

Egyptian Vulture status in Europe

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Vulture recovery status in Europe

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This presentation describes the most recent minimum breeding population estimates for the five vulture species that occur in Europe: Egyptian Vulture, Bearded Vulture, Griffon Vulture, Rüppell's Vulture and Cinereous Vultures. The sources of the estimates include published reports from governmental and non-governmental organizations; unpublished data presented at conferences and workshops; personal communications with vulture experts; and other verifiable but unpublished resources. Recent trends therefore cover a maximum of five breeding seasons since the publication of the Vulture MsAP. Key highlights, areas of concern and gaps in knowledge are discussed for each species. These new figures highlight overall positive population trends for the Griffon, Cinereous and Bearded Vultures, with small to large population increases observed in Western Europe and even in the Balkan countries (e.g. the impressive recovery of the Griffon Vulture in Bulgaria). The Egyptian Vulture remains the most vulnerable vulture species in Europe. Although steep population decline has been halted by conservation actions, most Egyptian Vulture populations seem to have stabilized after recovering partially with few populations still increasing at the national level over the last five years. Further monitoring and research are needed to better understand the anthropogenic factors limiting Egyptian Vultures populations in Europe and help strengthening its recovery.

The Rüppell's Vulture has been added for the first time to this analysis, as the species is now a regular breeder in southern Spain and Portugal.

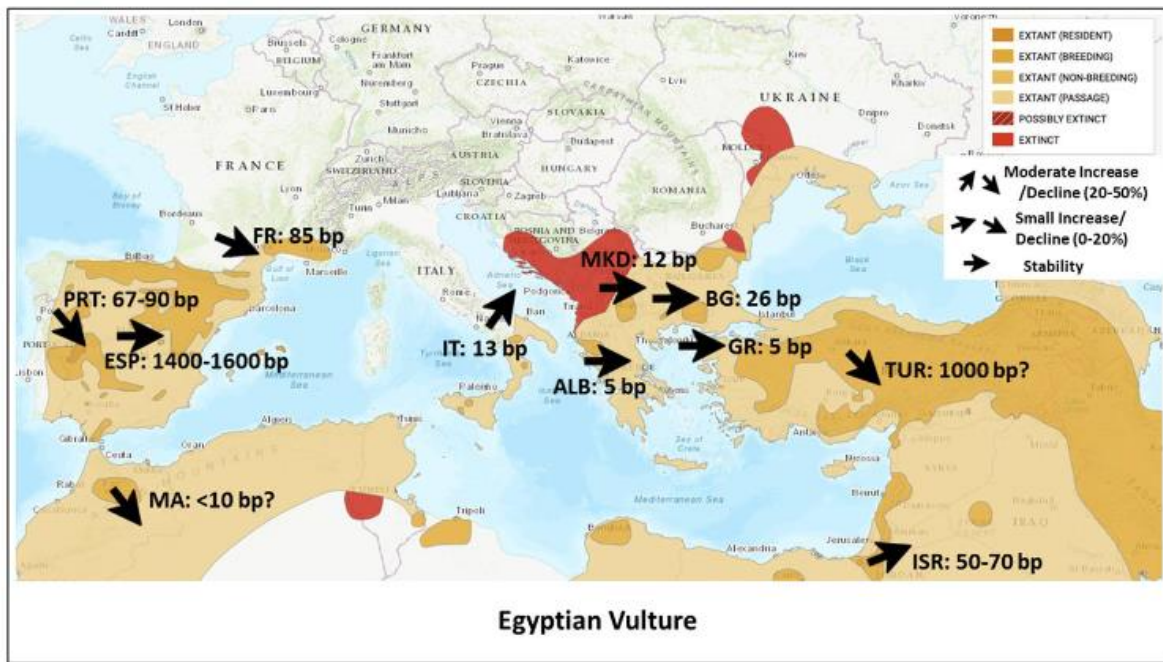


Figure 2. Estimated short-term trends (2017-present) in the breeding population of Egyptian Vultures *Neophron percnopterus* across Europe and nations adjacent to the Mediterranean Sea. Refer to Table 1 above.
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Peer-reviewed research derived from the abstract:

Terraube, J, Andevski, J, Loercher, F, & Tavares, J. 2022. Population estimates for the five European vulture species across the Mediterranean: 2022 update. The Vulture Conservation Foundation, Koninklijke Burger’s zoo b.v. Antoon van Hooffplein 1, 6816 SH Arnhem. Netherlands.

First signs of stabilization of the Egyptian Vulture population in the Balkans

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The Egyptian Vulture (EV) is classified as endangered on the IUCN red list due to the decline in the global population of the species in the last decades. One of the most severe declines has been observed in the Balkans where the population of the EV has dropped to less than 60 pairs in the Peninsula. Nevertheless, in the frames of two consequent LIFE projects (LIFE10 NAT/BG/000152 and LIFE16 NAT/BG/000874), large-scale conservation measures were undertaken in the last 10 years aiming to halt the population decline through the implementation of urgent measures across the Balkans. The actions aimed to tackle the main threats to the species such as poisoning and electrocution on one hand, and to reinforce the population with the release of birds in the core of the population on the other hand. A monitoring scheme was established to track the outcome from the application of the large-scale

management measures and the breeding parameters of the population. We visited former and active breeding territories of the species in the Balkans minimum 3 times per breeding season since 2012 in order to ascertain breeding outcomes and confirm the status of the species. We also registered the number of floaters and non-breeders at feeding sites and other temporary settlement areas to identify the changes in their number. Then we compared the results with former data to account for changes in both the distribution and the numbers of the breeding territories. The number of occupied territories declined by 24% and the number of pairs by 29% for the period. Nevertheless, the breeding parameters remained high and the decline happened during the first years of the study in the periphery whereas the core of the population in Bulgaria remained stable. New territories were also occupied regardless of the losses of birds in the last three years and the number of floaters reached its' peak in 2022 with 30 immature and sub-adult birds registered across the peninsula. We further encourage the restocking program operation on a wider scale and active actions to continue work against the main threats to the species.

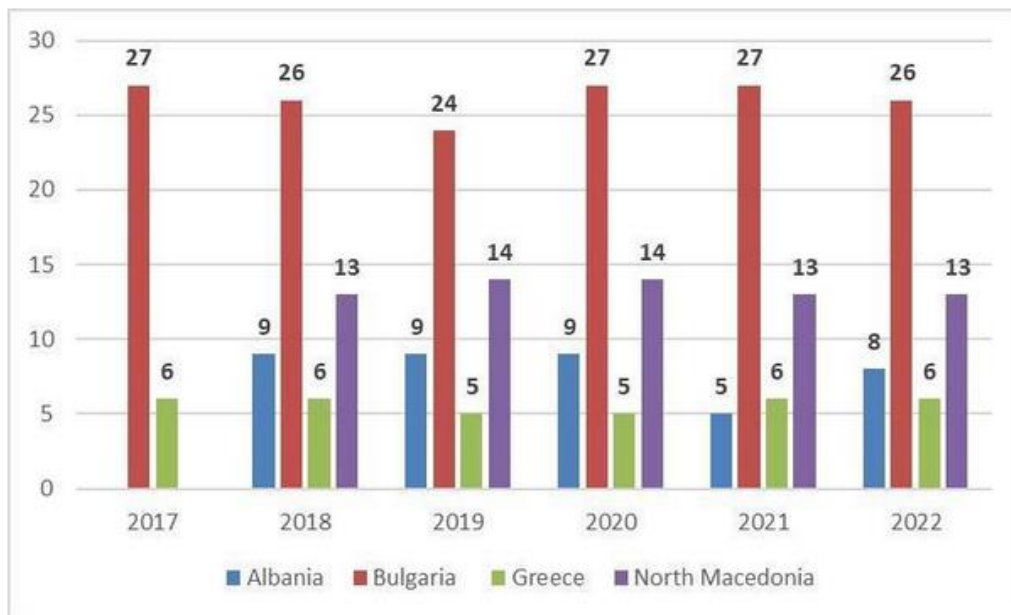


Fig.1 Number of occupied territories in the Balkans (2017 - 2022)

Peer-reviewed research derived from the abstract:

Oppel, S., Dobrev, V., Arkumarev, V., Saravia-Mullin, V., Bashmili, K., Bino, T., Bounas, A., Chardin, A., Dobrev, D., Duro, K., Kapsalis, K., Kret, E., Marchant, M., Nakev, S., Petrovski, N., Papaioannou, H., Popgeorgiev, G., Selgjekaj, L., Skarts T., Stamenov, A., Stoychev, S., Topi, M., Vavylis, D., Veleviski, M., Vorpsi, Z., Weston, J., Xeka, E., Xherri, X., Yordanov, E., Nikolov, S.C. (2023). Long-term conservation efforts at flyway scale can halt the population decline in a globally endangered migratory raptor. In prep

Conservation measures implemented in Italy within the ongoing LIFE Egyptian Vulture project - LIFE16 NAT/IT/000659

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The Egyptian Vulture is classified as Critically Endangered in the 2019 Red list of Italian breeding birds. According to the latest census in Italy, 7-9 pairs are registered in Sicily and 3-4 in the southernmost part of the peninsula/country. Furthermore, a new pair was confirmed in NW Sardinia, outside the historical breeding range of the species. The ongoing LIFE Egyptian Vulture project (2017–2023) aims at mitigating the main threats to the species in breeding grounds and along the flyway. Furthermore, the project aims at reinforcing the population through a restocking programme. The Italian partnership is composed of ISPRA Italian Institute for Environmental Protection and Research, E-Distribuzione S.p.A., Apulia Region, Basilicata Region and Federparchi Europarc Italia. The CERM Endangered Raptors Centre Association cooperates with the project. Conservation measures are implemented in seven areas localised in four regions of Southern Italy: Apulia, Basilicata, Calabria and Sicilia. In six areas important for the species the insulation of dangerous medium-voltage power lines is in progress by E-Distribuzione S.p.A. At the end of the project, at least 500 electric poles will be corrected/mitigated/made safe. Five supplementary feeding sites are managed by ISPRA, Apulia Region and Basilicata Region, three of them near occupied nesting sites, one close to an historical nesting site and one in an important stopover site in western Sicily. All of them are used by breeding adults, released individuals and by other scavenging raptors. The feeding site in Sicily is also used by hundreds of Black kites during the autumn migration.

A restocking programme based on the release of captive-born Egyptian Vultures has been implemented under ISPRA coordination. In the period 2018–2022, 25 individuals hatched at the CERM Endangered Raptors Centre, in Tuscany, Italy, were released into the wild near Matera (Basilicata region). The juveniles were released using both the hacking ($n = 13$) and the delayed release method ($n = 12$). A network involving national police forces (Carabinieri forestali), expert team and many volunteers has been set up in order to monitor and guard the nesting sites and the released individuals during their movements and migration. This network proved to be effective in preventing poaching, gathering relevant information on the species behaviour and rescuing birds. The survival rates of the 11 juveniles (1CY) released by hacking in the period 2018–2021 shows that hacking is the more successful technique. If we don't consider human-related mortality ($n = 4$), 85.7% of the juveniles survived during their first autumn migration and reached their wintering grounds ($n = 6$). Including the mortality due to human causes, their general survival rate in the same period was 54.5%. In the same period, eight individuals were released at an older age (2CY and 3CY) through the delayed-release method. Half of them survived during their first autumn migration and reached their wintering grounds in Southern Italy ($n = 3$) or Africa ($n = 1$). No human-related mortality was recorded until the end of the autumn migration. The GPS remote monitoring of the released birds enabled to confirm the following causes of

mortality: electrocution (2), drowning (2), poaching (2) and poisoning (1). Monitoring activities allowed us to identify sensitive areas where to focus future conservation efforts.

Individuals n.	CY	Reached the wintering grounds n.	Survival % (excluding mortality due to human related causes)	General survival % (including mortality due to human related causes)
11	1	6	85.7 (6/7)	54.5 (6/11)
8	2-3	4	50 (4/8)	50 (4/8)
19	-	10		

Status and threats for the Egyptian Vulture in Albania

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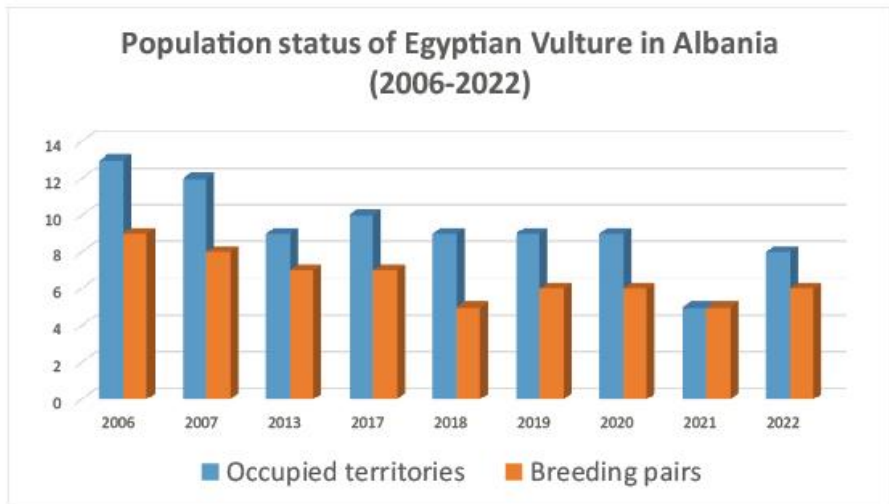
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Data on the population parameters and distribution range presented in this abstract have been collected in three different periods from 2003 to 2022. The first period is from 2003 to 2007, when searches for the presence of the Egyptian Vulture (EV) have been carried out in the whole territory of Albania. Along this period the presence of EV in the country has been mapped and the population has been estimated. In the 2nd period from 2012 to 2017, territories identified in the previous phase have been surveyed and some data on the breeding parameters of EV have been collected. Along the 3rd period, from 2018 to 2022, systematic work has been carried out for surveying the occupancy of the territories and the breeding parameters. Along this period, all the occupied territories resulting from previous years' survey, and most of the territories that were occupied in 2007 were visited, at least twice in the breeding season. A territory was considered occupied by a pair when courtship behavior, display or nest building were observed, and occupied by a single bird if one displaying bird was recorded in the vicinity of a nest or a breeding territory. The following breeding parameters have been calculated: (a) proportion of laying

pairs; (b) proportion of successful pairs; (c) productivity and (d) breeding success. A pair was considered successful when it had raised at least one fledgling until the age of the first flight or the nestling reached 80% of the average age of first flight, which is estimated as 75 days. Results are presented as mean \pm standard error (SE). To assess the prevalence of different threats to the species in Albania both field research and interviews have been carried out with specific target groups. To collect information on the use and impact of agrochemicals and veterinary medical products, 37 structured questionnaires with farmers and 48 structured questionnaires with livestock breeders have been respectively realized, accompanied by a desk research and interviews with agro and veterinary pharmacists in order to investigate on the availability of harmful products. Furthermore, to investigate the use of poison baits in Albania, a total number of 190 semi-structured interviews have been carried. For the illegal killing of the EV, questions have been posed on the interviews carried out for poisoning. We studied the electrocution and collision risk to the species along 121 km of power lines of low and medium voltage in 4 EV territories. To map the potentially hazardous electricity pylons and collect data on bird mortality a team of field researchers walked under the power lines and recorded the type of each pylon, the species found under pylons or power lines using a standard protocol. The number of occupied territories has decreased from 13 in 2006 to 8 in 2022, whereas the number of breeding pairs has decreased from 9 to 6 along the same period. EV's breeding range nowadays in Albania is found in an area of around 5300 km² situated in southern Albania and more specifically in the wide watershed of Vjosa River. Breeding success was high and the productivity was 0.79 ± 0.07 fledglings per occupied territory. Intentional poisoning was admitted as a practice to control wild carnivores by only 9.2 % of the respondents. Use of agro-chemicals and veterinary medical products resulted not to pose threats to EV. No vultures were found electrocuted along the power line survey and regarding the illegal killing only one case was mentioned that had happened in the early 2000. Having presented these data, for the future we suggest continuation of the monitoring of all occupied territories, increase research on potential threats and carry out a National Species Action Plan.

Status and threats for the Egyptian vulture (*Neophron percnopterus*) in Albania



Breeding parameters	2019	2020	2021	2022	Albania
% laying pairs	83.3%	83.3%	80%	67%	78.4%
% successful pairs	100.0%	80.0%	50%	75%	76.3%
Productivity	1.00	0.67	0.8	0.67	0.79 ± 0.07
Breeding success	1.20	0.80	1.0	1.0	1.00 ± 0.08

From 2006 to 2022, the number of breeding pairs has declined with 1/3, whereas the number of occupied territories with nearly 40%. Accidental poisoning is estimated to be the main threat, whereas the other threats such as illegal killing, electrocution, agro-chemicals and veterinary medical products resulted not to be considering threats for Egyptian Vulture in Albania. Nevertheless, further investigation is needed.

Peer-reviewed research derived from the abstract:

Dobrev V, Topi M, Hallmann B, Dobrev D, Arkumarev V, Saravia-Mullin V, Bounas A, Pappaionnou H, Bino T, Duro K, Xherri X, Vorpsi Z, Selgjekaj L, Xeka E, Sevo B, Loce E, Saliqaj O, Ziu D, Opperl S, Popgeorgiev G.S., Nikolov S.C. 2023. Status and threats for the Egyptian Vulture (*Neophron percnopterus*) in Albania. *Acta Zoologica Bulgarica*. Supplement series 17 in press

Egyptian Vulture status in France

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Currently, the French population of Egyptian Vulture is estimated at 88 pairs (2022) distributed in two distinct nuclei. The most important one (69 pairs) is located in the north of Pyrenees, bordering of the Spanish population. The other population nucleus (19 pairs) is present in the South-east of France, but in a very fragmented area with, sometimes, only one or two pairs. Fairly good monitoring of the species is

carried out, each year. It allows an almost exhaustive estimation of the population and thus, goods assessments of the various trends.

In France, in the last ten years, the number of pairs is relatively stable or a slight decrease (92 pairs in 2012), but with a significant disparity between sectors. Indeed, in Pyrenees-Atlantiques (West), where the population is higher, the number of pairs has significantly decreased (45 pairs in 2015, 32 in 2022), This decrease is partially compensated by an increase in the number of pairs in the eastern part of the Pyrenees. In South-east nucleus similar variations can be observed.

A second National Actions Plan (2015-2024) allows for collaborations between different partners of several regions to develop several actions for a best knowledge of the population (monitoring, ringing and telemetry programs). It also facilitates conservation measures for the various breeding sites. All bird observations data, specifying the territorial or breeding status of pairs, are entered on a Web GIS software, directly by the monitoring partners. In this software, each site with all nests are recorded, and a delimited area (about 1000m around the nests) is activated during the sensitive breeding period (1st March – 15 September), if birds are presents and/or pair is breeding.

Those activated areas are accessible by different users (forestry authority, power network companies, helicopters companies, outdoor recreation federations, etc.). Environmental mediations with these potentially disruptive structures are carried out in order to maintain the utmost tranquillity during all the period of sensibility (prohibitions, deferred works, climbing sites de-equipped, deviated flights, etc.).

Probably the National Actions Plan should be renewed. With the hope of much more financial resources to develop knowledge, conservation and awareness of this species whose situation is not very favourable in France.



Photo: Michele Mendi ©

Egyptian Vulture studies in Türkiye

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There are limited studies on the Egyptian Vulture (EV) in Türkiye. These studies, on the other hand, contain scattered and irregular data, apart from recent years. We achieved extensive results in EV conservation and research between 2017 and 2022. We determined that 90 pairs of EVs breed in Beypazarı, Ankara, which has more breeding pairs than most European countries, and 8 active nests and 13 potential nests in the Mersin region in southern Türkiye. In a study conducted in Beypazarı in 2012, 37 EV nests were identified and monitored. In the following two years (2013-2014) the local population size and food preferences of the EV breeding in the Middle Sakarya region were studied. Overall, 29 nests were found in 2013 and 30 in 2014. As a result, the first data sets belonging to the Middle and Upper Sakarya Region were obtained. These data sets are of key importance as a baseline and good example for future studies regarding the conservation of this endangered species. The breeding success rate in this region was 80.9% in 2013 and 95.6% in 2014. At the same time, 11 characteristics of the nests and the breeding cliffs were evaluated to determine the population's nesting features. During another research, 24 EV nests were determined in Central Anatolia (Sivas, Nevşehir, and Kayseri provinces). One EV nest was monitored in Kırklareli province in the Thrace Region during the breeding seasons of 2018-2022. As a result of the most recent monitoring, successful breeding was observed in this nest in 2022. In 2014, the Sarımazı area of Adana's Ceyhan District was determined to be a bottleneck site for migratory raptors in autumn, and particularly for the EV. Since then, Doğa, BSPB (BirdLife Bulgaria) and RSPB (BirdLife UK) established the Sarımazı Raptor Count programme and regularly conducted migration counts there. In 2018, 813 EVs were recorded, while in 2019, the recorded number of EVs was 903. Lower effort for this monitoring was spent in 2020 and 2021 due to the Covid-19 pandemic, and 275 and 71 EVs were counted, respectively. In 2022, 553 individuals were counted throughout September. The biggest threat for the EVs in Türkiye during their migration journey is electrocution. To prevent this threat, we identified killer power lines in Mersin, Adana and Ankara, and carried out insulation of these power lines together with electricity companies. So far 216 electric poles were insulated (83 in Mersin, 33 in Adana and 100 in Ankara). We established the "Shepherd's Network" to ensure the long-term sustainability of our conservation efforts and to involve local communities in conservation. This network consists not only of shepherds, but also farmers, mukhtars (heads of villages), public personnel, company personnel, etc. More than 300 data records have been provided from this network consisting of 162 people in total. All the information collected, about nest locations, local threats, arrival and departure dates, was transmitted to us and recorded thanks to the network. We determined that illegal killing for raptors take place in the southern parts of Türkiye. We became a partner in a lawsuit where we presented our scientific data against the limestone quarry intended to be built in the breeding and feeding area of EV. If this limestone quarry is built, the breeding and feeding areas in the region will be destroyed. Finally, although poisoning is not seen as a priority threat for Türkiye in recent years, we have determined that there are individuals who died due to poisoning. Four EVs were found dead in the agricultural area of Beypazarı, and we suspect this was due

to poisoning. However, we could not obtain evidence because toxicological analyses could not be performed. We also carried out many awareness activities and transferred information to local municipalities and local people. We identified the need to complete the studies on EV habitats and population parameters in Türkiye; to eliminate electrocution as a primary threat for the species, and to create a safe migration corridor and living space. Comprehensive research and studies should also be carried out to evaluate and mitigate other threats.



Peer-reviewed research derived from the abstract:

Arslan., S. & Özuslu, S. (2023). A review on Egyptian Vulture *Neophron percnopterus* studies in Türkiye. *Acta Zoologica Bulgarica*. Supp 17. in press
