



### LOCATION

Tierpark Goldau, PB 161, 6410

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URL: <http://tierpark.ch>

### KEY WORDS

Breeding, Reintroduction

### AWARDS

2005 WWF Switzerland Award for the Bearded Vulture Project

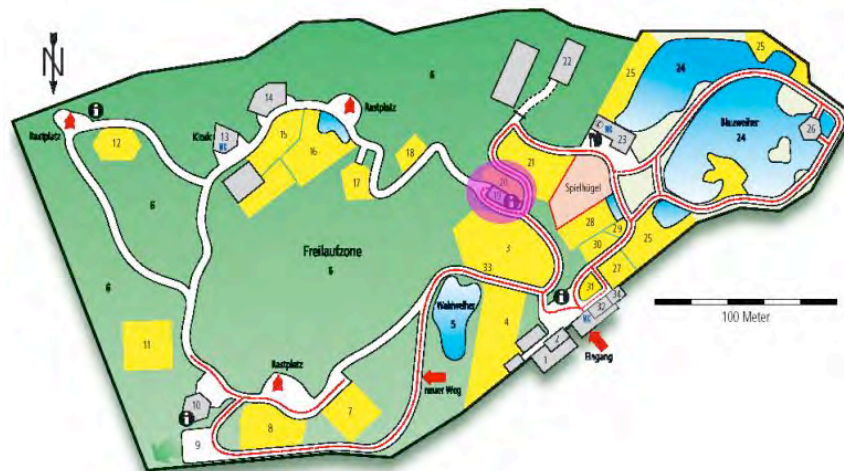
### DESCRIPTION

The primary purpose of the exhibit aviary for bearded vultures focuses on informing visitors about bearded vultures and their habitat. An integrated display informs on breeding and reintroduction of bearded vultures in Europe. The Goldau Animal Park has made a huge commitment to this project through its own additional breeding station.

The exhibit is home to a pair of bearded vultures, who can fly freely in the aviary. Since bearded vultures are scavengers and don't actively hunt live prey, the aviary is a safe habitat for snow hares. This enlightens visitors about life style and habitat of bearded vultures.

### SIZE

The bearded vulture aviary is 810 square meters and 7 meters high. It has a volume of approximately 7,000 cubic meters. The nylon mesh has openings of 100x100 mm and a thickness of 4 mm. The information pavilion is 32 square meters. The breeding station (outside the zoo property) is 560 square meters and has about 4,500 cubic meters of space. It is divided into two parts, each approximately 230 square meters, and a separate shift area of 100



The bearded vulture aviary is marked in the zoo plan in violet. ©Animal Park Goldau, 2005



Bearded Vulture. ©Animal Park Goldau, 2005

square meters. The aviary borders a service building that is 40 square meters.

### COSTS

SFR 950,000

### ANIMALS

Family	Species	Common Name	Capacity
Accipitridae	<i>Gypaetus barbatus</i>	bearded vulture	1.1
Leporidae	<i>Lepus timidus</i>	snow hare	1.1





**Shared Aviary:** Protected shelters are on the rocks for bearded vultures and on the ground for snow hare. ©Monika Fiby, 2005

The costs include the construction of the exhibit aviary and the furnishing of the bordering information pavilion, which was already there. The construction of the breeding aviary was not included in this budget.

#### OPENING DATE

20 May 1995

Space allocation in square meters:

use	indoors		outdoors		total exhibit
	accessible	total	accessible	total	
animals				810	810
visitors		28			28
others		4			4
total					842

#### DESIGN

Beginning: December 1993

- Planning: Landscape and Animal Park Goldau

#### CONSTRUCTION

Beginning: October 1994



A panel at the aviary points to the exhibition in the neighbouring building. ©Monika Fiby, 2005



**Bronze Wings:** This sculpture is very popular for pictures. An image in front show how to use the sculpture. ©Monika Fiby, 2005

- Construction: C. Vanoli, Immensee
- Subcontractor: Kennel AG, Oberarth
- Steel construction: Kaufmann AG, Goldau
- Statics: Wesako, Kreuzlingen
- Ropes, Meshes: Saalman und Fehr, Tägerwilen

#### PLANTS

Alpine meadow with spruce, pine, and European rowan (European mountain ash).



**Three Barriers:** The mesh of the aviary is supplemented by a fine metal mesh towards the ground which keeps young hare in the aviary and by an electric wire which keeps foxes out of the aviary. ©Monika Fiby, 2005





**Offspring:** Animal Park Goldau is successful in breeding bearded vultures. ©Animal Park Goldau, 2005

### FEATURES DEDICATED TO ANIMALS

In the aviary, the vultures can soar up to 50 meters off of platforms of varying heights. The large cliff wall has two shelters built into it, which are protected from the elements. The vultures like to use the red loam mud bath. For the snow hares, there are protected hiding areas.

### FEATURES DEDICATED TO KEEPERS

The keepers can monitor the vulture shelters with video cameras. Two storage rooms are available in the building. A gate on the path allows vehicle access to the aviary. A large raised stone serves as the feeding station for the vultures; it makes cleaning very easy and enables visitors to comfortably observe the feeding.

### FEATURES DEDICATED TO VISITORS

The slope, vegetation, and the running stream all add to the "alpine" feel of the exhibit. The views from



**Off to the Wild:** At an age of about 100 days bearded vultures are released. ©Animal Park Goldau, 2005



**Observations in the Alps:** This map shows where bearded vultures can be observed in the Alps. ©Monika Fiby, 2005

above (the north side), below (the south side), and the side view (southwest side), provide different perspectives and details of the exhibit. The interpretive offerings about the bearded vultures are diverse and are aimed at different interest groups. In front of the information pavilion, there is a bronze sculpture, which is often used as a photo opportunity.



**Talon:** Visitors can compare the human hand with the talon of a griffin and that of a bearded vulture. ©Monika Fiby, 2005





**An exhibition next to the aviary informs visitors about biology and conservation of bearded vultures.**  
©Monika Fiby, 2005

### INTERPRETATION

The graphics, videos, and artefacts inform visitors about the natural history of bearded vultures, their range, causes of their endangerment, efforts taken to protect them, and the reintroduction project.

Through descriptive materials, the dimensions of bearded vultures are brought closer to visitors. For example, visitors can compare their hands with the talons of a golden eagle and a bearded vulture.

### MANAGEMENT

The combination of having an exhibit and a breeding aviary offers flexibility in forming breeding pairs. The food composition corresponds to the food in the wild and seasonal changes are respected. Meat and bones of goats and sheep are preferably fed.

All young bearded vultures are raised exclusively by their own parents or by foster parents so that their vulture specific behaviors can completely develop.



**The food for the bearded vultures is placed on this rock, which is easy to clean.** ©Monika Fiby, 2005



**Snow Hare in Summer.** ©Animal Park Goldau, 2005

### RESEARCH

In the breeding aviary, various tracking methods are tested on the bearded vultures. These tracking methods will be used on released young birds to track their flight patterns.

Two young bearded vultures, which were released in the Swiss National Park in June 2005, can be located thanks to satellite tracking. The Organization Pro Bearded Vultures – with support from WWF Switzerland and a European LIFE Project – is researching the little-known migrations of young bearded vultures. The excursions of the released bearded vulture can be followed on the internet through the project "Bearded Vultures On The Move": [www.bartgeier.ch](http://www.bartgeier.ch) ("Bartgeier unterwegs").

### CONSERVATION

In 1913, bearded vultures became extinct in the Alps. In 1978, the reintroduction project in the Alps was created thanks to the cooperation of 30 zoos, various national parks, the Zoological Society of Frankfurt, and the WWF.



**Released Bearded Vulture.** ©Animal Park Goldau, 2005





**The breeding station is not accessible for visitors so that the animals are not disturbed. ©Animal Park Goldau, 2005**

After a comprehensive breeding program was built among zoos throughout all of Europe, the first bearded vultures were released in Rauris, Austria in 1986. Since then (by 2006), 147 young bearded vultures have been released in artificial shelters in four release regions. The bearded vultures have been doing extremely well in the Alps. Meanwhile, several pairs have formed. In 1997, the first wild bred young bird flew out of his eyrie in Hochsavoyen. Since then (by 2006), 34 wild bred young bearded vultures have fledged. Everything points to a successful reintroduction of bearded vultures in the Alps. Much effort is still necessary, until a sustainable population will be established.



**Several panels inform about breeding and releasing bearded vultures at Animal Park Goldau. ©Monika Fiby, 2005**



**Young Bearded Vulture. ©Animal Park Goldau, 2005**

In 1998, the Goldau Animal Park built two bearded vulture breeding aviaries in its expansion area "Grosswyl". The two aviaries are angled perfectly to the south and contain a combined volume of approximately 5200 cubic meters. Directly adjacent to the aviaries is a keeper area for breeding observation. The breeding station is not accessible to visitors, since bearded vultures are very sensitive to disturbances during breeding season. At about 100 days old, the young bearded vultures are released as a part of the reintroduction project.

The observations of bearded vultures in the Alps are collected online by the organization Wild Animals Switzerland in Zurich ([www.bartgeier.ch](http://www.bartgeier.ch)).

## LOCAL RESOURCES

Local companies were contracted for construction. The food is delivered by local butchers.



**Suitable sites are searched for the release. Young vultures are transported to the sites in boxes. ©Animal Park Goldau, 2005**