The Heart of Africa theme area is home to 155 animals and 25 species.

The guest is transported with the sights and sounds of a busy village. Entering the region through a hand-painted portico, guests begin their experience at the outskirts of Mudiwa – a lively, colorful African village replica, located at the edge of the savanna exhibits. Pathway theming anticipates the exploration that awaits the guests. A half-dozen bikes or so, laden with empty water jugs have been parked along fences, gates and walls that are covered with hand-painted murals. A camel ride is located on the opposite side of the path. Conservation messaging begins on this pathway as well – for example, a large wooden map of Africa highlights the countries and field projects that the zoo supports.

Once guests have entered Mudiwa Village, they find brightly painted

ANIMALS

<table>
<thead>
<tr>
<th>Family</th>
<th>Species</th>
<th>Common Name</th>
<th>Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canidae</td>
<td><em>Canis lupus familiaris</em></td>
<td>Labrador retriever</td>
<td>2.0.0</td>
</tr>
<tr>
<td>Felidae</td>
<td><em>Acinonyx jubatus jubatus</em></td>
<td>Cheetah</td>
<td>3.3.0</td>
</tr>
<tr>
<td>Mustelidae</td>
<td><em>Aonyx cinerea</em></td>
<td>Asian small clawed otters</td>
<td>1.1 + young</td>
</tr>
</tbody>
</table>
kiosks which define a market area where Fair Trade products from Africa are offered for sale. The Mapori Restaurant serves local, freshly prepared and vegetarian food with some menu items featuring African cuisine. From the village, guests can take in the grassland vista and gaze onto the savanna dotted with clusters of wildebeests, gazelle, ostrich, zebras and giraffes. Beyond the village, guests enter the theme area of Ajabu National Park, where they can enjoy more views of the 3.2 hectare (eight-acre) savanna and the animals that live there. Graphic panels take on the look of a field guide of the savanna animals. Continuing, guests come across the watering hole exhibit in which animals are continually rotated throughout the day; one may see ostrich in the morning only to return in the afternoon to see a "Cheetah Run" demonstration.

The landscape mimics the savanna grassland with pockets of trees scattered throughout the animal habitats and public area spaces. In the distance, a hill with scrubby plants completes what appears to be an endless savanna, and screens views of the adjacent residential neighborhood and perimeter fence system.

The Heart of Africa was designed with several project goals and interpretive outcomes in mind: to bring giraffe and zebra back to central Ohio; to create fun, exceptional guest experiences that offer inspiring conservation success stories and that feature Jack Hanna as the virtual “tour guide”; and develop a region of the zoo that exceeds current standards and trends for animal care and management, and fiscal and environmental sustainability.

SIZE
The Heart of Africa encompasses 173,922 m2 (43 acres) of land. Outdoor animal areas include both the exhibit and the off-exhibit holding. While the cheetahs also have access to the watering hole habitat at scheduled times, this area is not included in the outdoor animal figures shown below. The indoor cheetah area below encompasses the entire Animal Programs building. Visitor area includes the viewing pavilion. Staff area is indicated under "Others". Area for the public walkways is not included in the figures below.

COSTS
US Dollar 30,810,498 including 8.50% for design. Construction – 83.60%; Site Furniture, Equipment, Etc. – 4.8%; Interpretive items – 3.10%

OPENING DATE
22 May 2014

DESIGN
Beginning: May 2011
• Interpretive Design: Roto, Dublin, OH USA
• Theming: Optic Nerve Art Corp, Columbus, OH USA
• Architect/ Planner: PGAV Destinations, St. Louis, MO USA
• Structural Engineer: Jezerinac Geers & Assoc., Inc., Dublin, OH USA
• Food Service Equipment Designer: Louis R. Polster Co., Columbus, OH USA
• MEP/FP Engineers: Prater Engineering Associates, Inc., Dublin, OH USA

The Heart of Africa was designed with several project goals and interpretive outcomes in mind: to bring giraffe and zebra back to central Ohio; to create fun, exceptional guest experiences that offer inspiring conservation success stories and that feature Jack Hanna as the virtual “tour guide”; and develop a region of the zoo that exceeds current standards and trends for animal care and management, and fiscal and environmental sustainability.

Covered viewing structure: The covered viewing structure provides shade and an up-close experience with the cheetahs. ©Columbus Zoo and Aquarium, PGAV Destinations, 2014

Mudiwa Village: Brightly painted wooden and corrugated metal kiosks display work from African artisans. ©Columbus Zoo and Aquarium, PGAV Destinations, 2014

Approach to cheetah exhibit: Visitors are shaded as they approach the cheetah viewing structure. ©Columbus Zoo and Aquarium, 2016
Landscape Designer: Zoo Horticulture Consulting and Design, Ossining, NY USA
Surveyors, Planners, Scientists, Civil Engineers: EMH&T Engineers, New Albany, OH USA
Habitat Construction / Theming: The Nassal Co., Orlando, FL USA

CONSTRUCTION
Beginning: March 2013
• Construction Management: Messer Construction Co., Columbus, OH USA
• Construction: Smoot Construction Co. of Ohio, Columbus, OH USA

PLANTS
The site was a farm field so all plantings were new and selected to visually represent the African savanna.

FEATURES DEDICATED TO ANIMALS
The cheetahs have access to two exhibits: the main Cheetah Habitat (located opposite the Watering Hole) and the Watering Hole Habitat. The use of the Watering Hole Habitat occurs during scheduled times and provides running opportunities.

The exhibit has shaded overhangs and views of the savannah. Crates were installed within the habitat to give the cheetahs a higher resting place and a position that allows them to see more of the savanna. The dogs can also be on exhibit with or without the cheetahs.

The holding building is themed to represent Laurie Marker’s conservation project in Namibia, the Cheetah Conservation Fund. Shift-ways and transfer chutes allow animals to be shifted on and off exhibit in both habitats throughout the day.

FEATURES DEDICATED TO KEEPERS
The holding building has an office, kitchen, washer dryer, and restrooms for the keepers. The space holds the promotional animals that go into the watering hole in addition to the cheetahs and dogs. Exterior chutes are high at about 1.8m (6’) interior so staff can easily navigate inside the chute as necessary.

FEATURES DEDICATED TO VISITORS
A viewing structure spans both the public and habitat space accommodating afternoon shade. Large floor to ceiling glass provides an unobstructed view of the big cats. This brings guests and the cats close to each other.

There are two food stands in addition to the main restaurant; restrooms on either side of the region; smaller carts for beverages/ice cream; separate smoking areas on either side of the park; keeper talk locations; shade panels for viewing in comfort;

Space allocation in square meters:

<table>
<thead>
<tr>
<th>use</th>
<th>indoors</th>
<th></th>
<th>outdoors</th>
<th></th>
<th>total</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>accessible</td>
<td>total</td>
<td>accessible</td>
<td>total</td>
<td>exhibit</td>
<td></td>
</tr>
<tr>
<td>animals</td>
<td>282</td>
<td>589</td>
<td>871</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>visitors</td>
<td>27</td>
<td>27</td>
<td>27</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>others</td>
<td>145</td>
<td></td>
<td>145</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>total</td>
<td>427</td>
<td>616</td>
<td>1,043</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
misters for hot days; exterior and interior seating at the restaurant; nursing station for mothers with infants; speaker system for keeper talks; and glass viewing inside the restaurant of both the lions and savanna.

**INTERPRETATION**

Visitors can purchase items made by one of the African co-ops supported by the Zoo. The schoolhouse stage hosts programs, activities, and performances each day. Guests can attend keeper talks and talk with docents about the different conservation organizations whose work the Zoo supports, and they can donate loose change to conservation organizations. Signs and interpretive material has been coordinated with the African theme.

**MANAGEMENT**

The Labrador retrievers are housed in the same building where the cheetahs are held. The dogs can be placed on exhibit with or without the cheetahs. The Labrador retrievers are also part of the cheetah run show, running after the big cats to give a good contrast to how fast the cheetahs are. Narration during the show explains the use of Anatolian Shepherds and the projects in Namibia.

Zoo security personnel monitor temperatures in animal holding areas, assure all doors and gates are locked, and maintain a secure perimeter. Emergency medical workers (EMS) providers are on-site during guest hours while first aid / CPR / AED certified security staff is available during non-visitor hours. A fire detection system is monitored 24/7.

**RESEARCH**

A multi-phase summative evaluation was conducted in the months following the opening of the exhibit to assess the guest experience, determine the impact of the exhibit on guest knowledge, determine the affective impact of the exhibit on guests, see if conservation interest of the guests was impacted, and determine the success of interactive / educational experiences.

**CONSERVATION**

The Zoo features 11 complex, on-going wildlife conservation efforts related to the African savanna animals that are on display for the guests. Over $420,000 has been donated to in-situ conservation
projects related to savanna species. Interpretive tools focusing on these projects are incorporated into the guest experience in a number of ways including themed signage, interactive elements and dimensional props.

During the design and construction process, on-site efforts were catalogued in the following areas: recycle / landfill program, water efficiency, indoor environmental air quality, materials and resources, energy and atmosphere and sustainable sites. Construction recycling for the entire Heart of Africa site exceeded 91%.

Re-use or repurposing of existing materials was a key factor. An 1890’s one-room schoolhouse was repurposed as an African schoolhouse. An aged barn was dismantled and restored in a nearby county park as a feature for their 1940’s era family farm. A grove of Osage orange trees was protected and incorporated into the guest pathway. Holding and service areas were designed around an existing grove of trees. Boulders were harvested from the site and previous zoo projects for use as animal exclusion barriers. Topsoil was stocked-piled and re-used in the savanna. All site spoils were used on the site. The wooded portion on the north side of the site was protected and maintained as a backdrop and screen. Trees that were cut for utility runs and / or service drives were re-used on the site as deadfall and upright snags. A geothermal system was added to the existing system to heat and cool the Mapori restaurant.

The Mapori Restaurant was awarded a 4-star Green Restaurant Certification in 2014, and LEED certification was achieved in 2015.