

The Kenneth E. Behring Family Hall of Mammals

by Barbara Brennan, Rebecca Singer and Andrew Pekarik

A Review of The Kenneth E. Behring Family Hall of Mammals by Barbara Brennan

“Welcome to the Mammal Family Reunion! Come meet your relatives.”

This warm invitation sets the tone and the stage for the family friendly exhibition that follows. Studies conducted by the Smithsonian’s Institution’s Institutional Studies Office in December 1998 and January 1999 show that families with children make up the lion’s share of the National Museum of Natural History’s visitors, and *The Kenneth E. Behring Family Hall of Mammals* is designed with this population in mind. Visitors also reveal that they usually plan to spend about an hour in the museum. They can spend that entire hour in *Mammals* and feel satisfied that they’ve tasted most of its rich and diverse experiences.

Mammals opened to the public on November 13, 2003. The 20,000 square-foot light-filled exhibition represents part of a major renovation effort to open up the Museum’s spaces and restore the large halls on the Mall level to their original state when the Museum first opened in 1910. The \$33.3 million price tag for *Mammals*, helped by a \$20 million gift from Kenneth E. Behring, includes the structural renovation and updating of 100 year-old utility systems. The cavernous new space is filled with light, and, even when crowded, never feels claustrophobic—a relief for those of us who remember the labyrinthine exhibitions of the past.

At the exhibition entrance, advance organizers help define the unique characteristics held by

all mammals, and visitors are encouraged to look for those characteristics on specimens throughout. Just past the introduction, the largest section of the exhibition is devoted to Africa, followed by smaller units on North America, South America, and Australia. An area devoted to families in the back of the hall is especially rich in tactile experiences, but in truth, the entire exhibition is designed with families in mind.

Many fans of the old dioramas were sorry to see them go. Their appeal was powerful, leading more than half the visitors interviewed in formative evaluation studies to identify them as their favorite thing in the museum. The exhibition team agreed that the current dioramas were not as sophisticated as they would like, and at the least needed to be re-interpreted. In the end they took the courageous leap out of the line-up of diorama boxes and integrated the mammal collection into the entire exhibition space. “Once we let go of the constraint of having to do dioramas, it really freed us up to treat the specimens as gem-like objects,” says Sally Love Connell, Exhibit Developer on the project.

Barbara Brennan is a Senior Exhibition Designer at the Smithsonian Institution’s National Air and Space Museum. She may be contacted at brennanb@si.edu.

Rebecca Singer is Youth Audiences Manager at Hillwood Estate, Museum and Gardens. She may be contacted at rsinger@hillwoodmuseum.org.

Andrew Pekarik Pekarik is a policy analyst in the Office of Policy and Analysis at the Smithsonian Institution in Washington, DC. He may be contacted at pekarika@si.edu

Editors note: Three independent reviews of the same exhibition are presented here.



You don't need a realistic setting to tell you what this giraffe is doing. Photo courtesy of National Museum of Natural History, Smithsonian Institution.



The bright open hall is welcoming and easy to navigate, in contrast to the labyrinthine halls of the past. Photo courtesy of National Museum of Natural History, Smithsonian Institution.

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Look up! Look down! Turn around! Specimen gems are placed high and low, with a surprise around every corner. Windows in walls provide unique viewpoints on animals you've met before. Like a large family reunion, you truly are surrounded by relatives. The environments in which your cousins live (or lived) are hinted at in the minimal and modern design treatment. Attractive exhibit materials complement and enhance the presentation. These include bronze touchables, wood finishes, and plenty of extra large glass panels to provide unobstructed views of the subjects in cases.

The animals are caught in dramatic moments, visible from above, below, and all sides. Related exhibits encourage visitors to look closely at specific features of each animal. You can stare at a lion's claw from just inches away and then use a hands-on interactive to see and feel how all cats' claws retract when at rest and extend to become deadly weapons to help bring down their prey.

A strict label template is clearly at work throughout the exhibition. Labels are short and tightly written. I observed several parents reading to their children and interpreting for them, as well as early readers trying some of the fun titles for themselves. "Who Will Survive?" "Eat and be Eaten." Though playful in tone, these label titles keep the focus on evolution and adaptation, while engaging youngsters.

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A choice was made not to offer more in-depth information, and Europe and Asia are noticeably missing from this family reunion (you can find information on these areas on the exhibition web site). The commitment to keeping the space open and the requirement to provide an area for the exhibition store meant that some things had to go. Some may find the exhibition lacking in this regard. Although one of the exhibit's main messages was how environmental change shapes animals' adaptations and diversification, the snap-shot approach to the science misses the opportunity to explore more deeply how similar environments formed common traits found in Asian and African mammals, for example, and in contrast with the Americas. That said, *Mammals* whets the appetite and entices you to explore, with many fun and engaging tactile molds and interactive experiences throughout. I learned a lot and found it easy to read most of the text without feeling overwhelmed.

Because evolution and deep time are difficult concepts to convey in static exhibits, there is an entertaining and informative short film about



With minimal context the animals take center stage. Photo courtesy of National Museum of Natural History, Smithsonian Institution.

mammal evolution in the theater at the back. Sound and light effects enhance the rainforest section. In the Africa section, the large amount of ambient light tends to wash out the series of projections meant to provide further context to the animals. I didn't notice them until I had been there for some time. Many exhibit elements are clearly designed for children only: special low crawl spaces made just for them and monitors in the floor, ignored by most adults but fascinating to their smaller companions.

One cannot discuss the design without praising the stunning taxidermy of the 274 specimens on display. The museum had two taxidermists on staff and added several contractors to the team, who worked in a rented warehouse in Newington, Virginia for two years. Through contacts at the National Taxidermist Association, word spread quickly about this once-in-a-lifetime opportunity to work with Smithsonian staff on an exhibition of this quality. Some specimens from the old hall, such as Theodore Roosevelt's black rhino donated in 1909, were repaired and returned to the new hall. Most of the animals on display were donated by zoos and research facilities for this exhibition. No animals were killed for the purpose of this installation.

Developing an exhibition of this scope is never without its challenges and set-backs, and *Mammals* had its share of both. The original design firm contracted, Douglas-Gallagher, split into two separate firms one year into the project. During the period of readjustment that followed, the team took the exhibition concept plan onto the Smithsonian Mall. The full-size layout on the grass revealed that they had recreated the tight, cramped pathways they were trying to correct. Reich + Petch Design International, of Toronto, Canada, was brought



*The dramatically posed animal specimens provided once-in-a-lifetime opportunities for taxidermy artists, who came from around the country to work on **Mammals**. Photo courtesy of National Museum of Natural History, Smithsonian Institution.*

in to finish the design. They helped the team cut back the content and reclaim the original goal of opening up the space, but a year and a half was lost in the process with no change to the opening date!

The web site picks up some of the pieces that were cut from the exhibition, specifically units on Europe and Asia. It also provides additional information in a "Research Newsroom," where visitors can learn more about mammals and the people who study them, asking questions of a "featured researcher" if they like.

In conclusion, *Mammals* sets the standard for exhibitions developed specifically for a family audience. It is a focused, accessible treatment of the evolution and adaptation of the Mammal species with plenty to learn for all visitors. The consistent references to family are personal and inclusive, achieving the primary goal of creating an exhibition for families to enjoy. I find the minimal animal displays to be visually exciting and don't miss the more static dioramas. I would, however, trade the store for an introduction to our European and Asian mammal cousins. I'd like to get to know them.

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Website : www.mnh.si.edu/mammals

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All in the Family: a Review of the Hall of Mammals **by Rebecca Singer**

As a museum educator who works primarily with families, I strive to develop programs that engage visitors of all ages, and to encourage interaction and conversation among family members, inspired by the museum's objects and messages. Just as conversation and interaction are key to family learning at a festival, tour, or workshop, they are also important to any exhibition that targets a family audience.

The *Kenneth E. Behring Hall of Mammals* at the Smithsonian National Museum of Natural History accomplishes the goal of inspiring family interaction and meaningful conversation through its content, design, and physical layout. Compelling objects, hands-on elements, and multiple entry-points, in particular, contribute to the family-friendliness of this exhibition.

The content of the exhibition is a natural draw for a family audience. Animals can be especially fascinating to children. The life-like poses of the animals in the exhibition help make them even more relatable. From the very entryway the exhibition hooks the attention of its visitors with the great variety of mammal specimens on display. I have visited *Mammals* several times and each time I am immediately attracted by the large cases on either side of the entryway, displaying a variety of mammal species. This seems to catch the attention of most visitors as they enter the exhibition, as well. The immediate reaction of families, on entering, is to exclaim "Look at all the animals!" Parents turn to their children and ask: "What animals



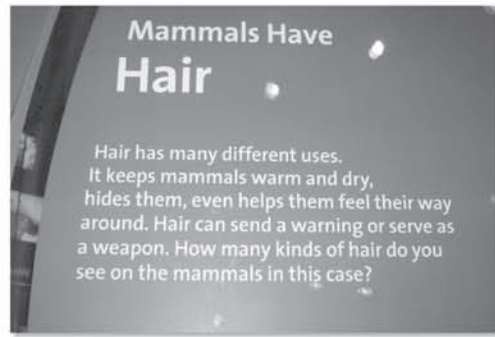
The lifelike poses of the animals inspire conversation among visitors. Photo courtesy of Rebecca Singer.

do you see?" This display immediately engages family visitors in conversation about the exhibition objects, making observations about the variety of animals, their size, color, and appearance.

When visitors come to a museum as a family, they intend to experience the museum together, as a social group. Family-friendly exhibitions should provide opportunities for social interaction. Throughout the exhibition, the lifelike poses of the animals engaged in specific behaviors encourage conversation among families, as parents ask their children to describe what is happening in the scene in front of them. As I walked by a display of a beaver and coyote, for example, I overheard a father asking his son, "What is the beaver hiding from?" The active poses of many of the animal specimens throughout the exhibition encourage these kinds of questions, which lead to conversations that can promote family learning.

Labels also provide guidance for making observations and engaging with the objects. For example, at the beginning of the exhibition, a label states that mammals have hair, lists some of the functions of hair, and asks "How many kinds of hair do you see on the mammals in

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Labels with questions can encourage closer observation of the objects on display. Photo courtesy of Rebecca Singer.

this case?” This question provides families with a specific way to focus and guide their looking at the animals in this display. Another set of labels guides families through exploring the behaviors taking place within a termite mound, asking visitors to look for the animals that are hard at work, the animals looking for termites to eat, and the animals using the termite mound as a shelter.

The labels in this exhibition provide multiple layers of information for visitors with varying degrees of interest and background knowledge. The main messages of the exhibition are communicated clearly, with a few simple and direct labels, so that families walk away with the message that there is an amazing variety of mammals all over the globe and that we, as humans, are a part of this diverse mammal family. Additional labels explore topics such as adaptation, ecosystems, food chains, and classification, in greater detail. This allows individual family members, who may have varying levels of interest, experience, and background knowledge, to access the content of the exhibition in different ways. Most families will probably not explore these topics in great depth, but the option is there for those with special interest.

The physical layout of the exhibition is important, as well. *Mammals* is bright and lively with a lot of space in which to circulate and space for family groups to gather together around displays. Large animal specimens are easily visible to visitors, even during crowded times. Physically, the exhibition appears to be designed with children in mind. The label panels are at an accessible height for children and most exhibit cases are visible too. In many traditional exhibitions, objects may be

displayed too high for younger visitors to see. In this one, the displays are everywhere, from the ceilings to the floor, and visible to all visitors.

Being family-friendly means being engaging to visitors of multiple ages—not just to the children, and not just to the adults in the group, but to the children and adults interacting together. For this reason, the exhibition should provide multiple entry points for visitors—different ways of accessing the information, preferably including some hands-on opportunities and other interactive elements.

Mammals includes many exhibit elements that can appeal to a variety of different types of learners. There are many objects that can be touched and manipulated, such as the casts of a modern giraffe vertebra, extinct giraffe vertebra, and human vertebra.



Interactive exhibit components, including this cast of a giraffe vertebra, provide multiple ways for visitors to engage with the content of the exhibition. Photo courtesy of Rebecca Singer.

There are also videos, sound effects, and other hands-on or interactive exhibit elements. In addition, there are components that provide

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special opportunities for children, such as places they can crawl under and peek inside. This kind of interactivity provides a kinesthetic element to the experience and can also help create a sense of discovery.

The size of the exhibition, number of animal specimens displayed, and the amount of information presented may be a bit overwhelming to some visitors, but the structure of the exhibition allows families freedom of choice in how they explore the many mammal specimens and exhibit elements. The impressive variety of specimens on display and the many layers of information on labels also enable the exhibition to be relevant to visitors of various backgrounds, ages, and interest levels.

Overall the *Hall of Mammals* is a very family-friendly and enjoyable exhibition.

Excerpt from Visitor Responses and Behaviors in the Kenneth E. Behring Family Hall of Mammals at the National Museum of Natural History, Smithsonian Institution by Andrew Pekarik

Visitor Responses

Visitors liked many aspects of the exhibition, including its content, its presentations and design, and its general atmosphere. They also liked seeing other visitors, especially children, enjoying themselves in the exhibition.

The Mammals

The animals were a central focus of many favorable comments about the exhibition. Visitors noted how many there were, how diverse they were, and how often they were new to the visitors' experience. Seeing the real thing was important for many visitors to the exhibition, especially younger visitors and those with a special interest in particular mammals. During the 55 interviews conducted in this study visitors specifically mentioned 40 different animals, from aardvark to zebra. Visitors connected with mammals as ordinary as squirrels and as exotic as the thylacine. Children seemed to be especially drawn to the giraffe, lions, and brown bear. Size was an important factor in the attraction of the bear, and the giraffes were considered amusing. There were multiple giraffes, lions, and bears in the exhibition, and many visitors stopped in front of them. Among the observed visitors, 48% stopped in front of at least one giraffe, 54% stopped in front of at least one lion, and 40% stopped in front of the brown bear, the black bear, or the polar bear.

Photography

The back-lit photographs in the exhibition drew considerable visitor attention—18% of observed visitors stopped at the wall of photos near the entrance. One visitor under observation took a photograph of the wall of photos and then had her husband take a picture of her standing in front of the wall. One interviewee said, "There was some incredible photography." Picture-taking was a visitor activity in the exhibition—17% of the observed visitors took photos, using everything from their cellphones to sophisticated cameras with telephoto lenses. Some visitors made their way through the exhibition photographing one another in front of interesting mammals or trying to create

The text is simply written, but it gives you a quick, easy perspective on how the animal exists, which is just fantastic. So you're able to quickly assimilate the information, and then move on to the next thing. — Visitor comment.

humorous juxtapositions (especially in front of the hippo).

Hands-on Displays

Visitors spoke highly of hands-on displays. Most adults and children referred to them as if they were more for children (although some children said that they did not like them and did not use any in the exhibition). Visitors aged six to ten were the heaviest users of hands-on displays—all of them used at least one, and on average each of them touched seven hands-on items. Visitors under six used an average of six, and all other visitors used an average of four or less. For those who remembered the old mammals exhibition, the addition of hands-on displays was a notable improvement.

Altogether, 67 % of observed visitors used a hands-on exhibit. There was a gender difference in their use. Males used hands-on exhibits 4 times on average, while females used them 3 times on average.

Interviewed visitors spoke of types of hands-on exhibits that they enjoyed, including things to touch, doors or flaps to flip or lift, computers, and buttons to push. The touchable objects seemed to have been particularly well received, perhaps because they are the most numerous.

Texts and Labels

Some visitors noted that they appreciated the exhibition texts and labels, referring especially to their effectiveness, brevity, and relaxed style. One visitor, in particular, remarked on how these labels differed from other texts in the museum, "I thought it was cute how you said, 'this lion is looking to have her dinner.' Those kinds of cute things. It's a nice contrast to the more scientific kind of displays."

Early in the study some visitors criticized the fact that some animal silhouettes on the labels did not match the poses of the animals. The silhouettes were corrected and simplified during the course of the study, and in the later interviews there was no mention of any problem with them.

Some texts were rarely read. No observed visitor read the panel on "Evolution at Work" near the front of the exhibition, and only 3% of observed visitors read the Pangea text/graphic near the entrance, although 86% of them walked past it. The large dual-image photograph and its text on how giraffes came to have long necks was the largest display bypassed by all observed visitors.

No Taxidermy

Interviewed visitors frequently mentioned the lifelike poses of the animal mounts. For some this was the single factor that distinguished this mammals exhibition from others that they have seen. One visitor who has seen many other exhibitions said, "I think in here the displays are lighter. Kind of more vivid, more close-up. They're very realistic. It is just as if the animals truly are alive."

Interviewed visitors most often used the words "lifelike," "natural" and "realistic" to describe the way the animals were presented. But some visitors went beyond this in their remarks, showing how that feeling of aliveness also created a sense of context, especially when combined with the video footage of animals in motion. One visitor called it "authenticity" and described it as, "their posing and then their environment and what would appear to be their natural environment—the combination of looking real and the backdrop being real. For a

[The exhibition would be better if] you got directed more easily through everything, because you kind of go here, then go here, and it would be nice if you could go through like halls and see it all. — Visitor comment.

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When you first walk into the hall, it's really nice because it opens up and helps you relax, and then you take it all in perspective and [say], "Do I want to go here? Do I want to go here?" and you don't feel so closed in.
— Visitor comment

child—for me too—but [especially] for a child, it is more gripping, I think.”

Visitors indicated how this realism aroused direct emotional responses when they spoke of their attraction to the displays that linked animals in a scenario. The two scenarios most often referred to were the lions attacking the African buffalo and the leopard with its impala prey hanging on a tree.

The realistic mounts, background videos, and combinations of animals led visitors to speak of the animals as being shown “in their own habitats,” despite the lack of specific contextual representations such as those found in traditional dioramas. Visitors who were asked to compare this exhibition in detail to other mammals exhibitions never mentioned the absence of traditional dioramas in this exhibition. The combination of poses, groupings, videos, photographs and suggestive patterns seems to have created a kind of “virtual diorama.” There were peer reviewers, however, who regretted the absence of traditional dioramas, because they had enjoyed them so much elsewhere.

Exhibition Layout

The overall layout of the exhibition was often mentioned favorably by the interviewed visitors, as well as by the peer reviewers and teen reviewers. Although there is a backlit map of the exhibition at the front of the exhibition (at the base of the wall of photographs), it did not draw much attention, and most visitors navigated instinctively. Because the space is, in the words of a peer reviewer, “wide and open,” and because there was no explicit path, visitors felt free to wander. At the same time, some visitors felt that there was a subtle guidance or “flow” that helped them move through the

exhibition. The whole exhibition can be visited without much “backtracking,” an efficiency that was appreciated by those in a hurry.

The relative spaciousness (due in part to the very high ceiling and skylight) and openness of the exhibition layout seemed especially attractive to visitors who prefer open entrances and who said that they had felt some discomfort in crowded, close exhibitions elsewhere, such as *The Price of Freedom* at the National Museum of American History or the *Sikh* exhibition next door to the *Mammals* exhibition.

As one of the teen reviewers noted, “I felt like I could go to any display I wanted to, I didn’t have to follow a certain walk-through or something. I could just go wherever I want to go, whether I want to start in the back, the front, the middle, wherever.” The many different paths chosen by the observed visitors reflect this freedom. When we examine how many observed visitors entered each of the five principal geographic areas of the exhibition (Africa, Australia, South America, Far North of North America, and Temperate regions of North America), we find that 95% of all visitors moved through Africa (whether they stopped or not), 54% through the Far North of North America, 44% through Australia, 44% through South America, and 42% through the temperate region of North America. ☀

Editors note: The entire study, based on open-ended interviews with 55 visiting groups; observations of 100 visitors; peer reviews by museum colleagues; and interviews of high school students, was published in July 2005. It may be found at www.si.edu/opanda/2005/html.