

# ZooLex News & design of the month

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## NEWS

### Design magazine

The international landscape architecture magazine Topos is on Botanical Gardens and Zoos. Topos 62 presents successful examples of designs from Europe, America, Asia and Australia. The introductory article on zoos is by ZooLex Manager, Monika Fiby: "Trends

in Zoo Design: Changing Needs in Keeping Wild Animals". <http://www.topos.de/?Navi=143&Subnavi=89&more=ja&do=heft&id=12147>

### Spanish Translation:

Thanks to Eduardo Diaz Garcia we are able to present Spanish translations of ZooLex presentations of two monkey exhibits:

Werrabee Open Range Zoo, Australia, Monos verdes: <http://www.zoolex.org/zoolex/cgi/view.py?id=934>

Monkey Jungle, Florida, USA, La Piscina de los Monos: <http://www.zoolex.org/zoolex/cgi/view.py?id=935>

The ZooLex Zoo Design Organization is a non-profit organization registered in Austria. ZooLex runs a professional zoo design website and distributes this newsletter. More information and contact: <http://www.zoolex.org/about.html>

### Design of the Month:

Kitera Forest Chimpanzee Reserve is a chimpanzee exhibit at North Carolina Zoo in the United States of America which opened in 1982 and underwent major changes 20 years later.

The goal of this renovation mainly was a change in behavior of chimpanzees and visitors towards each others. This was achieved by creating enriched environments for both Parties.

**See the web version of this article with large, attractive photos at <http://www.zoolex.org/zoolex/cgi/view.py?id=628>. Go to [www.zoolex.org](http://www.zoolex.org) click on "Gallery" and it is the first exhibit listed.**

### North Carolina Zoo

Kitera Forest Chimpanzee Reserve  
Nevin Lash (author for Ursa International)  
Monika Fiby (editor for ZooLex)  
Peter Kunert (editor for ZooLex) Published 2008-4-13

### Location:

4401 Zoo Parkway, Asheboro, North Carolina 27205  
Phone: 1800-488-0444. URL: <http://www.nczoo.org>

### Key Words:

local peoples crafts program, renovation, landscape immersion, conservation



Overview

### Animals:

Family: Hominidae; Species: Pan Troglodytes;  
Common Name: Chimpanzee; Capacity: 4.10 +

### Description:

The North Carolina chimpanzee exhibit opened in 1982. It was a major break-through in great ape exhibitry in zoos. With it's tall canopy hardwoods, exposed bedrock and moat barriers, the exhibit transformed the way we expect to see great apes in zoos. Over time, other concerns surfaced. The chimps became more and more aggravated at the visitors. The visitors became more and more aggressive to the chimps. Behavioral problems resulted in violent reactions and threat displays from both sides of the exhibit barriers. When analyzed, it was clear that change was needed in the interface between the visitors and the chimps. Ursa joined the in-house design team at the zoo in

solving the problem and creating an enriched environment for both parties.

The results are here. The chimps have returned to their home to find climbing trees, lush plantings, soft soils and shady resting places. The visitors have returned to find the chimps, more at ease, less threatening, more worthy of respect. The exhibit was renovated, but it is the behaviors that have really changed the most.

The project consists of an entry border crossing, research camp structure, chimpanzee reserve education center with 24 meters of viewing glass, an interior interpretive gallery, a 0.4 hectare chimpanzee habitat and a major renovation to the existing chimpanzee and lion holding building, with an extensive keeper support area.

#### **Size:**

The exhibit is situated within the African exhibits section of the zoo between the baboons and African lions. The actual animal area is 4,195 m<sup>2</sup>, yet because of the use of dry moats along the front, back and rear side, the views extend beyond the animal enclosure, giving a much larger impression. The total area devoted to the chimpanzee exhibit is approximately 15,635 m<sup>2</sup>.

#### **Costs**

USD 1,400,000 including 10% for design. The exhibit was renovated by funds from both the State of North Carolina and the North Carolina Zoological Society.

#### **Opening Date: 23 May 2001**

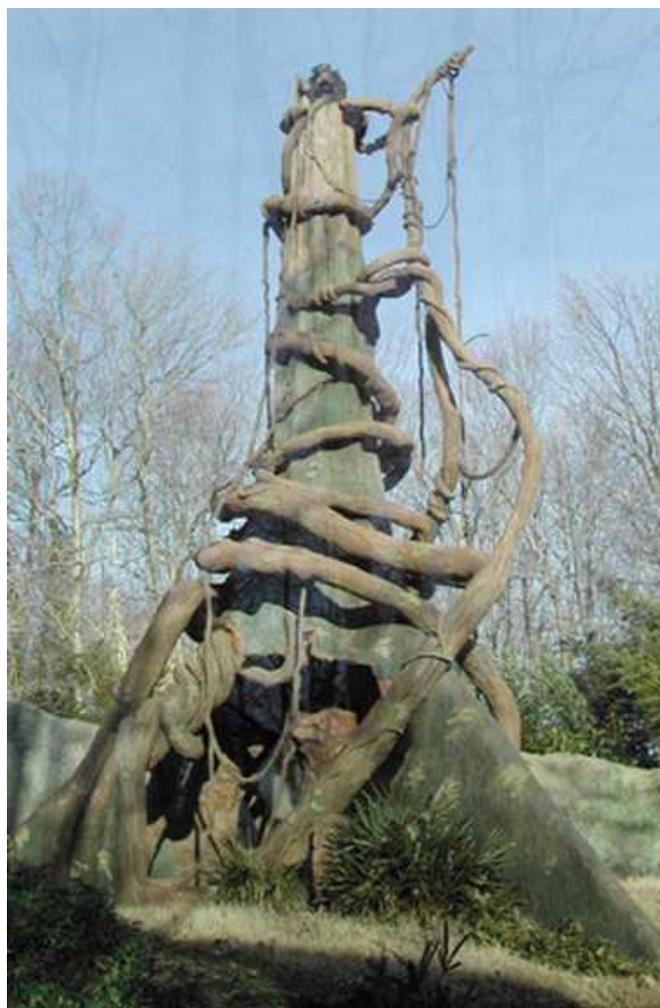
**Design :** Began November 1995  
Architecture: TRP, Greensboro, NC  
Zoo Designer: Ursa International, Atlanta GA  
Engineering: Joseph M. Gamewell, Greensboro

#### **Construction :** Began August 1998

General Contractor: Beers Construction, Raleigh  
Exhibit Construction: NC Zoo Exhibit Staff, Asheboro,  
Landscaping: NC Zoo Hort. Staff, Asheboro, NC  
Caging: NC Zoo Service staff, Asheboro, NC

#### **Plants :**

The chimpanzee exhibit opened in 1982 with 90% of the area now currently used by the chimps. There had been several 27 meter tall Southern Red Oak both in the exhibit area and visitor areas. Vegetation on the site included other trees and shrubs native to North Carolina's forest. The large trees had been hotwired using steel collars and vertical steel wires creating a 12' tall cylinder around each major trunk. This method had been very successful in saving these trees, and the renovation maintained those trees and collars and other important vegetation. Into that forest canopy additional \$ 100,000 worth of African tropical forest-simulator plant material was introduced quite densely to create the illusion of immersion into chimpanzee forest reserve.



**The North Carolina Zoo staff built this 11m tall buttress tree with strangler fig and vine landscape feature to encourage arboreal behavior of chimpanzees. Multiple perches and pathways up and down create options for locomotion. ©Nevin Lash, 2002**

Many African species were experimented with, from collected seeds, and used on the visitor side of the exhibit. The horticulture staff completed the entire landscape installation. There was a design team decision to not hotwire any of these additional materials. The plants were given multiple growing seasons to get established prior to the Chimpanzees release into the exhibit. The plant list specifies the Latin names of the plants used for this exhibit.

#### **Features Dedicated to animals:**

The main exhibit area is approximately 91 x 46 x 5 meter (300' x 150' with 17') high concrete dry (accessible) moat walls surrounding much of the exhibit except for the Research Camp and Education Center with their 4 meter high glass walls.

There are several large canopy trees that create a cool and shady environment for the large troop of chimps. They have a 11 meter tall artificial strangler fig climbing tree with multiple perching and climbing opportunities. There are also other artificial trees

and termite mounds for their use as well as the extensive natural planting that they are free to eat and use (which they do).

In the holding Building there are two sets of adjoining rooms 6 x 9 meter (20' x 30') and 6 x 4.5 meter (20' x 15') with howdy doors to facilitate group building. Additionally, overhead transfers enable the chimps to move between suites as necessary. The chimp rooms are 3.7 meter (12') high with multiple perches and flexible enrichment options. Detention grade lighting is mounted in the rooms.

The management strategy is to maintain the collection in one group. Overtime, the possibility of housing additional groups or separating individuals for medical reasons can be easily accomplished. There is also a 9 x 12 x 3.7 meter (30'x40'x12') exterior off-exhibit cage.

**Features dedicated to Keepers :**

The existing holding area (which is buried under a portion of the lion exhibit) contained 4 cells for housing the chimps, and 4 cells across the hall for the lions that are exhibited adjacent to the chimp habitat. A brick wall was erected to try to solve the management issues, yet it was not a permanent solution. As part of this renovation, the lions were moved out to a new wing, and the chimps space doubled.

New stainless steel caging and hydraulic door systems were installed (by maintenance staff) with overhead transfers, howdy walls and epoxy flooring. The building systems were upgraded to include a 15-20 air changes ventilation system, hot/cold hose bibs and security systems.

A new 15 x 11 meter (50'x 35') keeper service addition includes locker, office, break area, laundry and storage space. The kitchen is centrally located between the chimps and lions. There is a covered loading dock for easy animal loading and unloading.

**Features dedicated to visitors :**

The visitor experience provides multiple views from various vantage points along a 150 meter sloping trail. The trail is punctuated by various interpretive events, each one designed to slow the visitors down, and teach them respect and appreciation for the chimps. At the entry, the chimps are visible in the treetops, as you might see them in the wild. The visitors are immersed into the lush forest, but are reminded that chimpanzee numbers in Africa are rapidly declining. Public presentations are given at the Border Crossing, preparing the visitors for their journey into the Kibera Forest Reserve.

A Camp Structure is next on the trail. It is equipped with artifacts and graphics depicting the life of a chimpanzee researcher. The entire end wall is glazed, providing views into the upper exhibit, including the artificial strangler fig climbing tree. This darkened structure draws certain chimps to the



**Illustrative Site Plan ©Ursa International, 1997**



**From the entry trail leading down to the viewing areas, visitors can look up to see the chimps in a tall strangler fig. This multi-level structure provides an arboreal escape for the chimps. ©Nevin Lash, 2002**

people to interact at a neutral elevation. The chimps in the tree move effortlessly to the very top. Returning to the trail, the visitors confront a full scale, six-member troop of bronze chimpanzees crossing the trail. Visitors can easily understand physical comparisons, social structure and learn to appreciate them as being similar to humans.

The next stop is the Kitara Forest Education Center. The visitors arrive along the 18 meter of shaded viewing glass, approximately 60 cm below ground level, to bring the chimps up to eye-to-eye-level into the forest. A raised deck and porch area surround the viewing area, offering more perspective over the exhibit.

A large oak incorporates a wooden bench for visitors to linger. Potted African plant specimen are on display in the area, as well and graphics and interactives discussing specific members of North Carolina Zoo's troop (averaging 10-12 chimps). Inside the Education Center, additional graphics and interactives discuss chimpanzee culture, threats including the bushmeat crisis, and conservation efforts. There is also space for changing displays.

**Interpretation:**

The interpretation involves several distinct locations with specific messages related to education about chimpanzees. Visitors can interact with full scale sculptures of chimps. There are also artifacts and maps, diorama displays and video loops discussing the life of researchers in the wild.

Visitors have the opportunity to learn about how chimpanzee field research is conducted and the numerous threats to the survival of chimpanzees and their habitats across Africa. Topics such as the bushmeat trade and logging are covered in both graphics and videos. Additionally, there are two donation boxes where visitors can contribute directly to chimpanzee research and conservation in the wild.

**Management :**

This renovation tries to solve issues that the 1980 exhibit presented to the staff. The much improved holding building now provides loading dock access for shipping animals, receiving hay and other enrichment items. Covered storage and maintenance areas makes daily routines easier.

**Conservation :**

One hundred percent of the funds generated by the donation boxes at Kitera Forest Chimpanzee Reserve (approximately \$5,000 annually) goes to support chimpanzee research in Kibale National Park, Uganda.



**Chimpanzee Trail ©Nevin Lash, 2002**



**Visitor arrive below ground level, in order to maintain a nearly eye-to-eye view. Where once a 4 m deep dry moat separated visitors from chimpanzees, now amore friendly interface exists. © Nevin Lash, 2002**



**Education Center : static and video displays discussing issues related to chimpanzee conservation including habitat loss, the bushmeat crisis, and how to help protect chimpanzees. ©Nevin Lash, 2002**

*These ZooLex features are for the express purpose of encouraging readers to refer to the web version [www.zoolex.org](http://www.zoolex.org) where there are large colour photos and much to learn in the full site. Please, next time you are on line, check their site.*