# **Nature and Animal Park Goldau: Bear and Wolf**

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Nature and Animal Park Goldau is located at Parkstrasse 26, CH- 6410, Goldau, Switzerland, url: http:// www.tierpark.ch/. In 1990, Animal Park Goldau took over an adjacent area of 17 ha. The landscape of this area reflects the Goldau landslide of 1806. Large boulders, trees, basins and hills form the terrain of the bear and wolf enclosure. The existing enclosures for bears and wolves were much smaller and no longer consistent with the vision of naturalistic and species appropriate animal management. The large size of the available area allowed for a mixed species exhibit which enhances natural behaviors of the animals and is appealing to the visitors.

The total exhibit extends over an area of 20.000 m² including enclosures, walkways, green space and buildings. The total area of all enclosures sums up to 10.760 m²: bear 1: 1.260 m², bear 2: 1.740 m², shared exhibit bear/wolf: 6.800 m², wolf retreat enclosure: 960 m². The stall measures 194 m², the external constructed wetlands for wastewater treatment 400 m² and the visitor center 200 m².

Plants and landscape: The whole park is located in a rockslide area and therefore has a well-structured natural landscape with large boulders, elevations and basins. The terrain was hardly altered; existing trees were maintained and several additional trees were planted. The ground is natural soil and sward. Native plants with "bear" or "wolf" in their German names were planted in the visitor area.

#### **Goldeau loves its animals**

Since bears are solitary animals, the enclosure complex was divided into three sectors, separated by fences and connected by large gates. The bears can be released individually from the stall through sliding doors into another sector every day. The largest of the three sectors is accessible for the wolf pack. The wolves however, can also retreat into a separate enclosure part



Overview. ©Nature and Animal Park Goldau, 2012



Bear and Wolves on Exhibit. ©Nature and Animal Park Goldau, 2012



Bear family roaming the mixed species exhibit. ©Nature and Animal Park Goldau, 2012



Bear and Wolf in the Mixed Species Sector 3. ©Nature and Animal Park Goldau, 2012

which cannot be entered by the bears. This retreat enclosure can be closed off the large sector by using a slide control from the stall.

A 100 meter long, artificial stream runs through all three sectors and connects two ponds that contain char and carp from a fish farm. The fishes are able to hide under large stones in the ponds. During the first week after opening this enclosure, the bears caught fish daily. Then, the fish learned where to hide, and now the bears rarely catch any. Mainly bears, but also the wolves use the ponds to drink and bathe during summer. In context with the construction work for this enclosure a stream running along the perimeter of the enclosure was restored.

The food is hidden daily all over the large and natural terrain of the enclosure. Additionally, feeding machines are used to increase the bears' activity levels. Sector one and two each have one feeding machine, sector three has three of them. Each bear has a microchip implanted in its neck that can be recognized by the feeding machines. Depending on the animal and time, the feeders provide some food pellets when approached.

In the evenings, the bears are lured to the stalls with food, where they are housed individually over night. In the stall it is easy to asses their health state, take fecal samples and if necessary give treatment. The wolves stay outside during the night.

### Goldeau loves its zookeepers

The stall is located in the rear of the exhibit and can be accessed by vehicles but not by the visitors. It contains a keeper kitchen, 5 separate sleeping dens for bears of which two can be connected and a squeeze shoot (a restraint area with a fixed and a moveable grid). The animals are directed through sliding doors controlled from inside the stall. The outside three sectors and the retreat area for the wolves can be seen from the stall. If a keeper enters the outside enclosure, a warning light turns on in the stall. This should prevent bears from being released from the stalls when a keeper is still in the enclosure. There are feeding machines at Goldeau which are controlled and monitored by a central computer.

#### Goldeau loves its visitors

The walkway around the bear and wolf enclosure complex is 800 m long. There are five viewing areas for visitors along the walkway, of which two are on platforms. There is a two-storey visitor center with restrooms. A large underwater window on the lower level

of the building allows visitors to view bathing bears. A permanent exhibition about the significance of bears and wolves for our culture is intended to bring visitors to reflect on this topic. This exhibition was created in cooperation with the Institute of Popular Cultures at the University of Zurich.

Visitors easily can find information signs about the animals, a resting area with a pancake booth, playgrounds and an old bear trap along the walkway. Inside an accessible bear den, visitors can see a screen that monitors the bears feeding, through the use of a camera inside the feeding box. The five feeding boxes are located near the five viewing points. A communal stream along the enclosure's perimeter was restored and is partially accessible on an "adventure trail".

# Education is one of the most important features of zoos

Along the walkway visitors can find life-sized wolf models that demonstrate communication through body language and facial expressions. A bear skeleton is exhibited in the visitor center. A garden contains plants bearing "wolf" or "bear" in their German names. This garden originated in cooperation with the Geobotanical Institute of the Swiss Federal Institute of Technology Zurich (ETH Zürich). A video screen is located inside the accessible bear's den. Guided tours and commented feeding are offered from the visitor platforms.

## How they manage the animals

In the mornings, the wolves are lured with meat and whole carcasses into their retreat area and locked away. Then the keepers hide the bears' food throughout the outside enclosures. The feeding boxes have a pellet reserve which automatically and do not need to be refilled each day. The bears are then released into the three sectors, alternating between them. The large sector shared with the wolves usually contains two bears. Finally, the sliding door to the retreat area of the wolves is opened. The stalls are then closed off and can be cleaned. In the evenings, the bears are lured into the stalls and are individually kept for safety reasons. Nipple drinkers are in in the stalls.

Some bears prefer to stay inside their stall during the winter period while others will go outside for a short time and can go back inside after their stall has been cleaned.

A water circulation system provides all three sectors with drinking and bathing water. After the water has passed the constructed wetlands for wastewater treatment, it is pumped up to the







Camera Inside the Feeding Box.

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waterfall and the pond at the visitor center from where it runs to the second pond. The water lost in the circulation system is replaced by spring water and potable water.

#### Research of Goldeau

The department for Applied Research and Development at the Zurich University of Technical Sciences (HSZ-T) developed the concept for the feeding machines and the software to control them. The boxes were planned as a master's thesis of a mechanical engineer at the HSZ-T. A study at the Zurich University of Applied Sciences ZHAW in Wädenswil confirmed the success of the restoration of the stream along the perimeter of the exhibit. The stream is again an attractive and vivid biotope.



Wolf Sculptures. ©Nature and Animal Park Goldau, 2012



Medieval Bear Trap. ©Nature and Animal Park Goldau, 2012







Playground. ©Nature and Animal Park Goldau, 2