JUNTA DE EXTREMADURA
Consejería de Medio Ambiente y Rural, Políticas Agrarias y Territorio

Action A2

"Preparation of monitoring for the Black Vulture chick survival in Extremadura"

Bright Future for Black Vulture LIFE14 NAT/BG/649
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1. SUMMARY

The black vulture (*Aegypius monachus*) is the largest species of the order Falconiformes, family Accipitridae, that inhabits the Palearctic, being able to reach 10 kg in weight and a wingspan of about 295 cm (Hiraldo, 1977). It is one of the four species of vultures that breed in the Iberian Peninsula and is characteristic of its uniform dark color, the presence of black or grayish down on the head and lanceolate feathers on the neck, which give it the appearance of monk-monachus- Which gave rise to his name in Latin. It is a monotypic species, in which there are very small biometric variations between individuals of different geographical areas, being those of the Iberian peninsula the smallest (Cramp, 1998). Its anatomical structure is a reflection of evolutionary adaptations, and determines its feeding behavior, social organization and habitat selection.

The number of couples in Spain at present is around 1,600 couples according to the different censuses collected (Soto-Largo and Oria, 2000, Regional Ministry of the Environment of Andalusia, 2004, De la Puente, 2004, Mosqueda, 2004, Sánchez , 2004b, Ministry of Agriculture and Environment of Extremadura, Foundation CBD-Habitat / Regional Ministry of Castilla-La Mancha, unpublished data). At the world level, the species is distributed as a breeding ground in the southern Palearctic area, from the Iberian peninsula to Mongolia and southern Siberia (Del Hoyo et al., 1994), creating a discontinuous strip by Turkey, the Caucasian mountain ranges and foothills Himalayas. The world population is around 7,200-10,000 breeding pairs, with China having the largest number of couples, with at least 1,760 (Xiao-ti 1991). In Europe, there are about 1,900 couples (BirdLife International, 2004), in Spain, Turkey, Russia, Greece, France, Ukraine and Bulgaria, while in countries such as Portugal, Macedonia, Croatia and Serbia it is in the process of recolonization and settlement. The general tendency of the populations is of increase in the majority of the western European countries.

The black vulture population in Extremadura has undergone a notable increase in recent years, which means that this community can collaborate with this type of reintroduction projects of individuals in areas or countries, such as Bulgaria, which have a very low population, with few breeding pairs. This means that individuals who alone would not be able to survive, are rescued and then recovered, for a future reintroduction. To do this, the breeding pairs of Monfragüe and Sierra de San Pedro will be closely monitored. This study will be carried out between February and October, a period that includes reproduction, incubation and growth of the chickens until they abandon themselves the nest.

Within the framework of this project, the main strategy of action is the follow-up of the breeding pairs to ensure the survival success of the chicks. By conducting an exhaustive follow-up of the colony, it will be possible to detect possible nestlings or undernourished young, before they die or be depredated, and that can be recovered at the "Los Hornos" Wildlife Recovery Center.

2. INTRODUCTION AND OBJECTIVES

The black vulture population in Bulgaria is considerably depleted, to this day hardly has breeding pairs. The last pair of black vultures (*Aegypius monachus*) was confirmed in 2004, ignoring the trend of the population. However, adult and juvenile individuals from the nearby colony in northern Greece are often seen in southeastern Bulgaria, regularly using supplementary (midden) feeding sites.

Vultures have been a major concern of non-governmental nature conservation organizations in Bulgaria since their inception in the late 1980s. The first directed conservation activities are aimed at providing safe food in supplementary feeding places specially established in the Rhodopes. Similar places are established later in the mountains of the Balkans and southwest of Bulgaria. In 1998, a Nature Conservation Center specializing in Eastern Rhodopes was established through the Biodiversity Conservation Program of Bulgaria to promote nature conservation activities, implement studies in the field of biodiversity and develop management measures for Threatened species in Eastern Rhodopes.

In contrast, black vulture populations in Extremadura, according to available data from different monitoring works, have experienced a significant increase in the last decades, partly because of an upward trend in the population but also because of increased effort Of census, that has consequently that some breeding pairs of which it was not known have been incorporated to the stock of the species.

As a result, areas such as the Sierra de San Pedro have changed from 242 nesting pairs in 2005 to 312 couples who started incubation in 2006, and that the totality of the breeding population of Extremadura is now considered 791 couples. In view of these data, Extremadura is home to 49.43% of the Spanish population and 42% of the community population, and the Sierra de San Pedro, with at least 312 pairs, is the largest colony in the entire Western Palearctic, Followed by Monfragüe with approximately 287 couples.

The reproduction data for the species are variable according to the area studied. In Sierra de San Pedro, after a detailed study in the 2006 season, the final number of chickens that flew was 170, which means 54.3% on the couples that started the incubation. However, in Monfragüe, the data provided by its Director-Conservative indicate that 80% of the breeding pairs managed to finish their chick. It is worth mentioning losses due to poisoning, collisions with wire fences, electrocutions with electric lines, etc.

In this respect, it is worth noting that the following individuals of black vulture were admitted to "Los Hornos" Wildlife Recovery Center under the General Directorate of the Environment during the years 2015 and 2016:

YEAR	ENTRY	CAUSE	AGE (YOUNG)	AGE (ADULT)
2015	ALIVE	Trauma / collision	2 individuals	2 individuals
		Nest fall	2 individuals	
		Captive breeding	1 individual	
		Outrage		1 individual
		Unknown	1 individual	1 individual
		Inexperience	5 individuals	
		Malnutrition	1 individual	
		Infection / Parasite		2 individuals
	DEADS	Poisoning		1 individual
		Outrage		1 individual
		Ingestion		1 individual
		Unknown	1 individual	
2016	ALIVE	Trauma / collision	1 individual	3 individuals
		Outrage	1 individual	1 individual (shoot)
		Captive breeding	2 individuals	
		Poisoning		1 individual
		Unknown	1 individual	
		Inexperience	4 individuals	
		Malnutrition	1 individual	
		Infection / Parasite	1 individual	1 individual
	DEADS	Poisoning		1 individual
		Outrage	1 individual	
		Unknown		1 individual

In the table above, all income received at the "Los Hornos" Recovery Center during the above period is shown. Altogether, during the biennium, 42 individuals arrived at the Center, of which 17 were totally recovered and 7 are still pending recovery. Of the remaining individuals, some were killed, others died during the recovery period and others have been euthanized. Of all of them, one will remain in the Center, because his physical conditions prevent him from living in freedom. It should be noted that the individuals fully recovered, 10 of them were donated to various organizations and 8 of them released.

Liberation of Black Vulture in the province of Caceres

Given these precedents, the project plans to facilitate the return of the black vulture to Bulgaria. The final objective of the project is to establish a black vulture nesting population in that country in order to restore connections between the subpopulation of the species in the Balkans (Greece) and Crimea and in the Alps and the Iberian Peninsula, Thus facilitating the recreation of a much more sustainable population.

In order to try to solve the problem, the Life Project "Bright future for Black Vulture" is signed between Green Balkans - Stare Zagora NGO and the Junta de Extremadura, consisting of monitoring the population in Monfragüe and surrounding pastures, and Sierra de San Pedro, trying to recover all those chicks or young individuals that for various reasons do not survive alone. In order to try to solve the problem, the Life Project "Bright future for Black Vulture" is signed between Green Balkans - Stare Zagora NGO and the Junta de Extremadura, consisting of monitoring the population in Monfragüe and surrounding pastures, and Sierra de San Pedro, trying to recover all those chicks or young individuals that for various reasons do not survive alone.

Any individual found with survival problems will be checked and treated at the "Los Hornos" Wildlife Recovery Center, located in Sierra de Fuentes (Cáceres), where once recovered it can be reintroduced in Bulgaria.

Information poster of the Recovery Center "Los Hornos"

Focusing on the follow-up work (action C12), will last 4 years, working intensely during the breeding period, incubation and growth of the chicks, until the individuals leave the nest. To follow up, once all the platforms (nests), occupied by the breeding pairs, tracking routes are known, located in strategic places, from which the breeding pairs do not feel annoyed, will center the minimum distance , Approximately 300 meters, whenever possible from the spot of the sighting.

Follow-up will focus on the study of reproductive success and on the reasons why this success has not taken place. On the other hand, during the observation of the

platform, it will be determined if the chicken is alive, if it has been able to fall from the nest when it has begun to flutter, or if the adult individuals have left the nest, for various reasons. Once the problem is known, it will be attempted to catch the chick before it dies or is depredated, if possible, and once captured, transport it to the Recovery Center.

Thus, each year at the end of the breeding season (late October-November), when the chickens leave the nest, a study will be carried out where all the data obtained will be recorded and an evaluation will be made.

3. METHOD OF MONITORING.

3.1 Control technique.

To carry out the monitoring of the colony of black vulture in Monfragüe, we will start from the data obtained in the censuses carried out in the period between 2009 and 2016.

Census of black vulture in the Monfragüe area (UTV-9)

Annuity	**Number of total pairs**	**Number of chickens**
2009	295	224
2010	231	171
2011	241	153
2012	253	171
2013	271	187
2014	327	195
2015	301	203
2016	301	193

Based on these data, 505 black vulture nesting platforms are registered in the Monfragüe environment, of which in 2016 they were occupied by 302 black vulture breeding pairs. The rest were either empty or some of them were occupied by griffon vultures (Gyps fulvus).

With all these data, the monitoring in the field, will begin during the month of February, visiting the total of the platforms registered and noting, those platforms or nests occupied by breeding pairs of black vulture. Once the nest has been occupied, during the month of March, and after incubation of the egg in those pairs whose settlement has been satisfactory, it will be determined exactly those platforms that augur the breeding of a chick, and therefore, those on which Monitoring should be focused exclusively. It should be noted that it is not until mid-February when black vulture breeding pairs occupy their platforms. The idea of starting the sightings of the platforms before is due to the technician's ignorance of the location of the nests and the strategic points of sighting, but also, because in Monfragüe in recent years, Giving the problem

of the occupation of these platforms by pairs of tawny vultures (*Gyps fulvus*), since their incubation is earlier.

During the follow-up, each platform will be visited at least once a month, so once the number of breeding pairs is known, daily follow-up routes will be made. It should be taken into account, when sighting the platform, that individuals should not be disturbed, avoiding the traffic with vehicles near the nests and being at a distance prudent enough, not to produce alterations in both incubation as in raising chick.

Black vulture platform perched on Quercus Suber L.

In carrying out this very exhaustive monitoring of the platforms, important data will be obtained on why certain breeding pairs lose or abandon the chicken, being able to present some that have to do with forestry works, proximity to roads or forest roads very busy, etc.

Knowing this problematic, when arriving at a platform in which the chick or any individual of the pair is not seen, the platform and its environs must be thoroughly inspected, in order to try to clarify the problem and thus to take advantage, if for reasons of learning Of the chicken to flutter, this one has been able to fall of the nest, being at the expense of the malnutrition or the predation.

This search will be done by means of concentric radios, that is to say, search radios circular that will increase as we go forward and we find no clue. It should be noted that we must count on the difficulty of the terrain in which we find ourselves, Mediterranean forest with a high density of scrubland that makes walking quite difficult.

In these cases, if we find a chick that has problems in order to survive, it must be captured and immediately transported to the "Los Hornos" Wildlife Recovery Center, for rapid intervention and subsequent recovery (section 4 Shows protocol of action).

The material used to follow up will be:

- Necessary mapping of the area with the location of the platforms.
- Binoculars.
- Telescopes.

- Paper statistics.
- Tablet: which will be used for data collection and also for consultation the cartography.
- All terrain vehicle.

3.2 Evaluation of the population:

During the 4 years of action C12, at the end of the breeding season, that is to say, at the end of October, an annual report will be made detailing and analyzing all the data obtained with this monitoring.

This report will reflect all the information obtained regarding the platforms used by breeding pairs, as well as statistical data, breeding success, retrieved chicks, etc.
The year 2017, being the first of this action, will be the year in which, the information collected should be the most important, knowing the breeding period where more losses occur, so in later years, power during that period If possible an intensification of sightings if possible.

In the report will appear detailed tables of data and cartography with the routes made, as well as an objective discussion of the results obtained.

4. PROCESSING OF CATCHES (FALLEN INDIVIDUALS)

The manipulation of wildlife can carry some risk, both for the person doing the handling, as for the animal. It is not enough, therefore, to comment some basic notions related to its capture, transport, handling, etc. Without entering into particular considerations of each species, it is advisable to know briefly the behaviour of each animal group, as well as the weapons they use to defend themselves and their weakest points. This will give us more security and will help to predict the response of the animal to our approach; It will also prevent us from causing major injuries during handling and transportation. If we take raptors as an example, we must know that we must protect ourselves from their beaks and claws, but we must take into account that the bones and joints of their wings are very fragile, and that improper handling can convert a recoverable animal into another who must spend the rest of his life in captivity. Even within raptors there are great variations: the vultures use only the beak, but occasionally claws and wings, while the great eagles have their most powerful weapon in their claws.

4.1 Collection in the field.

Black vultures are very sensitive to manipulation or disturbance in general. When they are uncomfortable, they may break their eggs or leave their nest. Parry-Jones (2000) also states that vultures can regurgitate food when they are stressed.

For the collection of animals, we must take into account a series of previous considerations that we number below:

- Wild animals, to a greater or lesser degree, do not tolerate human presence and, therefore, their handling.
- In any case, this proximity and handling leads to great stress, so the entire capture process should be done in a way that minimizes this aspect. Stress is itself capable of producing death by heart failure, however, the most frequent effect is invisible to our eyes and leads the animal to an immunosuppression produced by a state of constant tension that ends quickly with its reserves, and makes you very vulnerable to any infection. Stress sensitivity varies depending on the species. As a general rule, as the size of the species decreases, it is more sensitive to stress and also consumes its energy reserves much faster by having a higher basal metabolism.
- Most animals will try to flee from us and, if it is not possible, they will try to defend what they consider an aggression.
- Improper handling of the animal can worsen your situation.
- It is necessary to know the speed of movements and the agility of the animal to avoid that it can attack us or that it can escape, being able to injure even more.
- Many animal accidents are due to overconfidence on our part.
- Do not forget hygiene rules before and after handling an animal; Wildlife, like domestic animals, have external and internal parasites, although they are often bird-specific. Birds can be carriers of salmonella and other bacteria.
- The possible attacks of the animal should not be treated as a personal affront but as being of its instinct for conservation. If we have been harmed or caused a minor injury it is because of our lack of foresight; We must not take revenge on him once captured.
- Cures should not be performed because it is not our job, and we could cause a greater evil.
- Do not give food or drink; is not suitable for your trip to the Recovery Center, and the animal in the state of tension is not willing to accept voluntarily.
- To reduce stress, we will keep silent and introduce the animal into a semi-dark box with sufficient ventilation (depending on the time of year).
- We should always wear thick gloves.

The result of our attempt to capture will depend on how we act in the first moments. Before starting, it will be necessary to collect all the possible information of the animal, of the place as of the incidence and its causes. Evaluate possible drawbacks and hazards that your catch may present; and then take appropriate measures to prevent accidents.

At the time of capture we must:

- Acting with determination and confidence, which is not synonymous with abruptness and violence. Try to catch the animal unprepared.
- Silence and slow approach manoeuvres are more effective than screams and jerky movements.
- Beware of apparently quiet animals, overconfidence can bring us problems.
- When the animal is within our reach, we must act quickly and immobilize those most dangerous parts (in our case the peak).
- A small blanket, cloth, towel or garment should be worn to cover it, especially the head. In this way the animal does not see our movements and reduces its stress considerably and prevents us from attacking.
- They should be immobilized by using a rag and gloves and covering the head and body with the cloth, one hand holding the head at the nape of the neck, pressing the wings against his body with his arms, and then holding the claws with the other hand. To maintain this immobilization, the bird can be brought closer to the body, preventing it from opening its wings with the pressure of the arms surrounding the animal. When it is deposited inside the box, it should be done with extreme care, being the head in scavengers the last thing to loose, moving them away as far as possible, and closing the box immediately.

In the event that removal of a black vulture egg is necessary for different reasons (fallen nest, abandonment of nest, parental death, etc.), the Fauna Recovery Center and the corresponding AMN (Natural Agent) will be informed of the facts and will be provided By the CRFS a portable incubator with power supply through a lighter and / or generator for incubation during transport and that there are no sudden changes in temperature that could lead to the death of the embryo (if alive). Handling should always be carried out with gloves or with clean hands. Only if necessary will the egg be cleaned with blotting paper (stained with a lot of mud, very wet or stained with faeces, etc.).

Portable incubator

The capture of the individuals (eggs, chicks, young and live adults) will be communicated previously to the corresponding Natural Agent, who should be present at the place. In the case of corpses, those who suspect poisoning (anomalous positions, vomiting or baits, several dead animals, death in the nest itself), the Natural Agents themselves will be responsible for the removal of the corpse and the records, and the Transport to the Recovery Center (following the Strategy Extremeña against the illegal use of poisoned baits). In the rest of corpses, after communication to the AMN and the Recovery Center, they may also be transported by the follow-up technician for necropsy and analysis to determine the cause of death and, therefore, to increase information regarding the problems of Conservation of the species.

Once the capture is done, we must fill in the corresponding sheet, either loose in the field or the person who collected the animal. Animals should not be handed over without a token, and the data must be legible. A copy of the card must be delivered to the person who delivers it (green copy), the yellow is for the collection staff and the target for the center.

DIRECCIÓN GENERAL DEL MEDIO NATURAL

JUNTA DE EXTREMADURA

Centro de Recuperación de Fauna Silvestre y Educación Ambiental
LOS HORNOS
Sierra de Fuentes
Teléfono 900 351 858

Animal entregado por D. _____

con domicilio en la C/ _____ n.º _____

de _____ provincia de _____ C.P. _____

con número de teléfono _____/_____

De la especie _____

Animal recogido en la finca _____, paraje _____

del término municipal de _____, provincia de _____

Posible causa de ingreso _____

Observaciones: _____

_____

En _____, a ____ de _____ de 201____.

Fdo.: _____

- ☐ Empresa de recogida de fauna silvestre.
- ☐ Dirección General del Medio Natural.
- ☐ Guardia Civil.
- ☐ Otros.

MUY IMPORTANTE: Se deberán rellenar todos los datos de la ficha.

Nota: *Amarillo:* para el particular. *Verde:* Agente. *Blanco:* Desprender y pegar en la caja de transporte.

Record of delivery and delivery in the CRFS "Los Hornos"

The material necessary to make the capture of the individuals is detailed below and will go during the whole period of follow-up incorporated in the vehicle:

- Vehicle.
- Leather gloves (for the capture of potentially dangerous animals such as raptors). The Latex gloves (for collection of corpses if necessary).
- Masks (for collection of corpses suspected of infectious disease such as avian influenza due to outbreaks of disease).
- Rags of different sizes and thickness (to capture animals and avoid ruining the plumage and improve immobilization of the wings).
- Clean cartons, although they can be reused if they are in good condition, or by placing a cardboard reinforcement in the lower part). It can also be used to transport large animals such as vultures, to prevent them from yielding with weight.
- Trasportins for large animals, in this case the black vulture.
- Collection sheets.
- Pens.
- Wire cutting pliers (in case of collisions or hooks).
- Proper clothing and footwear.

In order to be clear about all these concepts, the "Los Hornos" Wildlife Recovery Center has carried out two days of management (capture) with griffon and black vulture located in a flyer zone, taking advantage of the temporary check made by the Veterinarians of the Center. In this way, all the knowledge necessary for the management of this species of birds was acquired. To emphasize, as well mentioned previously, that was also done with griffon vulture, this species is more fighter, at the time of the capture that the black vulture, which is much more lordly and quiet. A black vulture was also captured to contrast the above.

Flyer zone.

4.2 During transport.

To carry out transportation from the "Los Hornos" Recovery Center, we provide all necessary means. If for some exceptional reason, we did not have a box or transport for transport, we could use sacks of pita, rope or other material permeable to air, but provided that it is adapted to the size of the animal and keeping all of it inside the coat. However, in the case of poultry, this type of packaging can considerably damage the plumage, so it is a justifiable method only for cases of extreme necessity and exhausted the possibilities of being introduced in suitable boxes.

The size of the box should be enough so that the animal can move, but not so large as to flap, jump, etc. For this, there are two types of boxes, large and small. If the person who gave the notice has managed to introduce the animal into a box and this is appropriate, it will not be necessary to change it.

Another fundamental aspect is the temperature, if it is higher than 30 ° C, the risk of dehydration is high, so the transport must be started immediately and ensure that the area of the vehicle where the animal is transported is well ventilated or air-conditioned And facilitate aeration by creating holes in the transport box or using transportins instead of boxes. During the trip to the center we must avoid anything that can contribute to stress the animal: noises, sudden movements ... Do not make stops along the way since the animal can accuse problems.

The trunk of the vehicle must be sufficiently ventilated for proper air circulation. We must not tie the legs or cross the animal's wings to immobilize it, since it can further aggravate the possible injuries. We must contemplate that once the animal is captured, the most urgent thing is to transport it immediately to the Recovery Center.

In the case of collecting a black vulture egg, the transport will also be carried out as quickly as possible to the "Los Hornos" CRFS, using the portable incubator with a cigarette lighter or generator to maintain the ideal temperature and avoid sudden movements.

The corpses will be transported to the CRFS "Los Hornos" by AMN when there is suspicion of poisoning, inside a sealed bag and with the sample collection minutes and chain of custody; And by the technical personnel of monitoring in the other cases, packed in bags and with the chip.

4.3 Stay in the Recovery Center.

The General Directorate for the Environment of the JUNTA DE EXTREMADURA has a wildlife recovery Center in the Sierra de Fuentes near the city of Cáceres. This Center has the most modern and effective facilities for curing and recovering injuries in wild animals as well as the development of research that may serve to conserve endangered species.

Depending on the age and condition of the animal, it will be transferred to different units of the center: growth room (for chicks), Intensive Care Unit (ICU) in patients with injuries, flight cages (for muscle strengthening and learning for hunting), etc. It should be noted that there is an operating room with the necessary instruments, for those individuals whose damages require surgery.

Entered animals that require medical treatment are introduced into the ICU or growth room (depending on age and size). In this room there are individualized boxes in which they will remain isolated under suitable conditions of temperature, light and humidity. Located next to the operating room, it has been designed so that the animals enjoy peace of mind and are easily accessible, so that veterinarians can apply the appropriate treatment minimizing stress.

The growth room for chicks is composed of a series of boxes, each of which is equipped with an ultraviolet light source, an adjustable heat source and in one of them there is a video camera for continuous video surveillance. The first is necessary for the synthesis of vitamin D, responsible for the calcium fixation in the bones, although it is advisable that they receive sunlight.

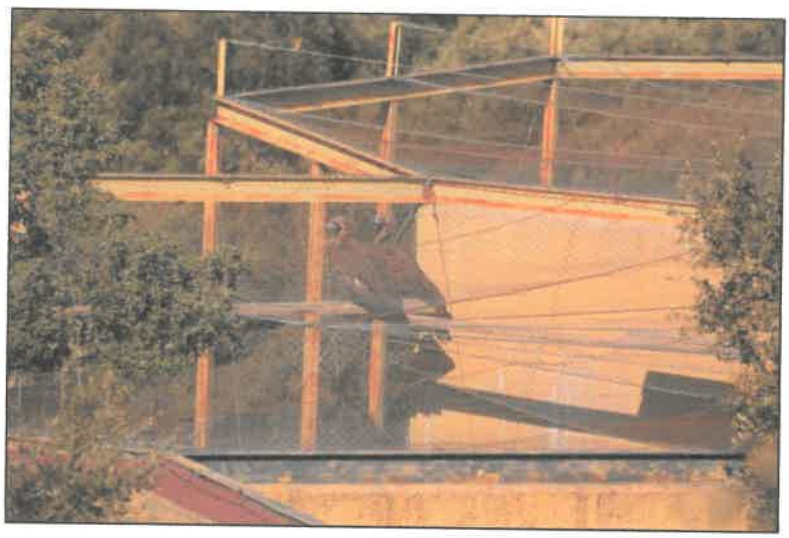
The window that allows them to see the exterior is folding to allow direct sunlight.

Veterinary room

Intensive Care Unit Room

Incubators of the Center

In this section, we will highlight that in the Recovery Center "Los Hornos", there is a pair of black vultures (unrecoverable), which has been breeding in captivity for two years in the Center's facilities.



Black vulture couple irretrievably in their flyer zone

Second chick of black vulture born in the CRFS "Los Hornos"

4.3.1 Admission of income.

Special mention in this work the patients who live in the CRFS Los Hornos, since not only must they be identified the causes that led them to their current situation, but a protocol of clinical action must be established for them that includes the Assessment of their injuries, establishment of a diagnostic judgment and a prognosis, therapeutic decisions to be made, the establishment of a treatment, the monitoring of their evolution and, if necessary, a review of the treatments imposed.

Each individual is different and each pathology and injury is different, which should not be generalized, since each case must be individualized, but as general guidelines we can mention:

1. Weighing of the animal for calculation of dose and evaluation of the evolution. The importance of weight is relative, since it does not have importance alone without taking into account the body condition of the animal, its sex and physiological state.
2. Assessment of the general state of the animal through its body posture (vultures with the head between the wings or falling forward) and the reaction to the stimuli (aggressive, depressed, etc.).
3. Revision of eyes, ear, sinuses, beaks, bones of the skull, nostrils and mouth before placing the cap to minimize stress, for presence of blood, pus, parasites, wounds, fractures, etc.
4. Routine physical examination: includes body temperature (detection of hypo and hyperthermia), evaluation of body condition mainly by palpation of the keel, pectoral muscles and bones of the neck and hip, cardiac auscultation, Pulmonary and abdominal, assessment of the mucous membranes and degree of dehydration.
5. Palpation of the whole organism in search of hot spots (inflammation), cold (electrocution), painful, masses or cysts, wounds, asymmetry of bilateral homologous structures, anomalous mobility, crackles, etc. Always with both hands and comparing homologous structures.
6. X-ray: attempts to include the whole body in search of pellets, fractures, aspergillosis, foreign bodies and obstructions, hooks, osteodistrofias, osteomyelitis, etc. There are some pathologies already diagnosed by exploration, such as fractures, in which it is intended to determine what type are: oblique, transverse, comminuta, etc., but there are other cases in which, if not performed, Other pathologies. There are cases in which, if an x-ray is not performed, the presence of pellets in the organism, so related to fractures in birds, would not be determined. It is therefore intended, whenever possible, to perform radiography on all animals admitted or suspects.
7. Emergency or support treatment, including surgery.
8. Individual identification by means of ringing generally, with metallic rings internal of the center of the Board of Extremadura, of specific size the species and an identification number. Also readable PVC rings can be used from afar to be able to identify animals from a distance without having to capture them.

9. Registration in the database and creation of a record and clinical history with all the animal's identification data, origin, cause of admission, treatment, weight, sex, age, etc., and their classification according to their physical and Its functional result.

Depending on the age of the individuals admitted, it is important to mention that in the reception of eggs in the "Los Hornos" CRFS, cleaning and / or desinfection, weighing, biometry, identification and subsequent introduction into an incubator for artificial incubation with Set temperature and humidity parameters. The egg will be followed twice a day and will be weighed weekly to determine its evolution in weight. When it begins to chirp and / or hatch, it will be transported to the hatcher, with different parameters of temperature and humidity, suitable for the development of the chick. In the hatcher it will be left a day until the plumage is completely dry. It will not be necessary to feed it due to the reserves of the calf. At 24 hours in the hatcher, it will be moved to a growth box, where it will have other parameters of temperature and humidity, and will start being fed 6 times a day, and decreasing this frequency as it is greater. It will be placed along with other animals of its species as soon as possible so that it recognizes its species and learns natural behaviors of the same.

Examining a black vulture

In the event that the animal being cared for is a chick, it will pass to the Growth Room, similar to the ICU, but in which each box has a glass that allows the animals to see the natural environment, while by the Opposite end it is possible to feed the food through two openings through which the arms are introduced. This design avoids the problem of "impregnation", a phenomenon that occurs in the early stages of development of the individual and by which an animal associates the person who feeds him as his parent and later with his

species. This situation implies problems of relation and reproduction for their future, since these impregnated animals will try to approach the man to relate and, if appropriate, to pair, while they will show hostility or indifference with those of their own species, for which they are Individuals who can not be released into the natural environment.

Once young people are thermoregulating by themselves and only need to feed them once a day, and animals that need to improve their body condition, they are passed to a "cat", an intermediate step between ICU / growth and the flight jail, To begin to control their body temperature, have external visual stimuli (presence of other birds, weather conditions), where they spend a few days until they are transported to the flight cage.

Like other individuals, young people, once they have physically recovered or do not need temperature control or daily care, will then be transferred to flight cages or overpasses, where they will remain in the time needed to strengthen their Muscles, thus completing their recovery. These facilities are of great dimensions and they avoid, as far as possible, all contact with the man to maintain their wild state, being fed through trappings not to relate the food to the human, and whose sides are lined With shading mesh to avoid eye contact with the center staff. In these cages they contact other individuals of the same species and also with griffon vultures, where they learn normal behaviors of the species.

4.3.2 Admission Considerations

Wildlife has the disadvantage that, since it does not have a responsible owner or person, it will not be possible to count on a complete and reliable anamnesis, but the maximum information that will be available will be the place of the finding, and Reason why it is collected (fracture, does not fly, bleeds, etc.). In this way, it is not possible to know what exactly has happened, when and why, how long the animal has not eaten, or even if it is able to eat on its own, if it has previously had pathologies, etc. For this reason, the wildlife receives a different attention than the domestic animals, since they will spend at least 24 hours in an ICU (intensive care unit) / growth box to analyze all the symptoms, behavior, excretions, etc. Of the patient, evaluating their needs at each moment and acting accordingly.

Radiography

The needs of wildlife are very specific and all the manipulation that is carried out will be focused on minimizing stress, promoting healing in the shortest possible time and avoiding contact to avoid causing imprinting and loss in the fear of the human being that could have Serious consequences for their survival. All this, so that the patient recovers as soon as possible and with the maximum probabilities of survival once it is returned to its environment.

Each time an admission is reviewed, a diagnosis is made, but this is subject to the patient's evolution, which is constantly under review, as well as treatment and prognosis. Depending on the initial and subsequent diagnosis and prognosis, the patient's future should be assessed, whether he or she will be able to recover adequately or if he or she will suffer physical consequences and limitations that prevent an acceptable quality of life.

4.3.3 Power supply

It is tried that the feeding that the animals receive in the CRFS is as similar as possible to the one that would receive in the wild. Raptors get most of the water they need from the food they eat, however, carrion birds ingest a large amount of water, so fresh and clean water is always offered to them in their drinking fountains to meet their needs. Also ponds in the flying cages to clean their plumage and cool the claws.

The goal in the recovery of animals is to eat food on their own, but in some cases this is not possible, for example, when they are weakened, immobilized, depressed or not interested in food. In these cases, they can be encouraged to eat in several ways:

- Offering different foods: many animals are not accustomed to eating pieces of prepared meat, which they do not recognize, but when they are

offered a whole prey (a whole rabbit with hair), it may take several seconds to ingest it.

- Placing an unrecoverable individual nurse especially chicks who do not know how to eat by themselves, who eats in front of them and encourages them to do the same and even offers them food with the beak.
- In the last case, if they are very weak or they still do not want to eat, meatless boneless meat, which stimulates the digestive activity and prevents the digestive tract.
- You can also use appetite stimulants such as Diazepam or Vitamin B1.

The chicks are offered as many times as necessary, depending on age, needs, etc. Whenever possible try to make the animal eat alone and regain vitality, appetite being a good stimulant to eat. In chicks food will be offered in the beak by means of tweezers through the leather cuffs and the spy glass, and only if they do not want to eat by themselves, they will be harnessed, but this action should be avoided as much as possible because it immobilizes The struggle to introduce food, physical and visual contact with the human, and in general, great stress, which is totally counterproductive for the recovery of the animal.

4.3.4 Sexing and identification of individuals.

In CRFS "Los Hornos" all animals will be identified for cession by the implantation of a subcutaneous microchip under the right wing, in such a way that each individual is associated with a single numbering, which is read with a microchip reader.

Identification of individuals is usually done using colored PVC rings, with large numbers and letters for better visibility. They are cheap, easily recognizable and readable from a distance that do not limit the movements of the birds. The disadvantage of these rings is that some vultures lose it after nibbling, also if they produce compression, can end up in problems of blood circulation. The metal rings are smaller and the remote reading becomes impossible, being necessary its capture to be able to carry out the reading. Therefore, it is advisable to use these two types of rings for marking.

It is advisable to sex the individuals to be able to provide individuals with a sex ratio suitable for the formation of nesting pairs. In order to determine the sex of the individuals, it is convenient to perform a genetic analysis of the blood, being this method the ideal to not produce stress in the individuals.

4.3.5 Veterinary care.

As a general rule, medical and surgical treatments will be applied in each specific case, during the stay of the individuals in the dumps until their transfer to the AMUS (Action for the Wild World) facilities in the province of Badajoz, mainly based on the Treatment of parasites:

- External parasites (lice, ticks ...): external pesticides and / or ivermectin antiparasites will be used.
- Internal parasites: depending on the parasitosis presented, specific treatments (internal antiparasitic) will be applied. Given this, we must take into account that wildlife presents a normal parasitofauna, diners who are in balance with their host.
- As well as any necessary care or care during your stay.

At the center of the AMUS organization, the individuals sent from the CRFS "Los Hornos" will be accumulated, performing the obligatory analytics established by sanity as well as the sexing of the individuals through genetic analysis. This organization will also be responsible for obtaining the CITES (Control over Trade in Protected Species) authorizations for its later trip to Bulgaria.

It should be noted that when individuals arrive in Bulgaria, black vultures before being released will spend a time of acclimatization or adaptation in hoisting cages, since they will be young individuals capable of feeding on their own. There will be marked with metal rings and PVC, and if it was considered appropriate, in some copies could be installed radio transmitters.

5. PERIOD AND FOLLOW-UP FREQUENCY.

To review the periodicity of the monitoring by year of breeding, it is going to be reflected in a table:

Action	*Period*	*Available days*	*Travel*
Presence and incubation	**January, February and March**	**50 days approx.**	**At least 2 times**
Hatching of eggs	**April and May**	**35 days approx.**	**At least 2 times**
Rookie tracking	**June, July, August, September and October**	**100 days approx.**	**At least 5 times**

During the first months, will visit all the platforms that are census in the vicinity of Monfragüe (at present, they are 504 units), nevertheless it is necessary to emphasize that annually always appears some platform of new construction.

As mentioned previously, the black vulture does not occupy its platforms continuously for the breeding season until the second half of February. The time previously used in the field visits, has its most important purpose in knowing those platforms that are occupied by intrusion of the griffon vulture (one of the breeding problems in Monfragüe). This species occupies the platform to incubate and raise its chick, displacing or producing disturbances in the pair of black vultures that when they see their breeding area occupied, are likely to fail in reproduction. These platforms occupied by griffon vultures will be brought to the attention of the Environmental Agents, who will act according to the norms established by the General Direction of the

Environment of the Board of Extremadura. Once we have fixed all the platforms occupied by black vulture breeding pairs, the tracking will focus solely and exclusively, on these.

The sighting of the platforms must be done comprehensively, making sure that depending on the period we are:

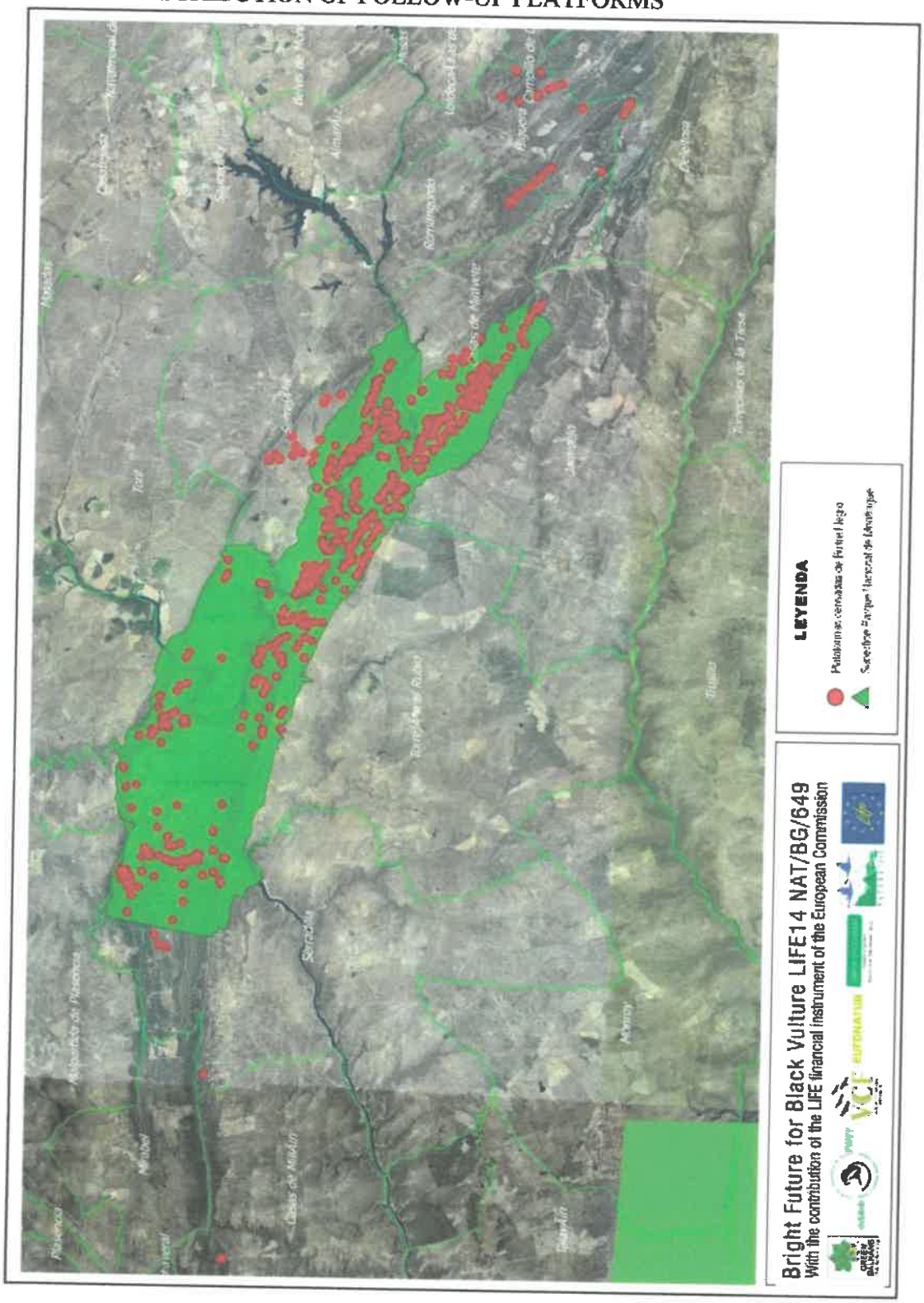
- If we observe an individual of the couple, lying in the nest, we can estimate that they are in incubation period.
- If during hot weather, we see how the parents shade the chicken with open wings.
- On the contrary, if it is observed that no individual is on the nest, it may be that something strange has happened.

With this, it is wanted that any anomaly that is observed in some platform, must be reviewed continuously, in case it is necessary the intervention for the rescue of an egg or chick.

As the breeding period progresses, follow-up will continue on those platforms where chick rearing continues with complete normality. It does not make sense, to use time, in those platforms that for diverse reasons, the chicken did not survive.

ATTACHMENTS

I. DISTRIBUTION OF FOLLOW-UP PLATFORMS



DATE_____

ROUTE_____

RETURN NUMBER_____

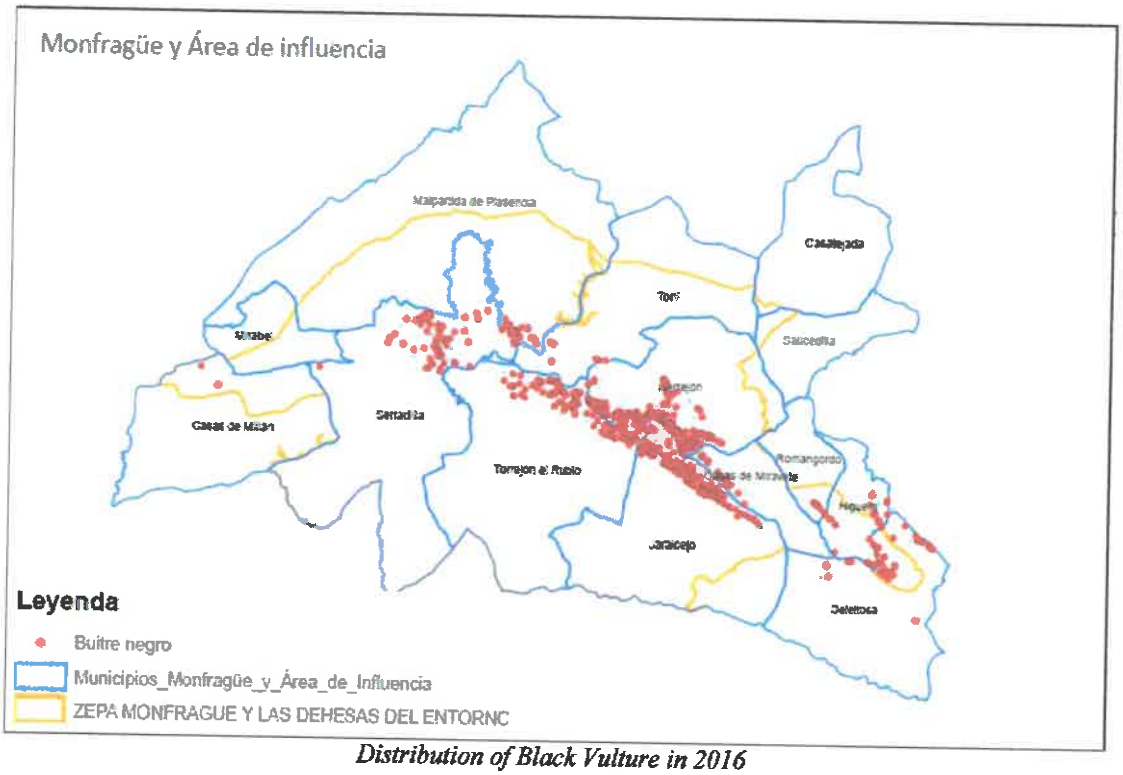
ACCOMPANYING FOREST_____

ZONE_____

IDPAR	OCUPATION	MUNICIPALITY	PRESERVE	ESTATE	ER_17	COUPLE	Coord. X	Coord. Y	Estate Pla	Substratum	Incubation	Observation/Disturbance

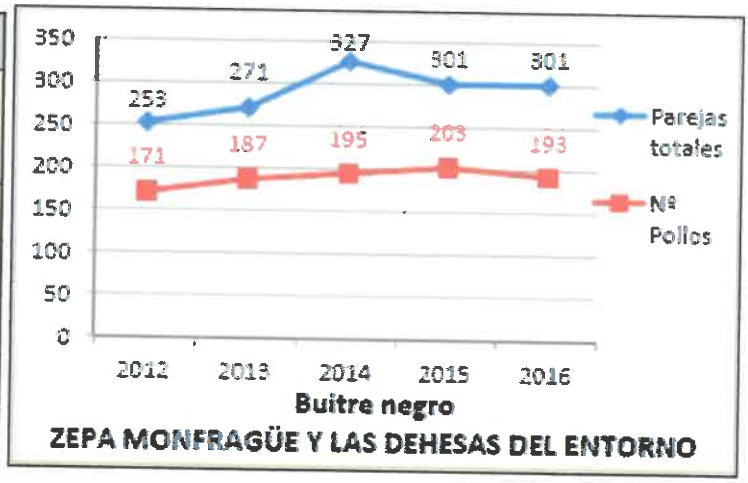
PAGE_____

III. PREVIOUS CENSUS



Distribution of Black Vulture in 2016

Año	Buitre negro	
	Parejas totales	Nº Pollos
2012	253	171
2013	271	187
2014	327	195
2015	301	203
2016	301	193



Evolution of the population of Black Vulture.

Serradilla, July de 2017

Fdo. José María Vadillo Sánchez
76.127.038-M