

New bird distribution strategy between Specialized Bearded vultures captive breeding centres (SBC)

Regarding the losses that the EEP suffered in 2017 (West Nile Virus and aspergillosis), it was necessary to draft a new bird distribution strategy inside the EEP, specially related with the distribution of very valuable birds between the Specialized BV captive breeding centers (SBC). This distribution takes in account the potential, resources, geographical location and the specialization of each SBC, and additionally its supply capacity on birds for the vicinity reintroduction projects.

FUNCTIONS, CAPACITY AND GOALS UNTIL TODAY OF EACH SBC

• Richard Faust Breeding center, RFZ:

Is the headquarter and reference center of the EEP from which the whole knowledge on captive management of this species comes out. Has a capacity to house more than 30 birds. The center is currently specialized mainly in pairings of founders, adult birds and is the reference center for chick's adoption coming from middle European zoos. This implies to build foster pairs with birds not able or no more able to reproduce, ensuring that all chicks are bred naturally. It is also a donor of established pairs for EEP partners (function which corresponds to the three major specialized centers). Further it's a genetic reserve.

Functions:

- Receive most of the founder birds with the goal to produce descendants
- Receive couples with breeding difficulties from other zoos for analyzing (high movement of entry and exit of couples)
- Receive most of the not reproducing birds with the goal to establish foster pairs
- Keep in general the first descendant from each new founder
- Transfer good couples which require no special attention to different zoos, but keep those which require a more complex management.

Disadvantages of RFZ:

- Presence of mosquitos that carry WNV, affecting mainly young individuals in summer – period with the highest mosquito concentration-. Adults generally pass it without showing any symptoms (90% of the individuals do not get sick, only 1% of the 10% that fall ill die). On the other hand, young birds die due to a secondary infection, usually aspergillosis.

• **Bearded vulture Captive Breeding Unit at the Centre de Fauna Vallcalent, CFV:**

Initially this unit was built to create a Pyrenean genetic reserve and it's in the recovery center from Vallcalent with Vet hospital for wild animals. The center is still not finished with the construction having currently a capacity of 16 birds. The idea behind is to have a potential for 40 birds. CFV is receiving all wild injured birds recovered in Catalonia. In addition is specialized on reproducing birds with severe physical disabilities and on artificial incubation. The center is located in the City from Lleida, with perfect transport possibilities but only 200m.a.s.l. with continental climatology, being extremely hot in summer. During the summer 2017 first signs of WNV appeared in the center and aspergillosis infection is present in CFV.

Functions:

- Receive birds with severe physical disabilities -requiring periodically vet attention- with the goal to reproduce with them
- Receive couples with breeding difficulties from other zoos for analyzing (high movement of entry and exit of couples)
- Receive couples that requires specific management and artificial incubation to obtain descendants

Disadvantages:

- Extremely hot temperatures in summer and presence of mosquitos: aspergillosis and WNV problem. Since 2018 shading meshes have been installed on top of the cages hopping to reduce heat and its adverse effects.

• **Centro de Cría Guadalentín CCG:**

The initial idea was to create a small breeding Unit (3-5 breeding pairs) as base for the Andalusia reintroduction project, to assure that by transfer problems of nestlings coming from other European partners the releases in Andalusia would not stopped because it could be supplied with birds coming from CCG. In 1999 the center was increased and accorded to be a specialized breeding center, being its priority to produce as maximum as possible of chicks. Since then the center has always received birds with perfect physical and behavioral conditions, to avoid as much as possible to enter in the aviaries area. In addition, thanks to this good collection of individuals it was possible to create a reference center for adoptions possibilities. The center is located at 1300m. a.s.l. in the middle of the Natural Park from Cazorla with wonderful climatology conditions for the species, but a few days per year it's impossible to access because of snow. The staff is 100% employed for the center and present during 24h the day the whole year.

Functions:

- Receive birds with perfect physical and behavioural conditions to produce descendants as much as possible

- Adoption of chicks from other zoos/centers. Has specialized on double, triple and quadruple adoptions

Disadvantages:

- Access difficulties
- The location difficult to manage birds which requires special vet attention. The nearest recovery center is about 3 hours by car.

• Breeding center Asters:

During 2017 the center has been completely rebuild following the EEP guidelines. It's a small center with a capacity for 4 breeding pairs and one additional smaller aviary to separate birds (e.g. if fights appear). The center is located at 700m a.s.l. near Montblanc, giving the best climatology conditions for the species and only ½ hour by car from an international airport.

• Tierpark Goldau:

The Bearded vulture Unit is in a zoo located at 500m a.s.l., but completely surrounded by mountains having strong winters and soft summers. This zoo played an important role for the reintroduction in Switzerland, especially at the beginning when transfer of birds between countries carried amount of bureaucracy. In 2017 a new project has been approved which includes the construction of a small breeding unit consisting on 6 breeding cages, plus the exhibition aviary. It's previewed to finish the construction in 2018.

Summarizing:

Climatology:

- 3 centers are geographically located with the best climatology conditions for the species: CCG, Asters, Goldau
- 2 centers with WNV and aspergillosis problems: RFZ, CFV

Vet attention:

- 2 centers with vet hospital: Goldau, CFV
- 2 centers near vet hospital: RFZ, Asters
- 1 center has a long distance to a vet hospital: CCG

Staff employment:

- 4 centers with staff 100% employed for the management of the center: CCG, RFZ, CFV, Asters

International communication:

- 4 centers with best international communication: Goldau, RFZ, CFV, Asters
- Only CCG have several hours by car to an international airport

Additionally, during the last years we were faced with a new problem: new regulations for transport of pets in cabin have been established by all airlines, being no more possible to transport Bearded vulture hatchlings in cabin as we did always in the past. This makes impossible to implement the objective for CC Guadalentín to be the second reference center for adoption for the whole EEP.

NEW FUNCTIONS AND GOALS FOR EACH SBC

According to all mentioned above, besides that the common objective of all SBC is to produce descendants with all breeding pairs, it is necessary to establish new functions and objectives for each center. Nevertheless this will be only a guideline that in several cases it will be necessary to adjust to the circumstances (e.g. transport problems because closing border, etc.). Further this concept is drafted following the actual situation of each center. If something changes in one of the centers, it will be necessary to readjust this strategy.

In general terms it should be avoided to locate more than one offspring of a less common blood line inside the EEP at the same center.

• Breeding center Asters:

- Receive descendants from new founders, especially from high genetic value.
- To become the reference center for adoption for chicks produced in France (actual potential on breeding pairs in France are 9: 5 zoos and Asters with 4 couples)

• Tierpark Goldau:

- Receive descendants from new founders, especially from high genetic value.
- To become the reference center for adoption for chicks produced in Switzerland (future potential on breeding pairs in Switzerland are 8: 1 La Garenne and 7 in Goldau)
- Receive wild injured recovered birds in Switzerland for its treatment

• Centro de Cría Guadalentín CCG:

- Receive principally the first descendants from new founders.
Being conscious that there is a capacity limit, the idea is that in the long term its maximum reproduction would be done with founder descendants and not as now with individuals well represented inside the EEP. The objective is gradually to replace the current pairs by couples of high genetic value without damaging current productivity. This also will benefit the Andalusia reintroduction project, receiving new genetic lines for releases, reducing the transfer distances of nestlings. The reproduced chicks from the actual existing breeding pairs can be principally used for the new Maestrazgo project in Spain, GypConnect and Corsica.
- To become the reference center for adoption for chicks produced in Spain (actual potential on breeding pairs in Spain are 19: 4 zoos, 6 in Vallcalent and 9 in Guadalentín)
- During the first summer, to house those descendants of high genetic value accorded to house definitively by one of the two SBC with WNV and aspergillosis problems.

• **Bearded vulture Captive Breeding Unit at the Centre de Fauna Vallcalent, CFV:**

- Receive recovered wild birds in Catalonia for treatment.
- Receive birds with severe physical disabilities -requiring periodically vet attention- for reproduction
- Receive couples with breeding difficulties from other zoos for analyzing
- Receive couples what requires specific management and/or artificial incubation to obtain descendants
- Receive >1 year old descendants from new founders/high genetic value

• **Richard Faust Breeding center, RFZ:**

- Receive most of the founder birds with the goal to get descendants from them
- Receive couples with breeding difficulties from other zoos for analyzing
- Receive most of the not reproducing birds with the goal to establish foster pairs
- To become the center reference for adoption for chicks produced in central Europe
- Receive >1 year old descendants from new founders/high genetic value