
THE LOUISVILLE ZOO
BACKYARD
ACTION HERO
2011
GUIDEBOOK
2012
Presented by
TOYOTA
MOTOR MANUFACTURING
25
YEARS
PROUD PARTNER
KENTUCKY
Facts,
Puzzles,
Activities,
It's time to...
GRIN
AND "BEAR" IT!

Hi Kids!

"At Toyota Motor Manufacturing, Kentucky, Inc. (TMMK), we believe that protecting the environment is part of our mission to be a good neighbor across Kentucky. As we build cars in our plant in Georgetown, we are committed to protecting the environment, obeying the environmental laws, preventing pollution and continuously improving our processes. But the committment doesn't stop there. It is everyone's responsibility to protect the environment.

Becoming a Backyard Action Hero is the first step in learning about how we coexist with the plants and animals that make up our environment. Once you have learned about some of the things in this book, you will be ready to take conservation action in your own backyard and beyond. Good luck!"

Sincerely,
Your Friends at
Toyota Motor Manufacturing, Kentucky, Inc.

What is a Backyard Action Hero?

A Backyard Action Hero – or BAH as they are called – is a kid or an adult who is really into wildlife and habitats and is ready to take action to protect them. They think being "green" is cool, and they know that to really make a difference you not only need to learn, but you also need to act! BAHs care about animals and habitats in their own backyards as well as all around the world.

Since the Louisville Zoo is a great place to learn about all kinds of plants and animals, our BAH crew will check out what's going on there and introduce some of the Zoo's real life conservation heroes!

Produced by the Lousiville Zoo
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Hello, Backyard Action Heroes!

With the opening of the brand new Glacier Run at the Louisville Zoo, we couldn't bear to leave you out of all the fun! And with all the exciting information we want to share about the conservation efforts connected to this new exhibit, we'll bearly (that's "barely") be able to fit everything into this booklet. So let's get started!

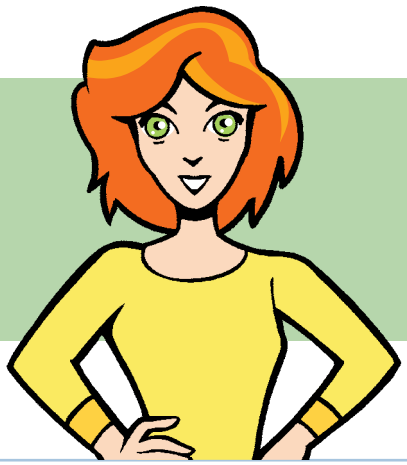
As you may know, Glacier Run features two different species of bears, polar bears and grizzly bears. Grizzly bears are actually a subspecies of the brown bear, and the Louisville Zoo is now host to a grizzly family of three. This is the first time the Zoo has exhibited grizzlies, and both staff and patrons really enjoy observing their cute (but not quite cuddly) antics. The other bear species you'll see at Glacier Run is, of course, the polar bear—marking a triumphant return of this favorite mammal to the Zoo. Glacier Run also represents several other species of animals, including seals and sea lions.

Coming in the spring of 2012, the Zoo will reveal a new Stellar's Sea Eagle aviary as well as the new Glacier Run Arctic Ambassador Center (GRAAC) which be a home for special educational outreach animals including the beautiful snowy owls and arctic foxes.

YOUR BACKYARD ACTION MISSION: This guidebook reflects the Louisville Zoo's mission "to better the bond between people and our planet." You will learn about the eight living species of bears found today on our planet. Of these eight, six are listed as either endangered or threatened. We hope that the more that you learn about these bears, the more you will want to protect them and their ecosystems. You will meet some of the Zoo's heroes who are making a differecne. The connections you make with wildlife and your zoo will help instill a sense of the responsibility we all share to preserve and develop a better future for all living creatures and plants.

Mother and baby grizzly bears meet students at Glacier Run. Photo by Robert Kemnitz

"Did you know that the closest living relative to the elephant is the manatee?
Well, now you do!"



Classification

You've got class, right? You've also got phylum, order, genus and species. These are taxonomic ranks, part of the classification system that scientists use to group animals and plants together and distinguish them from one another. Scientific or biological classification is the cornerstone of scientific inquiry and discovery, a way to organize the information we learn about living things.

Classification provides a way to define animals' biological relationships to one another. Two animals may share the same phylum, class, order and family, but exhibit very different characteristics. As the "lowest" or most specific ranks, the genus and species of an animal reveal the most information about what makes that animal unique.

In the past, species were defined by such physical characteristics as size, teeth, body coverings (like hair or scales) and even coloration. That is, if two species looked alike, they were assumed to be closely related. As scientists gained a better understanding of how species evolved or developed in the first place, they discovered that appearances aren't always what they seem.

There are several examples of animals that do or do not look alike but are or are not closely related, many of which you can see at the Zoo. The ring-tailed lemurs certainly look a lot like raccoons in terms of their coloring and body shape. Both are forest dwellers, but the lemur belongs to the order primates and actually has more in common with monkeys and apes, while the raccoon is a carnivore and is related to bears and dogs. The tall, graceful giraffe and the round-bodied hippopotamus both belong to the order *Artiodactyla* because they share similar foot structure.

Today, scientists have the added benefit of DNA, which helps them determine relatedness through genetics. The more similar the DNA, molecules found in the cells of living things, the more closely two animals are related. Scientific classification helps biologists and zoologists recognize and understand the relationships between different animals, which in turn helps our Zoo's veterinarians and keepers provide better care and training.

The Giraffe and Hippopotamus are more similar than you thought

What's in a Name?

When scientists discover and describe a new kind of living thing, they assign it a scientific name. Before scientific names were accepted as the system for classifying animals, people would assign a name to an animal or plant without regards to whether it had already been named by someone else. This created confusion in the scientific community when a single animal or plant was known by multiple names.

When you visit the Zoo, you'll notice signs at each animal exhibit (and among many of the plants). These signs display a common name and a scientific name. The scientific name is written in italics and usually consists of two parts—the genus and species.

Many animals were assigned scientific names more than 200 years ago. As scientists learn more about animal relationships, they often have to modify the existing scientific name. Sometimes this means adding a third part of the name, known as a subspecies.

The brown bear is the most widely distributed bear on the planet. It can be found on several continents. At one time, different groups of brown bears were thought to be different species. For example, the Eurasian brown bear *(Ursus arctos)* was thought to be a different species than the grizzly bear *(Ursus horribilis).* Recent studies of these bears' DNA show they aren't so different after all! They would be capable of producing offspring together, and their offspring would ultimately be able to reproduce. This means the two types of bears are actually of the same species.

Here's where the subspecies helps scientists be even more specific. The Eurasian brown bear is now known as *Ursus arctos arctos* and the grizzly is known as *Ursus arctos horribilis*. As you can see, they now share the first two parts of their scientific name. The addition of the subspecies lets us know that there are minor differences between the two bears, probably as a result of having been geographically separated for many years.

Some interesting findings about polar bears may result in a scientific classification update, too. Researchers now believe that the polar bear is actually a subspecies of the brown bear—even though polar bears obviously aren't brown!

Classification Puzzle

What's in a name? Classification is a way to group different animals together based on similar traits or characteristics to help scientists categorize the relationships between living things. Can you match the scientific species names below to the bears' more common names?

1	*Ursus maritimus*	a	American black bear — This bear species is the most widespread across North America
2	*Ursus arctos*	b	Giant panda — This bear is named for its black and white coloring.
3	*Ursus americanus*	c	Sloth bear — This shaggy treeclimber loves to feast on sweet honey (the Latin word for honey is mel)
4	*Ursus thibetanus*	d	Polar bear — This bear is sometimes known as the "Sea bear"
5	*Melursus ursinus*	e	Sun bear — The rarest bear species in the world, this bear can be found in the rainforest of Malaysia
6	*Helarctos malayanus*	f	Brown bear — A subspecies of this bear is called horribilis
7	*Ailuropus melanoleucus*	g.	Asiatic black bear — This bear's scientific name translates to "Moon Bear of Tibet"

Answers: 1-d, 2-f, 3-a, 4-g, 5-c, 6-e, 7-b

A Brief History of Bears

Brown bears are the most widely distributed species of bear in the world. Geologically speaking, bears have lived on every continent except Australia sometime in the past. The evolution of today's bears can be traced back to around 30 million years ago. Today, there are eight living bear species.

Ancestors of these living species of bears can be traced back to the Miocene Epoch, between 15 and 20 million years ago. The best known of these ancient bears and the first known member of the *Ursidae*—or "true bear" family—was the so-called cave bear.

This ice age predator, evidence of which has been found at several sites in Europe, was actually bigger than today's grizzly bears. Interestingly, though, the teeth of this great bear indicate it was almost exclusively a vegetarian, which may have led to its extinction as ice sheets buried or destroyed local vegetation. Somewhere around 300,000 years ago, the cave bear began to roam to other parts of the world, likely looking for food. As groups moved into new areas and became more isolated from one another, new species began to develop, leading to the diversity of bears we see today.

Another ice age bear, whose history can be traced back to two million years ago, was the giant short-faced bear. This species, which belonged to the genus *Arctodus*, may have been one of the largest and fiercest bears that ever lived. The short-faced bear stood between 11 to 13 feet tall on its hind legs and probably weighed between 1,800 and 2,000 lbs. Fossil evidence shows that it had eight-inch claws and fed almost exclusively on meat. This powerful species seems to have died out around 11,000 years ago. Its closest living relative today is the spectacled bear (*Tremarctos ornatus*) of South America.

Fossil of cave bear *(Ursus spelaeus)*
Photo courtesy of Ra'ike

Short-faced bear skull,
photo courtesy of
Virginia Living Museum

Living Bear Species

Eight distinct species of bears can be found living on the planet today. Within the "town" borders of Glacier Run at the Louisville Zoo, you'll find two of these species: polar bears (Ursus maritimus) and a subspecies of the brown bear (*Ursus arctos*) known as the grizzly bear (*Ursus arctos horribilis*). The six other species of living bears are 1) the American black bear; 2) the Asiatic black bear; 3) the spectacled or Andean bear; 4) the sloth bear; 5) the sun bear; and 6) the giant panda. Of these eight species, six are listed as either endangered or threatened.

Asiatic Black Bears

(Ursus thibetanus)

The scientific name of this medium-sized bear means "moon bear of Tibet." The moon reference comes from the crescent-shaped yellowish marking found on its chest. These bears are also commonly called the Tibetan black bear and the Himalayan black bear. Males weigh between 220 to 440 pounds, and females are somewhat smaller, weighing between 110 to 275 pounds. They can be found across the southern part of Asia, into Pakistan, across northern Indian to the southern part of China. The Asiatic black bear has been seen at elevations as high as 13,000 feet, but generally comes down from the mountains during winter. They are omnivores and many are nocturnal, most active during the night. The typical territory of an individual Asiatic black bear is only about 0.5 square miles, especially in areas with plenty of food. They are listed as a vulnerable species and are threatened by poaching and deforestation.

Sloth Bears

(Melursus ursinus)

The sloth bear is one of the oldest living species of bears, with ancestors that can be traced back to the early Pleistocene era, approximately 1,800,000 years ago. Sloth bears inhabit forested and grassland regions of India, Bangladesh, Nepal and Bhutan and lowland forests in Sri Lanka. It's not known for sure where the common name of "sloth" bear came from, but some believe their name derives from their slow movements. Others suggest that early explorers observed these bears hanging upside down from trees, and were mistakenly though to be related to true sloths in other parts of the world. The sloth bear has an unusually long snout or muzzle that it uses to suck up insects. While their hearing and eyesight are not very good, they have a keen sense of smell that helps them find termites, fruits, berries, insect larvae and honey.

Sun Bears

(Helarctos malayanus)

The sun bear is the smallest and rarest bear species in the world. Much like the moon bear of Tibet, its name comes from a golden yellow crescent-shaped patch of fur on its chest. It is also known as the honey bear, the dog bear and the Malay bear. This last common name comes from the fact that the sun bear is found in the rainforests of southeast Asia, including India, Bangladesh, Myanmar, Thailand, Cambodia, Vietnam, Laos, Indonesia and—of course—Malaysia. Their short, dense fur repels water and they have bare soles on their feet with long, sharp claws for climbing. These bears are roughly half the size of the American black bear, with an average adult weight between 60 to 145 pounds and measuring 48 to 60 inches in length. But don't let their size fool you! Sun bears have excellent hearing and are considered to be very aggressive and will attack without cause. Strong jaws and sharp claws make this animal one to avoid.

Giant Panda Bears

(Ailuropus melanoleucus)
Giant pandas are a very ancient species, probably having first evolved between two to three million years ago, yet they remained unknown to the western world until 1869. Their scientific name means "black and white bear"—a pretty obvious description when you think about it! At one time, giant pandas could be found in most of southern and eastern China, as well as northern Myanmar and northern Vietnam. Due to increased human population in those regions over several thousand years, the giant panda's numbers have decreased. Thanks in large part to conservation efforts over the last 20 years, it is now estimated that about 2,000 giant pandas live in the wild today. Most giant pandas are not quite so giant, when compared to a full-grown American black bear, weighing between 175 to 275 pounds. But there have been some reports of pandas reaching upwards of 350 pounds.

American Black Bears

(Ursus americanus)
Prior to Glacier Run, the only other bear species on exhibit at the Louisville Zoo had been the American black bear—almost 20 years ago! The American black bear is the smallest and most widespread of all the bears in North America. black bears average about 54 to 72 inches in length and range in weight between 125 to 600 pounds. Scientists have discovered that the ancestors of this bear first crossed into North America via a land bridge near the Bering Strait about 500,000 years ago. While their name implies that this bear is black, its color can range from black to brown, cinnamon to creamy white. Black bears are the least endangered species of bear and still inhabit about 85% of their historic range in Canada, as well as at least 40 of the 48 lower United States and as far south as the Sierra Madre Mountains of Mexico. Like many bears worldwide, the greatest threat to black bears is poaching.

Andean (Spectacled) Bears

Tremarctos ornatus
This bear's scientific name means "decorated bear," referring to the light-colored rings usually found around its eyes. These markings often extend to the neck and chest, and are unique to each individual bear, just like human fingerprints. One of its more common names – Andean bear – refers to the Andes mountains where it lives, the only bear species on the South American continent! The spectacled bear is shy and elusive, hunting in the mountain forests mostly at night. Subsequently, little is known about this smaller bear species. Due to habitat loss and poaching, however, it is believed that fewer than 3,000 Andean bears live in the wild today.

Brown Bears

(Ursus arctos)

The brown bear is the most widely distributed species of bear in the world. They can be found in North America, Europe, Asia, and formerly northern Africa. Approximately 15 different subspecies of brown bears have been identified, including the grizzly bear (*Ursus arctos horribilis*).

Brown bears are omnivores, feeding on both vegetation and other animals. Really, they'll eat just about anything, but generally concentrate on the specific foods that are abundant in their region. For example, the yearly salmon run in some parts of the world provides a great opportunity for these bears to gorge themselves on this protein-rich food. Brown bears will take advantage of the plentiful food source to fatten up for winter, allowing them to survive through times when there isn't much to eat.

The common name for *Ursus arctos horribilis* comes from the bears "grizzled" fur—fur that is tipped with gray or white and gives grizzlies a slightly streaked appearance. Other subspecies of brown bear include the Eurasian brown bear (*Ursus arctos arctos*) and the Kodiak bear (*Ursus arctos middendorffi)*.

In the United States, grizzly bears have been listed as threatened under the Endangered Species Act since 1975. In the lower 48 states, brown bears have been reduced to 2% of their original range. Since the 1800s, the population of brown bears in the contiguous United States has dropped from over 50,000 to around 1,200. Bear conservation efforts are an important part of zoos' involvement with this vulnerable species.

Grizzly bears are a subspecies of brown bears

Real Life
Backyard Action Heroes!

Virginia Crossett & Streve Wing. Photo by Robert Kemnitz

Grizzly Bear Road Trip!

The grizzly bears on exhibit at Glacier Run had an interesting journey to Louisville. Here to tell you a little about their adventure is Virginia Crossett, Registered Veterinarian Technician (RVT) at the Louisville Zoo.

"In August 2010, the Zoo's General Curator, Steve Wing, and I left Louisville for Polson, Montana, to pick up a mother grizzly bear and her two cubs. They had become what's called "nuisance bears," because they were raiding nearby chicken coops and pig pens. As you can imagine, the farmers who owned the chickens and pigs weren't very happy to share their livestock with these big and dangerous animals.

Wildlife authorities in the area hadn't been successful in persuading the bears to eat what they should, so the decision was made to relocate them instead. The Zoo's new Glacier Run exhibit was chosen for their new home, and the three bears were captured.

Steve and I drove straight through to Montana for 31 hours in a large truck, trying to get there as soon as possible. The very next day after our arrival, the bears were loaded into the truck and we hit the road again. The return trip took 36 hours because every time we stopped for gas, we also fed the bears. To top it all off, we had a flat tire in South Dakota. By the time the tire was repaired, everyone at the tire store knew exactly what was in the back of our truck!"

Food Web Activity

Creating a Food Web

Understanding the connections that different species have with each other and their environment is a big part of what a Backyard Action Hero must understand in order to help in conservation efforts. We often describe some of these interactions through the concepts of food chains and food webs. Every bear described in this guidebook is part of a complex food web within its particular ecosystem.

Let's look at a typical food web that a brown bear might be part of. The following activity will help you build a food web in order to better understand this interdependence between species.

Materials needed:

- Index Cards
- A ball of yarn
- Marker/Colored markers/Crayons
- Hole punch or tape

Below is a a list of interactions that take place within a food web /ecosystem that might include a typical grizzly bear (a subspecies of Brown bear) like those found at the Louisville Zoo.

Species	What they eat/How they get matter and energy
Salmon	Herring
Brown Bear	Plants (which includes leaves, roots, nuts & seeds), mice, insects, salmon, and occasionally caribou
Insects	Plants
Herring	Plankton
Mice	Plants and insects
Plankton (a microscopic floating plant)	Herring
Caribou	Plants
Plants	

Your mission: Build a food web using the species identified above. Using eight different index cards, create a card for each species listed above. You can either draw the animal or plant or write its name on the card. If you have eight friends available, you can use some yarn to hang one of the cards around each person's neck, or lay the cards out on the floor leaving about three or four feet between each card. Now using the ball of yarn, connect the cards or people wearing the cards into a food web, using the information above about where they get their matter and energy.

Once you've built your food web, see if you can answer the following.

1. Can you identify any predator/prey relationships that exist in your food web?
2. Can you identify any competition going on within your food web?
3. What is the importance of the plants in the food web?
4. Who is the highest order predator in your food web?
5. Pick a species in your web and identify any issues that might arise from its loss in the food web.

Polar Bears

(Ursus maritimus)

The polar bear is the iconic species when it comes to living in the harsh environment of the Arctic circle at the top of the world. Considered the largest terrestrial carnivore on earth, the polar bear is the largest species of bear. While there are some brown bears that can outweigh the polar bear, polars usually win out in the overall length category.

Although their appearance may seem quite different, scientists now believe that the polar bear evolved from the brown bear when a group of brown bears was isolated by advancing glaciers some 250,000 to 100,000 years ago. There is evidence in recent years that the two species have occasionally crossed paths and produced viable offspring, meaning their cubs would eventually be able to reproduce as well. This means that polar bears may more accurately be described as a subspecies of the brown bear.

To be sure, though, polar bears have some physical characteristics that make them uniquely suited to the extreme conditions of the Arctic. The most obvious difference is the color of their fur, which appears white at a distance, but is actually clear. These clear outer coat hairs are also hollow and, combined with a dense inner layer of fur, provide insulation to keep polar bears warm. A layer of blubber that can be up to five inches thick offers additional insulation and also buoyancy in the water.

Under all that thick fur, a polar bear's skin is black, which allows more heat energy to be absorbed. Their fur and skin are also quite oily, which makes them water repellant. Fur on the pads of the polar bear's feet not only insulates their paws from the cold ice, but also provides better traction. Polar bears have small ears and tail to prevent heat loss.

All of these cold-weather insulators explain why polar bears that are viewed with heat-seeking devices are barely detectable. These unique adaptations help the polar bear survive in one of the coldest and harshest environments on earth.

Climate change is the biggest threat to the polar bear today. As the Arctic ice cover shrinks, so too does the polar bears' hunting grounds. Polar ice is now forming three weeks later and melting three weeks earlier than it did just 30 years ago. This totals six fewer weeks that Polar bears are able to hunt seals, their primary food source, which also means considerably less time to build the fat reserves the bears need to survive in the summer when they're landlocked. This is one of the important environmental issues that the new Glacier Run exhibit hopes to bring to the public's attention.

"The Zoo's training and enrichment programs help our animals stay healthy and active."

How to Train a Bear!

Part of enriching the life of a bear or any animal is giving them lots of choices— which requires some training. Jane Anne Franklin is in charge of animal training at the Louisville Zoo. Training also allows keepers and veterinarians to provide better health care for the animals and also helps Zoo staff share a lot of fascinating information with Zoo visitors. But training is no easy task!

Here's how Jane Anne approached the training of the bears—all of which are new to the Louisville Zoo—in Glacier Run.

"The first part of the process is to find out everything you can about the bear's natural history. We start with the basics. What kind of bear is it, where does it come from, what does it eat, when does it reach maturity, what is its expected lifespan?

Next, we try to learn as much as possible about each individual bear that's come to live at the Zoo. For example, were the bears born in captivity or in the wild? Because our grizzly bears came from the wilds of Montana, they've already learned a lot on their own. They experienced constant stimuli and choice-making in nature. It also means we don't know very many details about their lives before they came to Louisville. One of the first training experiences we had with the bears was just being around them all the time, so they could get used to our presence.

On the flip side, our adult polar bear was born in a zoo setting, so we have a complete history of her experiences and behavior from the time she was born.

Once we've gathered as much information as possible, we create an individual plan for each animal, and begin building a relationship with him or her. We use a positive reinforcement approach to training called operant conditioning — giving the bears something they want—like a favorite food treat—when they exhibit the specific behavior we're looking for. A goal behavior might be sitting quietly while being fed or examined during health checks or moving from one place to another within the exhibit. With the grizzlies, it takes a lot of patience, because prior to coming to the Zoo, they had learned behaviors that put them and people near them in danger.

Working with Qannik will be an exciting challenge. As an orphan there are many behaviors she would have learned from her mother that her human caregivers will now have to teach her."

Real Life
Backyard Action Heroes!

Qannik is cute but she is a wild animal,so her keepers work with her through the mesh you see in this picture.

Kevin Grizzle, Qannik the polar bear cub in her off exhibit den and Jane Anne Franklin. Photo by Robert Kemnitz

QANNIK: The Bear in Our Backyard

You may have heard about Qannick, the polar bear cub who was orphaned in Alaska and now resides at the Louisville Zoo. Her rescue is the story of many heroes.

Qannick was born in January 2011, and was first observed in February as she emerged from a snow den with her mother and a sibling. Researchers with the U.S. Geological Survey placed a radio monitoring collar on the mother in order to track her and the two cubs. After just a few days, the collar slipped off. An aerial search to locate the polar bear family was unsuccessful.

In April, Qannick was spotted by employees of ConocoPhillips, literally in their backyard on Alaska's North Slope. This time, though, she was alone. ConocoPhillips contacted the U.S. Fish and Wildlife Service (USFWS), who in turn alerted the Alaska Zoo in case it was determined that a rescue was in the cub's best interest. After a harrowing two days during which the young bear was lost in a coastal fog, Qannick was again spotted. She was still alone.

Qannick was brought to the Alaska Zoo. She weighed only 17 pounds—half what a polar bear cub her age should weigh. According to Dr. Steven C. Amstrup, Chief Scientist and Vice President of Polar Bears International, "Had she not been rescued, she would have died. Polar bear cubs stay with their mother for over two years as they learn the ways of their Arctic sea ice home. Cubs of this age cannot survive on their own."

Ultimately, the Louisville Zoo was chosen for Qannick's permanent new home. Transporting her from Alaska to Louisville, however, would require a whole team of heroes, including Alaska Zoo director Pat Lampi and his staff, the training and veterinarian staff from the Louisville Zoo, Louisville Mayor Greg Fischer, the Association of Zoos & Acquariums (AZA) and logistics experts from UPS. Qannick's health and safety during the trip were of paramount importance, and no detail was left to chance, including her own personalized travel crate and temperature-controlled airplane cabin.

On June 29, shortly after 1 a.m., Qannick arrived at the Louisville Zoo. She was kept in quarantine for the next 30 days, the typical period for any new animal, while she got used to her new surroundings and Zoo staff could closely monitor her health and behavior.

As of August 9, she weighed a healthy 107 pounds, had learned how to swim (a skill her mother would have taught her in the wild), and developed her hunting instincts through a variety of enrichment activities—from stalking to attacking "toys" designed to provide choices and reinforce natural behaviors.

Qannick is now the unofficial spokesbear for her Glacier Run brethren, a playful, healthy success story of a large-scale backyard action hero mission.

Once she is ready for a more predictable schedule, we will post this on our website, at the Zoo and via Facebook. Since our goal is to do what is best for the young cub, we cannot guarantee any public viewing. For answers to Frequently Asked Questions, her background, and adorable photos and video, visit louisvillezoo.org.

Photos by Robert Kemnitz

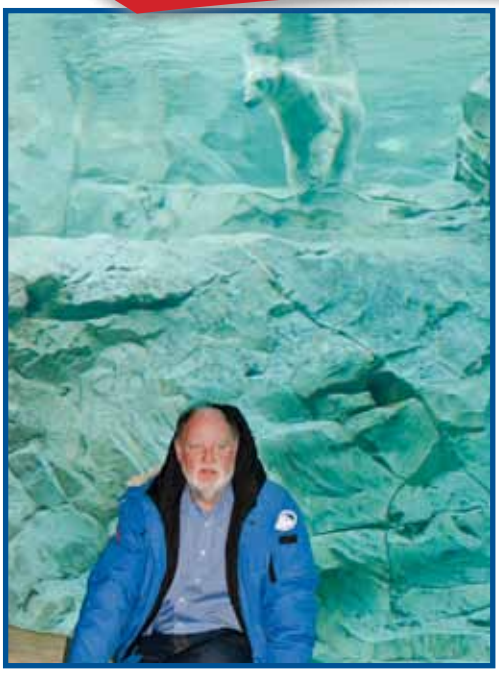
Working Together to Save Bears

The Louisville Zoo, along with other accredited Association of Zoos and Aquariums (AZA) institutions, is committed to helping save key species from extinction. Together, these zoos and aquariums spend nearly $90 million per year on conservation initiatives.

Through a variety of education programs, these institutions work to increase people's knowledge about conservation issues such as climate change, and the interrelationships between all living things on the planet.

The Louisville Zoo has partnered with Polar Bears International (PBI) and joined in its mission to help save the arctic regions of the world and the animals that live there. Robert Buchanan, PBI president *(pictured at right)*, is a great supporter of Louisville's efforts.

"The Louisville Zoo is part of the PBI network of Arctic Ambassador Center Zoos," Buchanan says. "These centers focus on animal well-being and enrichment, take a leadership role in carbon reduction in their communities, participate in PBI polar bear research efforts, and support Polar bear conservation through the PBI Polar Bear Sustainability Alliance."



©Andrew Fore Photography/andrewfore.com

Buchanan also believes that everyone – especially KIDS – can help save polar bears.

Learn more at polarbearsinternational.org

Protecting Future Populations

As General Curator at the Louisville Zoo, Steve Wing *(pictured at right)* knows a great deal about bears. One of his duties is to work with the AZA on joint conservation efforts. Here are some of his observations:

"Bear conservation is extremely important, and coordination between AZA zoos is a critical component to preserving all eight species of bears worldwide. AZA conservation efforts for bears takes a three-pronged approach:

1. Research into their natural history, as much is still not known about bear habits in the wild.
2. *In-situ* (in their original home or habitat) protection of all species, which includes the protection of critical habitats, and providing education for indigenous peoples on such topics as illegal hunting and trade practices.
3. Developing stable zoo populations, specifically for the following bears: andean, sloth, sun, polar and the giant panda.

Our conservation efforts won't be successful without Backyard Action Heroes taking an active role in the preservation of all animal life and the environment. So, my heartfelt thanks to you, Backyard Action Heroes!"

Photo by Kara Bussabarger

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Get Your Parents & Teachers Involved, Too!

The Louisville Zoo can be your partner in providing you, you family members & teachers with the knowledge & inspiration to be the future caretakers of nature & wildlife. Visit louisvillezoo.org/education for information about field trips, classes, camps, overnight programs, professional development and so much more.

Kentucky may seem like a long way from the arctic or event the wilds of Montana, but your efforts do make a difference. There are lots of ways a BAH and his or her family can get involved in protecting our planet. Here are some more things YOU can do!

- Reduce, Reuse and Recycle
- Organize a cleanup day and pick up litter around your school or in a local park.
- Find ways to conserve around your house. Turn off the water while you brush your teeth. Replace burned out light bulbs with compact fluorescents. Turn your thermostat up or down a couple of degrees (up in the summer, down in the winter.)
- Try to buy products made of recycled materials or that come from sustainable sources. Also choose to buy products with the least amount of packaging. That means there's less to throw away.
- Learn as much as you can about animals and their habitats and how to help preserve them. The Louisville Zoo is a good place to start.
- Send us your BAH ideas for protecting the planet to BAH@louisvillky.gov

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