Vultures back to LIFE
LIFE14 NAT/ BG/649

LAYMAN'S REPORT

LIFE14 NAT/BG/000649

BRIGHT FUTURE FOR BLACK VULTURE IN BULGARIA

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CONTENT

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Bright Future for Black Vuture in Bulgaria LIFE14 NAT/BG/649

With the contribution of the LIFE Programme of the European Union

Bright Future for Black Vulture in Bulgaria LIFE14 NAT/BG/000649

https://greenbalkans.org/VulturesBack/en/

Coordinating beneficiary: Green Balkans – Stara Zagora NGO, www.greenbalkans.org

Associated beneficiaries:

Fund for Wild Flora and Fauna (FWFF) from Bulgaria, https://www.fwff.org

Vulture Conservation Foundation (VCF), from Netherlands https:// www.4vultures.org

Junta de Extremadura, from Spain https://www.juntaex.es/inicio

EuroNatur Foundation, from Germany https://www.euronatur.org

Total eligible budget: 3,483,411 EUR, with 75% EU financial contribution of 2,607,648 EUR**.**

Project duration: 7 years (July 2015-2022)

Text: Ivanov I., E. Stoynov, G. Stoyanov, S. Marin, L. Bonchev, I. Stoev, S. Stanchev, H. Peshev, Z. Nikolova, N. Vangelova, J. Andevski

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Maps: Hristo Peshev

Contacts:

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9 Stara Planina Str.,

6000 Stara Zagora, BULGARIA

Phone: +359 32 626 977, +359 887 887 557

E-mail: office@greenbalkans.org

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P.O.Box 78, 49 Ivan Mihaylov Str., room 327

2700 Blagoevgrad, BULGARIA

E-mail: pirin@fwff.org

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ABOUT THE PROJECT

1.1. PROJECT AREA

The project was implemented in following Natura 2000 sites in Bulgaria: Kotlenska planina (SPA BG0002029 & SCI BG0000117), Sinite kamani – Grebenets (SPA BG0002058 & SCI BG0000164), Vrachanski Balkan (SPA BG0002053 & SCI BG0000166), Kresna (BG0002003 SPA & Kresna – Ilindentsi SCI BG0000366), Provadiysko - Royaksko plato (SPA BG0002038 & SCI BG0000104), Sakar (SPA BG0002021 & SCI BG0000212), Tsentralen Balkan (SPA & SCI BG0000494), Yazovir Ivaylovgrad (SPA BG0002106), Byala reka (SPA BG0002019), as well as in Spain: Sierra de San Pedro (SPA ES0000070), Monfragüe y las Dehesas del Entorno (SPA ES0000014 & Monfragüe SCI ES4320077).

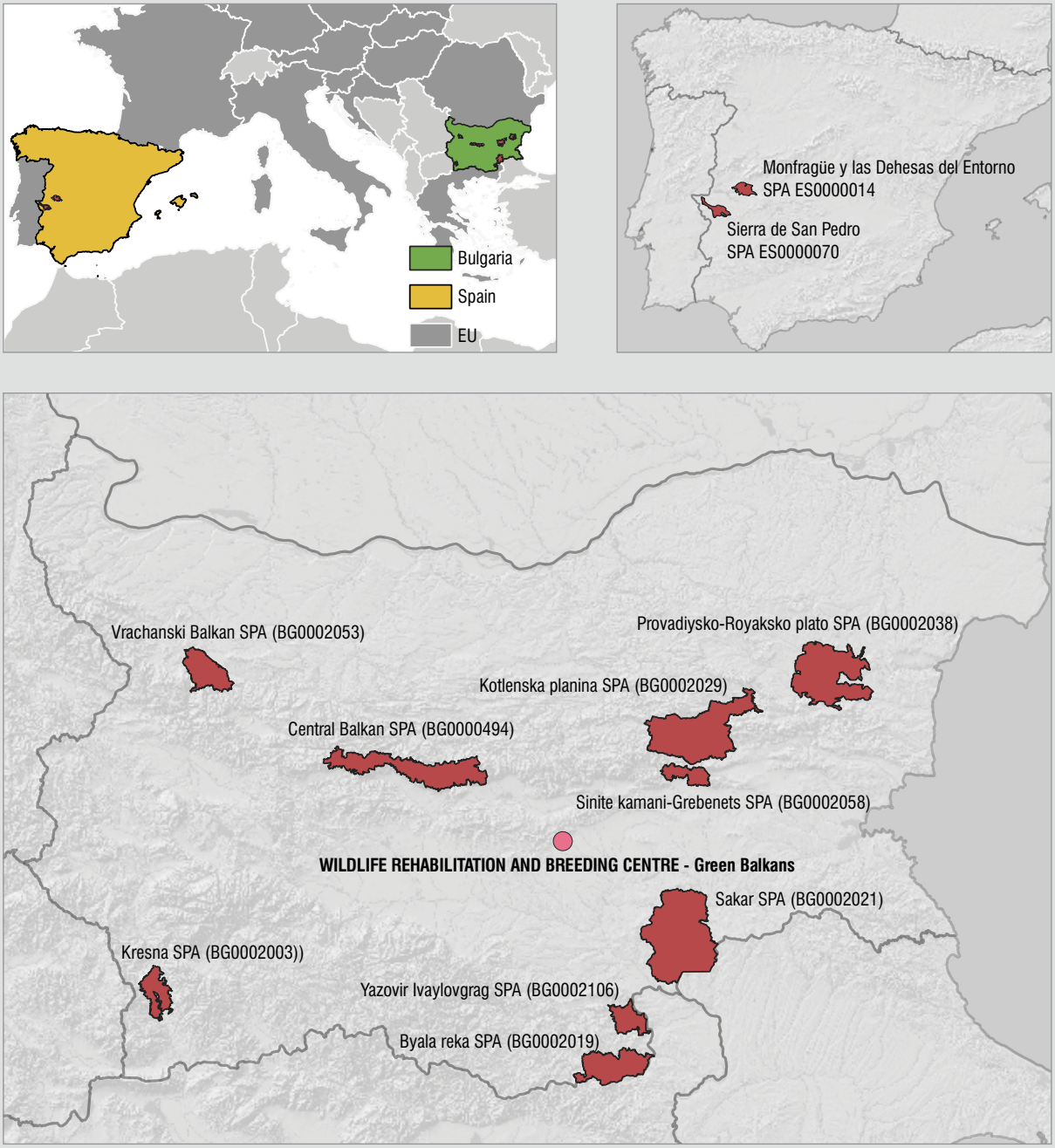


Figure 1. Map of the project area

In 2003 a long-term International Action Plan for the Recovery and Conservation of Vultures on the Balkan Peninsula and Adjacent Regions (BVAP) was initiated. It provides for a step-by step recovery of the species, starting with Griffons and finishing with Bearded Vultures.

A project "Recovery of the Populations of Large European Vultures in Bulgaria" LIFE08 NAT/ BG/278 was therefore triggered in 2010. The project was carried out by Green Balkans in partnership with the Fund for Wild Flora and Fauna (FWFF) and the Birds of Prey Protection Society (BPPS). It has led to the successful restoration of Griffon Vulture as a nesting species in the Balkan Mountains of Bulgaria, after the species has been considered extinct for over 70 years.

Inspired and motivated by this success, the team has developed the current continuation project with the first practical steps towards the reintroduction of the Black Vulture (also known as Eurasian Black Vulture), also considered extinct as a nesting species in Bulgaria since 1970s with accidental last recorded breeding in the country in 1992.

1.3. AIMS OF THE PROJECT

The project facilitated the Black Vulture return to Bulgaria through back-stopping European expertise - release of birds to re-establish the local population, improving the conditions, limiting threats and elaborating national capacities to ensure the persistence and long-term survival.

The ultimate aim of the project is to establish a nesting population of Black Vulture in Bulgaria, in order to restock the regional population and restore the connections between the sub-populations of the species on the Balkans (Greece) and Crimea with these in the Alps and the Iberian Peninsula to the west and the Middle East to the southeast, facilitating the re-creation of a much more sustainable Pan-European population.

This project creates a long-term expert exchange of know-how and information on vulture species between leading European vulture experts from Spain, France and the Netherlands and their Bulgarian counterparts, thus increasing the capacity for early identification of species-threatening diseases and/or natural conditions and habitat changes. It also aims to build a functioning network of all stakeholders having impact on nature conservation and reintroduction outcomes, specifically NGOs, park directorates, RIEW, hunter units, forest guards, veterinarians, livestock breeders and local communities for ongoing monitoring of the status of target habitats and reintroduced vulture species.

1.4. MAIN GOALS AND ACTIVITIES OF THE PROJECT

- Restoring of the extinct nesting population of the Black Vulture in the Balkan Mountains and the Struma River Valley, by importing 48 Black Vultures from Spain, accommodating them in adaptation aviaries and releasing them back into the wild;
- Strengthening the re-introduced Griffon Vulture population by importing and releasing 60 birds in the Balkan Mountains and the Struma Valley;
- Improving the nesting conditions;
- Improving the food base by providing supplementary feeding, encouraging the extensive livestock breeding and increasing the population of wild ungulates;
- Reducing the threats of poisoning and electrocutions;
- Developing the national and local capacity for successful implementation of reintroduction programs for extinct species.
- Exchange of experience and bringing the Bulgarian nature-conservation institutions and their European partners closer

BLACK VULTURE REINTRODUCTION

Two places were recommended in a feasibility study – the Eastern Balkan Mountain (EBM) (with two sub areas – the Sinite kamani Nature Park (SKNP) near Sliven and Kotlenska planina SPA near Kotel), and Vrachanski Balkan Nature Park (VBNP).

The Black Vulture releases were according to the know-how of VCF from France and Spain where two techniques were successfully used for this species. The 'Hacking' technique consists of releasing nestlings only, similarly to the release of Bearded Vulture in the Alps implemented since 1980. This method differs from the 'Adaptation aviary' technique consisting of releasing juveniles or immature birds, kept in captivity in an acclimatization aviary built at the top of a cliff in the middle of the colony. The regular presence of wild vultures feeding nearby helps to accustom the captive birds to their release environment.

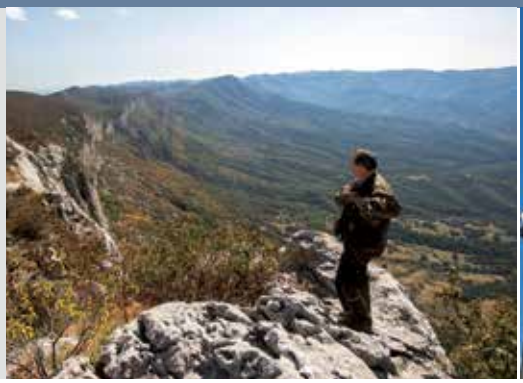
To evaluate results of the reintroduction following methods were used:

Visual observations

The vultures were frequently (every 2 to 4 days) observed by binoculars and spotting scopes at the feeding site and the known roosting sites. The released vultures are marked with colored PVC rings for easy identification. We continue to use local people and tourists' reports about observations of vultures to keep track of vultures' whereabouts in the area.

Video camera and trial cameras use

The feeding sites in VBNP and SKNP were equipped with permanent on-line video monitoring with video cameras. Additionally, trail cameras were also used. Such was in use also in the feeling site near Kotel.



GPS/GPRS tracking

All released Black Vultures were tagged with GPS/GSM transmitters produced by Ornitela Ltd. http://www.ornitela.com/ – some OT-30 were used, but due to better performance we shifted to OT-50. All attached by leg-loop to the back of birds in accordance with the VCF recommendations.

2.2. SECURE BIRDS FOR REINTRODUCTION

Birds released by hacking were born in captivity and originated from zoos or breeding centers from Latvia, Czech Republic, Belgium, and France.

Birds released by the “Adaptation aviary” method came from rehabilitation centers in Spain (Extremadura).

In total 76 Black Vultures were imported to Bulgaria in the period 2018-2022 and 6 were or became non-releasable and transferred to the captive breeding program.

From the 70 released individuals 7 were released by hacking (5 from tree hack in Kotel and 2 from hack in aviary near Sliven) of which 3 are alive - 2 in the wild (BOYAN and RIGA), which eventually settled in the area of Cankiri in Turkey and Dadia-Soufli-Lefkimi Forest National Park (hereafter Dadia) in Greece respectively, while 1 was recaptured alive (BARNABIE) and transferred for captive breeding.

In total, 63 individuals were released by aviaries as follows:

- 33 individuals were released in Eastern Balkan Mountains (EBM).
- 30 individuals were released in VBNP

The adaptation aviary method performs better in settling the released individuals in the area of release compared to hacking (artificial nest) method.

2.3. RELEASES

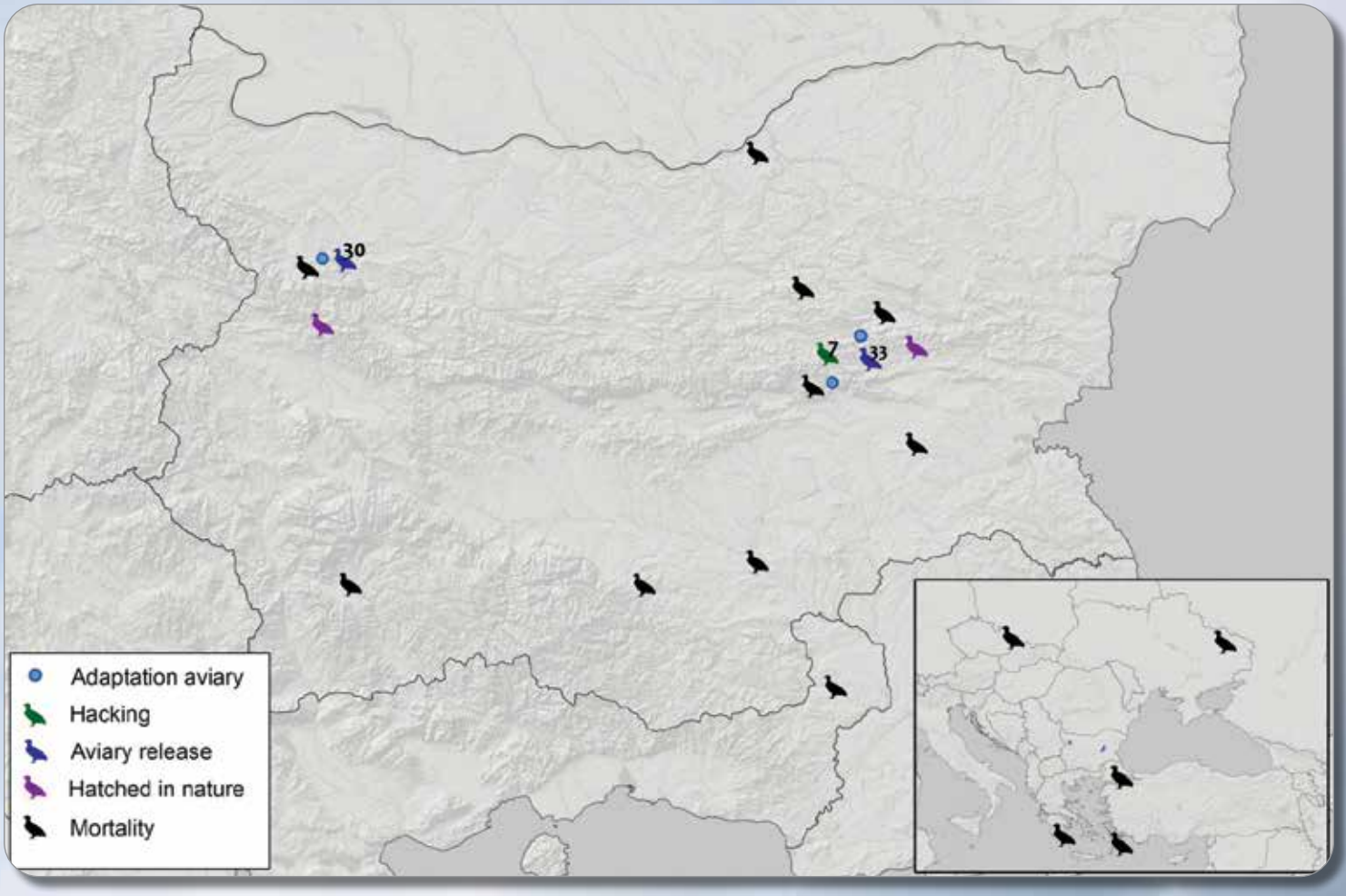


Figure 2. Map showing the release sites and the sites where the released birds died.

2.4. THREATS AND LOSES

Following cause of death were registered (number of cases in brackets): depredation (6), poisoning (6), drowning (3), shooting (2), exhaustion (2), preceding health problems (2), electrocution (1), collision with power line (1), hit by train (1), natural disaster (1), collision with vineyards wires (1).

The most serious mortality factors are the depredation over newly released birds and especially such by jackals around the aviary and the feeding site in SKNP and unintentional poisoning - placing poison baits against wolves/ jackals after their attacks on farmers livestock.

2.5. RESULTS

Settling

In each area, both EBM and VBNP over 30 birds (including wild vagrants) settled. The Black Vulture shows tendency with the gaining experience and studying the territory to increasingly explore the areas to the valleys north of the Balkan Mountains ridge, which differs from the pattern observed in the Griffon Vulture, which prefers mountain slopes and rarely goes to the valleys.

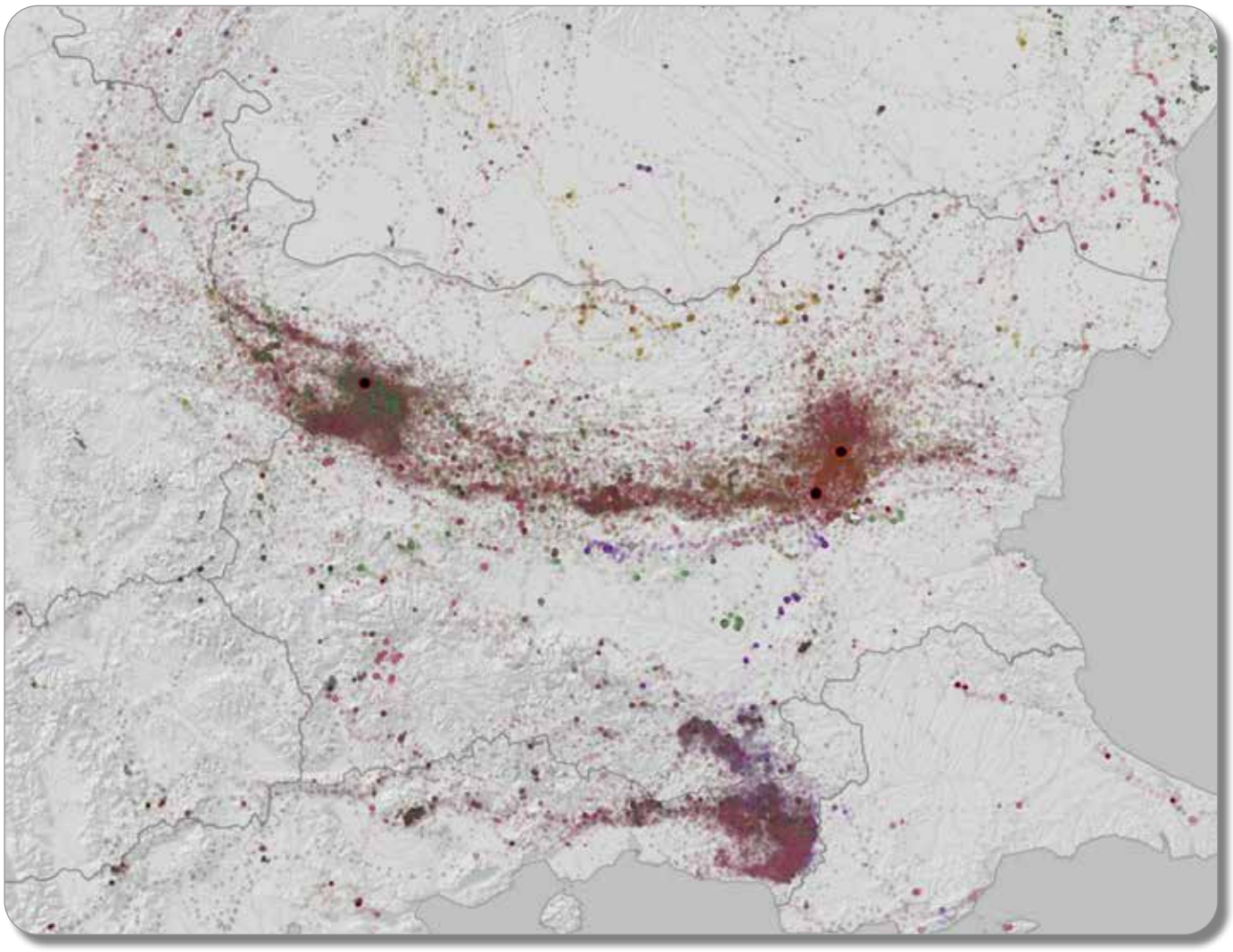


Figure 3. Territory use of the Black Vultures in EBM, VBNP and beyond. Legend: each colour is different individual

Breeding

More than 8 pairs formed in total – some of them were young birds, so exchange of partners was still possible. Pairs distributed equally between the core areas: EBM and VBNP.

Meanwhile, 7 pairs already built their own nests or occupied artificial platforms provided by the project team. Three natural nests were also built by the pairs themselves: 2 on the ground and 1 in a tree.

Four pairs have laid eggs in 2021 and 2022 seasons and 2 pairs successfully reared by 1 chick in each of the core areas.

Dispersals and movements

Although they move a lot along the Balkan Peninsula and beyond, most birds keep attached and explore intensively the focal reintroduction area of Balkan Mountains with centers the two release sites in EBM and VBNP.

Exchange of individuals between VBNP and EBM nuclei was confirmed.

The exchange of individuals between the colony of the species in Dadia in Greece and the Balkan Mountains was confirmed by visits of marked birds from each site to the other.

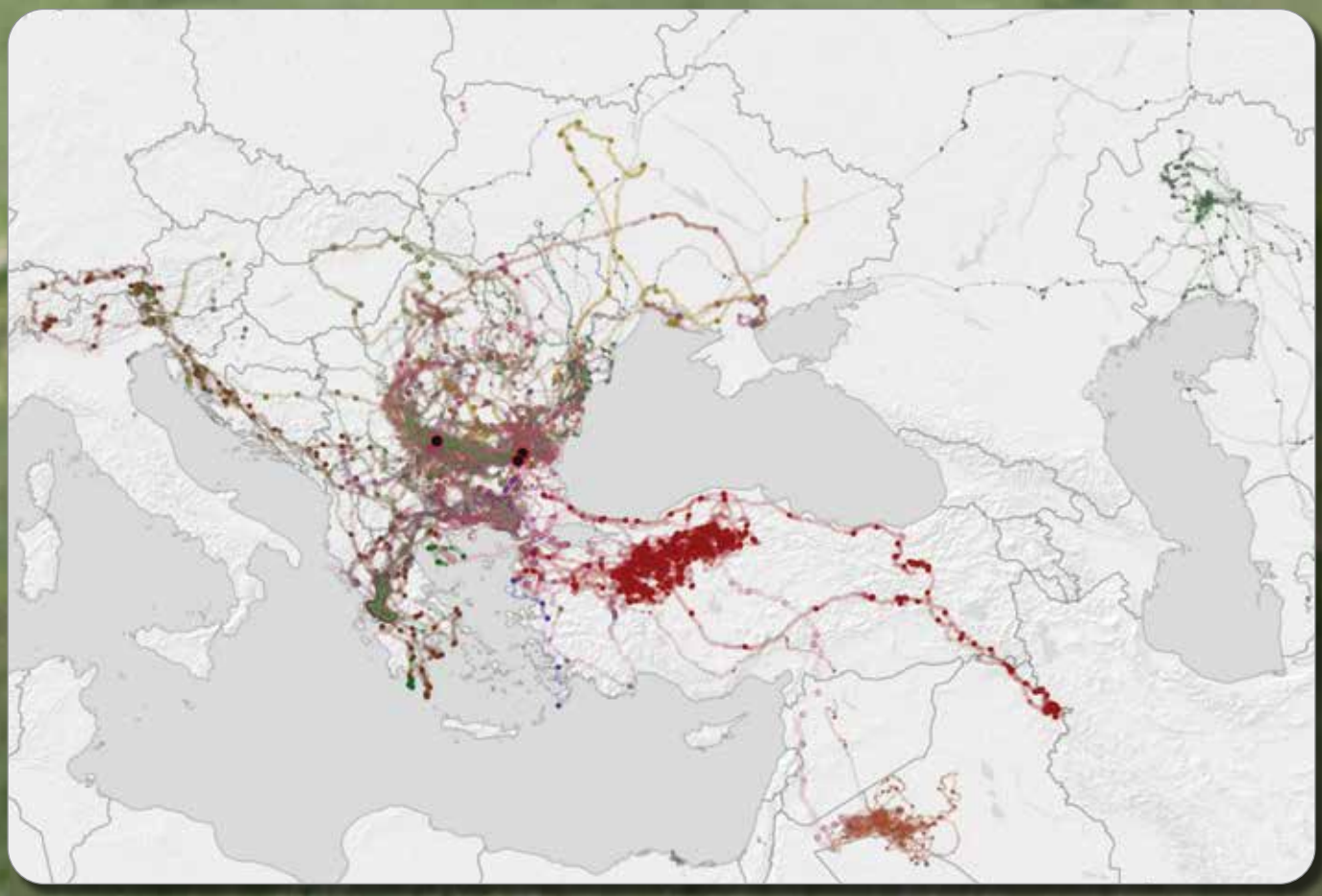


Figure 4. The movements of all tagged Black Vultures

The longest distance was covered by the Black Vulture A1 DJURANLYI who during its 41,510 km. long track gets 2,761 km by air away from its release site.

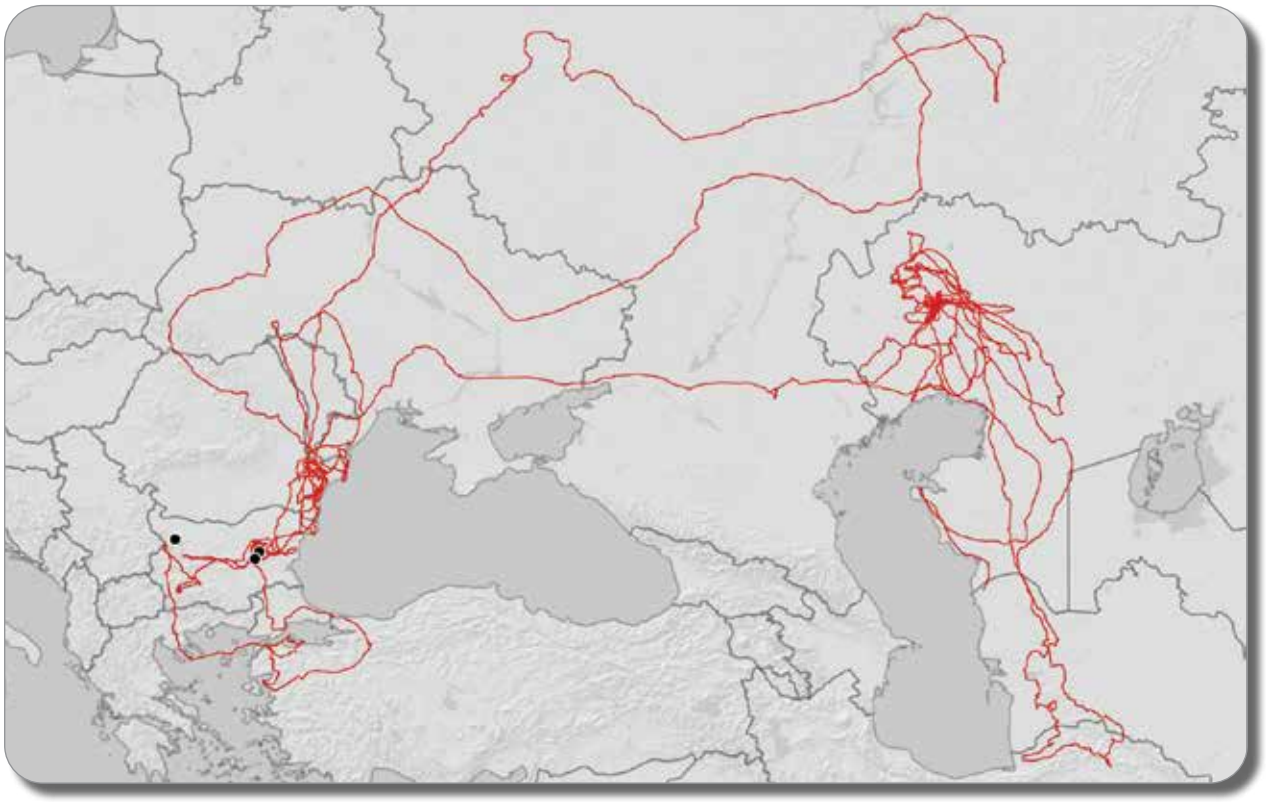


Figure 5. The movements of the Black Vulture A1 DJURANLYI

The Black Vulture RIGA demonstrated interesting behavior– after overwintering in Greece and summering in the Alps a few times - finally, settled in Dadia and bred there in 2022. So far RIGA's track covers 126,108 km. with the longest distance reached by air, from the release site of 1,490 km.

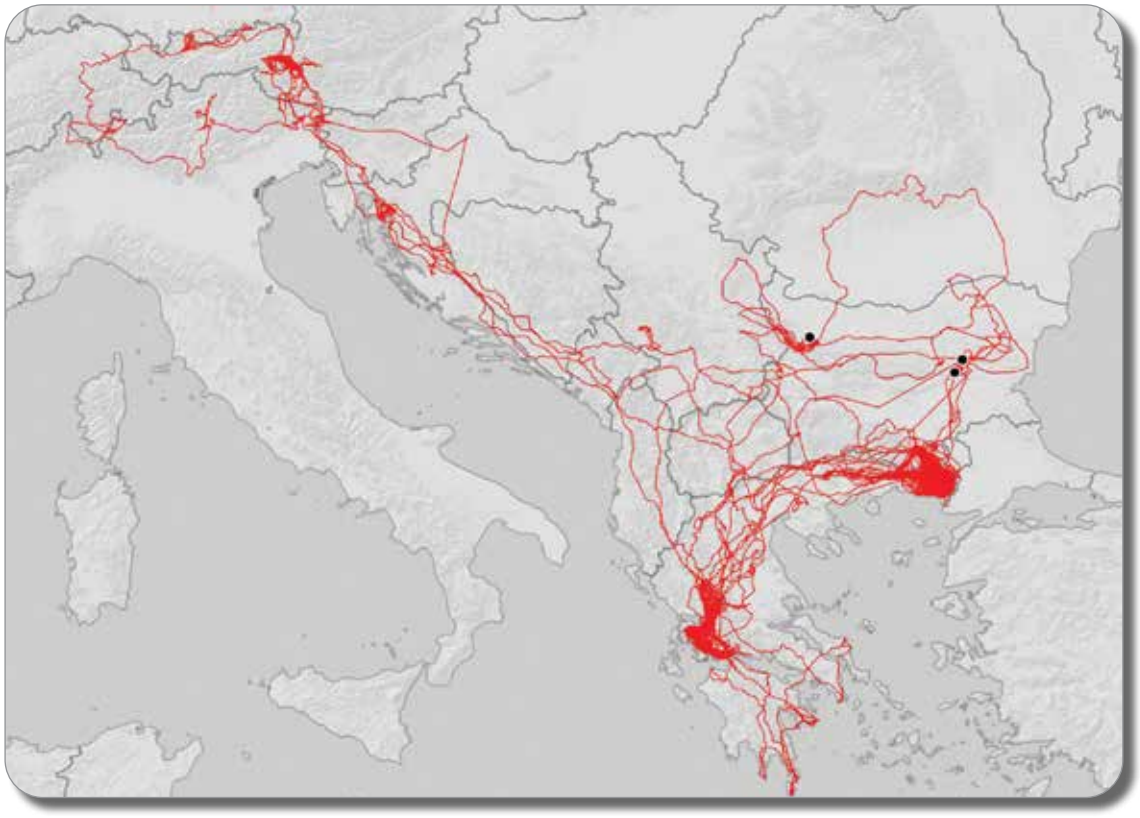


Figure 6. The movements of the Black Vulture Riga

Attracted exogenous birds

From the >18 recognized exogenous Black Vultures that visited Balkan Mountains release sites, 8 were marked. All marked birds were from the colony in Dadia, Greece.

Additionally, two non-marked Black Vultures (ULTRAMARIN and REGENERAT 1) were captured in the aviary of SKNP and tagged with GPS transmitters by the project team before being released back.

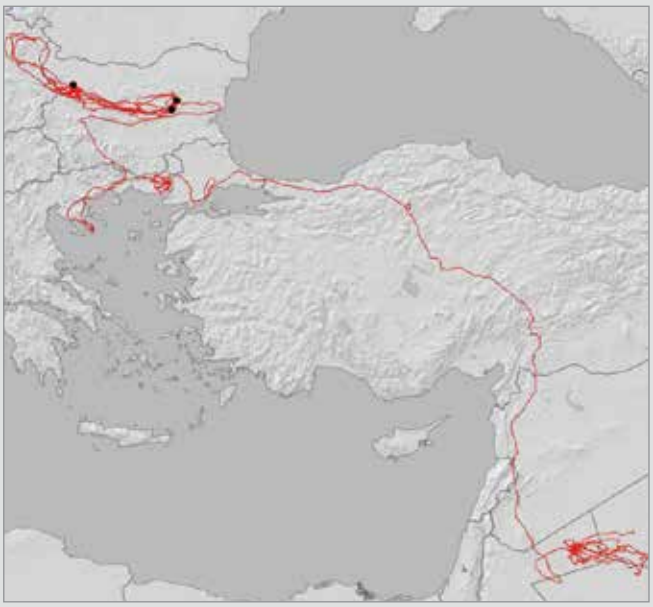


Figure 7. The movements of the Black Vulture ULTRAMARIN

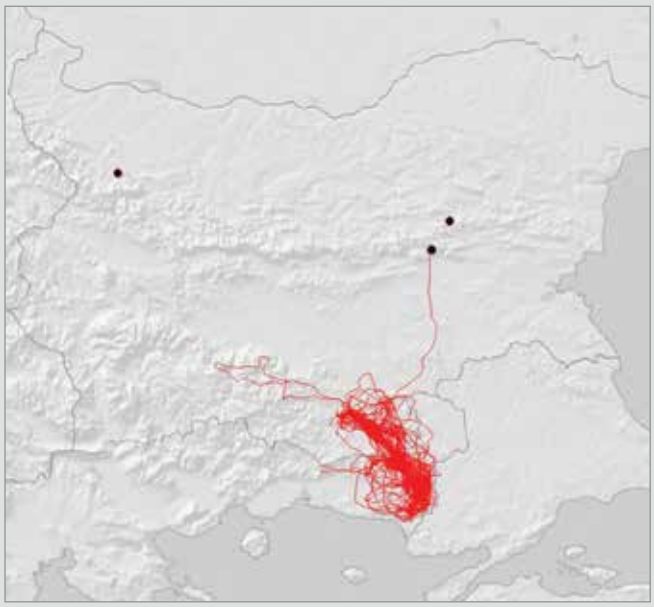


Figure 8. The movements of the Black Vulture REGENERAT 1

Other indicator species

Within the Griffon Vulture reintroduction program in Bulgaria (2010 - 2023) close to 400 Griffon Vulture were released from 4 adaptation and release aviaries. Total of 130 – 150 birds settled in 3 core areas with breeding colonies restored in: Western Balkan Mtns, Eastern Balkan Mtns and SW Bulgaria. Nine colonies are established within the core areas (5-20 km distance between each other) in total of 35 – 45 breeding pairs which raise 20+ chicks annually.

OTHER CONSERVATION MEASURES

3.1. *EX SITU* ACTIVITIES IN GB' WRBC

Infrastructure renovation and improvement: 4 existing vulture aviaries expanded, a specialized quarantine aviary reconstructed; Service premises for food preparation repaired and reconstructed; External washing premise established; 30 sq.m of refrigerating premises constructed; Quarantine care provided for 69 Black Vultures and 72 Griffon Vultures for release within the programme for restocking; 25 cases of Black Vultures rehabilitated in the WRBC, and 11 for necropsies and toxicological analysis; 146 Griffon Vulture in total admitted within the project in the WRBC; 43 Griffon Vulture accepted for rehabilitation and treatment, and 31 for necropsies and toxicological analysis; Green Balkans become an official member of the EEP as a Non EAZA participant; Captive breeding of pair of each: Cinereous, Griffon and Bearded Vultures.

3.2. SECURE SAFE FEEDING SOURCE

Hundred and twenty tons of food per year are deposited in the project sites along the Balkan Mountains – 60 tons of food were provided in VBNP feeding sites in 150 feeding events per year and the same amount of food, but on two feeding sites (SKNP and Kotel) in EBM. Another 40 to 60 tons of livestock carcasses and offal a year were deposited at the vulture feeding sites in Kresna SPA.

3.3. NEST PLATFORMS BUILDING IN TREES

As a nesting in tree species the Black Vultures' one of the most serious threats and reason for local extinction in the pest was lack of suitable trees for nesting. In order to support and facilitate the initial establishment of breeding nuclei out of the currently classic range of the Black Vulture (coniferous trees in the Mediterranean), we established 80 artificial nests/nest platforms. In fact, the first laying of eggs in 2021, by the 2 newly formed Black Vultures pairs, happened in 2 artificial platforms in Sessile Oak trees, and also in such the first reared chick fledged.

3.4. INSULATION OF DANGEROUS POWER-LINES

The Black Vultures are less prone to electrocution compared to Griffon Vultures, probably because they prefer landing on the ground if there is no suitable tree or rock instead of power line pylons.

We have experienced two cases of Black Vultures killed as result of electricity transmission system impact (1 collision and 1 electrocution) throughout the project. In the electrocution case upon the order of Regional Inspectorate of Environment and Water Shumen the responsible electricity disturbing company has urgently insulated dangerous posts of the powerline causing death of the bird. In addition, within the project, 99 electrical pylons and 38 inter-pylons spaces were secured.

3.5. RESTORATION OF FOOD SOURCE FOR VULTURES

The Green Balkans is running a sheep farm in SKNP raising more than 250 sheep that are grazing the pastures in the core area for the vultures in the site. The FWFF is running a sheep farm in Kotel raising more than 600 sheep that are grazing the pastures in the core area for the vultures in the site. Project herds of autochthonous cattle support the vultures' habitats and conservation in Byala reka SPA and Kresna SPA. Purchased within the project 93 ha of agricultural land that were integrated in agro-sylvo-pastoral complexes and will guarantee minimum required habitat management in favor of the Black Vulture colony in Eastern Balkan Mountains.

European Souslik was restocked in SKNP and reintroduced in Kotlenska planina SPA near Kotel and its habitats are now maintained by extensive grazing of the above-mentioned sheep herds. It was proven the use of souslik in the Black Vulture diet in the project area.

3.6. ANTI-POISONING ACTIVITIES

Introduction of the Early-warning system for wildlife poisoning based on intensive GPS tracked vultures is a serious break-through in the fight against poisoning of wildlife. The GPS tracked vultures are now integrated in a complex system for intensive observations on-line and related on-site visits and in-time reaction in case of poisoning. This is also an important preventive tool for identification of poisoning hot-spots and addressing the underlying causes. The feeding site operation in an area with permanent wolf presence is the second most effective tool to reduce vulture mortality. Maintaining permanent feeding sites for vultures in regions of sympatric presence with wolves is an irreplaceable conservation tool. The existence of an aviary with Griffon Vultures inside, placed just at the feeding site increases the attraction of wild and free-ranging reintroduced vultures and this is a way of keeping them away from occasionally present and potentially dangerous (poisoned) food.

Huge efforts on increasing the capacity of responsible for reaction in case of poisoning institutions were made. Project team also participated in the development of Bulgarian Anti-Poisoning Strategy - adopted by the Ministry of Environment and Waters in Bulgaria in 2021.

OTHER BENEFITS

Vultures provide the following regulating services - disease and pest control and reduction of the environmental and economic costs of domestic livestock waste disposal.

The minimum amount of waste products that the vultures released within the most recent restoration projects can destroy is in excess of 32,400 kg/year with minimal presence in release areas.

Based on the data, only for the period 2018 - 2021, for the sites in Rakitna, Kotel and Vrachanski Balkan, over 374,400 kg of carcasses and offal from livestock were disposed and successfully destroyed at various adaptation aviaries and supplementary feeding sites, within the framework of the project and related side initiatives alone. This means that the vultures have saved the state and the owners at least 374 thousand BGN for transport and incineration of animal waste for the period 2018-2021.

In addition to the economic costs, vultures have potentially saved a total of 37.94 metric tons of CO2 per year from transporting animal products to incineration sites over the 2020-2021 period alone.

Regarding supporting services - vultures are an important functional element of ecosystems and their absence leads to an increase in the number of other facultative scavengers, resulting in trophic cascades of increased predation, competition and invasion, an increase in the number of stray dogs, leading to potential human health hazards and changes in community composition.

At the same time, the implemented projects have provided an average of about 70 FTE jobs over a period of 3 to 5 years to highly educated experts as well as low-skilled staff, often in underdeveloped rural areas.

EXCHANGE AND TRANSFER OF KNOWLEDGE, COMMUNICATION

A Manual for establishing and use of early-warning system for poisoning was published by Stoynov, Peshev and Grozdanov 2018, find it here: https://www.researchgate.net/publication/ 330563619_Early_warning_system_for_wildlife_poisoning_using_intensive_GPS_tracked_vu ltures_as_detectives).

All poisoning and other incidents have been investigated by prosecutors and followed administrative prosecution procedures on perpetrators (when revealed). Although not much progress has been made in that field the capacity of the institutions engaged (prosecutors, police, environmental and veterinary state authorities etc.) gradually increases.

During cooperation with neighboring countries project experience was widely transferred among the nature conservation community which expires it for similar activities. For example, the Milvus Foundation started planning a vulture reintroduction project in Romania.

Project website was established, maintained, and got thousands of hits. Photo archive reflecting the project activities, including more than 20 000 files with a total volume of 140 GB; Professional footage has been taken for the purpose of the project documentary movie. The standard information materials of the project - folders, factsheets, stickers, leaflets are reissued regularly when the quantities are used up. Also, memory cards game; certificates for the participants in the quizzes, and educational puzzle were issued. In total 10 information sign boards have been installed in all target SPAs.

Series of integrated local, regional, and national events to promote vulture conservation was held with 7 000 participants of various target groups: kids, school students, farmers, hunters, etc.

Media monitoring of the project actions registered 204 reports in online and other media. “Wild Chestnut” Awards for Journalists held 2021 were dedicated to vultures.

Networking with other projects and initiatives was very intense during the project.

ACKNOWLEDGEMENTS

The conservation work and monitoring of the Black Vultures is implemented under the LIFE project “Bright future for the Black Vulture in Bulgaria” LIFE14 NAT/BG/000649, financed by the programme LIFE of the EU.

Additional contributors of the Project are:

- Stichting Wildlife, Netherlands;
- BIOPARC Conservation, France;
- Sainte Croix Biodiversite, France;
- Mulhause Zoo, France;
- Gorlitz Zoo, Germany.

There would not be reintroduction without birds donated by Extremadura! Black Vulture EEP and their members also contributed.

We are grateful to all those zoos who continued to donate Griffon Vultures for reinforcement of Bulgarian population, donated transport crates and covered transport cost for the birds to arrive in Bulgaria and/or donating transmitters for the birds to be equipped.

Thanks to Bulgarian and foreign institutions/organizations who supported our field and administrative work.

BRICHT FUTURE FOR BLACK VULTURE IN BULGARIA

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Project activities are financially and/or logistically supported by:

Birds released by hacking method are provided by:

Organizations/institutions with significant contribution to the project implementation:

Thanks to dozens private persons and group of friends, in Bulgaria and abroad, who donate their time and finances for conservation activities, purchase of GPS/GPRS transmitters, adopting birds, field check their conditions, provide supplementary feeding when needed, rescuing them in field, rehabilitate them and transport them back to Bulgaria, reveal cause of death and retreat the transmitters, and many, many others.

LIFE14 NAT/BG/000649

СВЕТЛО БЪДЕЩЕ ЗА ЧЕРНИЯ ЛЕШОЯД В БЪЛГАРИЯ

BRIGHT FUTURE FOR BLACK VULTURE IN BULGARIA