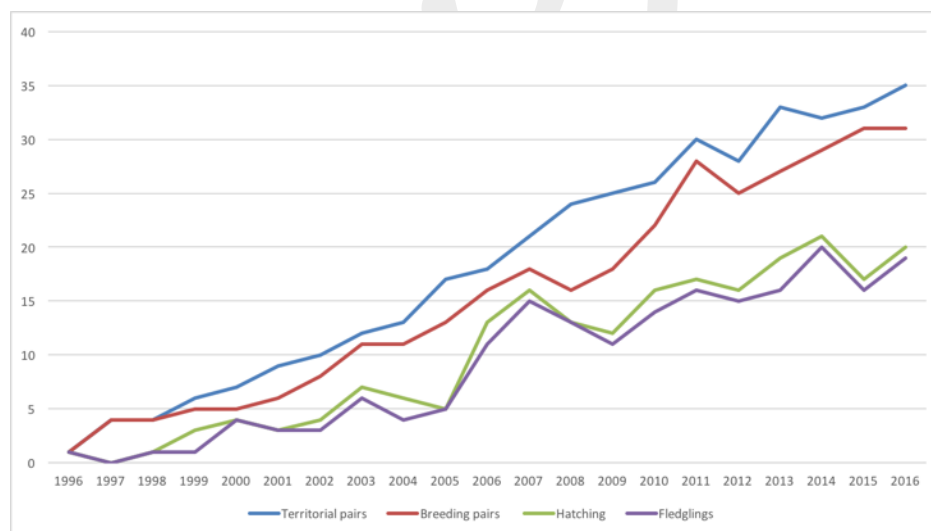
### 3.7.1 Europe

[In preparation]

**Figure 2.** Estimated number of Cinereous Vulture breeding pairs in Europe.



**Figure 3.** Estimated number of Cinereous Vulture breeding pairs in Spain<sup>2</sup>.



**Figure 4.** Estimated number of Cinereous Vulture breeding pairs in France<sup>3</sup>.

[In preparation]

**Figure 5.** Estimated number of Cinereous Vulture breeding pairs in Greece.

<sup>2</sup> . Moreno-Opo, R. and Margalida, A. (2014). Conservation of the Cinereous Vulture *Aegypius monachus* in Spain (1966–2011): a bibliometric review of threats, research and adaptive management. Bird Conservation International, 24, pp 178-191 and 2015 update (Moreno-Opo unpublished data).

<sup>3</sup> Data source: VEB-LPO PACA-LPO GC-PNA Vautour moine.

## 4 THREATS

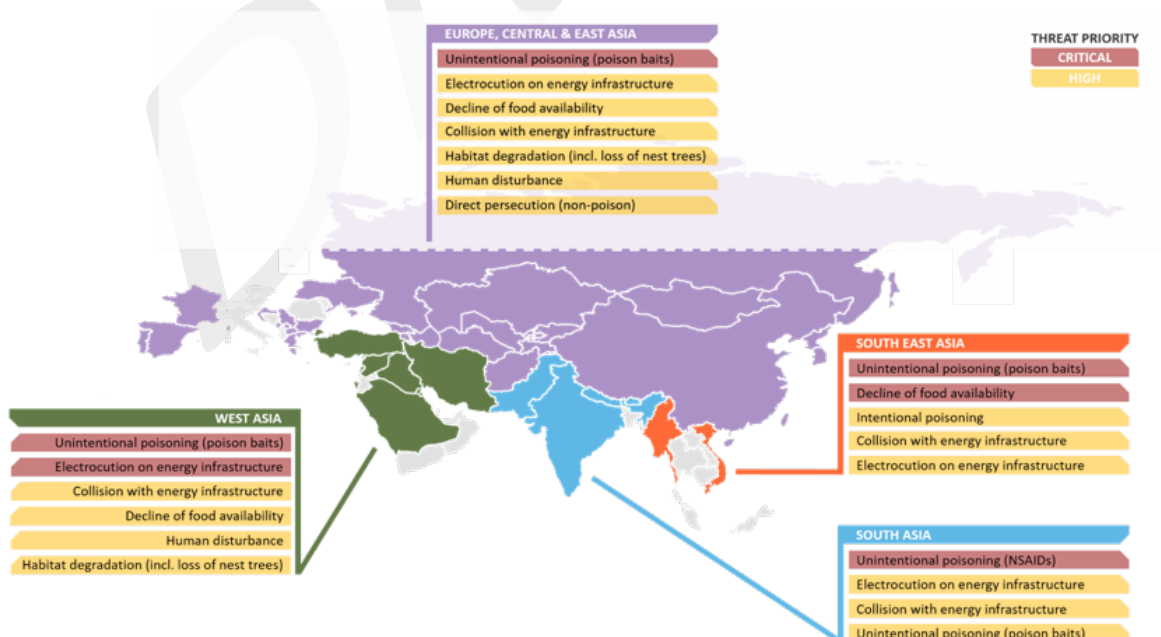
### 4.1 General overview of the threats

As for most, if not all vulture species, poisoning is the most severe threat to the Cinereous Vulture. Poisoning is the reason for the species' extinction in significant part of its original distribution range, cause for its decline in more than half of its current distribution range and one of the main constraints for its recovery. In general, poison is not used to kill vultures; they are normally secondary or tertiary victims of poison used against predators (foxes, wolves, feral dogs, etc.) regarded in conflict with human activities such as agriculture and hunting. Poisoning can be also accidental or unintentional, caused by agrichemicals (pesticides), veterinary medicaments (use in livestock) and lead from hunting activities. Poisoning is not the only threat affecting the Cinereous Vulture: electrocution and collision with electricity infrastructure is also causing direct mortality in its entire distribution range. In present, the persecution or deliberate killing is not common in Europe, but apparently still common in Central Asia.

The species is also affected by threats that are not causing direct mortality, but affecting its breeding success and conditioning its distribution. The decline in food availability due to the decline of herbivores (wildlife and livestock) resulting in reduction of animal carcasses in the wild is considered to have a negative impact to the species. Disturbance caused by human activities during the breeding season (which is extremely long for this species, see section 2.6) can have a negative effect on the breeding success.

Detailed analyses of the threats affecting the vulture species were made during the Vulture MsAP process. **Figure 5** presents the high priority threats to the species and **Table 1** from **Annex IV** presents the whole list of threats affecting the species in its entire distribution range.

### 4.2 Overview of major threats at regional level



**Figure 5.** High priority threats to the Cinereous Vulture by region (source: Vulture MsAP).



## 4.3 High priority threats to the species

### 4.3.1 Unintentional poisoning (by poison baits)

Birds are killed by them feeding on carcasses or on poison baits deliberately laced with pesticides (mostly insecticides) to kill wild predators, feral dogs or rodents across the entire species' range. In Spain within the period from 1992 to 2013, a total of 578 Cinereous Vultures were found poisoned (Cano 2016). Another study, also from Spain shows that this kind of poisoning mainly affects adult individuals (83% from 464 affected individuals), something that can have important effects on population dynamics (Hernández and Margalida 2008). Eleven different poison compounds were identified in the same study, although three compounds accounted for up to 88% of the poisoning cases: carbofuran, aldicarb, and strychnine (Hernández and Margalida 2008). Poisoning have been also recorded as a threat in another stronghold country, such as Mongolia (Batbayar 2005).

### 4.3.2 Electrocution and collision

Electrocution and collision are important threats exerted by infrastructure used in power generation and distribution: electrocution normally caused by the electricity utility poles (adjacent wires or conductors at the top) and collision caused by distribution lines or wind-turbines. There is no doubt about the severity of these threats to raptors or soaring birds, although little substantive data is available precisely for this species. In Spain there are records of at least 30 dead birds due to electrocution and collision (Moreno-Opo and Guild 2007). The Cinereous Vulture population in Greece is also affected by these threats (WWF-Greece, unpublished data). On the steppe habitats of Kazakhstan, the Cinereous Vulture was identified among the list of birds found dead due collision and electrocution (Haas and Nipkow 2006, Lasch et al. 2010). Dixon *et al.* (2013) recorded Cinereous Vultures among the species killed on power lines during a study in Mongolia. Collision with wires has been reported to be a threat to Cinereous Vultures wintering in South Korea as well.

The development of wind farms can be a serious threat in the future. In Spain, so far only two victims have been found (Moreno-Opo 2009), but one reason for this might be that most wind farms in Spain have been built outside the core areas of the species' distribution. This may change in the future as more wind farms are planned in Spain, including within the species' breeding areas.

### 4.3.3 Decline of food availability

In Eastern Europe and Central Asia, particularly in the former Soviet Union, changes in agricultural practices and human migration from the countryside to the cities have greatly reduced numbers of domestic livestock. In Georgia and Armenia, declines may be linked to the loss of subsidies for sheep-herding in the post-Soviet era (M. McGrady *in litt.* 2007). Additionally, there have been steep declines in many populations of wild ungulates which provide a major food source for the species. In Kazakhstan all vulture species are in serious decline as a result of precipitous fall in numbers of main food resource, the saiga (*Saiga tatarica*), a Critically Endangered antelope, and this trend possibly mirrored in several other Central Asian countries where populations of both domestic livestock and wild ungulates have declined greatly in recent years. In Europe, a lack of naturally available food resulted following introduction of highly restrictive veterinary sanitary regulations (due to Bovine Spongiform Encephalopathy, Regulation CE 1774 / 2002). The application of this sanitary legislation greatly restricted the use of animal by-products not intended for human consumption, and deprived

bird populations of the resources they depended on to survive. It has been estimated that in some parts of Spain, 80% of animal carcasses generated on farms are being removed for industrial disposal; in the case of cows this figure reaches 100% (Donázar 2009, Margalida 2010).

#### **4.3.4 Habitat degradation**

The impact of habitat degradation on vulture populations is difficult to evaluate, but it surely affects several species. To distinguish from disturbance, under habitat degradation we are considering permanent habitat changes or losses. This may concern large nesting and foraging areas. More specifically, tree-nesting vultures such as the Cinereous Vulture have specific breeding site requirements, which are easily affected by human activities: deforestation for clearance of large trees in agricultural areas, logging, quarrying, widening of roads and highways, etc. The logging of large trees or whole parts of Mediterranean forest is considered to be a serious problem for the species (Mebs and Schmidt 2006). Also, forest fires, often caused by humans, can kill juveniles in the nest before they can fledge (several cases recorded in Spain).

#### **4.3.5 Human disturbance**

There are many forms of human disturbance, for example, forestry operations, hunting activities, cork harvesting, construction on roads and firebreaks.

The human presence, which generally involves activities that are likely to have a negative impact on the species' breeding attempt, affects the number of chicks fledged, even if the disturbance occurs once the breeding cycle has begun (González *et al.* 2006, Zuberogoitia *et al.* 2008, Margalida *et al.* 2011). Disturbances not only influence breeding success during a breeding attempt, but can also lead to changes in distribution patterns and even changes in individual behaviour (Sutherland 2007).

Variables related to this effect were only reported to influence breeding success in the two Cinereous Vulture colonies studied by Donázar *et al.* (2002). They found that less human presence had a positive effect on breeding success. This factor is generally seen to be important for nesting habitat selection by the Cinereous Vulture (Fargallo *et al.* 1998, Poizaridis *et al.* 2004, Gavashelishvili *et al.* 2006, Morán-López *et al.* 2006a). Pairs in an area of the colony exposed to intrusive anthropogenic activity had 20% lower breeding success than those in the same colony that were not exposed to these disturbances (Margalida *et al.* 2010). In Spain, cork harvesting it is considered to be one of the main causes of disturbance to the Cinereous Vulture during its breeding period, because this activity is carried out in June–July while chicks are being reared (Moreno-Opo and Arredondo 2007, Margalida *et al.* 2010). Disturbance has been also described as a limiting factor in the Caucasus, where mountain tourism has been very popular. Human disturbance during incubation often results in loss of the egg due to predation by crows.

#### **4.3.6 Direct persecution**

In the past, direct persecution was one of the main threats for the species in Europe. Nowadays this threat appears only sporadically, although it seems to be a significant threat for the species in Central Asia. Batbayar (2005) reports an increase in the deliberate persecution of the Cinereous Vulture in Mongolia and the trapping or shooting of birds in China for their feathers.

In China, there is certainly some persecution of vultures for direct meat consumption, but this also extends to belief-based use and is considered a significant threat (MaMing *et al.* 2017).

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## 5 POLICIES AND LEGISLATION

### 5.1 International and regional conservation and legal status of the species

In 2016 the global IUCN Red List Category (since 2004) for the Cinereous Vulture was *Near Threatened* (C1), as the species has a moderately small population which appears to be suffering an ongoing decline in its Asiatic strongholds, despite the fact that in parts of Europe numbers are now increasing. In Europe, the species does not meet regional IUCN Red List criteria, and its European Threat Status is *Rare* (BirdLife International, 2017). The species is listed in Annex I of the European Commission Birds Directive and in Appendix II of the Bern Convention.

- Convention on the Conservation of Migratory Species of Wild Animals (CMS or Bonn Convention)
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
- Convention on Biological Diversity (CBD)
- Directive 2009/147/EC of the European Parliament and of the Council on the Conservation of Wild Birds (EU Birds Directive)
- European Community (1992) Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (EU Habitats Directive)
- Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention)
- Memorandum of Understanding on the Conservation of Migratory Birds of Prey in Africa and Eurasia (Raptors MoU)

### 5.2 National legislation and policies

**Table 3. National policies and legislation.** [to be completed]

Country	Protection status	Conservation status	Legally protected from killing	Legally protected from poisoning	Maximum legal coverage in national legislation	National Species Action Plan prepared
Afghanistan	Protected					No
Albania	Protected	Extinct in the wild	Yes	Yes	No	No
Algeria						No
Armenia	Protected	Near threatened	Yes	No	Partly	No
Austria	Protected	Extinct in the wild				No
Azerbaijan	Protected	Endangered	Yes	No	Partly	No
Bahrain						No
Bangladesh	Protected					No
Belgium	Protected		Yes	Yes		No
Bhutan						No
Bosnia and Herzegovina	Protected	Extinct in the wild	Yes	Yes		No
Brunei Darussalam						No
Bulgaria	Protected	Extinct in the wild	Yes	Yes	Yes	In devel.
Cambodia						
China (PR)	Protected	Second Class	No	No	No	No
Croatia	Protected	Extinct in the wild	Yes	Yes	Yes	No

Cyprus	Protected	Extinct in the wild	Yes	Yes	Yes	No
Denmark	Protected		Yes	Yes		No
Egypt	Protected		Yes	Yes	Partly	No
Estonia	Protected		Yes	Yes	Yes	No
France	Protected	Endangered	Yes	Yes	Yes	Yes
Georgia	Protected	Endangered	Yes	Yes	Partly	No
Germany	Protected		Yes	Yes		No
Greece	Protected	Endangered	Yes	Yes	Yes	No
India	Protected					
Iraq	Protected					No
Iran (Islamic Republic of)	Protected		Yes	Yes		No
Israel	Protected	Extinct in the wild	Yes	Yes	Yes	No
Italy	Protected	Extinct in the wild	Yes	Yes		No
Jordan	Protected	Not evaluated	Yes	Yes	Partly	No
Kazakhstan	Protected					No
Korea (DPR)	Protected					
Korea (Republic of)	Protected					
Kuwait	Protected					No
Kyrgyzstan	Protected					No
Lao (PDR)						
Lebanon						No
Macedonia (The FYR of)	Protected	Extinct in the wild	Yes	Yes	Partly	No
Moldova	Protected					No
Mongolia	Not prot.	Least concern	No	No	No	No
Morocco						No
Myanmar						
Nepal						
Netherlands	Protected		Yes	Yes	yes	No
Oman	Protected					No
Pakistan	Protected					
Poland	Protected		Yes	Yes	yes	No
Portugal	Protected	Critically Endangered	Yes	Yes	Partly	In devel.
Qatar	Protected					No
Romania	Protected	Extinct in the wild	Yes	Yes	Yes	In devel.
Russia	Protected	Vulnerable	Yes	Yes	Yes	No
Saudi Arabia	Protected	Near threatened	Yes	Yes	Yes	No
Serbia	Protected	Extinct in the wild	Yes	Yes	Partly	No
Slovakia	Protected	not listed	Yes	Yes	Partly	No
Slovenia	Protected		Yes	Yes	yes	No
Spain	Protected	Vulnerable	Yes	Yes	Yes	No
Sudan						No
Switzerland	Protected	Not evaluated	Yes	Yes	No	No
Syrian Arab Republic	Protected	Critically endangered	Yes	Yes	Yes	In devel.
Tajikistan	Protected	Not evaluated	Yes		No	No
Tunisia						
Turkey	Protected	Near threatened	Yes	Yes	Yes	Yes
Turkmenistan						
Ukraine	Protected	Near threatened	Yes	Yes	Yes	No
United Arab Emirates	Protected					No
Uzbekistan	Protected	Vulnerable	Yes	Yes	No	No
Yemen						No

**Table 4.** *Highest responsible national authority in the species' Range States* [to be completed]

Country	Institution
Albania	Ministry of Environment
Armenia	Ministry of Nature Protection of Republic of Armenia
Azerbaijan	Ministry of Ecology and Natural resources
Bulgaria	Ministry of environment and waters
Croatia	Ministry of Environmental and Nature Protection
Cyprus	Ministry of Interior
Egypt	Ministry of Environment, Nature conservation sector, NCS
France	Ministry in charge of environment
Georgia	The Ministry of Environment and Natural Resources Protection
Greece	The Ministry of the Environment and Energy
Hungary	Ministry of Agriculture
Iran (Islamic Republic)	Department of Environment
Israel	Nature and Parks Authority
Italy	Ministry for the Environment
Jordan	Ministry of Environment
Mongolia	Ministry of Environment and Tourism
Portugal	ICNF - Instituto da Conservação da Natureza e Florestas
Romania	Ministry of Environment, Waters and Forests
Russia	Federal Service for Supervision of Nature (Rosprirodnadzor)
Saudi Arabia	Saudi Wildlife Authority
Serbia	Ministry for Environment, Institute for Conservation Nature of Serbia
Slovakia	Ministry of Environment of the Slovak Republic
Spain	Spanish Ministry of Agriculture and Environment / Regional Governments
Switzerland	Federal Office for the Environment FOEN, Bern
Syria	Ministry of Local Administration and Environment, Ministry of Agriculture and Agrarian Reform
Turkey	Ministry of Forestry and Water Affairs
Ukraine	Federal Service for Supervision of Nature
United Arab Emirates	Ministry of Climate Change and Environment
Uzbekistan	The State Committee for Nature Protection of the Republic of Uzbekistan

### 5.3 Identified legislation gaps

In almost all Range States the Cinereous Vulture is legally protected. Only a few exceptions important to highlight:

- In Mongolia (one of the strongholds – 50% of the global population) the species **is not protected** by the national law.
- In China the species is classified as a Second Class Important Bird (Weizhi 2006).

Cinereous Vulture is protected from direct persecution (killing) in most of the range countries, but less well protected from poisoning.

## 5.4 Action Plans

The European Action Plan for the Cinereous Vulture (Heredia, 1996) was developed in 1993 and adopted in 1996 by the European Union and the Bern Convention.

**Table 4.** *EU Cinereous Vulture SAP Action Framework (from the old SAP)*

Action	Measure	Priority
1.1.1	<b>Forestry policy is based on principle of sustainability and ensures long-term survival of all native forests and takes into consideration the presence of the species.</b>	High
	a. Management activities fully account for the presence of CV and another threatened species	High
	b. Guidelines for forest management in areas of exceptional natural value prepared at the national level.	High
1.1.2	<b>Agricultural policies are sympathetic to wildlife and are compatible with the conservation of the Cinereous Vulture</b>	Medium
	a. Agriculture policy ensures the sustainability of livestock raising and long-term survival of traditional extensive livestock practices. Thus favourable conditions for key prey (e.g. rabbit) are maintained.	Medium
	b. Agricultural practices in general are favourable to the preservation of suitable habitats for the species.	Medium
1.1.3	<b>International cooperation from wealthier countries and organisations to strengthen institutions and support NGOs</b>	Critical
	International cooperation has involved your country in conservation action for the species (e.g. raising of funds and equipment for countries lacking financial resources, exchange of knowhow, etc.)	Critical
1.2.1	<b>The Cinereous Vulture and its habitat receive maximum legal coverage in national legislation</b>	High
	a. The species is fully protected.	High
	b. All breeding colonies are in protected areas.	High
	c. National recovery plan established.	High
	d. Environmental impact assessment law exists and takes into consideration the species.	High
2.1.1	<b>Protected area status conveyed to all existing breeding colonies and isolated nests</b>	Critical
	Management plans for the protected areas take into account the presence of the species and provide specific recommendations for its conservation.	Critical
2.1.2	<b>Prevention of damaging or disturbing developments and activities near nest-sites</b>	Medium
	All damaging or disturbing activities affecting the breeding colonies have been successfully prevented.	Medium
2.1.3	<b>Protection of breeding colonies and nests from forestry operations</b>	Medium
	a. Forestry operations prohibited near the colonies between January and September.	Medium
	b. All trees containing a nest protected from cutting.	Medium
	c. Plans to prevent wildfires developed and implemented.	Medium
2.2.1	<b>Encourage a continuing livestock economy</b>	Medium
	Dead stocks are left for the vultures under careful veterinarian supervision.	Medium
2.2.2	<b>Encourage repopulation of native wild ungulates</b>	Low
	Reintroduction or restocking of ungulates carried out following the IUCN criteria and avoiding overgrazing and competition with other key prey species such as rabbits.	Low
2.2.3	<b>Provide supplementary food at specific sites</b>	Low
	Schemes for supplementary feeding have been set up where necessary. They are organized and managed by professionally trained staff.	Low



<b>2.3.1</b>	<b>Prevent the use of toxic chemicals for predator control</b> a. Use of poisons for predator control prohibited. b. Enforcement of legal restrictions on the use of poisoned baits is fully effective.	Critical Critical Critical
<b>2.4.1</b>	<b>Restore Cinereous Vulture populations to previous range areas</b> a. A natural re-colonisation of the former range of the species has occurred in your country. b. A reintroduction programme has been successfully carried out in your country (if relevant).	Low Low Low
<b>3.1.1</b>	<b>Regular national monitoring schemes in place in all range states</b> a. At least one national survey has been carried out in the last four years. b. Colonies in protected areas are monitored annually.	Medium Medium Medium
<b>3.1.2</b>	<b>Surveys to establish the status of Cinereous Vultures</b> a. Status and distribution of the species known. b. A national inventory covering all breeding colonies established.	Medium Medium Medium
<b>3.1.3</b>	<b>Monitor causes of mortality</b> Representative information on the causes of mortality within your national population is available.	Medium Medium
<b>3.1.4</b>	<b>Monitor results of reintroduction efforts</b> a. All released birds are marked (rings, wing tags, etc.) b. Individual survival and movements are monitored. c. Breeding parameters are monitored.	Low Low Low Low
<b>3.2.1</b>	<b>Undertake studies on the ecological requirements of the Cinereous Vulture</b> a. Successful research is carried out on home range b. Habitat use c. Dispersal patterns	Medium Medium Medium Medium
<b>4.1.1</b>	<b>Inform the public and increase awareness of the ecological role played by the CV and need to protect CV and its habitat</b> a. Education and awareness campaign on the species carried out. b. Cinereous Vulture used as a flagship for the conservation of forests and traditional farming practices.	Low Low Low
<b>4.2.1</b>	<b>Undertake national and international anti-poisoning awareness campaigns, preferably led by Government</b> a. Anti-poisoning awareness campaigns carried out. b. Effective prevention measures are in place. c. Institutional capacity for effective enforcement is ensured.	Critical Critical Critical Critical

**A new European Species Action Plan for the Cinereous Vulture is under development and it has been prepared in parallel with the CVFAP. Therefore, the action framework proposed for the new EU SAP or aligns with the action framework prepared for the CVFAP.**

## 6 CONSERVATION BACKGROUND

The main conservation effort for the species has been implemented in Europe. Apart from some surveys and small research project very little is done in Asia or Africa for this species in particular, in terms of active conservation measures. The experience from Europe is very positive and can be used as knowhow for species conservation elsewhere.

The significant increase of the European Cinereous Vulture population (France, Greece, Portugal, and Spain) has largely been due to the implemented conservation measures.

The recovery that the species has undergone in Spain (from 206 pairs in 1973 to over 2,000 pairs in 2015) shows that it is still possible to have large numbers of Cinereous Vultures if the appropriate conservation measures are put in place.

A highly successful reintroduction project has been undertaken in France (from zero pairs in the 1950's to 31 pairs in 2016) to restore the species to an area where it disappeared a hundred years ago.

The species has naturally returned to breed in Portugal (from zero pairs in 2007 to 18 in 2016).

Despite all the threats in the Balkans and the extinction of all surrounding colonies, the Cinereous Vulture population in Greece (from 21 to 35 pairs in the period 2006-2015) maintained with a positive trend over the years.

The most effective conservation actions implemented in Europe have been essentially targeting exactly the high priority threats listed in this FAP: fight against the use of poison, correction of electricity infrastructure, improvement of food resources, and habitat protection.

About 90% of the species' breeding territories in France, Greece, Portugal, and Spain are in protected areas. Although, the designation of protected areas is not enough to guarantee the survival of such dispersed species which exploit a variety of biotopes, but it definitely helps to protect breeding habitats and to reduce disturbance (from forestry operations through general restrictions to cut trees).

## 6.1 Implementation Review of the European Species Action Plan for the Cinereous Vulture

The European Action Plan for the Cinereous Vulture (Heredia, 1996) was developed in 1993 and adopted in 1996 by the European Union and the Bern Convention. The action plan has not been revised so far. Its implementation has been previously reviewed four times – in 2000 (Gallo-Orsi, 2001), 2004 (Nagy & Crockford, 2004), 2010 (Barov and Derhé, 2010) and current one (by VCF, within EuroSAP LIFE Project).

This Implementation review was done by the VCF, as part of the process to prepare a new SAP (Species Action Plan) through the EuroSAP Project: LIFE14 PRE UK 002 “Coordinated Efforts for International Species Recovery EuroSAP”, a LIFE project, co-financed by the European Commission Directorate General for the Environment, the African-Eurasian Migratory Waterbird Agreement (AEWA), and by each of the project partners, and coordinated by BirdLife International( <http://www.birdlife.org/europe-and-central-asia/project/life-eurosap>).

The geographical scope of the SAP covers Albania, Armenia, Azerbaijan, Bulgaria, Croatia, France, Georgia, Greece, Italy, Macedonia, Portugal, Russia (Europe only), Serbia, Spain, Turkey and Ukraine.

The implementation review report is mainly based on data collected through the online questionnaire distributed in late October 2016 (‘Implementation Review of the Species Action Plan for the Cinereous Vulture - *Aegypius monachus*’), but it also includes information collected though the Vulture MsAP online questionnaire distributed mid-August 2016 among vulture experts and government representatives from the range countries, and from the Vulture MsAP European Regional Workshop held in Monfragüe in October 2016. The results of this implementation review are presented below.

The objectives presented in the SAP are:

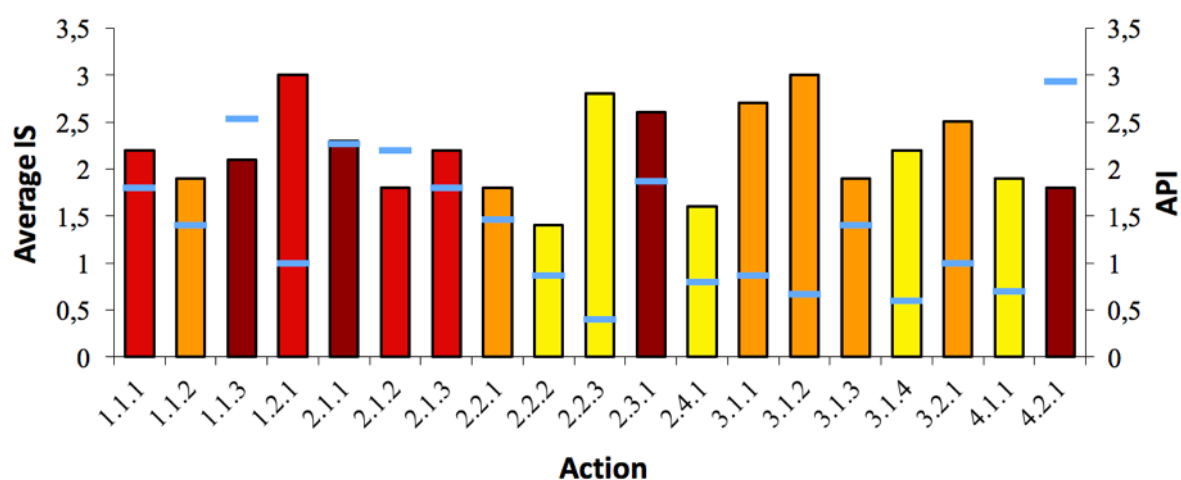
- In the short term, to maintain and enhance the existing Cinereous Vulture populations in Europe.
- In the long term, to encourage the recolonization of the former range.

The short term target of the plan has been achieved (was also achieved in the last review in 2010), as the European breeding population has increased overall from 1,330-1,874 in 1993-1996 to 2,375 – 2,648 in 2010-2016. The population increase for the last decade in the previous review (2010) was considered 10–20%, and now it should be considered as an increase of 50% in the last decade.

Majority (90%) of the European Cinereous Vulture population is in Spain, with a stronghold in the following autonomous regions: Extremadura, Andalusia, Castilla-La Mancha and Castilla y Leon) (*De la Puente et al.* 2007), with an increase of 48% in the last decade (2,068 breeding pairs in 2012/2015 (*Moreno-Opo & Margalida et al.* 2014)). The populations from the Spanish neighbouring counties Portugal (18 pairs in 2016) and France (30 pairs in 2016) are also increasing, due to successful conservation practices (such as reintroduction in France), but also facilitated by the connection with Spanish population (confirmed by marked birds). In the eastern part of Europe, we have a smaller population in Georgia (up to 25 pairs in 2016 (Abuladze 2013)) and Greece (up to 31 pairs in 2016 (Zakkak 2015)) with a stable trend, but the

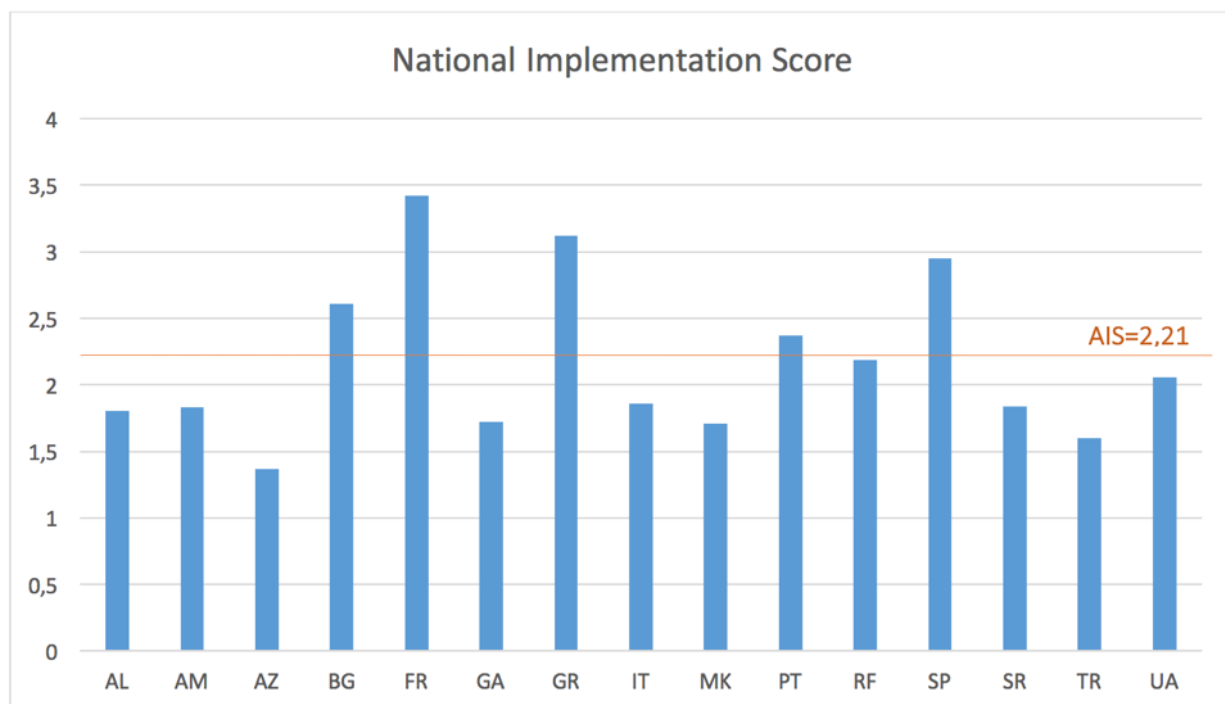
species has negative trend in Russia (Caucasus) (up to 102 pairs in 2004 (Belik 2004)) and Turkey (up to 200 pairs in 2013), from where precise and recent data is not available.

Regarding the long term objective to recolonize former range, some progress has been made, mainly thanks to reintroduction activities. The reintroduction project in France is marking extraordinary success – reintroduction is about to be finished owing to the already settled population of 31 breeding pairs. The situation is similar in Cataluña, where a stable population has also been established (14 territorial pairs). New projects related to reintroduction of this species have been initiated in Burgos (Spain) and in Bulgaria (following the successful reintroduction of Griffon Vultures) – projects that will definitely contribute achieving this long term objective of the old Species Action Plan. As this objective is not fully achieved it is also considered for the new EU Species Action Plan.



**Figure 6.** Average Implementation Score (AIS) for each action within the old Action Plan, across all European Member States.

The SAP has been implemented well across all range countries (AIS=2.2), slightly better than when compared to the previous implementation review (2010). Good implementation of the plan is noted in the countries with significant populations (France, Greece and Spain) where significant number of actions have been fully implemented. On the other hand, the species has been increasing since the adoption of the plan and continue to do so since the last review (2010). Some of the key threats have been addressed with legal measures and with designation of protected areas, but mainly through active conservation actions on the ground (related to food availability and the illegal use of poison). At the same time, poisoning remains a critical threat to address for this species (as for all vulture species in general). It is unlikely that the population can be completely restored to previous levels and in countries where it is extinct will be naturally recolonized, essentially due to the permanent loss of suitable habitat or significant distance from existing colonies. Something that can be addressed with establishing corridors or links between native colonies, supported by reintroduction activities. Therefore, especially in Eastern Europe the species remain dependent of conservation activities (reintroduction activities where extinct).



**Figure 7.** National Implementation Score (NIS) for each European Member State, and the average score across all European States.

Very good implementation of the Action Plan (NIS close or over 3) has been recorded in France, Greece and Spain, countries that actually host most part of the European Cinereous Vulture population. Good implementation of the Action Plan (NIS above the AIS) is recorded in Bulgaria and Portugal, also important Range States for the species. Overall, the implementation level of the old Action Plan has been significantly higher in the EU countries compared to non-EU countries, mainly due to the funding opportunities. Most of the conservation projects that supported the implementation of the old Action Plan were funded by the EC's LIFE programme.

**Table 5.** List of LIFE projects related to the Cinereous Vulture conservation approved by the European Commission (2000-2014).

Project N°	Year of finance	Country	Total budget	EU contribution	Species
LIFE00 NAT/E/007340	2000	Spain	1,036,378.00	621,827.00	<i>Aegypius monachus</i> /
LIFE00 NAT/E/007348	2000	Spain	1,853,176.00	1,297,223.00	<i>A. monachus</i> / <i>N. percnopterus</i>
LIFE02 NAT/E/008624	2002	Spain	683,142.00	364,878.00	<i>Gypaetus barbatus</i> /
LIFE02 NAT/GR/008489	2002	Greece	1,248,000.00	936,000.00	None or non-applicable /
LIFE02 NAT/GR/008492	2002	Greece	2,286,108.00	1,371,665.00	<i>Gypaetus barbatus</i> /
LIFE02 NAT/GR/008497	2002	Greece	1,566,345.00	939,807.00	<i>Aegypius monachus</i> /
LIFE03 NAT/E/000050	2003	Spain	3,286,882.00	1,972,129.00	<i>Aegypius monachus</i> /
LIFE03 NAT/F/000100	2003	France	1,726,194.00	1,035,716.00	<i>Gypaetus barbatus</i> /
LIFE03 NAT/F/000103	2003	France	2,256,971.00	1,128,485.00	<i>Neophron percnopterus</i> /
LIFE04 NAT/ES/000034	2004	Spain	2,082,923.00	1,249,754.00	None or non-applicable /
LIFE04 NAT/ES/000036	2004	Spain	1,237,532.00	618,766.00	None or non-applicable /
LIFE04 NAT/ES/000056	2004	Spain	1,649,250.00	1,236,937.00	<i>Gypaetus barbatus</i> /
LIFE04 NAT/ES/000067	2004	Spain	829,937.00	414,968.00	<i>Neophron percnopterus</i> /
LIFE05 NAT/IT/000009	2005	Italy	866,062.00	649,546.00	<i>Neophron percnopterus</i> /
LIFE06 NAT/E/000214	2006	Spain	1,826,559.00	913,279.00	<i>Gyps fulvus</i> /
LIFE06 NAT/IT/000026	2006	Italy	955,631.00	716,723.00	<i>Neophron percnopterus</i> /
LIFE07 NAT/E/000742	2007	Spain	3,699,135.00	1,625,400.00	<i>Aegypius monachus</i> /
LIFE07 NAT/E/000762	2007	Spain	3,869,850.00	1,934,925.00	<i>Aegypius monachus</i> /
LIFE07 NAT/IT/000436	2007	Italy	1,411,144.00	705,572.00	<i>G. barbatus</i> / <i>G. fulvus</i> / <i>N. perc.</i>
LIFE08 NAT/BG/000278	2008	Bulgaria	1,332,328.00	666,164.00	<i>A. monachus</i> / <i>G. barbatus</i> / <i>G. f</i>

LIFE08 NAT/E/000062	2008	Spain	1,672,020.00	646,737.00	<i>A. monachus</i> <i>G. barbatus</i> <i>G. ful.</i>
LIFE08 NAT/P/000227	2008	Portugal	2,640,556.00	1,980,417.00	<i>Aegypius monachus</i> /
LIFE09 NAT/ES/000533	2009	Spain	5,660,886.00	2,730,790.00	<i>A. monachus</i> / <i>G. barbatus</i> / <i>N. p.</i>
LIFE10 NAT/BG/000152	2010	Bulgaria	2,625,742.00	1,312,871.00	<i>Neophron percnopterus</i> /
LIFE11 NAT/BG/000363	2011	Bulgaria	376,891.00	188,445.00	<i>A. monachus</i> / <i>C. lupus</i> / <i>G. f.</i> / <i>N. p</i>
LIFE11 NAT/FR/000734	2011	France	2,128,061.00	1,060,532.00	<i>Neophron percnopterus</i> /
LIFE12 NAT/ES/000322	2012	Spain	1,582,854.00	1,061,936.00	<i>Gypaetus barbatus</i> /
LIFE12 NAT/ES/000595	2012	Spain	2,103,209.00	1,049,627.00	<i>A. monachus</i> / <i>N. percnopterus</i> /
LIFE13 NAT/ES/001130	2013	Spain	759,811.00	455,886.00	<i>Aegypius monachus</i> / <i>N. percnopterus</i>
LIFE13 NAT/FR/000093	2013	France	1,810,276.00	905,136.00	<i>Gypaetus barbatus</i> /
LIFE13 NAT/IT/000311	2013	Italy	2,414,270.00	1,265,077.00	<i>G. barbatus</i> / <i>G. fulvus</i> / <i>N.</i>
LIFE14 NAT/BG/000649	2014	Bulgaria	3,483,411.00	2,607,648.00	<i>Aegypius monachus</i> /
LIFE14 NAT/FR/000050	2014	France	5,632,328.00	4,157,440.00	<i>Gypaetus barbatus</i> /
LIFE14 NAT/IT/000484	2014	Italy	1,733,385.00	1,039,985.00	<i>Gyps fulvus</i> /
LIFE14 NAT/IT/001017	2014	Italy	2,877,095.00	2,071,508.00	<i>Neophron percnopterus</i> /
LIFE14 NAT/NL/000901	2014	Nederland	2,198,572.00	1,648,015.00	<i>Aegypius monachus</i> / <i>Gyps fulvus</i> /
LIFE14 NAT/PT/000855	2014	Portugal	3,578,924.00	2,672,481.00	<i>Aegypius monachus</i> / <i>N.percnopterus</i>
LIFE14 PRE/UK/000002	2014	UK	837,995.00	500,000.00	None or non-applicable /

\* Source: <http://ec.europa.eu/environment/life/project/Projects/>

Since 2000, 38 Life Projects have been approved for vulture conservation (15 targeting specifically this species) – projects that directly supported the implementation of the Cinereous Vulture SAP and contribute into conservation of the species, with total budget of 79,819.833 €, from which 47,254.295 € EU contribution.

## 7 ACTIONS

### 7.1 Goal, objective, expected results and actions of the FAP

**Main goal:** To restore the Cinereous Vulture (*Aegypius monachus*) in its original distribution range, and to stop the decline and maintain current populations with favourable conservation status.

**High Level Objective:** Enhance recolonization of the former range by reduction of the threats in all relevant range states and establish corridors and links between populations.

**Table 6. Framework for actions**

Result	Actions	Time-frame	Priority	Stakeholders	Budget estimation
<b>Objective 0: Improve knowledge about vulture populations</b>					
	0.1 Census across the range and monitoring of the breeding productivity	1-10 years	High	NGOs and Governments	
<b>Objective 1: Reduce poisoning with poison baits</b>					
Significant decrease of poisoning incidence (by 50%)	1.1 Review of legislation to make poison substances illegal, clarify competences of the authorities and/or to create new punitive measures/sanctions (some countries)	1-3 years	Essential	Governments	
	1.2 Use conventions (CMS + Bern-Tunis Action Plan) to pressure governments to follow/implement the guidelines	1-3 years	High	Governments	
	1.3 Create capacities (training of law enforcement agencies, judges, prosecutors, anti-poisoning detection units, etc.) to fight against poison use	1-3 years	Essential	Governments (with NGO support)	
	1.4 Establish adequate toxicological screening (sampling protocols, etc.)	1-3 years	Essential	Governments (with NGO support)	
	1.5 Awareness campaign about the negative impacts of poison to several target groups (general public, police, hunting managers, etc.)	1-3 years	Essential	NGOs/hunting organizations	
	1.6 Establishing national and regional database (European, Asian) of poisoning incidents and list of poisons used.	1-3 years	High	Governments	
	1.7 Promotion of effective livestock and crop management methods that reduce human-wildlife conflict	1-3 years	Medium	Governments	
	1.8 Establish and Improve effective compensation schemes	1-3 years	Medium	Governments	
	1.9 Adequate enforcement of legal procurement rules for hazardous substance and control trade on illegal substances	1-3 years	Medium	Governments	
	1.10 Enhance adequate legislation and/or management of feral dogs	1-3 years	Medium	Governments	



	1.11 Implement a positive campaign on role of scavengers, including the ecosystem services they provide	1-3 years	High	NGOs	
<b>Objective 2: Reduce poisoning by agrochemicals</b>					
Increase knowledge on the role of agrochemicals	2.1 Establish regular biocide screening in vultures	1-3 years	Medium	NGOs	
	2.2 Implement awareness campaign about misuse of biocides and their negative effects on vultures (or wildlife in general)	1-3 years	Medium	NGOs	
<b>Objective 3: Reduce poisoning by vet drugs</b>					
Reduce risk mortality related to vet drugs	3.1 Establish adequate screening for vet drugs (incl. Diclofenac)	1-3 years	High	Governments	
	3.2 Develop toxicity tests of vet drugs	4-6 years	High	Researchers/Universities	
	3.3 Develop rapid-reaction Kit to detect vet drugs	4-6 years	Medium	Researchers/Universities	
	3.4 Develop guidelines for adoption of good risk assessment processes for new vet drugs	1-6 years	High	Industry/NGO/Governments	
	3.5 Ban Diclofenac and other eventual toxic substances in range states	1-3 years	High	European commission/Governments	
	3.6 Implement awareness raising campaigns with veterinarians	1-3 years	High	NGOs	
<b>Objective 4: Reduce hunting with lead ammunition in CV Range States by implementing CMS Resolution 11.15</b>					
Lead ammunition used in CVFAP range states reduced by 50 %	4.1 Quantify impacts of lead poisoning on populations of CV and conduct regular lead and other heavy metal screening in CV.	1-6 years	High	Researchers/Universities/NGO/Governments	
	4.2 Implement awareness raising activities among hunters about negative effects of lead and non-lead alternatives	1-3 years	High	NGO/Hunters	
	4.3 Secure a ban on the use of lead ammunition in the EU	4-6 years	High	European commission/Governments	
	4.4 Promote voluntary lead ammunition bans across the CVFAP Range States	4-6 years	High	NGO/Hunters	
<b>Objective 5: Improve breeding success and increase survival of CV by ensuring good quality sufficient food</b>					
Food resources sufficient to sustain the population (dead animals remain at vulture disposal)	5.1 Develop and apply scavenger-friendly vet regulations	4-6 years	Essential	Veterinary and conservation/environmental authorities	
	5.2 Establish adequate control of feral dogs populations (some countries)	7-10 years	Medium	Vet services - state municipality authority	
	5.3 Improve waste management (some countries)	7-10 years	Medium	Municipalities	
	5.4 Promote policies that favour pastoralism, including removing incentives that lead to grassland/pastoralism loss and increasing the value of grazing related productions	7-10 years	High	Agricultural authorities, conservation authorities, tourism agencies	

	5.5 Promote scavenger-friendly traditional land use practices such a mobile pastoralism.	1-12 years	High	National authorities/NGOs	
	5.6 Promote vultures as free sanitary services	1-3 years	High	National authorities/NGOs	
Supplementary food base ensured in appropriate amount, quality, location and time	5.7 Develop specific guidelines for supplementary feeding for the CV	1-3 years	High	Conservation and vet authorities	
	5.8 Implement supplementary feeding where needed	1-6 years	Essential	Conservation and vet authorities	
Healthy wildlife populations in natural landscapes	5.9 Conserve habitat features important for the CV	7-12 years	High	Wildlife authorities, NGOs, EU Commission	
	5.10 Promote good hunting management	7-12 years	High	Hunters	
	5.11 Reintroduce/restore wild ungulate and rabbit populations	7-12 years	High	Wildlife authorities	
<b>Objective 6: Reduction of the mortality caused by collision and electrocution with energy infrastructures</b>					
Energy infrastructure is risk free for the CV	6.1 Sensitivity mapping of priority areas and power lines – identify high risk areas for bird <b>electrocution</b> , and provide protocols to be used during development planning- existing and new, including the promotion of new underground lines	1-6 years	High	Researchers/NGOs as leaders/government to implement	
	6.2 Sensitivity mapping of priority areas and power lines – identify high risk areas for bird <b>collision</b> , and provide protocols to be used during development planning- existing and new, including the promotion of new underground lines	1-6 years	High	Researchers/NGOs as leaders/government to implement	
	6.3 Capacity building on legislation/regulation and implementation of mitigation measures to public officers	1-6 years	Medium	Private sector/ NGO's/ Legal (prosecutors)	
	6.4 Promotion/review of existing legislation/regulation (national and international)	1-3 years	Medium	Governments and NGO's	
	6.5 Definition and implementation of communication and awareness on this issue	1-6 years	High	NGOs and public officers	
	6.6 Correction of existing problematic power lines and use of safe pylons at new power lines in priority areas	1-6 years	Essential	Companies/NGO's	
	6.7 Definition and implementation of standard protocol for data collection on <b>electrocution</b>	1-3 years	High	Researchers/Companies	
	6.8 Definition and implementation of standard protocol for data collection on <b>collision</b>	1-3 years	High	Researchers/Companies	
	6.9 Increase monitoring of PL including assessing effectiveness of mitigation measures	4-6 years	Medium	Public officials and ideally companies	

	6.10 Ensure maintenance of mitigation measures	4-12 years	High	Companies	
	6.11 Develop research on the economic benefits of mitigating measures	4-6 years	Medium	NGO's / CMS guidelines / companies	
	6.12 For new and existing energy infrastructure, promote the implementation of CMS guidelines by phasing out energy infrastructure designs that pose collision risk to vultures and other birds, and advocate retro-fitting with known bird-friendly designs within current maintenance schedules.	1-12 years	High	Government, Utilities, NGO's, CMS	
<b>Objective 7: To ensure availability of suitable habitat for vultures to nest, roost and forage</b>					
Nesting and roosting sites used by CV conserved	7.1 Investigate and identify key nesting and roosting areas and assess availability in relation to habitat destruction – working with local communities to show importance and impact on CV populations.	1-6 years	High	Research Institutions, Universities and NGOs	
	7.2 Review legislation and promote recognition and conservation of key breeding and roosting sites for CV (including potential establishment of new protected areas).	4-6 years	Medium	Government, NGOs, Wildlife authorities, local communities	
	7.3 Establish reforestation schemes and woodlots to increase vulture nesting habitat and reduce human pressure for fuel and construction timber.	1-12 years	High	Government, NGOs, Wildlife authorities	
<b>Objective 8: To substantially reduce levels of disturbance of CV caused by human activities</b>					
Breeding success increased by reducing disturbance	8.1 Implement public awareness campaigns to highlight activities that cause disturbance to vultures at breeding and roosting sites and how to avoid or mitigate it.	1-12 years	High	International and local authorities, NGO's	
	8.2 Determine scientifically based guidelines to reduce the impact of disturbance to CV	7-12 years	High	Governments, NGOs, Universities, Research Institutions	
	8.3 Improvement of legislation, policies and law enforcement on anthropomorphic disturbance (some countries)	7-10 years	High	International and local authorities	
	8.4 Enhance wardening around priority and/or vulnerable sites	1-3 years	High	NGOs, national authorities	
	8.5 Establish new protected areas and expand existing network of vulture areas networks where relevant	7-12 years	High	National authorities	
<b>Objective 9: To substantially reduce direct persecution and illegal trade of CV</b>					
Reduced mortality caused by direct persecution	9.1 Aim to ensure that appropriate legislation is in place and effectively enforced to prevent direct persecution of CV.	7-12 years	High	International and national authorities	
	9.2 Increase public awareness on the issue	7-12 years	High	NGO/media / livestock breeders / hunting assoc.	
	9.3 Assess the motivation behind the direct persecution of vultures and engage with relevant stakeholders to promote alternative approaches or interventions.	7-12 years	High	NGOs, national and international authorities	
	9.4 Seek species protection legislation and policies to protect CV from persecution to be enacted in all CV Range States.	1-12 years	High	International and national authorities	

All appropriate policy instruments and legal measures are established and/or aligned to reduce CV trade	9.5 Increase public awareness on illegal trade of vultures	1-12 years	High	National authorities, NGOs	
	9.6 Train customs and law enforcement officers to identify vultures and their body parts to enable effective confiscation and enforcement actions, particularly at borders.	1-6 years	High	National authorities, NGOs, CITES	
<b>Objective 10: To support CV reintroduction/restocking where needed</b>					
Vulture populations restored where extinct and restocked where there is danger of extinction	10.1 Establish priority for CV reintroduction/restocking on global scale	1-3 years	High	NGOs, national authorities	
	10.2 Develop a reintroduction strategy using the IUCN guidelines and criteria for reintroduction of species.	1-12 years	High	NGOs, national authorities	
	10.3 Engage with governments for securing or releasing CV within reintroduction/restocking projects	1-6 years	High	NGOs, governments	
	10.4 Support and involve the already established CV EEP (captive breeding programme of EAZA) in reintroduction/restocking projects	1-12 years	Medium	NGOs, national authorities	
<b>Objective 11: To insure national legal protection in all CVFAP Range States</b>					
The CV receives national legal protection in all CVFAP Range States	Specific action for Mongolia – CV to be protected	1-3/6 years	Essential	CMS, NGOs, national authorities	
	Specific action for China - Improve national legal protection of CV	1-3/6 years	Essential	NGOs, national authorities	
<b>Objective 12: To endorse Range States and effectively implement the CVFAP</b>					
The CVFAP is endorsed by Range States and effectively implemented	12.1 Establish coordination system within the Vulture MsAP framework for coordination	1-12 years	Essential	CMS Raptors MoU	
	12.2 Establish working group with representatives from the key CV Range States	1-3 years	Essential	CMS, NGO's, Governments	
	12.3 Monitor the implementation of the CVFAP	1-12 years	High	CMS, NGO's, Governments	
	12.4 Evaluate the implementation to adopt the CVFAP or adjust the coordination	6 years	High	CMS, NGO's, Governments	
	12.5 Promote the CVFAP implementation and CV conservation in general	1-12 years	High	CMS, NGO's, Governments	

## 7.2 FAP delivery and coordination mechanism

To be discussed

DRAFT

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# ANNEXES

## List of annexes and contents

### Annex I – Abbreviations

- List of acronyms and abbreviation

### Annex II – Contributors

- **Table 1.** *Participants – Vulture MsAP European Regional Workshop: Monfragüe, Spain, 26-28 October 2016*
- **Table 2.** *Participants – Vulture MsAP Asian Regional Workshop: Mumbai, India, 29-30 November 2016*
- **Table 3.** *Participants – Vulture MsAP Middle East Regional Workshop: Sharjah, UAE, 6-9 February 2017*
- **Table 4.** *Respondents to the Vulture MsAP questionnaire*

### Annex III – Range States

- **Table 1.** *Cinereous Vulture Range States, regions and status of species per country*

### Annex IV – Threats

- **Maps:** Cinereous Vulture threat maps based on the results from the Vulture MsAP questionnaire of 2016

### Annex V – Actions

- Problem trees developed at the Vulture MsAP European Regional Workshop
- **Table 1.** *Timetable for implementation of the Cinereous Vulture FAP*

## Annex I – Abbreviations

**Table 1.** *List of acronyms and abbreviations*

AIS	Average Implementation Score
AOS	Albanian Ornithological Society
BSPB	Bulgarian Society for the Protection of Birds
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CMS	Convention on the Conservation of Migratory Species of Wild Animals
CoP	Conference of the Parties
CR	Critically Endangered
CU	Coordinating Unit
CVFAP	Flyway Action for the Conservation of the Cinereous Vulture
EC	European Commission
EN	Endangered
EU	European Union
FAP	Flyway Action Plan
IUCN	International Union for the Conservation of Nature
IUCN SSC VSG	IUCN Species Survival Commission Vulture Specialist Group
LC	Least Concern
LPO	Ligue pour la Protection des Oiseaux
MoU	Memorandum of Understanding
MsAP	Multi-species Action Plan
NGO	Non-governmental Organisation
NIS	National Implementation Score
NSAIDs	Non-steroidal anti-inflammatory drugs
NT	Near Threatened
SAP	Species Action Plan
SAVE	Saving Asia's Vultures from Extinction (consortium)
SEO	Sociedad Española de Ornitología (Spanish Ornithological Society)
SsAP	Single-species Action Plan
TPF	The Peregrine Fund, Inc. (USA)
UNEA	United Nations Environment Assembly
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
VCF	Vulture Conservation Foundation
VSG	Vulture Specialist Group (See IUCN SSC VSG)
VSZ	Vulture Safe Zone
VU	Vulnerable
Vulture MsAP	Multi-species Action Plan to Conserve African-Eurasian Vultures
WWF	World Wide Fund for Nature

## Annex II – Contributors

**Table 1.** *Participants – Vulture MsAP European Regional Workshop, Monfragüe, Spain, 26-28 October 2016*

Name	Affiliation	Country
Taulant Bino	Albanian Ornithological Society	Albania
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Osama Elgebaly	Egyptian Environmental Affairs Agency	Egypt
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Raphaël Néouze	L.P.O. Birdlife France	France
Borja Heredia	UNEP/Convention on Migratory Species	Germany
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<b>İlker Özbahar</b>	Turkish Nature Research Society	Turkey
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<b>Shakeel Ahmed</b>	Environment Agency – Abu Dhabi	United Arab Emirates
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<b>Kartik Shastri</b>	Vulture biologist, Gujarat	India
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<b>Tulsi Subedi</b>	Himalayan Nature	Nepal
<b>Krishna Bhusal</b>	Bird Conservation Nepal	Nepal
<b>Kaset Sutasha</b>	Bird Conservation Society of Thailand	Thailand
<b>Jose Tavares</b>	Vulture Conservation Foundation	Turkey
<b>Munir Virani</b>	The Peregrine Fund	Kenya/S Asia
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<b>Campbell Murn</b>	Hawk Conservancy Trust/University of Reading	UK/Pakistan
<b>Toby Galligan</b>	Royal Society for the Protection of Birds	UK/S Asia
<b>Jemima Parry-Jones</b>	International Centre for Birds of Prey	UK/S Asia
<b>Rhys Green</b>	University of Cambridge/Royal Society for the Protection of	UK/S Asia
<b>Nick P. Williams</b>	Coordination Unit, CMS Raptors MoU	UAE
<b>Andre Botha</b>	IUCN SSC Vulture Specialist Group	South Africa
<b>Jovan Andevski</b>	Vulture Conservation Foundation	Spain

**Table 3. Participants – Vulture MsAP Middle East Regional Workshop, Sharjah, UAE, 6-9 February 2017**

Name	Affiliation	Country
Mike McGrady	International Avian Research	Austria
Mubarak Al Dosery	Environment C.	Bahrain
Stoyan Nikolov	Bulgarian Society for the Protection of Birds	Bulgaria
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Sadegh Sadeghi Zadegan	Department of Environment	Iran
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Salah Behbehani	The Scientific Center Kuwait	Kuwait
Mostafa Mahmoud	Kuwait Zoo	Kuwait
Mansoor Al Jadhani	Diwan of Royal Court	Oman
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Cramell Purchase	Al Wabra Wildlife Preserve	Qatar
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Sharmshad Alam	Dubai Municipality	UAE
Junid Shah	Dubai Municipality	UAE
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Khaliya AlKitbi	Environment and Protected Area Authority	UAE
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Sara Mohamed	Wasit Wetland Center	UAE
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Lisa Banfield	Al Ain Zoo	UAE
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Jenny Renell	Coordinating Unit, CMS Raptors MoU	UAE

**Table 4. Respondents to the Vulture MsAP questionnaire**

Name	Affiliation	Country
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Dobromir Dobrev	Bulgarian society for the protection of birds	Bulgaria
Emilian Stoyanov	Fund for Wild Flora and Fauna	Bulgaria
Ivana Jelenić	Ministry of Environmental and Nature Protection	Croatia
Nicolaos Kassinis	Game and Fauna Service Ministry of Interiro	Cyprus
Mohamed Habib	Red Sea Association for environment and water sports	Egypt
Osama Elgebaly	Egyptian Environmental Affairs Agency	Egypt
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Néouze Raphaël	L.P.O. Grands Causses	France

<b>Olivier Patrimonio</b>	Ministère de l'Environnement	France
<b>Pascal Orabi</b>	LPO France	France
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<b>Victoria Saravia</b>	Hellenic Ornithological Society	Greece
<b>Elzbieta Kret</b>	WWF Greece	Greece
<b>Stavros Xirouchakis</b>	Natural History Museum of Crete- University of Crete	Greece
<b>Alireza Hashemi</b>	Tarlan Ornithological Society	Iran
<b>Szilvia Gőri</b>	Hortobágy National Park Directorate	Hungary
<b>Miklós Dudás</b>	Hortobágy National Park Directorate	Hungary
<b>Ohad Hatzofe</b>	Nature and Parks Authority Israel	Israel
<b>Marco Gustin</b>	Lipu - Italian League for the protection of Birds	Italy
<b>Alessandro Andreotti</b>	ISPRA - Istituto Superiore per la Protezione e la Ricerca	Italy
<b>Guido Ceccolini</b>	Association CERM Endangered Raptors Centre	Italy
<b>Fulvio Genero</b>	Vulture Conservation Foundation	Italy
<b>Tareq Emad Qaneer</b>	The Royal Society for the Conservatio of Nature	Jordan
<b>Laith El-Moghrabi</b>	ECOConsult	Jordan
<b>Nyambayar Batbayar</b>	WSCC of Mongolia	Mongolia
<b>Tuguldur Enkhtsetseg</b>	the nature conservancy	Mongolia
<b>Eduardo Santos</b>	LPN - Liga para a Protecção da Natureza	Portugal
<b>António Espinha Monteiro</b>	Instituto da Conservação da Natureza e das Florestas	Portugal
<b>Nela Miauta</b>	Ministry of Environment, Waters and Forests	Romania
<b>Elena Shnayder</b>	Siberian Environmental Center	Russian Federation
<b>Mohammed Shobrak</b>	Taif University	Saudi Arabia
<b>Bratislav Grubač</b>	Institute for Conservation Nature of Serbia	Serbia
<b>Saša Marinković</b>	Instite for biological research Siniša Stanković	Serbia
<b>Uros Pantovic</b>	Bird Protection and Study Society of Serbia	Serbia
<b>Juan Antonio Gil Gallus</b>	Fundación para la Conservación del Quebrantahuesos	Spain
<b>Pascal König</b>	BirdLife Switzerland	Switzerland
<b>Pascual López-López</b>	University of Valencia	Spain
<b>Fernando Feas</b>	IAF	Spain
<b>Rubén Moreno-Opo</b>	Ministry of Agriculture, Food and Environment of Spain	Spain
<b>Joan Real</b>	University of Barcelona	Spain
<b>Borja Heredia</b>	UNEP/CMS	Spain
<b>Eduardo Soto-Largo Meroño</b>	Fundación CBD-Habitat	Spain
<b>Helena Tauler-Ametller</b>	University of Barcelona	Spain
<b>Nicolás López Jiménez</b>	SEO/BirdLife	Spain
<b>Antonio Hernandez-Matiaz</b>	University of Barcelona	Spain
<b>Jovan Andevski</b>	Vulture Conservation Foundation	Spain
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<b>Daniel Hegglin</b>	Stiftung Pro Bartgeier	Switzerland
<b>Ahmad Aidek</b>	Ministry of Local Administration and Environment	Syrian Arab Republic
<b>Raffael Ayé</b>	BirdLife Switzerland	Tajikistan
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<b>Elif Yamaç</b>	Anadolu University	Turkey
<b>Ilker Ozbahar</b>	Nature Research Society	Turkey
<b>Elena Shnayder</b>	Siberian Environmental Center	Ukraine
<b>Salim Javed</b>	Environment Agency-Abu Dhabi	UAE
<b>Shakeel Ahmed</b>	Environment Agency - Abu Dhabi	UAE
<b>Roman Kashkarov</b>	Uzbekistan Society for the Protection of Birds	Uzbekistan



## Annex III – Range States

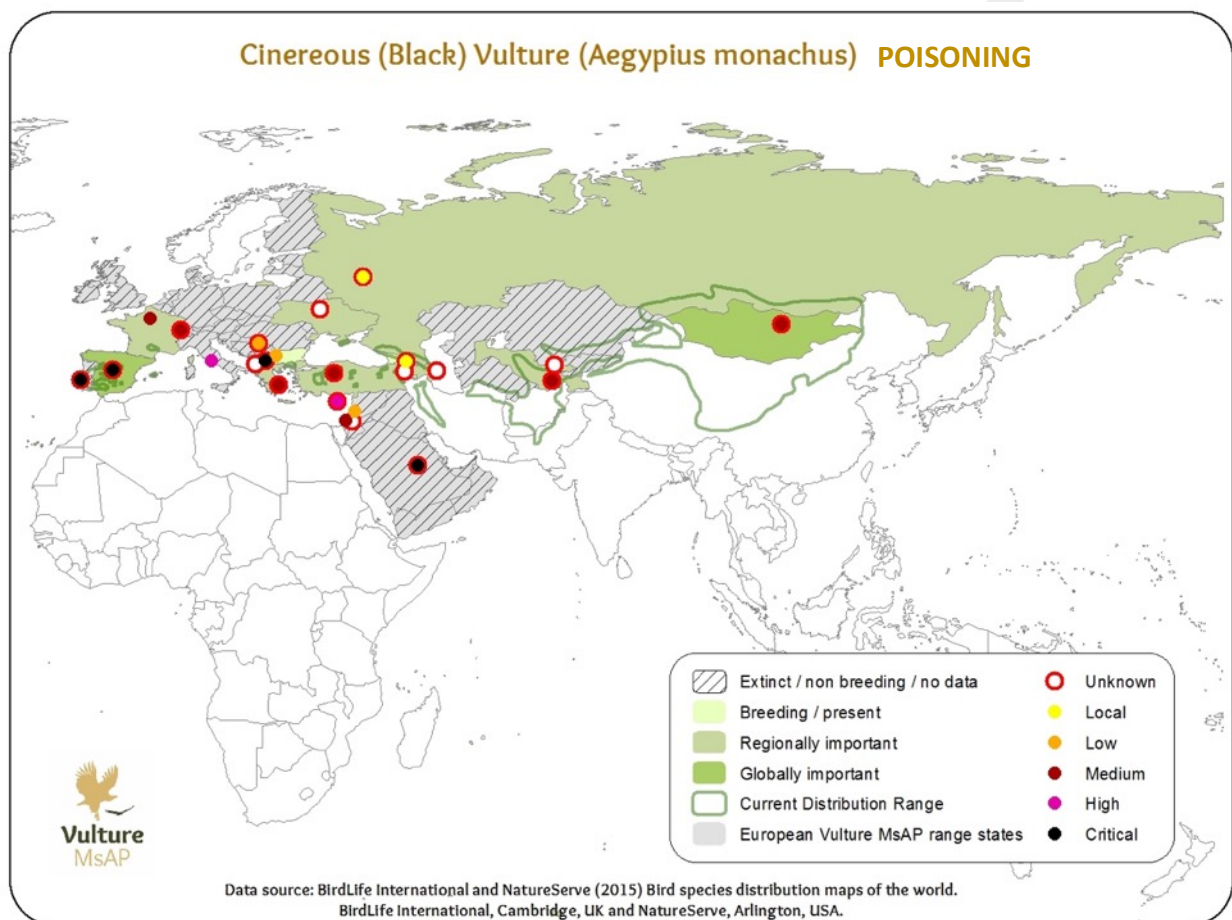
**Table 1.** *Cinereous Vulture Range States, regions and status of species per country*

Resident	Breeding visitor	Non-breeding	Reintroduced	Extinct since 1985	Vagrant
Country	Region	Status	Country	Region	Status
Afghanistan	AS		Lao PDR	AS	
Albania	EU		Lebanon	ME	
Algeria	AF		Moldova	EU	
Armenia	EU		Mongolia	AS	
Austria	EU		Morocco	AF	
Azerbaijan	EU		Myanmar	AS	
Bahrain	ME		Nepal	AS	
Bangladesh	AS		Netherlands	EU	
Belgium	EU		Oman	ME	
Bhutan	AS		Pakistan	AS	
Bosnia and Herzegovina	EU		Poland	EU	
Brunei Darussalam	AS		Portugal	EU	
Bulgaria	EU		Qatar	ME	
Cambodia	AS		Republic of Korea	AS	
Croatia	EU		Romania	EU	
Cyprus	EU		Russia	EU	
Denmark	EU		Saudi Arabia	ME	
DPR China	AS		Serbia	EU	
DPR Korea	AS		Slovakia	EU	
Egypt	AF		Slovenia	EU	
Estonia	EU		Spain	EU	
France	EU		Sudan	AF	
Georgia	EU		Switzerland	EU	
Germany	EU		Syrian Arab Republic	ME	
Greece	EU		Tajikistan	EU	
India	AS		The FYR of Macedonia	EU	
Iraq	AS		Tunisia	AF	
Islamic Republic of Iran	AS		Turkey	EU	
Israel	ME		Turkmenistan	EU	
Italy	EU		Ukraine	EU	
Jordan	ME		United Arab Emirates	ME	
Kazakhstan	EU		Uzbekistan	EU	
Kuwait	ME		Yemen	ME	
Kyrgyzstan	EU				

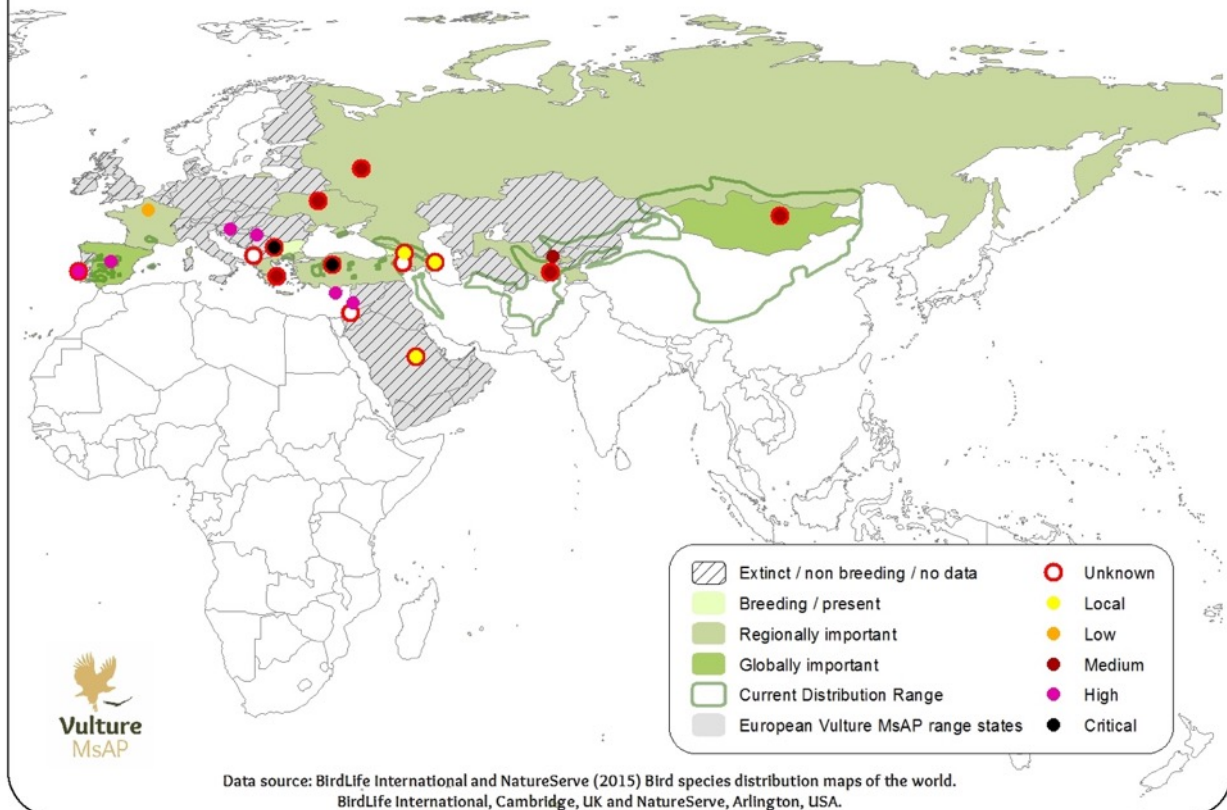
## Annex IV – Threats

**Maps:** Cinereous Vulture threat maps based on the results from the Vulture MsAP questionnaire of 2016.

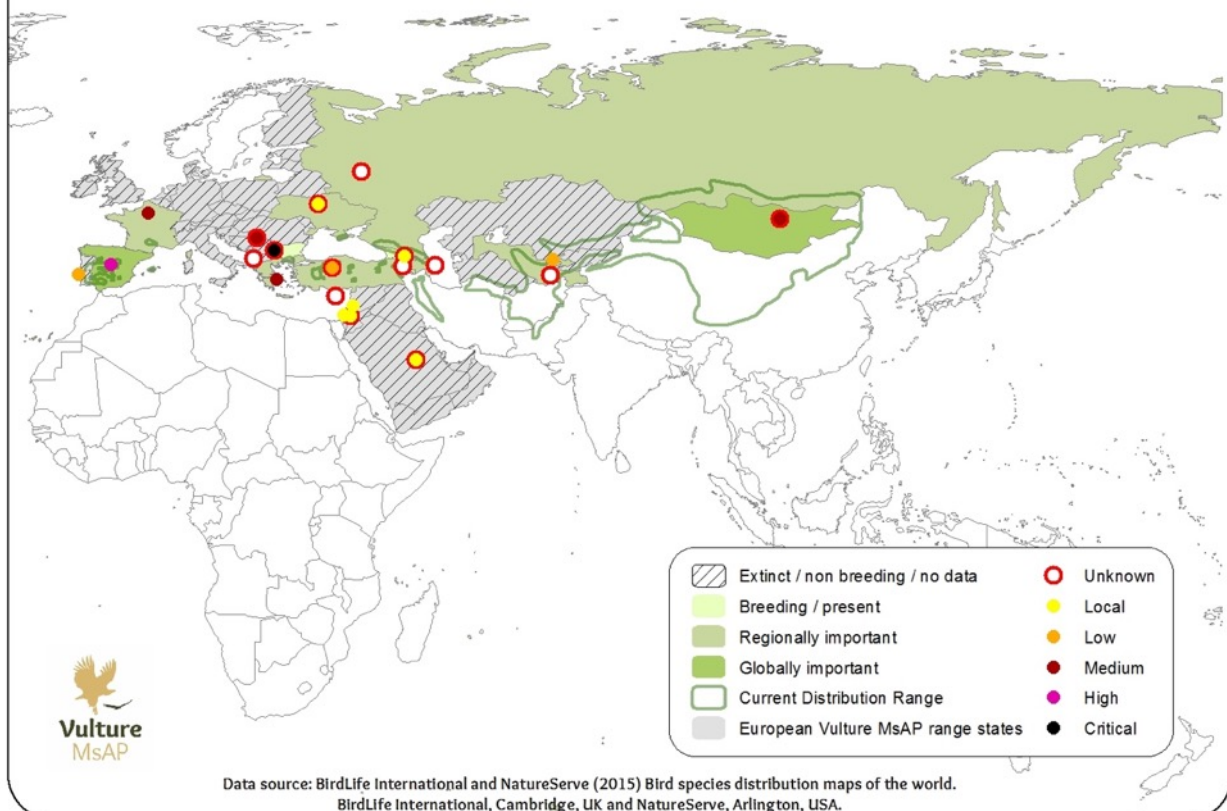
*The 2016 questionnaire results related to threats were used to produce threat maps just before the Vulture MsAP Workshop in Monfragüe in October 2016. Apart of presenting the situation with the threats in Europe and Central Asia the maps were used during the working sessions (threats analyses and action identification) to facilitate the discussions.*



### Cinereous (Black) Vulture (*Aegypius monachus*) - FOOD AVAILABILITY



### Cinereous (Black) Vulture (*Aegypius monachus*) - COLLISION & ELECTROCUTION

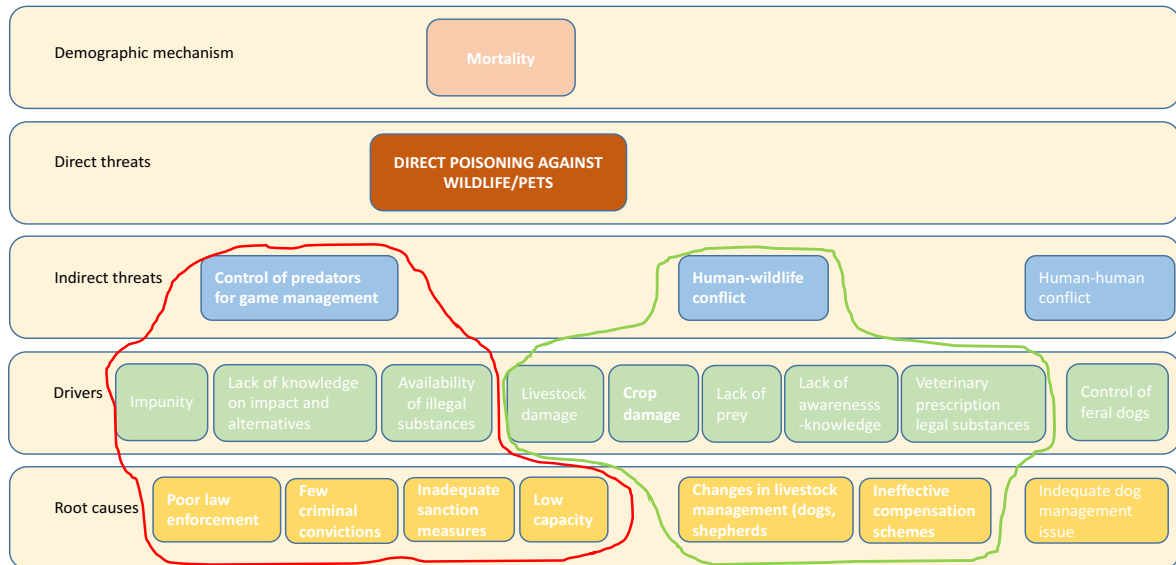


**Table 1.** *List of defined direct threats to the species*

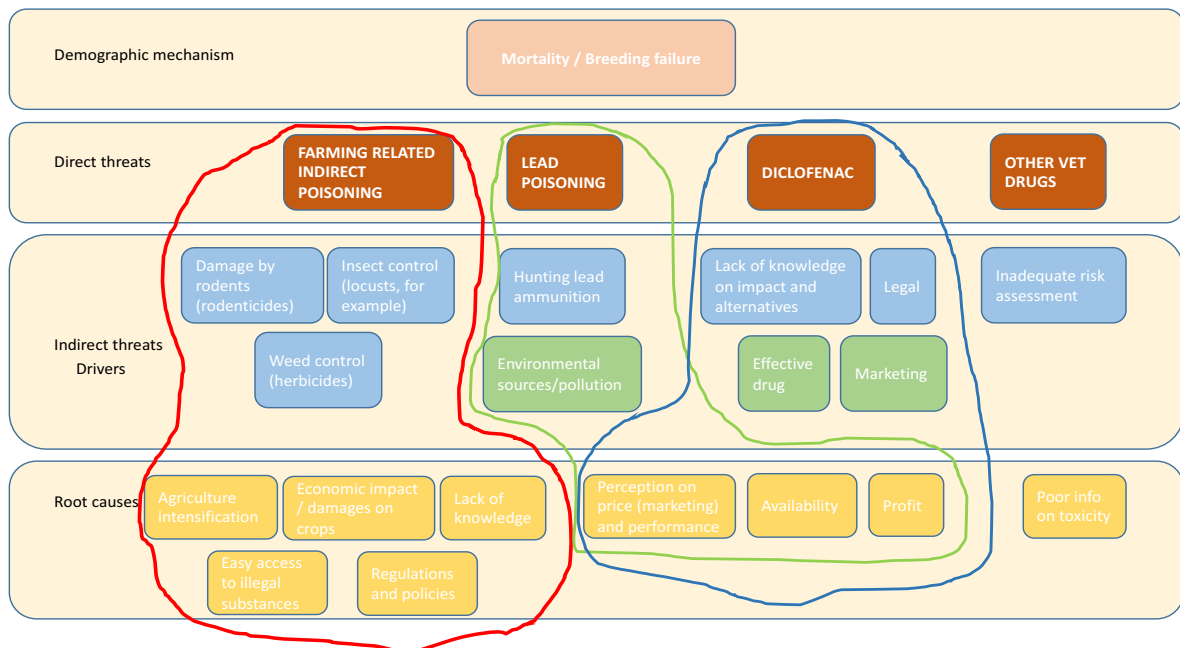
Definition	Overall impact	Evidence	Gaps
Unintentional poisoning with poison baits	Critical	Good	Effective toxicological screening
Shortage of freely available food	Critical	Good	Effect on population dynamics, role for meta-population connections
Collision with any energy infrastructure (cables and wind turbines)	Critical	Good	Need better methodology to identify corpses/cases related to collision; demographic models needed to understand real impact
Electrocution with energy infrastructure	Critical	Good	Need to centralised reporting system
Lead poisoning	High	Good on effects/poor on population impacts	Lead poisoning analysis and masked effects on mortality by other threats
Unintentional poisoning with NSAIDs (Diclofenac)	High	Not for CV particularly	
Inappropriate supplementary feeding	High	Good	Effect on population dynamics, role for meta-population connections
Direct persecution	High	Good	Middle East and Central Asia, lack of precise data
Destruction of habitat	High	Good	Long-term habitat suitability data
Farming related indirect poisoning	High	Poor	Effective toxicological screening
Poisoning by other vet drugs	High	Poor	Lack of knowledge /effects on pop dynamics
Disturbance from human activities	High	Good	Collect & Analyse available data
Poisoning of pests on dumps	Medium	Poor	
Genetic diversity loss	Low	Poor	Lack of substantive data
Collision with moving vehicles	Low	Poor	Data sharing & Transparency
Collision with any man made infrastructure excluding power lines or wind turbines	Low	Poor	Standard monitoring protocols

## Annex V – Actions

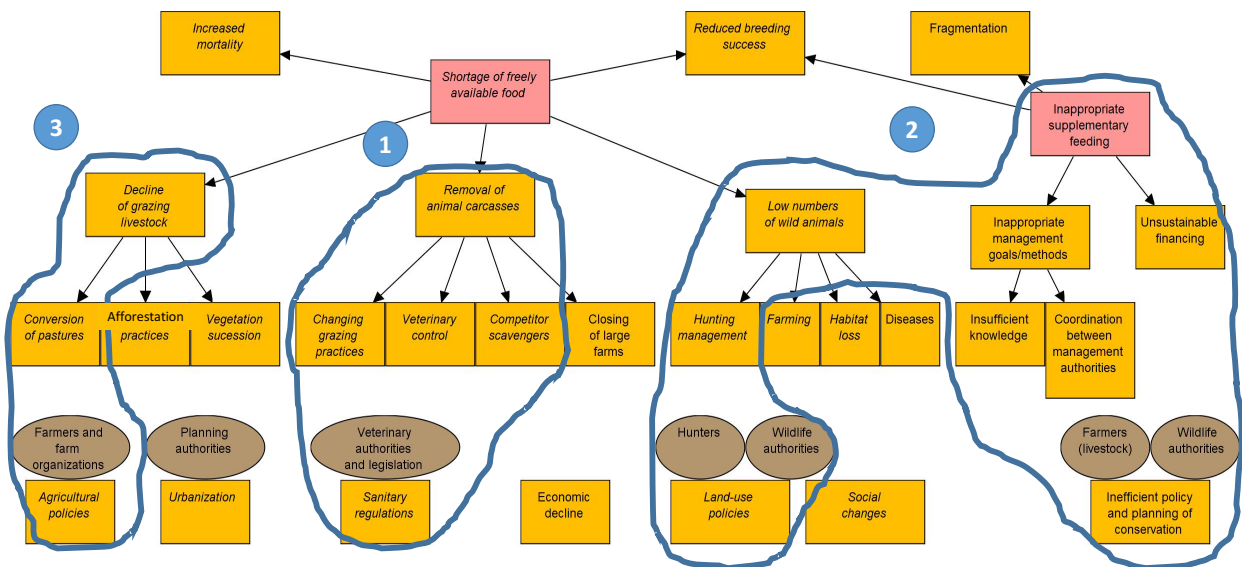
### Problem tree – Direct poisoning against wildlife and pets



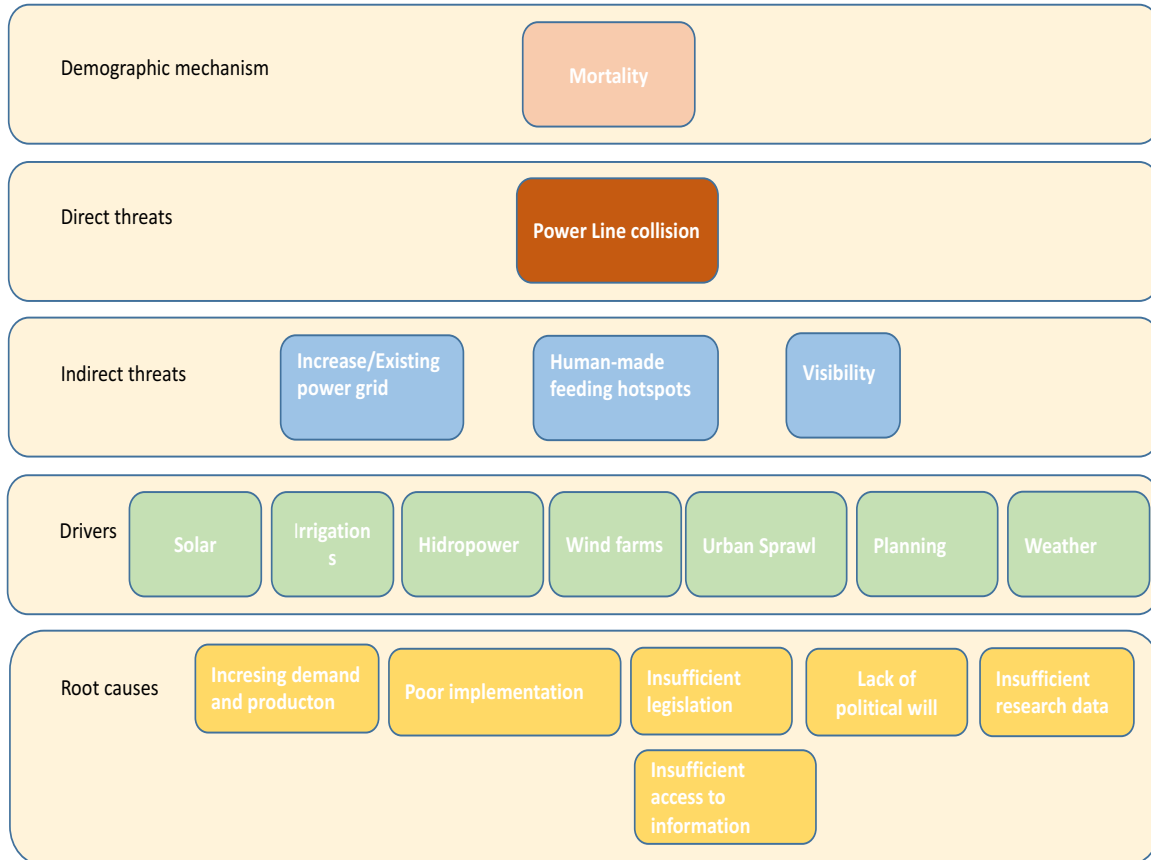
### Problem tree – Indirect poisoning



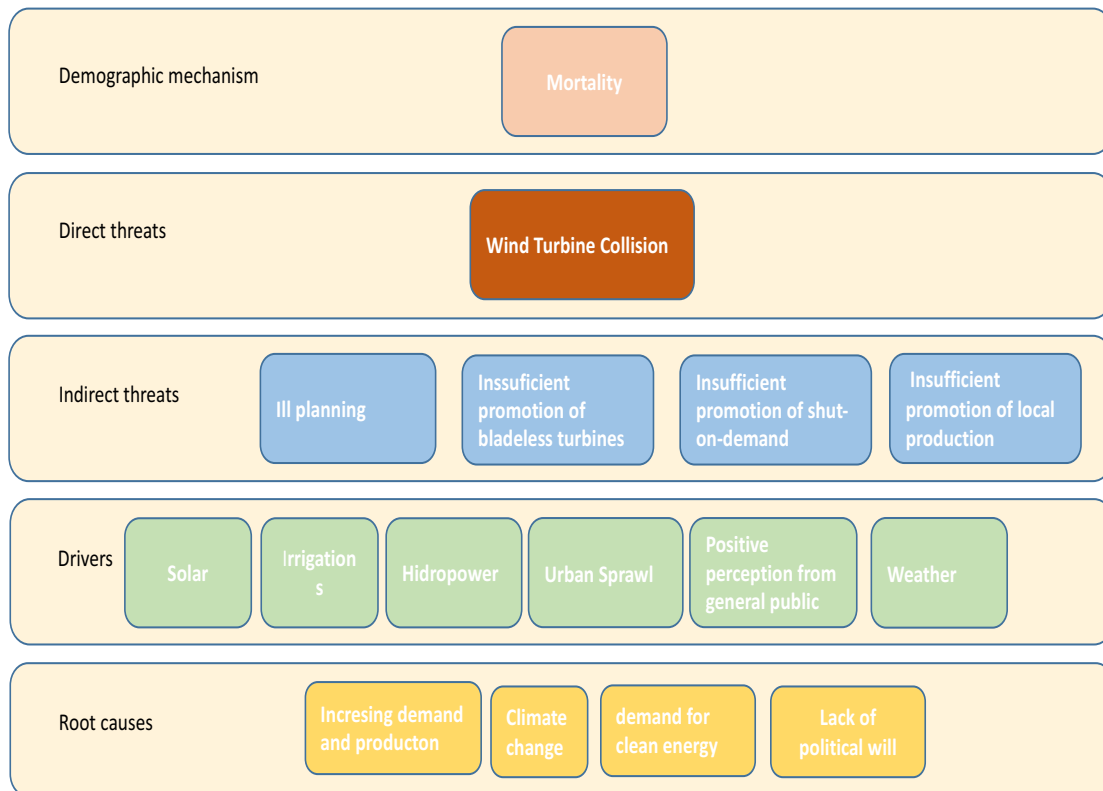
## Problem tree – Shortage of freely available food and inappropriate feeding



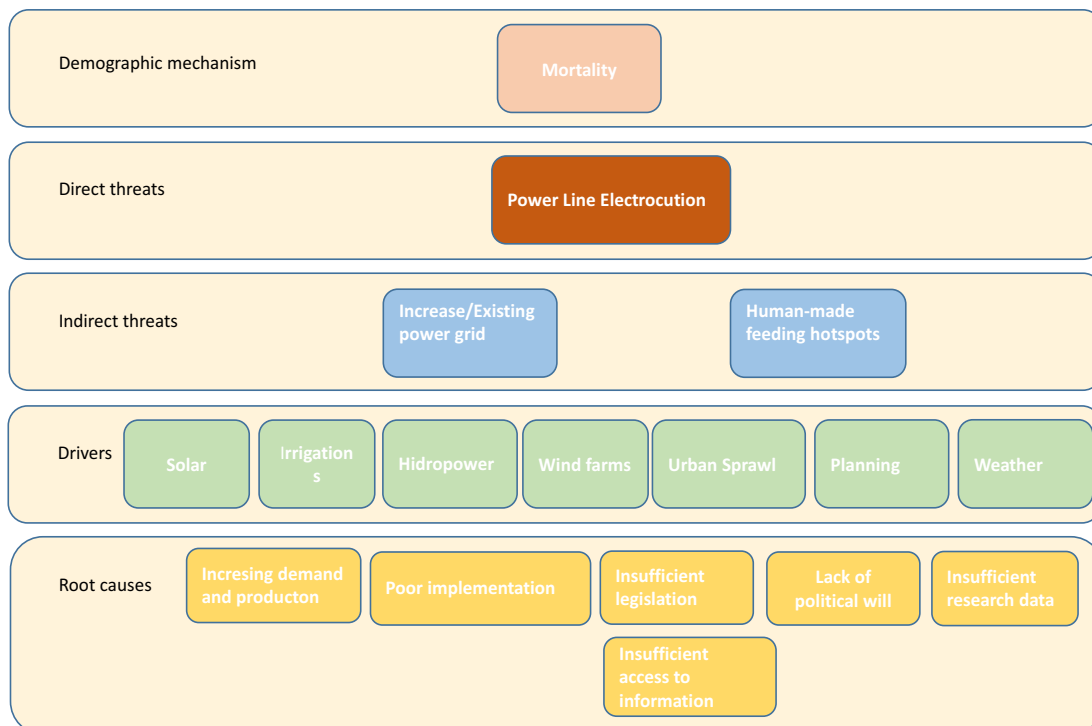
## Problem tree – Power line collision



### Problem tree – Wind turbine collision

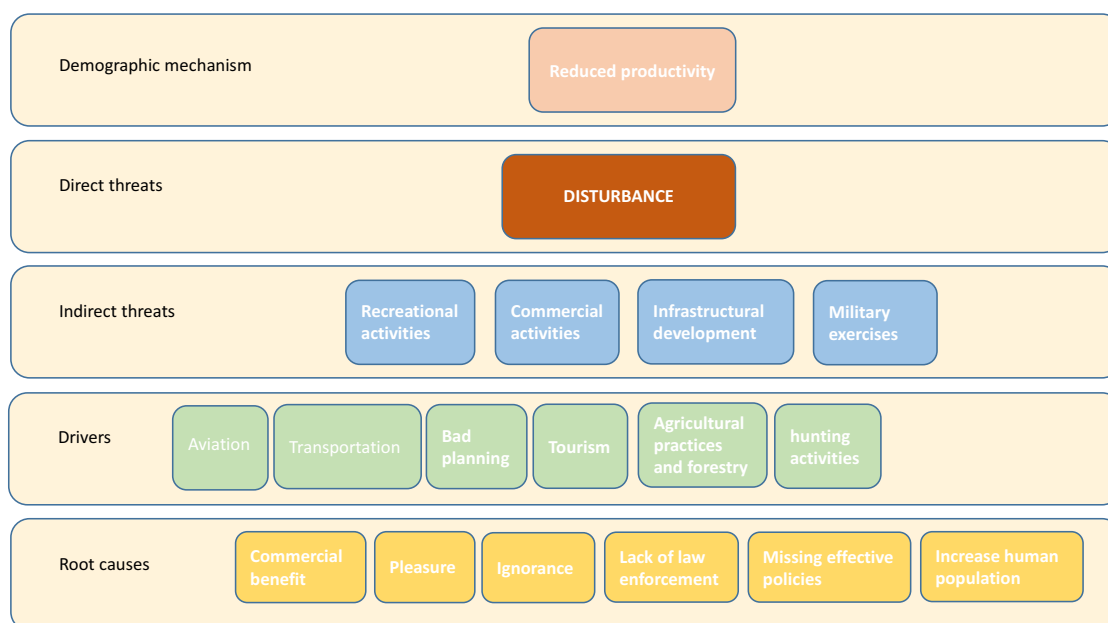


### Problem tree – Power line Electrocuton

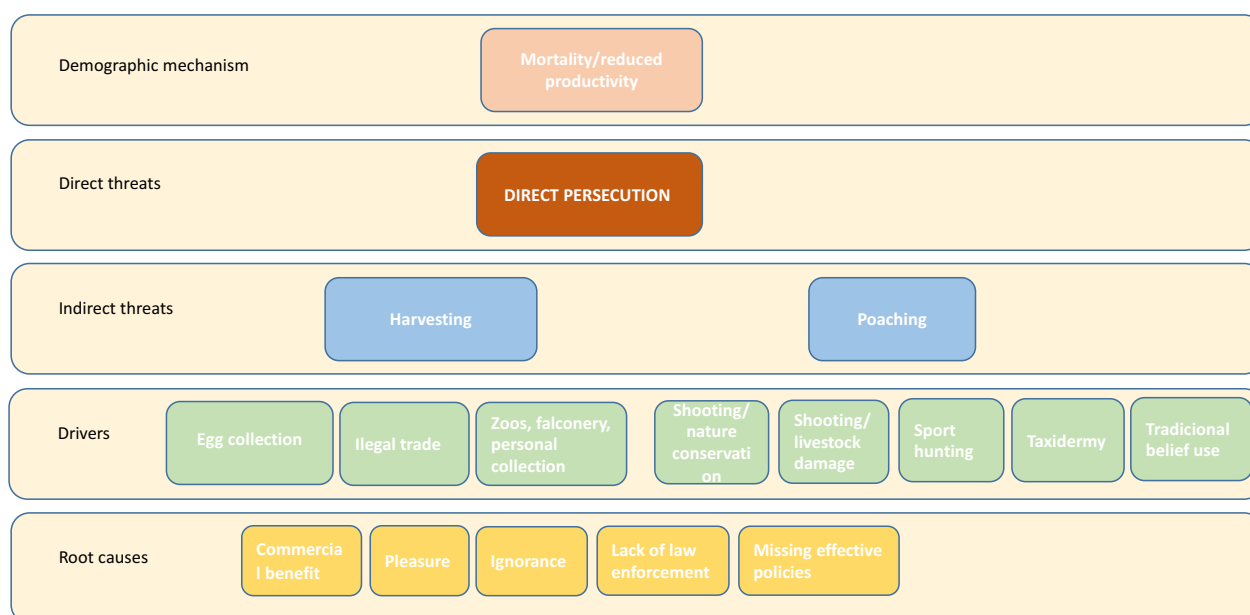




## Problem tree – Human disturbance collision



## Problem tree – Direct persecution





**Table 1.** *Timetable for implementation of the Cinereous Vulture FAP*

	Years of implementation											
Action	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
0.1												
1.1												
1.2												
1.3												
1.4												
1.5												
1.6												
1.7												
1.8												
1.9												
1.10												
1.11												
2.1												
2.2												
3.1												
3.2												
3.3												
3.4												
3.5												
3.6												
4.1												
4.2												
4.3												
4.4												
5.1												
5.2												
5.3												
5.4												
5.5												
5.6												
5.7												
5.8												
5.9												
5.10												
5.11												
6.1												
6.2												
6.3												
6.4												
6.5												
6.6												
6.7												
6.8												
6.9												
6.10												
6.11												
6.12												
7.1												
7.2												
7.3												
8.1												
8.2												
8.3												
8.4												
8.5												

	Years of implementation											
Action	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
9.1												
9.2												
9.3												
9.4												
9.5												
9.6												
10.1												
10.2												
10.3												
10.4												
11.1												
11.2												
12.1												
12.2												
12.3												
12.4												
12.5												