

Alfred Toepfer Natural Heritage Scholarship 2020

# THE ROLE OF WILDLIFE REHABILITATION CENTERS IN SPECIES REINTRODUCTION PROGRAMMES



**Study tour report by**

**Réka Szilágyi**

Milvus Group Bird and Nature Protection Association



**EUROPARC**  
FEDERATION

---

# TABLE OF CONTENTS

<b>SUMMARY</b>	<b>2</b>
<b>INTRODUCTION</b>	<b>3</b>
“Sinite Kamani” Nature Park	5
Sierra Grande De Hornachos Special Protection Area	6
Valle De Iruelas Nature Reserve	7
Monte Del Pilar Urban Forest	8
<b>RESULTS</b>	<b>9</b>
The activities of the rehabilitation centers	9
The role of the centers in reintroduction projects	12
Reintroduction in protected areas	16
The case study of the “Sinite Kamani” Nature Park	18
Comparison between home and visited countries	19
Wildlife rehabilitation centers	19
The status of the four European vulture species	20
The reintroduction of vultures	21
Gaps with objectives and expectations. Difficulties, limits.	24
<b>CONCLUSIONS</b>	<b>25</b>
The role of the protected areas	27
<b>ACKNOWLEDGEMENTS</b>	<b>29</b>
<b>BIBLIOGRAPHY AND REFERENCES</b>	<b>30</b>

---

# SUMMARY

On my study tour I visited three wildlife rehabilitation centers, which take part in vulture species reintroduction projects, in different European protected areas. The overall goal of my tour was to gain insight into the main activities of these centers, to clarify their role in the reintroduction projects, and to understand their way of collaboration with the protected area management.

In the present study, after the general introduction of the topic, I briefly describe the visited protected areas from Bulgaria and Spain. In the following section I present the wide range of activities of the visited centers, and their work in reintroduction projects. The role of the protected areas in the reintroduction, and a possible collaboration between the rehabilitation centers and protected area management is presented through a case study from Bulgaria. I also make a comparison between home and the visited countries, focusing on the existence of rehabilitation centers, the status of the European vulture species, and the conditions of a possible reintroduction initiative. As a conclusion I summarize the lessons learnt on the study tour, and I provide some examples on how protected areas can be more actively involved in reintroduction projects.

The results of my study show that the wildlife rehabilitation and breeding centers play a key role in reintroduction, as they manage the captive breeding of rare species, rehabilitate specimens in distress for translocation, provide veterinary care for the translocated birds, and organize their release. I also found that successful reintroduction projects need international collaboration and the united effort of rehabilitation and breeding centers, national parks, local authorities and many more. Lastly, wildlife rehabilitation centers can bring thousands of people closer to nature through environmental education and awareness raising activities.

---

# INTRODUCTION

The aim of this study is to present different wildlife rehabilitation centers operating in European Protected Areas, focusing on their role in endangered vulture species rehabilitation and reintroduction projects.

There is an increasing pressure on the world's biodiversity due to the accelerating loss of habitats, biological invasions and climate change. Population restoration by translocation is an effective conservation tool to address the massive biodiversity loss. Reinforcement and reintroduction are forms of population restoration, both meaning the international movement of the target species from one site for release to another, inside its indigenous range. Reinforcement programmes aim to enhance the viability of an existing population, while reintroduction programmes aim to re-establish a viable population of the target species on a land where it had already disappeared (1).

Reinforcement and reintroduction have proven to be successful conservation tools in the case of the European vulture species. In the 19<sup>th</sup> and 20<sup>th</sup> centuries the four European vulture species (Griffon Vulture - *Gyps fulvus*, Cinereous Vulture<sup>1</sup> - *Aegypius monachus*, Bearded Vulture - *Gypaetus barbatus* and Egyptian Vulture - *Neophron percnopterus*) have been driven close to extinction due to habitat loss, persecution, poisoning, and changes in farming practices. After a few decades of dedicated conservational efforts, the Griffon, Cinereous and the Bearded Vulture populations are recovering in Europe. These scavenger birds, however, still face the same challenges today, and a strong international collaboration is needed to re-establish a viable network for them in central and southern Europe.

Wildlife rehabilitation centers often play a key role in reintroduction projects. During my study tour, I expected to gain an insight into the work of the visited rehabilitation centers, and to clarify their role in the studied vulture reintroduction projects. I was interested in their important results, common challenges and their involvement in international initiatives. I aimed to understand how these centers collaborate with the protected area management within the reintroduction projects. Lastly, I planned to collect information on local and

---

<sup>1</sup> Also known as the Black Vulture, Monk Vulture and Eurasian Black Vulture

---

international policies regarding rehabilitation projects, in order to compare them to the Romanian legislation, to see the legal context of a possible reintroduction initiative in Romania.

As my organization, the Milvus Group Bird and Nature Protection Association maintains a Wildlife Rehabilitation Center located in one of the Natura 2000 sites of the Niraj-Târnava Mică region, Romania, I also hoped that the gained knowledge would help me and my colleagues to improve the management, the visitor engagement, and the educational activities at our center.

In 2021 I visited protected areas from Bulgaria and Spain, where different wildlife rescue centers develop their activities. All of the chosen centers take part in vulture and eagle reintroduction projects supported by the European Commission's LIFE<sup>2</sup> programme , but in different social and economic environments.

The study visit to Bulgaria took place between 20-27 August 2021, where I visited the Green Balkans' Rehabilitation and Breeding Center and the "Sinite Kamani" Nature Park. Between 1-15 October 2021 I had the chance to volunteer for two weeks at AMUS' Wildlife Rehabilitation Center in Extremadura, Spain, and to visit the vulture feeding sites in the Sierra Grande de Hornachos SPA. After my visit to AMUS, I traveled to Madrid, where I spent a week at GREFA's Wildlife Hospital and Breeding Center located in the outskirts of the capital city, in Monte del Pilar. During my stay, we visited the Valle de Iruelas Nature Reserve.

---

<sup>2</sup> The LIFE Programme is the EU's funding instrument for environmental and climate action.

---

## “Sinite Kamani” Nature Park

**Location:** Eastern Balkan Mountains, Bulgaria

**Area:** 11 380 ha

**Date established:** 1980

**Overlapping protected areas:** Sinite Kamani SCI - BG0000164, Sinite Kamani - Grebenets SPA - BG0002058 Natura 2000 sites, Kutelka Nature Reserve



View in “Sinite Kamani” Nature Park, near the higher lift station

The “Sinite Kamani” Nature Park is located on the south slope of Slivenska Mountain, in the Eastern Balkan Mountain, above the town of Sliven. Designated in 1980, the park now covers an area of 11 380 ha. The name “Sinite Kamani” means “Blue Stones”, and possibly refers to the color of the rocks under specific atmospheric conditions. The “Sinite Kamani” Natural Park has numerous natural landmarks. “Halkata” (The ring), an arc-shaped rock phenomenon and popular tourist attraction, possesses, according to the legend, magic force. The area is characterized by great biological diversity. The park is home to 42 protected, 9 Bulgarian and 23 Balkan endemic plant species. The fauna consists of 244 vertebrate and 1,153 invertebrate species. The Kutelka reserve was created within the park area in 1983, to preserve the Moesian beech communities, and the rocky habitats of rare European raptor and scavenger bird species.

---

## Sierra Grande De Hornachos Special Protection Area

**Location:** Badajoz province, Extremadura, Spain

**Area:** 12 470 ha

**Date established:** 1989

The Sierra Grande de Hornachos Special Protection Area (SPA), a Special Area of Conservation (Zona especial de conservación, ZEC) Natura 2000 site, is located in the center of Badajoz province in Extremadura, Spain. The area is situated in the Matachel river basin, next to the town of Hornachos.

As a result of the coexistence of different cultures once living here, the area has a rich historical past, and a great diversity in the agrarian and livestock use. The landscape is dominated by *dehesas*, the characteristic south-western Iberian habitat type, in which pasture land or crops are shaded by the open canopy of the native evergreen oaks (holm-oak and cork oak). It is an important habitat for raptors, including the emblematic Iberian imperial eagle (*Aquila adalberti*). The higher region of the area is characterized by rocky slopes surrounded by dense forest of holm oak and shrubs. Wild olives, juniper and oleander are also part of the vegetation. Besides the imperial eagle, the area is home to a great variety of birds of prey: Golden eagle (*Aquila chrysaetos*), Bonelli's eagle (*Aquila fasciata*), Eurasian eagle-owl (*Bubo bubo*) and also to the Griffon Vulture.



The plants of the Hornachos area - improvised botany class on the field

---

## Valle De Iruelas Nature Reserve

**Location:** Ávila province, Castilla y León, Spain

**Area:** 8 828 ha

**Date established:** 1996

**Overlapping protected areas:** Valle de Iruelas SPA ES0000116 Natura 2000 site

The Iruelas Valley Nature Reserve is located in the Central System mountain range, near the Sierra de Gredos Nature Park. Influenced by the altitude gradient, the slopes of the river valley are covered with valuable forests formed by a large diversity of species. The area is dominated by Mediterranean pine forests, which cover more than half of the territory. In addition to the dominating pine species (*Pinus pinaster*, *P. sylvestris*, *P.nigra*), Pyrenean oak, yew trees, junipers, holly and chestnut trees can be found in the area. The Nature Reserve gives shelter to hundreds of plant species and subspecies, more than 200 species of vertebrates and countless invertebrates. The list of the numerous rare and endangered bird species present in the area, includes the Iberian imperial eagle, that nests in the Valley. The area is home to the largest colony of Cinereous Vultures in Castilla y León (around 120 pairs).



Iruelas Valley Nature Reserve



---

## Monte Del Pilar Urban Forest

**Location:** Majadahonda, Community of Madrid, Spain

**Area:** 804 ha



Pine trees of Monte del Pilar

Monte del Pilar is an urban forest located in the Community of Madrid with an area of 804 ha. The area belongs to three municipalities: Pozuelo de Alarcón, Majadahonda and Madrid. The forest is the natural continuation of the Cuenca Alta del Manzanares Regional Park, but it is separated from it by the Northwest motorway. In the park Mediterranean forest predominates, with holm oaks (*Quercus ilex*) and stone pines (*Pinus pinea*). Fauna is scarce due to the high urban pressure. The area is a popular recreational zone for the locals, being a green island in the busy urban area. Along the trails information panels guide the visitors and highlight the natural values worth observing in the park.

---

# RESULTS

## The activities of the rehabilitation centers

The **Green Balkans** was established in 1988, and it's Bulgaria's oldest nature conservation NGO. The organization works in the field of biodiversity conservation, habitat restoration, sustainable natural resource management, improvement of nature conservation policy and legislation, and environmental education. The Green Balkans has been operating its wildlife rehabilitation center since the 90's. The center, located in Stara Zagora, shelters illegally traded and confiscated rare animals of the Bulgarian fauna, provides treatment and rehabilitation to rare species in distress, and releases them back into the wild. Permanently disabled raptors that cannot be released back into the wild, are involved in captive breeding programmes. The center takes part in Bearded Vulture, Griffon Vulture, Cinereous Vulture, Imperial eagle, and Lesser kestrel breeding programmes. It also collaborates with several institutions, such as the University of Veterinary Medicine in Stara Zagora.

The **AMUS** is a non-governmental organization, founded in 1995. It's activities revolve around the Wild Fauna Hospital, located in the center of Badajoz Province, in Extremadura, Spain. The staff of the center provides veterinary assistance for injured wild animals, following up their recovery from the infirmary, through physiotherapy, until their release. The organization is collaborating with several institutions, among which universities, who collect and analyze samples from specimens treated in the center. The center is also involved in national and international reintroduction and monitoring programmes (Cinereous Vulture, Red Kite).



---

**GREFA** is a non-profit organization as well, founded in 1981 as an association for the study and conservation of nature. GREFA's Wildlife Hospital, located in Monte del Pilar, Madrid, is considered the largest center of its kind in Europe. Besides the Rehabilitation Center and Hospital, which provides veterinary care for thousands of wild animals annually, the organization collects and analyzes data on the negative factors affecting the local fauna and the behavior of the released animals. The center is involved in numerous reintroduction and breeding programmes (Cinereous Vulture, Iberian imperial eagle, Bonelli's eagle, Lesser kestrel and more). A special emphasis is put on awareness-raising and education, the Environmental Education Center is visited by thousands of schoolchildren and adults in organized groups throughout the year.



Rehabilitation aviary at GREFA

All of the visited centers started as rescue centers in the 80's and the 90's, having their main activity the salvation and treatment of injured wild animals. With time the range of their activities has widened. They got involved in large scale population restoration projects, new collaborations started, and new, more ambitious goals have been set. One of the most recently introduced activities is captive breeding, which in most cases started only a few years ago.

---

The three centers differ in size. While AMUS treated 1317 wild animals in 2020 (2), and the Green Balkans 1819 (3), GREFA sheltered three times as many animals, adding up to 6109 (4). Their range of activity, and the territory they cover also differs. Green Balkans being the only center in the country with such facilities, receives injured animals from all over the country, while the Spanish centers cover mostly the neighboring area (Badajoz and Madrid).

The collaboration with other institutions and the relationship with the public also differs. Although AMUS is involved in multiple projects, and collaborates with several institutions, the work of the center remains very targeted, and focused on the healing of the injured animals. Despite its isolation, the center is a pioneer in bone transplantation surgeries, and experiments with the use of dogs in tracking down birds injured by power lines. Located 4 km from the nearest town, AMUS's center is a sanctuary for the animals, where their recuperation is the first priority. Though the center organizes public events, and puts an emphasis on awareness raising, it doesn't have a visitor center with injured birds, and has a strict policy regarding unrecoverable animals. The Green Balkans and GREFA on the other hand, probably because their proximity to urban areas, are more open to the general public. Due to their broader work profile, a larger number of people get in contact with them, be it university students, volunteers, or nonprofessionals.



Rehabilitation area at AMUS

---

## The role of the centers in reintroduction projects

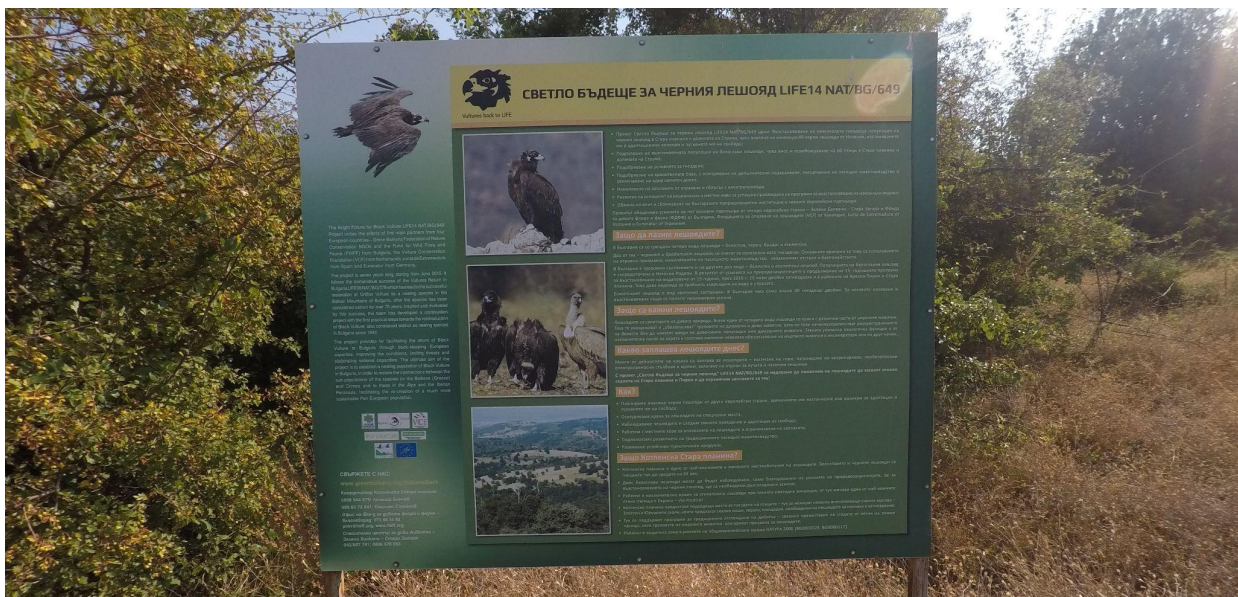
The process of reintroduction and restocking involves several techniques to enhance the target population. One method is captive breeding, where the captive-bred birds come from specialized breeding centers or zoos. The most successful method to release them in the wild is called hacking. During hacking the chicks are placed in artificial nests in their release sites, and fed with no human contact until they become independent. Another possibility for reintroduction is the translocation of adult or subadult wild birds from one source population to another one. In this case the translocated birds are specimens found in distress in the wild that fully recovered in rehabilitation and rescue centers. The birds are transported to the target country, where they spend several months in specially constructed adaptation aviaries until they become familiar with their new environment. For instance, as a result of the significant recovery of the Griffon and Cinereous vulture populations in Spain, many rehabilitated birds from the Iberian peninsula are transferred to other European release sites.



Adaptation aviary in “Sinite Kamani” with vultures translocated from Spain

---

The *Bright Future for the Black Vulture LIFE14 NAT/BG/649* (Vultures back to LIFE) project is coordinated by Green Balkans, and aims to re-establish the extinct nesting population of Cinereous Vultures in Bulgaria. The overall goal is to restore the connection between the eastern (Balkans, Crimea) and the western (Alps, Iberian Peninsula) sub-populations of the species, helping the re-creation of a more sustainable Pan-European population. The project is the continuation of the *Vultures Return in Bulgaria LIFE08 NAT/BG/278* project, also coordinated by Green Balkans, which has led to the successful restoration of the Griffon Vultures as a nesting species in the Balkan Mountains in Bulgaria. Between 2009 and 2015 210 Griffon Vultures were released from adaptation aviaries in four different sites, 40 of them tagged with radio transmitters or GPS/GSM transmitters. The very first Griffon Vulture chick hatched in the wild was confirmed in 2015 in Vrachanski Balkan (5). During the project, several transports of birds arrived to Bulgaria from GREFA's rehabilitation and breeding center.



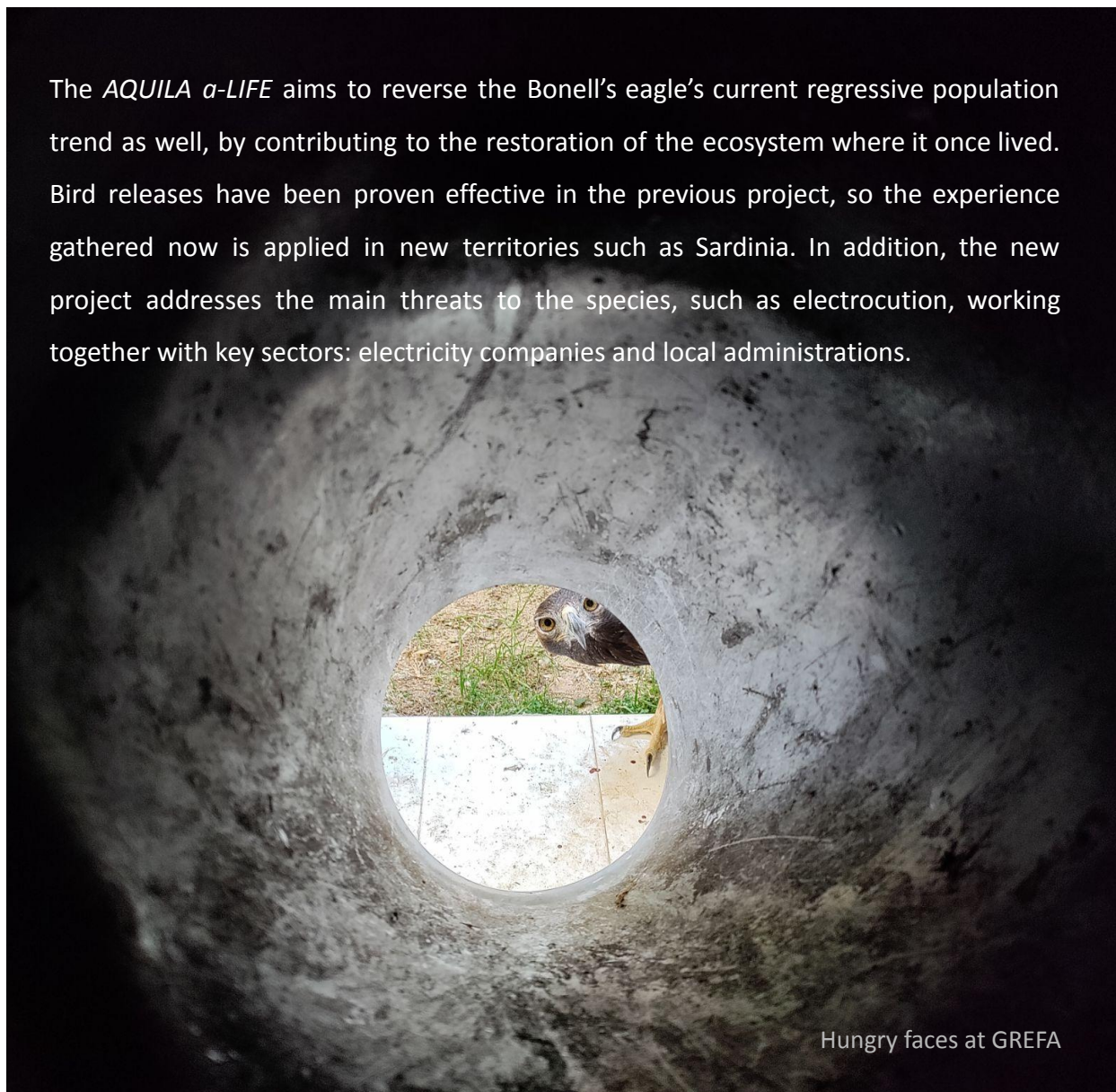
Vultures back to LIFE project's information panel in "Sinite Kamani"

The current project expects 48 Cinereous Vultures to be imported from Spain, to accommodate them in adaptation aviaries and to release them back into the wild. The project also aims to strengthen the already reintroduced Griffon Vulture population by importing and releasing 60 more birds. The Bulgarian team is responsible for the improvement of the nesting conditions and the food base, and the reduction of the threats, such as poisoning and electrocution. AMUS also participates in the project. The Spanish center is responsible for the recovery and the transport of the specimens for reintroduction in Bulgaria.

---

The *AQUILA α-LIFE LIFE16 NAT/ES/000235* project is coordinated by GREFA, and aims to reinforce the Bonelli's eagle population in the center and north of the Iberian Peninsula and in Sardinia. The project can be considered the continuation of the *LIFE Bonelli LIFE12 NAT/ES/000701* project, which also aimed the restoration of the Bonelli's eagle population in Spain, by its reintroduction in Mallorca and by increasing their numbers in Madrid, Navarra, and Alava. The center of GREFA played an important role in the project as a breeding center, and as a transit hub for all the birds released. 14 out of the 92 individuals released during the project came from the Madridian center (6). The team provided veterinary care for the birds during the captive breeding period, treated birds removed from nests, prepared groups for release, took samples, performed necropsies and marked the birds.

The *AQUILA α-LIFE* aims to reverse the Bonelli's eagle's current regressive population trend as well, by contributing to the restoration of the ecosystem where it once lived. Bird releases have been proven effective in the previous project, so the experience gathered now is applied in new territories such as Sardinia. In addition, the new project addresses the main threats to the species, such as electrocution, working together with key sectors: electricity companies and local administrations.

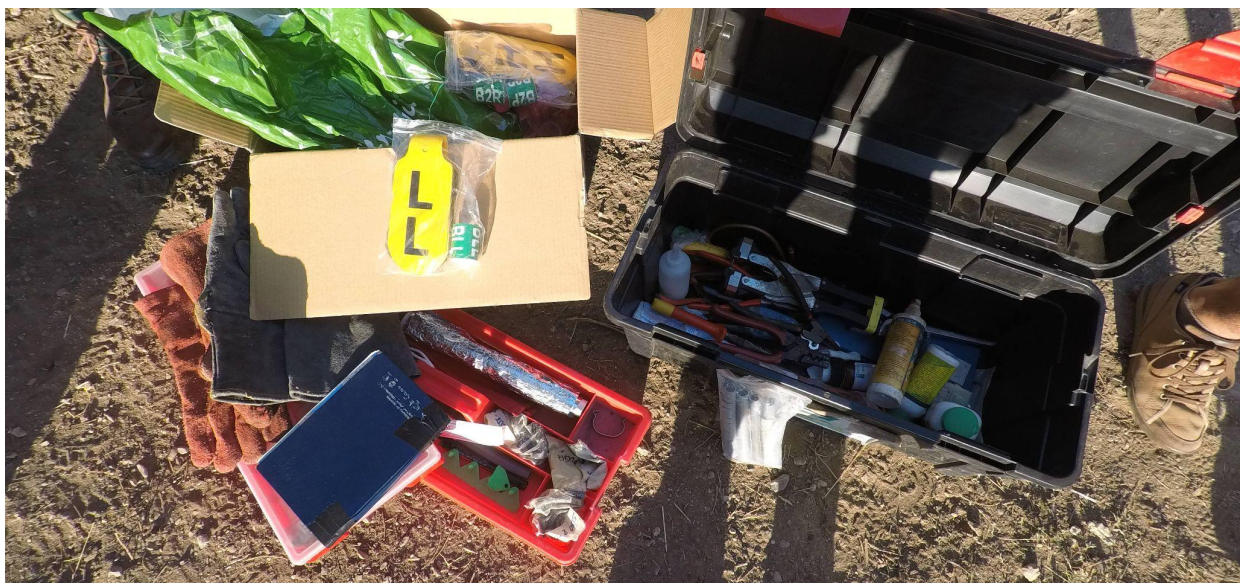


---

The *Egyptian Vulture New LIFE LIFE16 NAT/BG/000874* project was launched in 2017, with the aim to reinforce the easternmost European Egyptian Vulture population in the Balkans. There are institutions and organizations involved in the project, representing 14 countries from the Balkans, Middle East and Africa. As the Egyptian Vulture is the only regular long-distance migrant among the four European vulture species, its protection involves not only the measures taken to increase the number of individuals on the breeding grounds in the Balkans, but also to address the known threats along its flyway and in the wintering grounds. The Green Balkans is a partner in the project, responsible for captive breeding pairs and the release of their chicks.

All of the LIFE projects presented above involve a large number of participants, from non-governmental organizations to public authorities. They aim to build a functioning network of all stakeholders who have an impact on the conservation efforts - NGOs, park directorates, forest guards, local communities, etc. The result of the collaboration is a valuable knowledge base, comprising the experience of an international community.

The wildlife rehabilitation and breeding centers often have a key position in the network. They manage the captive breeding of the rare species for release, and they provide accommodation and veterinary care for the birds before and after the translocation. The staff's scientific and technical expertise is essential in the implementation of the different phases.



Tools needed for the tagging, marking and releasing (Sliven)



---

## Reintroduction in protected areas

The studied reintroduction projects took place on multiple sites simultaneously. This can make the conservation effort more effective and the re-established network more robust. Table 1 shows the number of Natura 2000 sites involved in the projects as release sites or nesting grounds for the released birds.

On different sites, different release methods can be tested, in order to improve them and find the most effective one. In the case of translocated subadult and adult birds, adaptation aviaries are used, where they get used to the new conditions. Captive-bred chicks are usually released with the technique of hacking. During this method, the chicks, coming either from captive breeding, or taken from wild nests, are put in an adapted natural nest or into a “hack box” (a box with a nest inside of it) usually placed on a high site in the release area. After a short period, the boxes are opened, and the chicks can learn to fly and hunt under natural circumstances. The chicks are fed with minimum human contact, and watched over until they get completely independent and confident in their new habitat. Different hacking methods use different release spots: natural open nests, artificial nest boxes that protect the chicks from predators, or nest boxes inside adaptation aviaries. The aim of both adaptation aviaries and hacking is for the young birds to get imprinted on the release area and to return to it as adults.

Project name	Nr. of Natura 2000 sites involved <sup>3</sup>	Release sites
Bright Future for the Black Vulture LIFE14 NAT/BG/649	14	Sinite Kamani, Kotlenska planina, Vrachanski Balkan
Vultures Return in Bulgaria LIFE08 NAT/BG/278	10	Vrachanski Balkan, Central Balkan, Sinite Kamani, Kotlenska planina
AQUILA a-LIFE LIFE16 NAT/ES/000235	43	Álava, Madrid, Navarre, Sardinia
LIFE Bonelli LIFE12 NAT/ES/000701	7	Álava, Madrid, Navarre, Mallorca
Egyptian Vulture New LIFE LIFE16 NAT/BG/000874	22	

Table 1.

---

<sup>3</sup> Based on the projects' LIFE Public Database profile

---

---

Before their release some of the birds are tagged with radio or GPS/GSM transmitters. The satellite tracking of the individuals allows the project team to analyze the species' survival rate, the causes of mortality, and to locate the birds' favorite roosting or nesting sites. By analyzing the data accumulated from a larger number of birds, new transit locations, or even potential new reintroduction sites can be discovered.



The determination of the most suitable release sites is a challenging task for the reintroduction projects. When choosing the right site for the release, various factors are taken into account: the historical presence of the species, the suitability of the habitat, the absence of sources of different risks or disturbance, the support of the local community, and last, but not least the protection level of the area.



Valle de Iruelas, home to the largest colony of Cinereous Vultures in Castilla y León

---

## The case study of the “Sinite Kamani” Nature Park

The “Sinite Kamani” Nature Park is one of the release sites in the Green Balkans’ vulture reintroduction projects. During the Vultures Return in Bulgaria LIFE project, 65 birds out of 210 were released from the adaptation aviaries located in this protected area. As a result of an active collaboration between the project team and the “Sinite Kamani” Nature Park Directorate (NPD), during the Bright Future for Black Vulture LIFE project, two billboards depicting Cinereous and Griffon Vultures were placed in the town of Sliven. The billboards, one in front of the building of the NPD, another next to the visitor center of the park, promote the importance of the town and the Natural Park in the reintroduction of vultures.



One billboard in front of the visitor center, promoting the return of the vultures

The positive attitude of the local community towards the target species is crucial in every reintroduction project. Bearing this in mind, the project team launched several joint initiatives with the “Sinite Kamani” NPD, to promote the return of these emblematic birds to the region. Photo and observation hides were installed at the adaptation aviaries, and alternative vulture interpretation routes were developed. The Green Balkans team participated at events of the Nature Park with educational games about the rare species of the Park.

Besides the collaboration within specific reintroduction projects there is another type of cooperation between the wildlife center and the nature park. The visitor centers of the park work as “collection points” for injured wild animals found in the park. The staff is trained how to give emergency care for the animals and keep them safe until they make it to the center.

---

## Comparison between home and visited countries

### Wildlife rehabilitation centers

On my study tour I had the luck to take part in the everyday activities of three different wildlife rehabilitation centers. I would never have had this opportunity in Romania, since there are no wildlife rehabilitation centers of this kind and dimension in the country. There are a few examples of smaller and rather specialized centers, all operated by non-governmental organizations. These centers are engaged exclusively in the rescue and rehabilitation of injured wild animals, lacking the capacity to take part in larger-scale projects, let alone in international reintroduction or breeding programmes. The Milvus Groups' center receives injured animals from all over Transylvania, being the only center in the region.

The Romanian economic situation and sociocultural context is more similar to the Bulgarian one. The two neighboring countries joined the European Union in the same year, 2007. Since then, nature conservation in the two states has been following a similar narrative. Currently neither in Bulgaria, nor in Romania are any public wildlife rescue centers, and the problem of wildlife rehabilitation in general is neglected in the political discourse. It's worth mentioning, though, that the Green Balkans' Wildlife Rehabilitation and Breeding center's work in 2020 was funded in a higher percentage by the Bulgarian Ministry of Environment and Water (EMEPA), than by all of the LIFE and other conservation projects altogether (3).

In Spain on the other hand, there is a network of public wildlife rehabilitation centers that covers every region in the country. AMUS and GREFA are two of the few non-governmental organizations working in this field. Although there is a significant difference between the socioeconomic context of the Bulgarian and the Spanish centers, the topic of financial difficulties and underfunding came up during the discussion in all three places.



---

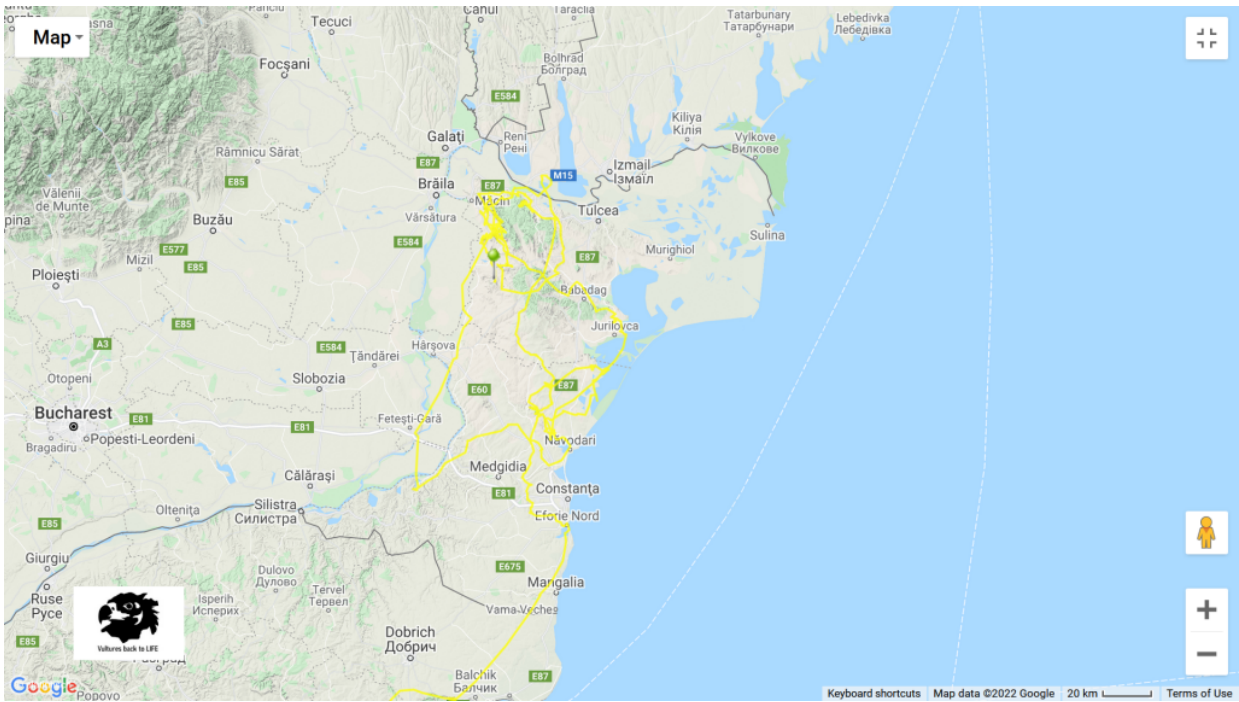
## **The status of the four European vulture species**

In Bulgaria, by the end of the 20<sup>th</sup> century all vulture species were considered extinct, except the Egyptian Vulture, which also had a dramatic decline. Thanks to great conservation efforts, the Griffon and the Cinereous Vultures are brought back to the country. The first pilot release of a Griffon Vulture was in 2009, and the first chick successfully hatched in the wild in 2015. The Vultures Back to LIFE, targeting the Cinereous vultures, launched in 2015, and led to the first nesting in 2021.

Spain is home to 90% of Europe's vulture population. Although the vultures never went extinct here, their numbers declined significantly, and the birds disappeared from certain regions of the country. Without determined conservational work, the current steady rise in the Griffon and Cinereous vulture population on the Iberian peninsula would have never been achieved.

Unlike the visited countries, in Romania vultures are no longer present. All four species, once considered common in the country, went extinct in the 20<sup>th</sup> century. Most probably the main causes of extinction were the persecution of birds, collection of eggs and poisoning. The last proven breeding of the Griffon Vulture occurred in the 60's. From time to time, however, there are occasional sightings of Griffon and Cinereous Vultures in the area. Solitary birds dispersing possibly from the Serbian and Bulgarian populations can be observed at times even in the central or the northern part of the country. Recently the case of a solitary Cinereous vulture has drawn some media attention, after the bird spent the winter of 2021-22 in Romania, in the Dobrudja region (7). Dzhuranli, the adventurous vulture, hatched in the wild in Extremadura. The young bird needed rescuing, and ended up in the rehabilitation center of AMUS. Within the Vultures Back to LIFE project, it was transported to and released in Bulgaria, in the "Sinite Kamani" Nature Park in March 2021. In the following months Dzhuranli traveled thousands of kilometers from Turkey to Greece, ending up in Romania for the winter.

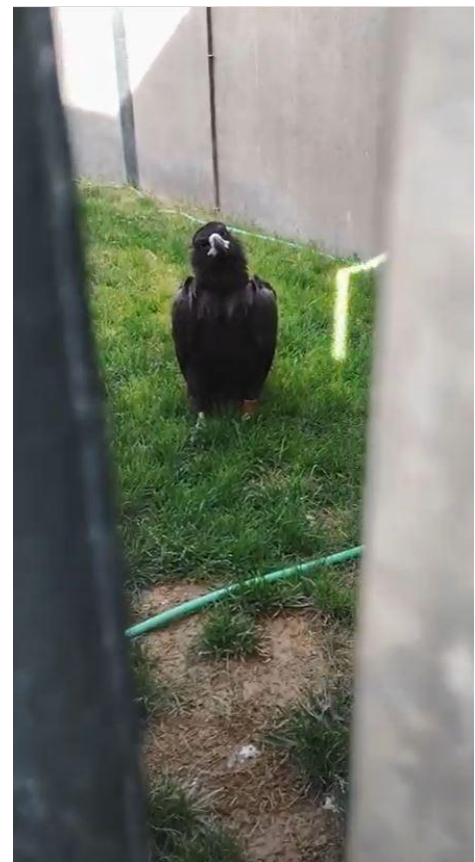
The historical presence of the species proves that the Carpathian Mountains and the Dobrudja region were once a suitable habitat for vultures. The return of these emblematic birds in the country, however, depends on multiple factors.



GPS movements of Dzhuranli, the Cinereous vulture in Romania © Vultures Back to LIFE

## The reintroduction of vultures

As it was presented above, the current status of the different vulture species in Romania resembles greatly to their position in Bulgaria a few decades ago. Therefore following the same agenda presumably could lead to similar results in Romania. Although, a possible reintroduction would require a great deal of preparatory work. The first step would be the compilation of a detailed feasibility study on the possible reintroduction sites, assessing the threats, risks and the attitude of the local communities. Finding the right place for the reintroduction, however, cannot solely guarantee the success of the initiative. Unfortunately there are still notable differences between the circumstances of the visited projects and the Romanian context.



---

- Food availability - legal context

In 2001, the EU prohibited the abandonment of livestock carcasses in the field in its member states (EC 1774/2002). Unsurprisingly the subsequent decrease in carrion availability caused disturbance in vulture communities. Later on the EU legislation was improved, trying to bring to terms the sanitary requirements and the conservation concerns. It allowed the member states to develop their own regulation regarding livestock carcass disposal (CE 830/2005 CE 142/2011). In certain countries, which adopted the new legislation, including Spain and Bulgaria, it is permitted to arrange special feeding sites for scavengers, under strict sanitary regulations. Besides the authorized feeding sites, the new legislation allows the farmers to abandon extensive livestock carcasses in other specific areas too, on specially designated “Protection areas for the feeding of necrophagous species of European interest”. These measures undoubtedly have a great impact on the condition of the vultures (8), and at the same time, they bring benefits for the local farmers, who don’t have to deal with the costs of the incineration of livestock carcasses.

According to the CE 142/2011 Romania is not among the Member States who can arrange feeding stations for necrophagous birds. Consequently, the problem of food shortage is not yet resolved in Romania.



A few days old carcass in Valle de Iruelas, consumed by vultures

- Social acceptance

In Romania two generations grew up since the extinction of vultures. The fact that the general public and the local communities probably forgot about the species, cannot be neglected in the discourse of a possible reintroduction. The lack of proper information and awareness could lead to the reappearance of historical threats, such as persecution or poisoning. The attitude of the local communities and the general public decides if a reintroduction is successful on the socioeconomic level. If the Romanian public has little knowledge about the importance of the different vulture species, or has no interest in protecting them, the conservation effort wouldn't bring any benefit to the local communities, or worse, it could fail eventually. The Romanian context can hardly be compared to the Spanish example, where a complex tourism is built around the vulture sighting. We can learn however, from the lessons of the Bulgarian initiatives, where the vultures are just reappearing after decades of absence.



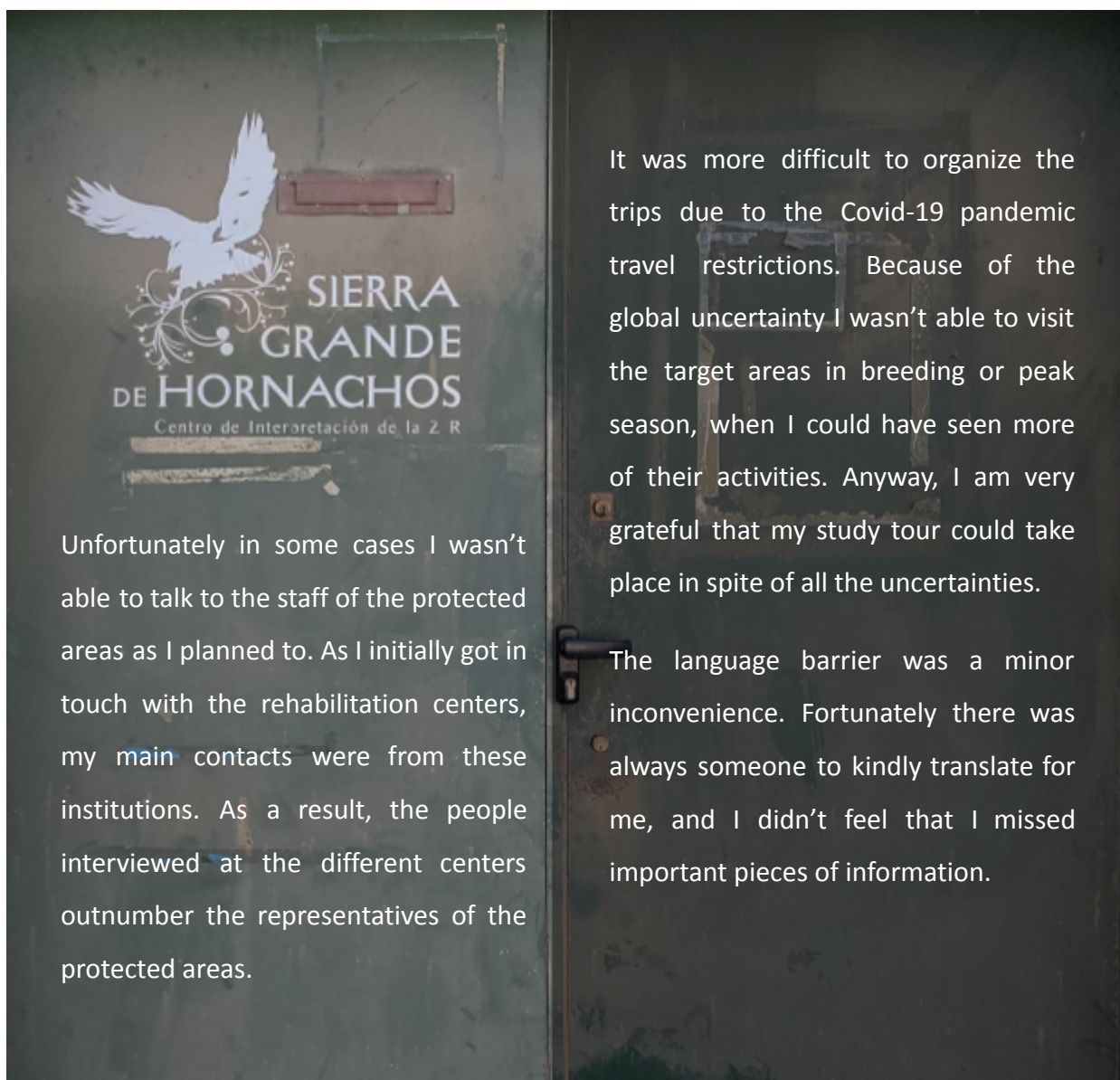
Visitor area at GREFA with information panels and the stories of the resident vultures



---

## Gaps with objectives and expectations. Difficulties, limits.

There has been a gap between my objectives and the outcomes of the study visit regarding Monte del Pilar Park, in Madrid. According to my original plan, I would have studied the relationship between the Monte del Pilar area and the GREFA Rehabilitation Center. Unfortunately, I could not discover anything worthwhile to report, except the fact that the center is located in the park, which provides a natural and quiet environment for the animals. As a compensation, however, I managed to visit the Valle de Iruelas Nature Park, an area which turned out to be much more relevant to the topic of my study tour.



Unfortunately in some cases I wasn't able to talk to the staff of the protected areas as I planned to. As I initially got in touch with the rehabilitation centers, my main contacts were from these institutions. As a result, the people interviewed at the different centers outnumber the representatives of the protected areas.

It was more difficult to organize the trips due to the Covid-19 pandemic travel restrictions. Because of the global uncertainty I wasn't able to visit the target areas in breeding or peak season, when I could have seen more of their activities. Anyway, I am very grateful that my study tour could take place in spite of all the uncertainties.

The language barrier was a minor inconvenience. Fortunately there was always someone to kindly translate for me, and I didn't feel that I missed important pieces of information.

---

## CONCLUSIONS

The present study gives a general overview on the process of species reintroduction, and on the role of rehabilitation centers in these initiatives. It presents the visited protected areas, the activities of the three rehabilitation centers, and gives an insight into the network of the multiple actors involved in the presented conservation efforts. It also makes a comparison between the visited countries and the Romanian context.

The overall goal of my study tour was to gain knowledge on different reintroduction programmes. I gathered information on the background of the projects, the practical phases and also on the technical details of the reintroduction. During my visit at Green Balkans, in Sliven and in Stara Zagora, I became familiar with the different release techniques, hacking methods and with the surveillance of the birds by camera traps and satellite tracking. The field specialist told me about the unexpected challenges, setbacks of the reintroduction, and presented some unique cases.

On my study tour, I have seen many inspiring examples to follow, regarding the centers' communication methods, visitor engagement and educational activities. For instance, the visit at GREFA revealed the great awareness raising potential of wildlife rehabilitation centers. Their Environmental Education Center receives thousands of visitors annually. During their visit, the schoolchildren and the adult visitors can meet the species of the Spanish fauna, and gain an insight into the everyday work of the center. By seeing the current and previous rehabilitation cases and the ongoing projects, they learn more about the human impact on wildlife, and they get an idea about the challenges and difficulties of wildlife conservation. Hopefully a tour at the center encourages the visitors to be more aware of their living environment and also deepens their love towards wildlife. During my stay I gathered numerous ideas and practices which can be employed by the Milvus Group's environmental education team as well.

At Green Balkans I've met volunteers from France, Czech Republic, and USA, which shows the international visibility of the center. The center collaborates actively with the University of Veterinary Medicine in Stara Zagora as well. The students are encouraged to learn and practice their knowledge in the Wildlife Hospital. In Madrid, I have seen another great example of scientific collaboration, where the walls of the Hospital area were packed with scientific

---

---

posters and case studies developed by university students. The day of the volunteers at the Hospital starts with a short seminar on the current cases, where they discuss the process of the case, and the potential treatment protocol. These examples show that the centers play an important role not only in the education of the general public, but also in the professional development of young environmentalists and veterinarians.

Besides the environmental education approaches, I also gained valuable knowledge on the overall management of the rehabilitation centers and on some important practical details of wildlife rehabilitation. I have spent two weeks at AMUS as a volunteer, where I participated in every activity of the center. The first hand practical experience taught me a lot about the diet of the animals, the rehabilitation methods, veterinary care, and the general maintenance of the center.



Visitor area at Green Balkans Rehabilitation Center

---

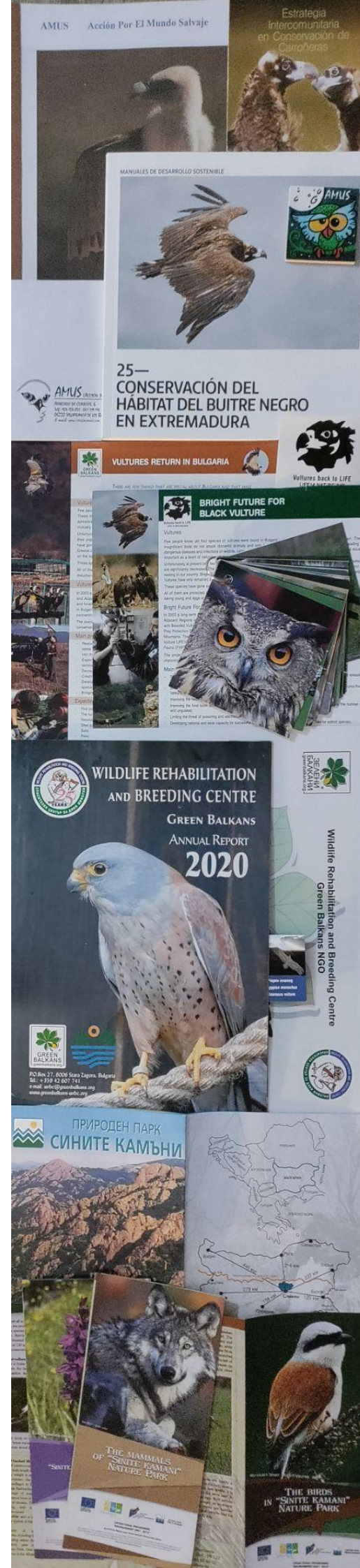
## The role of the protected areas

The active participation of the protected area management in the reintroduction projects and a strong collaboration between the rehabilitation centers and the PA staff could undoubtedly enhance the effectiveness of the reintroduction initiatives, and at the same time help the conservation of the local fauna in general.

The involvement of the protected areas could improve the visibility of the reintroduction programmes. The PA communication can reach the visitors directly, on site, through information panels, leaflets, apps, and educational activities. The visitors of the area may not be the same audience as the one targeted by the reintroduction project. Therefore the communication channels of the protected area possibly can inform a different, more general public on the importance of the reintroduced species. It might happen as well that the PA management has a more active collaboration with the local communities, thus it can play an important role in the promotion of the project among the local stakeholders, improving the social acceptance of the initiative.

The protected area administration and staff can be involved in the risk assessment of the different reintroduction projects. The rangers of the area or the field specialists frequently collaborating with the PA administration have a great knowledge about the characteristics of the area. Their experience could help in the evaluation of the potential threats, such as electrocution, poaching or poisoning.

---



---

Besides the risk assessment, the PA management can provide infrastructural and technical support to eliminate the potential risk factors (eg. building fences, setting up monitoring systems, reporting poisonings, etc.).

There are several other types of possible collaboration between the rehabilitation centers and the PA management, besides their implication in the reintroduction projects. As mentioned in earlier chapters, the visitor centers of the protected areas can work as collection points or transit hubs for the injured animals. The staff of the visitor center can provide basic care for the animals brought in, which increases the chances of survival of the patients. Both the staff and the visitors of the protected area can take part in educational activities and awareness raising campaigns about the methods and the necessity of rescuing animals. In many cases the animals are not injured, and don't need rescuing, an important message that needs to be understood by all the well-intentioned visitors.

---

On my study tour I gained valuable knowledge on wildlife rehabilitation and on the role of protected areas in reintroduction projects. Hopefully this study proves to be useful for every Romanian specialist who is interested in the work of rehabilitation centers, the status of vultures in Romania, or in the prospects of a possible reintroduction. For a wider audience, I hope I managed to provide a general overview on the role of wildlife rehabilitation centers and protected areas in species reintroduction programmes.

---

# ACKNOWLEDGEMENTS

I would like to thank the following people, who helped me on my study tour.

The Green Balkans team, with special thanks to Simeon Marin, who kindly helped me organize the visit, and guided me in Sliven and the “Sinite Kamani” Nature Park. Andreana, Stefka, Hristina and all the staff and volunteers, for welcoming me and tirelessly explaining everything at the Rehabilitation Center. The wonderful people I met at AMUS - Ana, Cris, Amanda, Álvaro and Arnau, for being part of a life changing experience. The GREFA team, with special thanks to Rebeca, Lourdes, Pablo and Jorge, for involving me in the activities, and giving an inspiring example. Last but not least my family and Attila, for supporting me and helping me all along.

I would like to express my gratitude to the EUROPARC Federation and the Alfred Toepfer Stiftung F.V.S. for making this journey possible. I hope my results will prove to be useful for the professional community.

---

# BIBLIOGRAPHY AND REFERENCES

1. IUCN/SSC (2013). *Guidelines for Reintroductions and Other Conservation Translocations. Version 1.0*. Gland, Switzerland: IUCN Species Survival Commission, viiii + 57 pp.
2. AMUS (2021). *Anuario 2020* [Accessed on 28/01/2021]  
<https://www.amus.org.es/p/documentos>
3. Green Balkans (2021). *Wildlife Rehabilitation and Breeding Centre - Annual Report 2020*.
4. GREFA (2021). *Anuario 2020* [Accessed on 28/01/2021]  
<https://www.grefa.org/multimedia/descargas/category/4-anuarios.html>
5. Green Balkans (2015). *Recovery of the Populations of Large European Vultures in Bulgaria LIFE08 NAT/BG/278 - Layman's report*. [Accessed on 31/01/2021]  
<https://webgate.ec.europa.eu/life/publicWebsite/project/details/3039>
6. Gestión Ambiental de Navarra S.A. (2017). *Integral recovery of the Bonelli's eagle population in Spain LIFE 12 NAT/ES/000701 - Layman's report*. [Accessed on 31/01/2021]  
<http://www.lifebonelli.org/index.php/en/press-area/downloads/category/23-layman-report>
7. VCF Vulture Conservation Foundation (2021). *Cinereous Vulture reintroduced in Bulgaria chooses to winter in Romania* [Accessed on 30/01/2021]  
<https://4vultures.org/blog/cinereous-vulture-reintroduced-in-bulgaria-chooses-to-winter-in-romania>
8. Arrondo, E., Moleón, M., Cortés-Avizanda, A., Jiménez, J., Beja, P., Sánchez-Zapata, J. A., & Donázar, J. A. (2018). Invisible barriers: Differential sanitary regulations constrain vulture movements across country borders. *Biological Conservation*, 219, 46-52.

## **Webpages of the visited rehabilitation centers:**

Green Balkans: <https://greenbalkans.org/en/>

Green Balkans Rehabilitation and Breeding Centre: <https://greenbalkans-wrbc.org/en/>

AMUS: <https://www.amus.org/>

GREFA: <https://www.grefa.org/>

## **Additional material on vulture reintroduction:**

Get to know Europe's vulture species: <https://4vultures.org/vultures/>

Reintroduction and restocking: <https://4vultures.org/our-work/reintroduction-and-restocking/>

Captive breeding: <https://4vultures.org/our-work/captive-breeding/>