China — China is a female dolphin and is possibly the easiest to tell apart from the other dolphins because she has a very distinctive underbite. Her lower jaw sticks out quite a bit further than her upper jaw, and it is also white in coloration. China is the same size as Ripley, weighing around 400 pounds.

Indy — Indy was the second calf born at Indianapolis. She was born on August 20, 2001 to China.

Ripley — Ripley is a female dolphin that has rippled markings along either side of her body. She is also light gray in coloration. She is slightly smaller, weighing around 400 pounds.

Jett — Jett is the third successful calf and first male to be born at Indianapolis. He was born on February 2, 2002 to Ripley.

Phoenix — Phoenix is the least dominant animal in the dolphin social structure here at the Indianapolis Zoo. Phoenix has a unique scar on the side of her body. This crescent shaped scar around her left pectoral flipper is the result of an encounter she had with a shark when she was a very young dolphin. Phoenix is larger than both Ripley and China, weighing around 430 pounds.

How deep is the pool? What is the temperature?
There are four pools: main pool is 27' deep; side pools (2) are 18' deep; medical pool is 13' deep. With the construction of the underwater viewing dome, it has displaced 140,000 gallons of water. There are 2.2 million gallons of salt water in the entire system. This is the second largest indoor dolphin facility in the world. The water temperature is kept at a constant 80 degrees Fahrenheit.

Are they mammals or fish? Dolphins are considered mammals for several reasons:
1) They are warm blooded or endothermic
2) They breath air
3) They produce live young that drink milk from mammary glands
4) They have belly buttons (where the umbilical cord was attached as fetus)
5) Mammals have hair and for the first few days of life, dolphins have a thin mustache along the top portion of their rostrum (jaw)

What is the difference between a dolphin and a porpoise? Porpoises have a blunt rounded head and small, spade-shaped teeth whereas dolphins have a longer rostrum and conical shaped teeth.

How do they find their way around? Dolphins are equipped with a biological form of sonar called echolocation. Dolphins have excellent eyesight in and out of the water but sometimes water conditions make it difficult to visually see. Echolocation provides the animals with information about their surrounding environment such as water depth, position of coastal features, and even the location of fish to eat. Essentially, the dolphin produces a sound, similar to a clicking noise, internally, then chooses a direction and sends the sound from its melon (top of their head). The sound travels through the water and reflects off different surfaces. The sound then returns to the dolphin, where it is absorbed by their lower jaw (which is hollow), travels to their inner ear, and finally to their brain to be processed. In the end of this process, the dolphin has gained a mental picture of what is out ahead of them.

How do they communicate? Dolphins communicate with each other in different ways. Researchers believe dolphins are capable of making 30 to 40 different sounds. They make all of these sounds from their nose, or blowhole, on the top of their head. They manipulate the muscles around the blowhole in order to make a variety of squawks, clicks, and whistles. All dolphins have their own unique signature whistle that is used to identify themselves. The signature whistle sounds similar to a chirping bird. Another way that they communicate is through body language. They can slap either their tails or the sides of their bodies against the surface of the water.
**Special Characteristics:**

| Diet in the wild | Dolphins will eat a variety of fish, squid, and octopus. |
| Diet at the zoo | Fish – They eat a smaller fish, capelin, and also herring, a much larger fish. Each animal’s diet is calculated according to both weight and appetite, and ranges between 14 and 22 pounds of fish per day. |
| Movement in water | Dolphins have a series of fins and flippers that help them swim. The two small flippers in the front are called pectoral flippers and are used primarily in steering or braking. The large triangular-shaped fin on their back is called their dorsal fin and it is used for either heat regulation or stabilization. The portion immediately behind the dorsal fin is the tail shank, and at the end of the shank is the tail fluke. The dolphins move the shank and fluke in an up and down motion to propel them while swimming, reaching speeds of 20 mph. |
| Duration of lactation | Calves can be weaned as early as 6 months but typically nurse for 1.5-2 years. |
| Dental Structure | 90-100 very sharp cone-shaped teeth |
| Ear Structure | Their ears are small pinhole-sized openings that look like dimples. |
| Social Structure | Dolphins are extremely social animals. Female dolphins typically live together in groups called pods. Often times, females with calves similar in age, or pregnant females, will live together. Young males will leave their pod when they reach 3-6 years of age. Males will remain solo or team up with another male (typically close in age), forming a pair-bond. Pair-bonded males often remain together their entire lives. |
How Do We Train The Animals?

We train our animals using a method called Operant Conditioning. This method is based on a reward system, in which the animals are rewarded for doing correct behaviors. Trainers communicate with the animals using a series of hand signals, body movements, and with the walrus and sea lions, they can also use verbal cues. Every time the animal does a behavior correctly they hear either a whistle tone or the word “good” (only walrus and sea lions understand “good”). The animals have learned that once they hear the whistle they will receive a reward. There are several different types of rewards. The primary type of reward the trainers use is the fish that the animals eat. But they can use other types of rewards as well, including a back or belly rub, a favorite toy, or a spray of fresh water. Anything the animal enjoys can be used as a reward.

The trainers work on several different types of behaviors. The most common are called demonstration behaviors. Demonstration behaviors are often extensions of things the animals would do naturally. The most important training done, however, is called husbandry training. Husbandry behaviors allow the trainers to keep a close eye on each animal’s physical condition. The trainers have trained the animals to voluntarily participate in much of their medical care, including blood sampling.

How Can I Become A Marine Mammal Trainer?

There are several things one can do while pursuing a career in marine mammal training.

- **Attend a Zoo education class.** Our Education Department teaches classes on animal careers such as becoming a Marine Mammal trainer. Visit our education center next to the Zoo gate or call 630-2000. This is a great way to learn more about what is involved in animal care careers.
- **Get involved!** There are many opportunities to work or volunteer in a position that will give animal experience, whether it is at an animal hospital, pet shop, or humane society. Our IZS Volunteer Program has opportunities for teenagers ages 14-18 in our Zoo Teen Program and we have opportunities for Adults as well. Visit our Education Center for more information or contact the Volunteer Office at 630-2041 or go to our website www.indianapoliszoo.com and look under the Jobs section, then Volunteer.
- **Do well in school and get a degree.** To work with any animals in a Zoo or Aquarium setting, a 4-year college degree (Bachelor of Science) is a requirement, focusing mainly on the biological sciences and/or psychology. Many university programs support and some even require an internship at a zoo or aquarium. Internships are a great way to get real work experience and to discover if this is really the job field you want.
- **Support an organization.** There are organizations to join such as IZS (Indianapolis Zoological Society), IMATA (International Marine Animal Trainers Association) or AZA (American Zoo and Aquarium Association) to become involved in and support conservation efforts locally and abroad. This is a great way to learn more about our field and our profession as well.
- **Become SCUBA and CPR certified.** It is always a great idea for those that are interested in working around water to be certified in SCUBA and lifesaving techniques.
ANIMAL FACTS

COMMON/SCIENTIFIC NAME: Atlantic bottlenose dolphin (Tursiops truncatus)

TERMS: Male-Bull Female-Cow Young-Calf
Group- Pod, School, Shoal

DISTRIBUTION: Atlantic Ocean, Gulf of Mexico

HABITAT: Coastal regions, bays, lagoons, gulfs, and estuaries.

DIET: Wild—a wide variety of fishes, squids, and crustaceans such as shrimp.
Zoo—Fish—primarily capelin and herring

PHYSICAL DESCRIPTION: This cetacean is highly specialized for life in the ocean. Its bottle-nose is not really a nose at all. It is a bony rostrum filled with 80-100 sharp conical shaped teeth. The fleshy melon on its forehead is used to focus sound projections for echolocation. It has remarkable vision in and out of the water and its eyes are located on the sides of its head near the joint of its jaws. Its two pectoral fins are used for steering. Its single dorsal fin is used for stability when traveling through the water. Its torpedo shaped body tapers into the powerful musculature of the tail and ends in a fluke, which is used for propulsion.

Coloration: Generally gray in color (ranging from gray-green or gray-brown) on the back. They display countershading with the gray fading to white on the underside. Size: Males can weigh between 400-600 pounds and 8-9 feet in length. Females are slightly smaller, weighing between 350-550 pounds and are 7.5-8 feet long. Tail fluke measures 24 in. (60cm) in width.

REPRODUCTION/GESTATION: Bottlenose dolphins may breed throughout the year. On average, females become sexually mature when they reach about 7.5 ft (2.3 m), at about 7 to 13 years. Males become sexually mature when they reach about 8-8.5 ft (2.4 -2.6 m), at about 9 to 13 years. The gestation period is 12 months. Calving can take place year-round with peaks in some areas during spring and fall. Calves are 25-30 pounds and are 3.5 to 4.5 feet long when they are first born. Calves nurse for over a year (12-18 months), and stay with their mothers for up to three years learning how to catch fish and other important tasks.

LONGEVITY: 20-40 years

ECOLOGY & CONSERVATION: Status in Wild— not endangered. The bottlenose dolphin is protected in U.S. waters by the Marine Mammal Protection Act. Bottlenose dolphins are still generally plentiful in numbers, but are at or near depletion in some areas. They are accidentally caught in a variety of fishing gear, including gillnets, purse seiners used to catch tuna, and shrimp trawls. Bottlenose dolphins are vulnerable to pollution, habitat alteration, and human disturbance (such as boating).

GENERAL INFORMATION:
- An adult bottlenose dolphin may consume 15-30 pounds (8-15 kg) of food each day.
- Researchers believe dolphins are capable of making 30 to 40 different sounds.
- Dolphins are equipped with a biological form of sonar called echolocation.

SOURCES:
http://www.seaworld.org/infobooks/Bottlenose/home.html
http://animaldiversity.ummz.umich.edu/accounts/tursiops/t._truncatus$snarrative.html
http://www.acsonline.org/factpack/btlnose.htm
COMMON/SCIENTIFIC NAME: California sea lion (Zalophus californianus)

TERMS: Male-Bull Female-Cow Young-Pup Group-Rookery

DISTRIBUTION: Along the Pacific coastline of North America, from British Columbia to Baja Mexico

HABITAT: Coastal regions, island beaches

DIET: Wild - squid, fishes and octopus
Zoo - herring and capelin

PHYSICAL DESCRIPTION: This pinniped is streamlined and well adapted for life in the water. The large flippers in front propel the sea lion through the water at speeds of 25 mph while the smaller rear flippers are used for steering. They can rotate their rear hips underneath their body to walk on land. They have external ear flaps called pinnae. **Coloration:** chocolate-brown in males to a lighter, golden-brown in females. **Size:** Males weigh approximately 860 lbs. are 8 ft. long. Females weigh approximately 240 lbs. and are 6.5 ft. long.

REPRODUCTION/GESTATION: During the months of May and June, sea lions gather on the beaches for their mating and birthing season. The bulls patrol territories that contain harems of about 15 females. Gestation lasts 12 months including 2-3 months delayed implantation. Pups nurse 6-12 months.

LONGEVITY: Their average life expectancy is 12-14 years, however, some have lived up to 30 years.

ECOLOGY & CONSERVATION: Status in Wild – not endangered. Their population is growing steadily, and California sea lions can be seen in many coastal spots such as Seal Rock or PIER 39 in San Francisco. The current population is approximately 200,000.

GENERAL INFORMATION: (behavior, interesting facts, etc.)
- Males develop a bony bump on top of their skull called a sagittal crest
- Commercially hunted nearly to extinction in the late-1800's
- Sea lions can dive to depths of 450-1000ft. (the height of the Eiffel tower!) and hold their breath 15-20 minutes.

SOURCES:
http://www.thebigzoo.com/Animals/California_Sea_Lion.asp
http://www.tmmc.org/learning/education/pinnipeds/casealion.asp
ANIMAL FACTS

COMMON/SCIENTIFIC NAME: Harbor seal (Phoca vitulina)

TERMS: Male- Bull Female- Cow Young- Pup
Group- Herd, rookery, colony, pod

DISTRIBUTION: Harbor seals are found along the northern coasts of the Atlantic and Pacific oceans, in Alaska along the coast from British Columbia north to Kuskokwim Bay and west throughout the Aleutian Islands. There are four different subspecies of Harbor Seals; Western Atlantic, Eastern Atlantic, Pacific, and Insular. The Indianapolis Zoo has Western Atlantic Harbor Seals.

HABITAT: Shallow areas of estuaries, rivers, and places where sandbars and beaches are uncovered at low tide

DIET: Wild - walleye, pollock, Pacific cod, capelin, eulachon, Pacific herring, salmon, octopus, and squid.
Zoo - Herring and Capelin

PHYSICAL DESCRIPTION: This pinniped is streamlined and well adapted for life in the water. With its small flippers in front and rear, they can swim at speeds of 15 mph using their rear flippers for propulsion and front for steering. They are very clumsy on land. Coloration: two basic patterns occur: a dark background with light rings, or light colored sides and belly with dark blotches or spots. Harbor seals molt annually, usually in late summer. Size: They weigh about 24 pounds (11 kg) at birth and gain weight rapidly during a month-long suckling period, perhaps doubling their weight. Adult females weigh approximately 150 lbs. while males can weigh up to 250 lbs.

REPRODUCTION/GESTATION: Gestation is about 9 to 11 months including a period of delayed implantation: when the fertilized egg divides into a hollow ball of cells one layer thick (blastocyst), it stops growing and remains free-floating in the uterus for one-and-a-half to three months. When conditions are favorable, the blastocyst then implants on the uterine wall and continues to develop.

LONGEVITY: maximum of about 25 to 30 years. Males tend to have a shorter lifespan, possibly due to the stress of fighting during breeding seasons.

ECOLOGY & CONSERVATION: Status in Wild - not endangered. The U.S. Marine Mammal Protection Act (MMPA) of 1972 made it illegal to hunt or harass any marine mammal in U.S. waters. The MMPA does allow for certain exceptions: native subsistence hunting; collecting or temporarily restraining marine mammals for research, education, and public display; and taking restricted numbers of marine mammals incidentally in the course of fishing operations.

GENERAL INFORMATION:
• They can dive to depths of over 600 feet (183 m) and can remain submerged for over 20 minutes.
• The harbor seal usually sleeps on land, but sometimes can be found bottling in the water. Bottling allows them to remain submerged with just their head exposed allowing them to breathe.
• The earliest phocid fossils date back 12 to 15 million years and are believed to have a common ancestor with the mustelids (otters, weasels, etc.).

SOURCES:
http://www.state.ak.us/adfg/notebook/marine/harseal.htm
http://www.seaworld.org/sfb/books/HarborSeal/talsscientific.html
http://www.aquariumofniagara.org/aquarium/harbor_seal.htm
ANIMAL FACTS

COMMON/SCIENTIFIC NAME: Pacific walrus (Odobenus rosmarus divergens)

TERMS: Male-Bull Female-Cow Young-Calf Group-Herd

DISTRIBUTION: They are found in the North Pacific between Alaska and the East coast of Russia, mainly in the Bering and Chukchi Seas.

HABITAT: They generally inhabit shallower regions of the circumpolar Arctic coastline.

DIET: Wild – Mollusks (clams, mussels, etc.)
Zoo – herring, capelin, clams and squid.

PHYSICAL DESCRIPTION: This large marine mammal has many whisker-like projections around its mouth called vibrissae. Both males and females grow long tusks. They have a 6 in. blubber layer to insulate them from the cold North Pacific waters. Coloration: Varies according to age. Calves are dark brown. As the walrus grow older their skin lightens to a light brownish-pink coloration. Size: Males weigh about 1,750-3,750 lbs. (800-1,700 kg) and are about 9-12 ft. (2.7-3.6 m) long. Females weigh about 880-2,750 lbs. (400-1,250 kg) and are about 7.5-10 ft. (2.3-3.1 m) long.

REPRODUCTION/GESTATION: Males reach sexual maturity between 7-8 years old while females are 6-7 years old before they breed, and then bear a single calf every 2-3 years. This reproductive rate is one of the lowest in the animal kingdom, which makes the walrus population very vulnerable to depletion. Gestation is 15-16 months (including 4-5 months of delayed implantation). Calves weigh around 140 pounds and are almost 4 feet long at birth. Walrus calves nurse for two or more years. The mothers’ milk is 30% fat.

LONGEVITY: 16 to 40 years.

ECOLOGY & CONSERVATION: Status in the wild – not endangered. At present, US law restricts harvest of walrus to Native people, who took an estimated 1,000 to 5,000 individuals per year during the 1980's for subsistence use. The Russian annual quota of 4,000 animals in recent years was harvested by both local hunters and larger ships. There have been no satisfactory population censuses since 1985, but some scientists fear that hunting, perhaps accentuated by walruses' effect on their own food supply, maybe precipitating another decline. The Marine Mammal Protection Act requires management of the population within an optimal sustainable population range, and the subsistence harvest by Alaskan Natives cannot be regulated unless the population is declared depleted.

GENERAL INFORMATION:
- The walrus has air sacs under their throats that they can fill like floatation bubbles and bob vertically in the water and sleep.
- A walrus can move on land as fast as a man can run! Unlike seals, who have to drag their hind ends around, a walrus can walk on all fours.
- The walrus has a special strategy to dig for clams -- the SQUIRT! A walrus squirts high-power jets of water out of their mouths. They use this talent like a water drill to get to clams under the mud.

SOURCES:
http://www.pbs.org/kratts/world/oceans/walrus/
http://biology.usgs.gov/s+t/noframe/s042.htm
http://www.nps.gov/bela/html/walrus.htm
http://www.seaworld.org/infobooks/Walrus/home.html
ANIMAL FACTS

COMMON/SCIENTIFIC NAME: Polar bear (Ursus maritimus)

TERMS: Male- Male Female- Female Young- Cub Group- Sloth

DISTRIBUTION: They are found throughout the circumpolar Arctic in areas such as the northern areas of Canada, Alaska, Russia, Greenland and the Arctic islands of Norway.

HABITAT: They are equally comfortable in the water and on land. Polar bears can be found on pack ice, coastal islands, coastlines and even in Arctic waters. They are exceptional swimmers and have been observed in the sea more than 100 miles from the nearest land or pack ice.

DIET: Wild - Seals, stranded whales and walruses, and carcasses
Zoo - fish (herring, capelin, trout), ground meat, omnivore (similar to kibble), and fresh fruits and vegetables

PHYSICAL DESCRIPTION: As one of the largest bears in the world, the polar bear is well adapted for living in the extreme cold with an inch of dense fur beneath its guard hairs, a 4 in. fat layer and fur covering all parts of its body (except its nose) including the bottom of its paws. Coloration: Although the polar bear’s coat appears white to creamy yellow, each individual hair is actually a clear hollow tube that channels the sun’s energy directly to the bear’s black skin and helps it stay warm. It has a large black nose. Size: Males are 8-11 feet long and weigh 500-1,100 pounds but can reach as much as 1,500 pounds. Females are 6-8 feet long, and weigh from 350-600 pounds, occasionally reaching 700 pounds.

REPRODUCTION/GESTATION: Males reach sexual maturity at age 6 and females at age 4-5 years. The gestation period is about 8 months total (including 4 months of delayed implantation). The female will den up in late October and give birth between November and January. The most common litter size is two cubs. Each cub weighs about one pound. Mother and cubs remain in the den until late March or April. The cubs then weigh between 25-30 lbs. In general, the cubs will remain with their mother for three years, which is when she is ready to breed again.

LONGEVITY: 25-35 years

ECOLOGY & CONSERVATION:) Status in Wild – not endangered. Due to governmental regulations on hunting, the population has increased. The world polar bear population is estimated to be between 21,000 and 28,000 individuals. The primary threats facing polar bears today may be chemical pollutants that find their way into the cold Arctic ecosystems, proposed oil and gas development on the Arctic National Wildlife Refuge in northeastern Alaska, and global warming that causes winters to be shorter which, in turn, causes the packs of ice or ice flows to melt earlier every year.

GENERAL INFORMATION:
• Polar bears don't mark or defend their home ranges. They are the most nomadic of all bear species. They travel an average of 5,500 miles a year or 15 miles a day.
• A polar bear’s body heat is so well contained that heat-sensitive cameras can’t detect a bear sleeping on the ice.
• Its sense of smell is so keen it can track prey from 20 miles away.
MISSION STATEMENT

The Indianapolis Zoo inspires local and global communities to celebrate, protect, and preserve our natural world through conservation, education, and research, and by providing an enriching and wondrous environment for our visitors and the animals in our care.

In the end, we will conserve only what we love; we will love only what we understand; and we will understand only what we are taught.
~ Baba Dioum

Environmental Education Interpretation Initiative

The Zoo’s mission focuses on conservation through education. We strive to provide educational experiences which raise public awareness about conservation of the diversity of life on Earth. Among the many ways in which we educate the public, first hand interpretation is one of the most effective. Few experiences are more memorable than one-on-one contact with a Naturalist.

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Last Edited 2/7/05
As we look at the history of zoos, we must first consider, "What is a Zoo?" The root of the word zoo is derived from the ancient Greek work zoion, meaning "living being." From that came zoology, the study of living beings-animals. Do we consider the first collection of animals by humans the first zoo? Do we define it as the first time admission was charged in order to see animals? Is it a question of scientific study and education?

The idea of the first zoo is still debated, but it is clear from writings in history that humans certainly had an interest in animals early on in civilization, and that interest eventually grew beyond that which they would hunt, eat, or domesticate (the process of manipulating and taming an animal/plant through breeding for use by humans). The following represents a brief world history of the relationships between humans and animals as researched through archaeological evidence and written history from the earliest forms of domestication through some of today's most modern zoos.

8,000 BC Dogs - Evidence suggests that man began taming the wolf perhaps as early as 10,000BC, first as food source then as work animals and companions for the hunt. Ancestor is most likely smaller Asian wolf (Canis lupus chanco or Canis l. variabilis), not North American wolves.

7500 BC Goats and Sheep - It is not certain as to which was domesticated first. Goat ancestors were various wild goats. Sheep ancestors were mouflon. Domesticated for food, hides, and eventually milk.

7000 BC Pigs - Ancestor is the wild boar in the Middle East. Probably domesticated independently at other centers in its wide range in Asia at other dates. Food is its primary use.

6500 BC Cattle - Ancestor is the extinct Auroch in Europe and the Near East. Originally kept for meat and perhaps beasts of burden.

Dogs- early domestic breeds appear.

6000 BC Cats - Archaeological evidence suggests cats and humans developed a symbiotic relationship providing cats with food and shelter, while cats provided vermin control. Cat bones have been found in Indus Valley civilization remains.

4500 BC Collections of live animals appear in what became Persia. These animals may have been kept for food.

4000 BC Llamas - One of only two large animals (+ alpaca) domesticated in the New World. Ancestor is the wild guanaco. Primary uses include pack animal, wool, and meat.

Donkey - In NE Africa, several wild asses are ancestors with the Nubian playing the major role. May have first been used for food, then as pack animals.

3000 BC Horses - There may be as many as four wild horse ancestors from which horses and ponies are descended. Their initial use was most likely as food. It was not until about 2000 BC that they began to be used as transport, changing the state of human warfare forever. Also used as beasts of burden.

Elephants - Asian elephants are used as beasts of burden and transport.

Camels - Dromedary camels are used as beasts of burden and transport.

Cattle - Domestic types appear that we would recognize today. By this time, cattle are being milked as well.

Cats - Domesticated forms appear in Egypt and earlier human civilization between 3000-2000 BC. A number of ancestral species are considered and partial ancestry is given to Egypt's Marsh Cat, but the accepted ancestor modern domesticated cats is the Arabian and African wildcat.
Stone tablets described a collection of rare animals in the Sumerian city of Ur.

Egyptian pharaoh Thutmose III is reported to have kept a collection of animals for his pleasure. His stepmother, Queen Hatshepsut is recorded as sending out 5 ships in search of unknown animals. The ships recovered many species including monkeys, cheetahs, and giraffes.

Assyrian king Tiglath-pileser had large preserves for wild animals.

Emperor Wen Wang of the earliest Chinese dynasty (Zhou Dynasty, 1027-221 BC) called the 900 acre park where he kept animals the “Garden of Intelligence.” It was a place to study and learn from the marvels of nature and wildlife.

Alexander the Great, leader of Macedonia and conqueror of most of the know world of the time (Persia, India, Egypt, etc.) kept elephants, bears, monkeys and a great variety of animals his men brought to him from the conquest of his armies. When Alexander left his collection to King Ptolemy I of Egypt, Ptolemy established what is considered to be the first organized zoo. Aristotle, great Greek philosopher and Alexander’s tutor, observed the animals in the leader’s collection and may have been one of the first people to study the behavior of animals. From his observations, Aristotle wrote an encyclopedia of zoology called History of Animals, describing 300 species of vertebrates.

In Roman times, the display of animals for entertainment reached its peak as Roman leaders demonstrated their power through the power of wild animals. In the coliseums, huge numbers of animals such as bears and lions, died in fights with each other or against gladiators. As punishment, unarmed people were thrown to the lions. Many animals were captured from the wild, but some were also bred in captivity so there would always be a supply for these spectacles. The largest collection was that of Roman emperor Trajan (98-117 AD) numbering 11,000 animals.

After the fall of the Roman Empire in the fifth century, scant attention was paid to the arts, education, or nature. It seems that collections of animals had little importance during this time.

By the 13th century, animal collections rose in popularity as kings and emperors exchanged gifts of animals. Frederick II, king of Sicily and emperor of the Holy Roman Empire, kept many animals in his collection including hyenas and a giraffe. 3 of his cities had animal collection, many for scientific study. Frederick traded his giraffe to the sultan of Egypt for a polar bear (it is hard to imagine how a polar bear ever survived a trip to Egypt in the 13th century—a voyage of thousands of miles in the hold of a small wooden ship!). Frederick also trained cheetahs for the hunt rather than using dogs, as no game animal could outrun the cheetah.

Henry I, the fourth son of William the Conqueror, King of England, had a great collection of animals at Woodstock including lions, leopards, lynxes, camels, as well as an owl and other animals.

King Henry III, grandson to Henry I, transferred the royal collection at Woodstock to the Tower of London, where was built the “Royal Menagerie,” a group of special cages built outside the Tower for other royalty to see. Although the people of London were not allowed to visit the Royal Menagerie at this time, they were
ordered to pay a tax for care of the animals (in the 18th century the public was finally admitted to the Tower Managerie on the payment of 3 halfpence or the provision of a cat or dog to be fed to the lions). According to a story from that time, when sufficient food couldn’t be produced for the residing polar bear, the keeper took the bear to the Thames River and let him fish for his own food!

1333 AD
King Philip VI of France began a collection of animals at the Louvre.

Late 1400’s AD
In Florence, Italy, there was a large a famous menagerie. During this period of the Renaissance, animals were viewed as creatures of beauty and nobility. The animals were used as models for paintings and appeared in family emblems. Leonardo da Vinci, the great artist and scientific genius, even kept animals of his own as models.

1519 AD
The Spaniard Don Hernando Cortez made his way through Central America and Mexico, a land populated by Aztecs. When he reached their capital, Tenochtitlan, he and his soldiers found a magnificent city. The entry into the town was lined with beautiful aviaries of singing birds. The Aztec leader, Montezuma, kept a spectacular collection of animals in cages throughout the city: jaguars and pumas in pens with bronze bars, fish in deep copper bowls, armadillos, monkeys and reptiles in cages and even “strange people”-hunchbacks, albinos, and dwarfs. Although the park was mainly ornamental, it had a practical side as well, providing animals for hunting, sacrificial ceremonies, and skins and feathers for clothing and rugs. The park was staffed by more than 300 people. But Cortez was not there to learn, he was there to conquer. In 1521, the city, the people, and the animals were destroyed.

1542-1605 AD
Akbar, the third Mogul emperor of India established a magnificent menagerie that was open to his subjects. He forbade animal fight and admired the animals under his protection. At his death, he had 5,000 elephants and 1,000 camels.

1643-1715 AD
King Louis XIV of France, had menageries at all his chateaux. At Versailles, he changed the concept of the menagerie so that all the animals were grouped in one area, trees and bushes were planted, and enclosures were painted with scenes of flowers and birds. The word “menagerie” first appeared in print in 1712 AD.

1752 AD
The Oldest Zoo in the World—In Vienna, Austria, Holy Roman Emperor, Francis I gave his wife Maria Theresa a gift. The gift was a menagerie at Castle Schonbrunn designed by architect Nicholas Jadot de Ville-Issey with gardens laid out by imperial gardener Adrian von Steckhoven. The menagerie came to be known as the Schonbrunn Zoo, still in existence today. However, this was not the first time animals were kept at this locale.

A deer garden had been constructed in 1452. Emperor Maximilian II established the Ebersdorf Menagerie in 1552. He received a gift of an Indian elephant from Spain that year. Upon entrance to the city, Maximilian had the march halted several times so the citizens could view the elephant. Plaques on houses in Brixen and Linz, where the caravan halted, still commemorate the famous journey on foot. The elephant made a very positive impression on the Vienneese from the start when in the center of the city, a 5 year old girl fell in front of the elephant. The elephant picked up the girl with his trunk and handed her to her weeping mother, Frau Marie Gniger.

The Schonbrunn Zoo (and its earlier menageries) survived numerous Turkish invasions, political upheaval, and two World Wars. In World War II, large parts of the Zoo were destroyed by air raids on the 19th and 21st of February, 1945. Just after the war, reconstruction began and the zoo expanded. Animals have been kept on the grounds of the Schonbrunn Zoo for 450 years, although it has been recognized as a true zoological garden for only 250 years, making it the oldest zoo in the world still operating.
During the French Revolution, people stormed the menagerie at Versailles. The smaller animals were released, some eaten by the looters while others escaped into the nearby forests. Apparently the people thought better of opening the doors to the rhinos, lions and other large animals and left them there in the care of their keeper, who had loyally stayed to protect them. Eventually, many menageries were collected to become one and taken to the Jardin des Plantes, a botanical garden in Paris. It was decided that they should become a collection of scientific value. The idea of the zoological garden began to blossom.

With Sir Stamford Raffles leading the way, the Zoological Society of London was founded. The idea came to Raffles in 1817, during a visit to the Jardin des Plantes in France, to create a similar institution in London that would outshine the Jardin des Plantes.

It was with the help of the Zoological Society of London (ZSL) that the zoological garden in Regent’s Park, London opened. The stated purpose of the Regent’s Park Zoo was to study captive animals in order to better understand their wild relatives. The gate opened to friends of Members of the ZSL only if they had a written order from a Member and payment of a shilling. The zoo became an example for the zoological gardens that would be established across the United Kingdom, Europe, and the United States.

Dublin Zoo opened in Ireland.

Charles Darwin began a 5 year, 40,000 mile journey on HMS Beagle, serving as the ship’s naturalist. He made expeditions hundreds of miles inland through many different countries collecting, observing, and trying to interpret fauna, flora, and geological formations of South America and the islands of the Pacific (including the Galapagos islands) and South Atlantic, and also visiting Australia and South Africa.

Bristol Zoo opened England.

Manchester Zoo opened in England.

Amsterdam Zoo opened in Belgium.

Antwerp Zoo opened in Belgium.

Berlin Zoo opened in Germany.

The Oxford English Dictionary first used the word “zoo” in print. It is perhaps due to an English song, “Walking in the Zoo Is an Okay Thing to Do” that the abbreviation “zoo” came to be used.

Rotterdam and Melbourne Zoos opened.

Frankfurt Zoo opened in Germany.

Charles Darwin’s book *The Origin of Species By Means of Natural Selection* sold out worldwide on its first day. Darwin’s work was and still is revolutionary. Due to the vast amount of evidence gathered and because he found a plausible mechanism to explain how species can change, by means of natural selection, Darwin is called the most important figure in the history of biology, more important than Copernicus, Newton, and Einstein.

Copenhagen Zoo opened in Germany.
1860 AD  Cologne Zoo opened in France.

1864 AD  Moscow Zoo opened in Russia.
A small animal collection of animals assembled in Central Park in New York.

1868 AD  Lincoln Park in Chicago opened with a small collection of animals.

1874 AD  Philadelphia Zoo opened in Pennsylvania. This is considered the first true zoological garden to open in America and maintains the title of America’s oldest zoo.

1875 AD  Cincinnati Zoo opened in Ohio. Buffalo Zoo opened in New York.

1876 AD  Baltimore Zoo opened in Maryland.

1882 AD  Cleveland Metroparks Zoo opened in Ohio.

1888 AD  Dallas Zoo opened in Texas.

1889 AD  National Zoo opened in Washington, D.C. William Temple Hornaday proposed in 1887 that the Smithsonian Institution create a zoo as a “little tryout zoo to test the interest of the American public in collections of living animals.” President Grover Cleveland signed an appropriation bill on March 2, 1889 to establish a zoo in Rock Creek Park.

Zoo Atlanta opened in Georgia. Bronx Zoo opened in New York.


1898 AD  Pittsburgh Zoo opened in Pennsylvania.

1899 AD  Toledo Zoo opened in Ohio.

1900 AD  Woodland Park Zoo opened in Seattle, Washington.

1904 AD  Milwaukee County Zoo opened in Wisconsin.

1906 AD  Memphis Zoo opened in Tennessee.

1907 AD  Hagenbeck Tierpark opened in Hamburg, Germany. Carl Hagenbeck’s ideas and philosophy demonstrated in his zoo would change animal exhibits around the world. Animals did not appear in cage after cage as in other zoos. Rather, he wrote, “I wished to exhibit them not as captives, confined to narrow spaces and looked at between bars, but as free to wander from place to place within as large limits as possible and with no bars to obstruct the view and serve as a reminder of captivity.” Hagenbeck’s ideas continue to change the appearance of zoos today and are just beginning to be finally realized in the idea of Immersion Exhibits, a step further than Naturalistic Exhibits. With the implementation of his philosophy on exhibits, it provided a major step in changing the public idea of how animals could and should be kept.

1909 AD  Kansas City Zoo opened in Missouri. Fort Worth Zoo opened in Texas.

1914 AD  Audubon Zoo opened in New Orleans. San Antonio Zoo opened in Texas.

1916 AD  San Diego Zoo opened in California.

1917 AD  St. Louis Zoo opened in Missouri.
1921 AD  Jackson Zoo opened in Mississippi. Houston Zoo opened in Texas.

1924 AD  American Association of Zoological Parks and Aquariums (AAZPA—predecessor to the American Zoo and Aquarium Association-AZA) founded in association with the American Institute of Park Executives (predecessor to the National Recreation and Park Association-NRPA).

1928 AD  Detroit Zoo opened in Michigan.

1934 AD  Brookfield Zoo opened in Chicago.

1940 AD  Lowell Nussbaum, then a columnist for the Indianapolis Times, initiated public discussion about a zoo through his "Inside Indianapolis" columns.

1944 AD  October 24, Articles of Incorporation for Indianapolis Zoological Society, Inc. filed.


1964 AD  Indianapolis Zoo opened on April 18.

1980 AD  The concept of cooperative population management plans for threatened or endangered animals was approved by the AZA and these programs have become known as the Species Survival Plan® (SSP).


1985 AD  Groundbreaking for the new Indianapolis Zoo took place in September.

1987 AD  Indianapolis Zoo closed on November 1 at George Washington Park location after hosting 5.5 million visitors since its opening.

1988 AD  At a cost of $64 million, the new Indianapolis Zoo opened on June 11 in its White River State Park location with five times as many animals.

1971 AD  AAZPA splits from NRPA to become its own entity to focus on the conditions of Zoos and Aquariums. Their aim was established as Conservation, Education, Research, and Recreation. January 1972, AAZPA formally opened its Executive Office. One goal of the newly incorporated AAZPA was to strive for higher levels of professionalism among facilities and for those working in zoos and aquariums through accreditation and approval of the AAZPA.

1994 AD  AAZPA changes name to American Zoo and Aquarium Association (AZA).

1996 AD  Indianapolis Zoo became the first institution in the nation to be accredited as a zoo, aquarium, and botanical garden. Zoo breaks ground for the Polly Horton Hix Animal Care Complex, a $3.3 million veterinary and quarantine facility. In October, the Zoo unveiled the designs for a $14 million, three-acre conservatory and garden complex, later named White River Gardens.

1997 AD  Groundbreaking for White River Gardens took place in October.

1998 AD  Indianapolis Zoo makes world history with the first successful artificial insemination (AI) of an African Elephant (Kubwa) in May. A second successful AI occurred in October (Ivory).

1999 AD  Indianapolis Zoo's White River Gardens opened in June.
2000 AD Disney's Animal Kingdom opens in Orlando Florida with immersion style exhibits.

Indianapolis Zoo makes world history again with the first successful birth as a result of AI (Amali to Kubwa) on March 6. A second successful birth occurred on August 4 (Ajani to Ivory).

Drop Dead Gorgeous Snakes exhibit opens in Indianapolis Zoo’s Deserts Dome.

2001 AD Indianapoils Zoo makes world history again with the first successful birth as a result of AI (Amali to Kubwa) on March 6. A second successful birth occurred on August 4 (Ajani to Ivory).

White Rhinos collected for Indianapolis Zoo from Kruger National Park in South Africa. Shipped to Fort Worth Zoo until exhibit completion in Indianapolis.

2002 AD Indianapolis Zoo’s onsite Elephant Preserve opens.

Renovations occur to Indianapolis Zoo’s Commons Area in which Lemur island received a winterized facility and the former Gibbon Island was refitted as a second lemur island for two additional species of lemurs.

2003 AD White Rhino exhibit opens at the Indianapolis Zoo.

2004 AD Sea Horse exhibit opens at the Indianapolis Zoo.

2005 AD Dolphin Adventure, the world’s first underwater walk-through exhibit for dolphins featuring a 30 ft. diameter dome and the complete renovation of the Dolphin Pavilion featuring an east coast wharf scene complete with a working lighthouse, is completed at the Indianapolis Zoo.

"The greatness of a nation and its moral progress can be judged by the way its animals are treated."

-Gandhi

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The World of Zoos edited by Rosl Kirchshofer; The Oldest Zoo in the World by Dr. Walter Fiedler, 1968
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Zoo Book The Evolution of Wildlife Conservation Centers by Linday Koebner, 1994
Zoos Without Cages by Judith E. Rinard, 1981
The History of the Indianapolis Zoological Society

With the live coverage of Neil Armstrong's moon walk in 1969 and the round-the-clock updates of the news channels of today, the power of the media to bring issues to the forefront of public discussion is more evident than ever before. However, the media have always served as a catalyst for action. That was the case in the early 1940s when columnist Lowell B. Nussbaum began voicing his dream of establishing a zoo in Indianapolis.

Through his column "Inside Indianapolis," which first appeared in the Indianapolis Times and then the Indianapolis Star, Nussbaum campaigned for a zoo. "The values of its establishment would be great. It would provide a priceless combination of entertainment and education facilities for the young in the community," said Nussbaum in his column. Comments such as these generated public interest, and even offers of animals and money to purchase them.

Creating a Zoo

The columns spurred community leaders into action, and on October 24, 1944, Articles of Incorporation for the Indianapolis Zoological Society, Inc., were filed with the Indiana Secretary of State. Over the next few months, the founder members elected directors, outlined goals, approved bylaws, and discussed possible sites for the facility. One goal, which still holds today, is that the Zoo depends upon admissions, in-park sales, contributions and memberships to support it.

As the effects of World War II were felt, momentum for the Zoo slowed, but the society continued to meet. The collection of animals and planning of exhibits went on, a site was determined, and fundraising goals were met. As happens with many plans, however, the society met with some resistance. Neighbors of George Washington Park, the future site of the Zoo, did not want a zoo in their backyards. They sued the city and the Zoo, hoping to have the site lease voided. The court upheld the lease and dismissed the case, and on August 6, 1962, construction began.

Opening the Indianapolis Zoo

Two decades after the Indianapolis Zoological Society was founded, with the diligence, hard work, and the benevolence of many, the Indianapolis Zoo opened on April 18, 1964 at the original East 30th Street location. Today, because of the persistence of a newspaper columnist and dedication of other community leaders, the Indianapolis Zoo is one of the state's most popular tourist attractions.

Before opening in 1964, the train station was the first facility to be completed and opened to the public. Operating the train allowed visitors to see the on-going construction and created revenue for the Zoo. When the gates opened, the Zoo and the Indianapolis Zoological Guild were joined by hundreds of visitors, as well as live radio and television coverage.

The Zoo was first considered a children's zoo with an Asian elephant, penguins, kangaroos, foxes, raccoons, camels, bison, deer, lambs, tortoises, llamas, prairie dogs, pygmy goats, and buffalo exhibits. The Zoo could be identified by the Dutch windmill at the entrance, replicas of a 19-foot-tall giraffe and a giant blue whale, and the Hoosier Barn. The building of the North American Plains, Australian exhibit, Water Fowl Lake, and the Education Center followed soon after. In that inaugural year, the Zoo welcomed 270,000 visitors.

Over the next 22 years, the Zoo saw many additions, facelifts, and reconstruction. In 1965, the Zoo was one of a few in the country to employ a full-time education staff. Partly through donations of personal "pets," the Zoo acquired more elephants, several species of monkeys and cats, armadillos, zebras, alligators, seals, wallabies, a bald eagle, and more. By the Zoo's 20th anniversary, its collection had doubled in size. The designation as a children's zoo had long outlasted its use, and the Zoo needed a new and bigger site.

Necessities of a World-Class Zoo

In 1982, the Zoo held a first ever-symposium of international zoo, aquarium and wildlife authorities. Together, they established goals for developing a new world-class zoo. The founders knew it was important to preserve natural habitats, showcase diversity in species, and observe natural behaviors in order to save endangered species in the wild. The cageless concept of biomes and simulated natural environments would play a major role. Since the Indianapolis Zoo's 1964 opening, zoos have become more than a place to see animals; they are institutions of conservation and education.
In June 1982, a letter of intent was signed declaring White River State Park the site of the new Zoo. Officials realized that the Zoo needed to be located in a more visible and accessible site, and a location in the heart of downtown Indianapolis would draw more visitors. Families visiting the Zoo could also spend part of the day downtown shopping or visiting other cultural institutions. The relationship would boost the city's economy and transform the still new White River State Park from a dream into a reality.

Once again, a massive fundraising campaign was launched. With the help of many community leaders, foundations and corporations, as well as 5,000 Zoo supporters, the groundbreaking celebration took place in September 1985 at the new downtown location. The Indianapolis Zoo was to be the first attraction of the White River State Park.

As construction neared an end, the 23 years of the old Zoo came to a close. On November 1, 1987, the old Zoo closed its gates after the last of the five and a half million visitors departed and began preparation for the opening of the new Zoo. With the arrival of new animals, the Zoo grew to five times its former size. Before the opening, staff continued working hard to adapt to new exhibits, equipment and employees. Much training was needed, and the relocation of 500 animals took weeks to prepare and execute.

The New Zoo

On June 11, 1988, a new era of the Indianapolis Zoo began. It is a place where animals, plants, and people connect; a place where research and conservation efforts are on-going and Zoo staff have been named to key positions in the American Zoo and Aquarium Association (AZA); and, a place where students from all over the state can tour important behind-the-scenes facilities without leaving the classroom. These things didn't happen all at once, but today each function plays an important role in the Zoo's mission of fostering a sense of stewardship for the Earth's plants and animals.

The new Indianapolis Zoo also has become more than a Zoo. With the construction of the Waters Building, and later the Dolphin Pavilion, the Zoo earned accreditation from AZA as a zoo and an aquarium. Then in 1996, the Indianapolis Zoo became the first institution in the nation to be accredited as a zoo, aquarium and botanical garden, the latter honor coming from the American Association of Museums (AAM) in recognition of the outstanding and very extensive botanical work done throughout the Zoo grounds by its in-house horticultural staff.

The new Zoo includes five biomes: the Waters Biome, featuring the aquatic life of the world's oceans, seas, rivers, and ponds; the Deserts Biome, highlighting life in desert habitats; the Plains Biome, including animals of both the African and Australian plains; the Forests Biome, with animals of temperate and tropical forests; and, the Encounters Biome, providing a close experience with domestic animals from around the world.

Since the Zoo's opening in June of 1988, many exhibits have been added. The efforts of the horticulture staff can be seen throughout the Zoo in every biome, as plants play an important role in transforming the Indianapolis cityscape into Forests, Plains, and Deserts environments. The Zoo has more than 1,900 species of plants in its collection.

The Zoo's mission of educating the public can be seen on any given day. From student workshops, to teacher overnights, to informational signage at exhibits, the Zoo strives to provide visitors with the knowledge necessary to conserve the Earth's vast resources, not only for plants and animals, but also for ourselves. That is the message of the Indianapolis Zoo – all life is interconnected and when one piece suffers, the effects are felt by all. The vision of the founders still is shared today, as the Zoo provides the public with the necessary tools for the appreciation and preservation of life.
Connecting Through Conservation

“The ultimate goal of all zoo and aquarium based conservation programs should not simply be to perpetuate captive populations, but rather to conserve animals and their habitats in nature. It is clearly time for zoos and aquariums to not only 'talk the talk' but also 'walk the walk.'"

Dr. Michael Hutchins, AZA’s W.G. Conway Chair in Conservation and Science

A young boy deposits a quarter in the animal-adorned “parking meter” that sits at the end of the Amazon exhibit. “Give your change to make a change,” reads the sign. A quarter helps protect 90 square feet of a tropical rain forest. Sponsored by the Zoo's chapter of the American Association of Zoo Keepers (AAZK), the “conservation meter” illustrates a small part of the commitment to preservation of the world's plants and animals that is the heart of the Indianapolis Zoo.

Just as the Zoo is dedicated to engendering an individual sense of stewardship within its guests, the institution assumes its own responsibility by using its resources for the betterment of the planet. No zoo, aquarium or botanical garden is an alternative to native habitats; however, these institutions have become the last refuge for some plants and animals.

**Jamaican Iguana and Grand Cayman Blue Iguana: From the Brink of Extinction**

One such animal is the Jamaican iguana, which was thought to be extinct until 1990 when a hunting dog retrieved one in the Hellshire Hills near Kingston. Now there are 80 living in captivity at Hope Zoo in Jamaica. Internationally recognized for its successful breeding program of Ricord’s and rhinoceros iguanas, the Indianapolis Zoo was one of six zoos selected to help save the Jamaican iguana. The Zoo houses a trio of Jamaican iguanas and, along with the Hope Zoo and five other zoos, is developing a breeding program for the animals. In the spring of 1995, a group of captive-born iguanas was released in Jamaica.

The Indianapolis Zoo recently became the first zoo to breed successfully the critically endangered Grand Cayman blue iguana. The Zoo is working on permits that will send some of our iguanas to the Grand Cayman National Trust and some of their iguanas to us to help with diversity in the gene pool. These iguanas, which average about three feet long when full-grown, are considered to be the most endangered reptile in the world. They are named for their native land and the fact that the males turn a bright, sky blue when defending themselves or courting a female.

**A Part for Everyone**

Conservation efforts are not limited to zoos and environmental groups. There is a part that everyone can play. In a new exhibit opened in 1997 – “Your Indiana Watershed” – visitors learn all about the importance and connections of all the state’s water systems and how individual citizens can help prevent pollution that endangers the lives and viability of native Hoosier species.

From the busy AAZK chapter that raises about $10,000 each year with activities such as "Bowling for Rhinos" (the Indianapolis Zoo has always been one of the top five chapters each year in terms of fundraising efforts) to keepers’ dedication to field work with animals in the wild, the commitment of Zoo staff to conservation is renewed everyday.

**Species Survival Plan**

The Indianapolis Zoo was one of the first institutions to participate in the Species Survival Plan (SSP), a cooperative population management and conservation program for selected animal species in North American zoos and aquariums. One aspect of the SSP is a computer “dating service” for animals. Animals' family trees are input into a computer. By consulting these studbooks, the SSP coordinators are able to make intelligent decisions on how to match animals to avoid inbreeding and maintain a healthy and genetically diverse captive population. Indianapolis Zoo staff members coordinate the national SSP for the African elephant, ring-tailed and collared lemurs, Guinea baboons, as well as the stud book for the West Indian Rock iguanas.
What is the mission of Species Survival Plans?

The mission of the American Zoo and Aquarium Association's (AZA's) Species Survival Plan program is to help ensure the survival of selected wildlife species.

The mission will be implemented using a combination of the following strategies:

- Organize scientifically-controlled managed breeding programs for selected wildlife as a hedge against extinction
- Cooperate with other institutions and agencies to ensure integrated conservation strategies
- Increase public awareness of wildlife conservation issues, including development and implementation of education strategies at AZA-member institutions and in the field
- Conduct basic and applied research to contribute to our knowledge of various species
- Train wildlife and zoo professionals
- Develop and test various technologies relevant to field conservation
- Reintroduce captive-bred wildlife into restored or secure habitat as appropriate and necessary.

What is an SSP?

The Species Survival Plan program began in 1981 as a cooperative population management and conservation program for selected species in zoos and aquariums in North America. Each SSP manages the breeding of a species in order to maintain a healthy and self-sustaining population that is both genetically diverse and demographically stable. Beyond this, SSPs participate in a variety of other cooperative conservation activities, such as research, public education, reintroduction and field projects.

Currently, 104 SSPs covering 147 individual species are administered by the American Zoo and Aquarium Association, whose membership includes 201 accredited zoos and aquariums throughout North America.

How are species selected?

A species must satisfy a number of criteria to be selected for an SSP. Most SSP species are endangered or threatened in the wild, and have the interest of qualified professionals with time to dedicate toward their conservation. Also, SSP species are often "flagship species," well-known animals which arouse strong feelings in the public for their preservation and the protection of their habitat. Examples of "flagship species" include the giant panda, California condor, and lowland gorilla.

New SSPs are approved by the appropriate Taxon Advisory Group (TAG), which manages conservation programs for related groups of species (apes, raptors, freshwater fish, etc.) or by the AZA Wildlife Conservation and Management Committee (WCMC).

How are SSPs administered?

Each SSP has a qualified species coordinator who is responsible for managing day-to-day activities. Management committees composed of elected experts assist the coordinator with the conservation efforts for the particular species, including population management, research, education, and reintroduction. In addition, each institution holding an SSP animal has a representative who attends SSP meetings and coordinates relevant SSP activities at their institution.

The overall program is administered by the AZA Conservation and Science Department in Silver Spring, MD, in consultation with the WCMC. Non-member institutions may participate in SSPs, but must adhere to AZA's Code of Professional Ethics and have appropriate facilities and expertise to care for the animals.

What is an SSP Master Plan?

An SSP master plan outlines the goals for the population. It designs the "family tree" of a particular managed population in order to achieve maximum genetic diversity and demographic stability. Breeding and other management recommendations are made for each animal with consideration given to the logistics and feasibility of transfers between institutions, as well as maintenance of natural social groupings. Often, master plans include recommendations not to breed animals, so as to avoid having the population outgrow the available holding space.

What is a studbook?
Studbooks are fundamental to the successful operation of SSPs, as each contains the vital records of an entire managed population of a species, including births, deaths, transfers and family lineage.

With appropriate analysis, a studbook enables the species coordinator and management group to develop a master plan containing sound breeding recommendations based on genetics, demographics and the species' biology. Data for each studbook is compiled and constantly updated by a studbook keeper who has knowledge of the species and time to assist in its conservation.

What is a husbandry manual?

SSPs also develop husbandry manuals that set guidelines based on the best current scientific knowledge for the diet and care of the species in captivity. With standardized practices, it is easier to detect potential health and husbandry problems. In addition, because the guidelines provide consistency among participating institutions, it is also easier to transfer animals between institutions when necessary.

What are reintroductions?

Several SSPs include reintroduction projects, although reintroduction of animals to the wild is not the goal of every SSP. For native species, SSPs are often linked to U.S. Fish and Wildlife Service Endangered Species Recovery Plans.

While managed breeding for reintroduction is not a panacea for the endangered species problem, it is sometimes the only option for reestablishing healthy wild populations. Reintroduction projects have been successful in returning certain species to their natural places in the ecosystem. Several species, such as black-footed ferrets, California condors, and red wolves, have been brought back from the brink of extinction through successful managed breeding programs.

SSPs for which reintroduction is not appropriate have a positive impact on assisting the wild population through fund-raising to support field projects and habitat protection, development of new technologies, public and professional education programs, and basic and applied research.

Breeding and the SSP

By insuring diverse bloodlines through SSPs, animals retain important genetic material. The golden lion tamarin (GLT), a squirrel-sized primate distinguished by its golden, silky mane, was rescued from the brink of extinction twenty years ago. Now zoos are working to increase their captive population and preparing the GLTs for reintroduction to the Brazilian forest where they once roamed. To prepare the GLTs for the hardships of their native habitat, the National Zoo in Washington D.C. began a monitored release program on zoo grounds. The first captive-raised GLT's were released in Brazil in 1984. More than 140 animals have been released since then. Two GLT's reside in the Mata Atlantica exhibit at the Zoo. The Zoo hopes to follow in the footsteps of zoos such as the National Zoo, but it will take several years of experience with the animals before the Zoo will be eligible to participate in contributing animals to the reintroduction program.
# Indianapolis Zoo
## Status of the Zoological Collection
### January 1, 2005

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<th>Vertebrates</th>
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(Animals in on loan are included. Animals out on loan are not included.)

### Endangered Species (USFWS)
- African wild dog
- Amur tiger
- Blue-eyed black lemur
- Collared lemur
- Giant South American river turtle
- Golden lion tamarin
- Grand Cayman blue iguana
- Grey desert monitor
- Jamaican iguana
- Radiated tortoise
- Red ruffed lemur
- Ring-tailed lemur
- White-handed gibbon
- Yellow-spotted Amazon river turtle

### Threatened Species (USFWS)
- African elephant
- Bald eagle
- Desert tortoise

### Endangered Species (IDNR)
- Bald eagle
- Barn owl
- Blanding’s turtle
- Eastern mud turtle
- Massasauga
- Ornate box turtle
- Timber rattlesnake
- Western cottonmouth

### Species Survival Plan (SSP) Species
- Addra gazelle
- African elephant
- African lion
- African wild dog
- Amur tiger
- Asian small-clawed otter
- Blue-eyed black lemur
- Golden lion tamarin
- Grand Cayman blue iguana
- Guinea baboon
- Jamaican iguana
- Polar bear
- Radiated tortoise
- Red panda
- Red ruffed lemur
- Ring-tailed lemur
- Southern white rhinoceros
- White-handed gibbon

### Studbooks Held at IZ
- African elephant
- Brown lemur
- Guinea baboon
- Ring-tailed lemur
- Walrus
Connecting Through Research

"For most of the wild things on earth, the future must depend upon the conscience of mankind."

_The late Dr. Archie Carr, sea turtle biologist and founding scientific director of the Caribbean Conservation Corporation_

From the dental health of primates to the memory of African elephants to the overall enrichment of the lives of its 3,000 animals, the Indianapolis Zoo strives to fulfill its commitment to the conservation and care of wildlife through a number of ongoing research projects. Because it is able to provide a controlled environment for observation and data collection, the Zoo is an ideal research site. The work must meet the Zoo's criteria for scientific merit, be compatible with established veterinary and husbandry techniques, and have potential benefit to animals at zoos and in the wild.

Conducted by Zoo staff, university faculty and students, or medical professionals, the research results are disseminated through publication or presentation at professional conferences. Research conclusions also are contributed to the American Zoo and Aquarium Association's annual report. The majority of living things at the Zoo has been the subject of a research project at one time or another, including its guests. Visitor surveys and studies of visitor behavior help the Zoo cater to their needs and develop effective educational tools. It is useful to know what visitors learn from the exhibits and the influence Zoo activities have on their view of the environment.

Much of the research at the Zoo has to do with the reproduction of animals. The more scientists understand about an animal's reproductive habits and genetic make-up, the better they can help maintain a healthy, diverse population. Successful breeding programs give us our best chance of rescuing endangered species. In 2003, the Zoo received an $8 million conservation endowment from a private donor to further its research for species conservation. That gift placed the Indianapolis Zoo among the top 1% of zoos in the United States with the most funding for conservation efforts. There are numerous studies being conducted in each biome, but the following are among the most notable.

The Indianapolis Zoo is committed to the conservation and care of wildlife in human care and in their native habitats. The Zoo hosts over 350 species of animals in naturalistic exhibits in five biomes including 14 endangered species, 19 Species Survival Plans (SSP) sponsored by the American Zoo and Aquarium Association (AZA), maintains 5 SSP breeding studbooks, spearheads 8 major conservation projects, and with the support of the Polly Horton Hix Institute for Conservation and Research, is one of the premier conservation research facilities in the United States.

**Conservation Projects:**

**Project Dolphin**

Project Dolphin seeks to maximize the reproductive capabilities and improve calf survivorship of dolphins in human care through research initiatives and a functional multi-institutional cooperative breeding program. This consortium shares its knowledge, experience and resources in an effort to create a sustainable population of Atlantic bottlenose dolphins. The Zoo participates in field studies of wild dolphins each year and has assisted in conducting the most thorough study of wild Cetaceans to date. The Indianapolis Zoo is committed to solving the riddle of the low survival rate of captive dolphins and to the greater understanding of a fascinating animal.

**Project Elephant**

Project Elephant is committed to understanding elephant physiology and behavior, and developing technologies that will support a long-term, self-sustaining captive population. This Project is the culmination of many years of research. The Zoo has focused intensive research efforts on African elephants since 1970. In 1989, Indianapolis created the African Elephant Assisted Reproduction Project (AERP) to study reproductive issues. In 1998, the Zoo began additional research into elephant reproduction with the assistance internationally recognized experts in specialized ultrasound imaging from the Institute für Zoo Und Wildtierforschung (IZW) of Berlin, Germany. Working collaboratively with other zoos, techniques for artificial insemination (AI) were developed for African elephants. In July, 1998, the Indianapolis Zoo announced a successful conception through AI, the first in the world to
achieve this milestone. The Zoo duplicated this success with a second AI conception that same year. The first two African elephant calves conceived through AI were born successfully on March 6 and August 4, 2000. The successful methods of AI have been shared with many other institutions so they can replicate the process. The Indianapolis Zoo continues its conservation efforts through AI research and practice as well as through behavioral studies on-site and in Africa.

**Project Iguana**
Project Iguana is committed to the survival of the multiple West Indian iguana species (*Cyclura*) and their habitats through *in situ* conservation, captive breeding, public education and scientific research. Through its charter membership in the West Indian Iguana Foundation and its work with the International Iguana Foundation, the Zoo is involved in the research and conservation of all 16 taxa of West Indian iguanas. The Zoo has been actively involved in the Dominican Republic and continues its research and conservation efforts with the Ricord’s iguana. Indianapolis was the first Zoo to produce fertile Jamaican iguana eggs and to successfully hatch Grand Cayman blue iguanas, the two most critically endangered lizards in the world.

**Project Lemur**
The goal of Project Lemur is to increase the knowledge of the behavior and physiology of lemurs in human care and in nature. The Zoo is conducting a multi-year study on the intestinal flora (bacteria and parasites) of lemurs in human care and in the wild. This study has taken staff members to island of Madagascar off the southeastern coast of Africa, home to all lemurs. They have studied lemurs in their natural habitat, established relationships with local governments, universities and education groups, as well as to collect fecal samples from wild lemurs. The result of these studies will benefit lemur populations both in human care and in the wild. Not only will captive management of lemurs be enhanced, but also the groundwork will be laid for reintroduction attempts of captive bred lemurs into the wilds of Madagascar.

**Project Penguin**
Project Penguin was developed to research husbandry, biological and physiological aspects of breeding in an attempt to increase successful penguin breeding in human care. Many factors go into a successful breeding season including day length, nest site availability, possibly diet and nutrition, mate availability and fertility, to name a few. Focusing efforts on male fertility and the impact of diet, research will determine the affect on reproductive success.

**Project Rhino**
Project Rhino was implemented to analyze data of the social and reproductive behavior of the Zoo’s three white rhinos. Video recorded behavior observations are examined to determine the various behaviors of the animals. If certain target behaviors aren’t apparent (including those that encourage reproduction), keepers and researchers will examine ways to encourage those behaviors. Activities include testing progesterone levels to help examine the reproductive cycles of the females. Behavioral conditioning includes ultrasound and artificial insemination procedures in preparation for having rhino calves in the future.

**Project Walrus**
The walrus naturally has a low reproductive rate and declining population numbers are causing great concern for the walrus. The U.S. has only 25 walrus in human care (9 males, 16 females). Since 1960, only 9 calves have been born in the U.S. captive population and only 1 has survived to adulthood. There has not been a complete population census since 1985. Project Walrus seeks to learn how and why these challenges facing the walrus exist. Project Walrus specifically focuses on reproduction and physiology. This includes learning more about the walrus’ dive physiology to assist with chemical immobilization, determining accurate walrus estrous cycling, and developing effective techniques for ultrasounds, blood sampling and even artificial insemination.

**Project Indiana Habitat**
The Indianapolis Zoo Horticultural Department has partnered with Fort Harrison State Park to restore the vegetative components of the habitat in selected areas of the Park to a condition that is representative of what would naturally be found during the time of initial exploration and settlement by Europeans (pre- Columbian). This project includes (1) a complete floristic survey and vegetational community analysis of the entire 1,700-acre property that serves as a baseline and aids in future planning and management of the facility; (2) removal of exotic flora (honeysuckle and garlic mustard) and restoration of local native plant material in a 12-acre section around Delaware lake; and, (3) development of interpretive materials and classroom curriculum. With the continuing efforts at Fort Harrison State Park, future plans are underway to move to other areas of the state with similar projects to restore Indiana’s habitats.

Connecting Through Education

Dedicated to serving the community as an informal educational institution, the Zoo strives to connect animals, plants and people every day by providing recreational learning experiences.

Education Commitment

Humans have the capacity to change the environment in both harmful and positive ways. The Zoo's goal is to impart a sense of responsibility to its audience to serve as stewards of the planet. Values and beliefs are not imposed. Instead, visitors are encouraged to develop their own concept of environmental ethics guided by the educational experiences provided by the Zoo.

The Indianapolis Zoo's philosophy on education is simple: learning should be fun, entertaining and memorable so that the information has a lasting, positive impact. And because the most unforgettable way to learn is through personal experience, the Zoo strives to provide hands-on educational opportunities about animals and the environment. Education has long been a priority at the Indianapolis Zoo, which was the nation's first zoos to dedicate a separate facility for education and is one of just a handful of zoos that employ a full-time librarian.

As computer technology enters the classroom, Zoo education programs are advancing with distance learning programs. In fact, the Zoo was the only informal learning institution featured in a PBS video titled "Learning With Technology: Merging Onto the Information Superhighway."

Distance Learning: Being There Now

A group of students watches intently as the Zoo's nurse shark rises slightly above the water's surface and snatches a fish from the feeding pole. The students gasp at the chomping sound the shark makes, and then they shower the keeper with questions! It is the most interactions that some of the kids have had with an animal keeper, and they haven't even left the classroom.

Each year, well over 100,000 students and chaperons, representing hundreds of schools, visit the Zoo on school field trips. Students now have another way to go on a "field trip" to the Zoo. Through the magic of fiber optic technology, students around the state can go "behind the scenes" and experience Zoo activities not accessible to visitors.

With optical fiber running throughout the Zoo, students and Zoo visitors can see, hear, and converse with Zoo staff who are performing behind-the-scenes tasks such as feeding the sharks or checking wallaby pouches. The Indianapolis Zoo is among the first in the nation to offer these two-way interactive video "field trips." Through this on-grounds network called the Ameritech Exploration Network, students have participated in activities like designing a zoo exhibit, learning about animal careers, and interacting with national and international scientists.

Time to Learn

Throughout the year, there are educational programs to fit nearly every interest, age group and schedule. Informal classes are offered for preschoolers through adults on topics that range from learning about and visiting a certain animal to shadowing a keeper and helping with the day-to-day care of the animals. Formal classes and workshops are becoming increasingly popular with schools. Student workshops focus on one topic such as rain forests and are often accompanied by a tour of related exhibits. Scout troops, school groups and families can also participate in the Zoo's overnight programs, which offer a unique experience of learning what happens at the Zoo when it is closed to the public.

Animal Appearances
In addition to coming to the Zoo, visitors now can have the Zoo visit them. The Indianapolis Zoo offers a wonderful array of programs designed to give children of all ages a closer look at the natural world around them. From South American giant cockroaches to Australian blue-tongued skinks, the ZooMobile gives animal fans an opportunity to meet a wide variety of interesting and unusual creatures. Whether someone just wants to meet an animal or have a presentation for a special event, the ZooMobile can accommodate the request. Anyone interested in outreach programs may contact the Zoo’s education department at (317) 630-2023 for details and reservations.

**Education On-Grounds**

Among the many ways in which we educate the public, first hand interpretation is one of the most effective. Few experiences are more memorable than one-on-one contact with a Naturalist. Naturalists interrelate with guests by explaining and talking about animals and conservation issues facing them in the wild and in human care. They work the Zoo’s Naturalist Stations located in each biome (Waters, Marine Mammals, Deserts, Plains, and Forests). The stations, painted with animal silhouettes representing each biome, utilize animal artifacts (bones, pelts, teeth, etc.) to give guests a hands-on experience to increase the value of their visit. Naturalists also rotate from the Station to specific exhibits in the same biome to discuss the behavior of the animals with the public.

**Among other Zoo educational programs are:**

- Teacher workshops and overnights, as well as overnights for families, students, scout groups, etc.
- "Read the Zoo," a reading program for elementary and middle school children in cooperation with the *Indianapolis Star* and *News* and the Indianapolis-Marion County Public Library
- Interactive Zoo web site with information on every Zoo animal (www.indianapoliszoo.com)
- Summer day camps
- Animal demonstrations and keeper chats
- Naturalist Stations on Zoo grounds manned by volunteers who show a variety of artifacts and educational materials to visitors
- Volunteer opportunities such as the Zoo Teen Program and Internships for college students.

**Connecting Through Exhibition**

Because of its design and development, the Indianapolis Zoo is essentially a cageless zoo emphasizing the world's many ecosystems, as well as the various species of animals indigenous to these habitats. Built from the ground up and opened in 1988, the downtown Zoo takes pride in featuring over 350 animal species and 1,900 plant species in simulated natural habitats.

The 64-acre complex is arranged in "biomes," or collections of habitats. Unlike many zoos that organize animals according to taxonomy (birds, mammals, reptiles, etc.), the Indianapolis Zoo arranges exhibits according to the biomes in which the animals and plants are found. The Zoo incorporated the biome concept to immerse visitors in recreated habitats in order to give them a better sense of appreciation for the diversity of life on Earth. These biomes are: Waters, Deserts, Plains and Forests habitats, as well as Encounters (domestic animals from around the world).

Each biome showcases the shared characteristics of a group of habitats. For instance, the Forests Biome depicts both temperate and tropical rain forest settings, and the Plains Biome showcases flora and fauna of African and Australian grasslands. In the wild, African lions and Siberian tigers don't live within the same habitat, and at the Indianapolis Zoo, visitors won't find these big cats grouped together either. Instead, the African lions reside in the Plains Biome and the Siberian tigers in the Forests Biome. When possible, exhibits feature several species of animals together so that visitors understand the relationships among the variety of animals that inhabit the same range in the wild.

As a source of food and shelter, plants play an important role in the habitats around the world as well as at the Indianapolis Zoo. More than 1,900 species of plants help transform downtown Indianapolis into an African Savannah, an Asian temperate forest, an Amazon rain forest and a Southwest desert. It is through these realistic exhibits that the Zoo can begin to achieve its mission of providing its visitors with lifelong recreational learning opportunities and helping them understand how the actions of individuals affect ecosystems.

**Waters Biome**
Fish, amphibians, reptiles, marine mammals, invertebrates, and other aquatic life are highlighted throughout the Waters Biome of the Indianapolis Zoo. The biome includes the state's largest aquarium, the World of Waters Building, along with separate areas for various marine mammals. Water is presented in all of its forms, from an Indiana Pond to the Amazon River, and from coral reefs to the chilly waters beneath the polar ice. Visitors encounter tropical reef fish, sharks, anacondas, an octopus, lobster, electric eels, penguins, polar bears, sea lions, walruses, and other animals that spend all or much of their existence in and around water.

A major component of the Waters Biome is the Dolphin Pavilion, which is home to one of the Zoo's most popular animals -- the Atlantic bottle-nosed dolphin. Collected as a breeding group, the Zoo's dolphins demonstrate natural and learned behaviors during daily dolphin shows focusing on the conservation of marine life. The 74,000-square-foot facility is the world's second largest totally enclosed, environmentally controlled dolphin exhibit. The pool holds more than 2.3 million gallons of water.

Deserts Biome

Just as the abundance of water shapes life in aquatic environments, the near absence of water provides a stark contrast to life in desert habitats. Opened in 1990, the Deserts Biome features plants and animals native to the world's deserts. Underneath a climate-controlled geodesic dome, lizards, tortoises, and birds roam freely throughout desert landscapes. Bordering extensive rockwork, gravel paths bring visitors close to desert flora and fauna. As in desert habitats, the biome's temperatures fluctuate daily and seasonally.

Plains Biome

Tall grasses, flowering shrubs and euphorbias frame the entrance of the Plains Biome where visitors begin their exploration of the continent of Africa. This biome features African elephants, zebras, baboons, giraffes, lions, African wild dogs, ostriches, and other animals that inhabit the grasslands of Africa. From the African plains, visitors move to life in the "Land Down Under." A walk-through exhibit immerses visitors in the "outback" where they can enjoy close encounters with red kangaroos, cockatoos, magpie geese, and emus. An aviary features a number of varieties of brightly-colored lorikeets.

Forests Biome

Animals indigenous to temperate forests in North America and Asia dwell in the Forests Biome. Dense landscaping encompasses meandering paths throughout the biome where Kodiak bears, a bald eagle, Asian small-clawed otters, White-handed gibbons, muntjacs, red pandas and Amur tigers reside. The biome recently expanded its range to include tropical forests. The award-winning Mata Atlantica exhibit depicts the wildlife in this endangered Atlantic coastal forest ecosystem of Brazil.

Encounters Biome

The Encounters Biome highlights domestic animals from around the world and explores their relationships with humans. Visitors encounter llamas, horses, pot-bellied pigs, reindeer, donkeys, goats and sheep. The area also includes a beautiful "contact yard" which brings animals and people together and features such animals as exotic chickens, pygmy goats, lop-earred rabbits and dairy calves. Encounters also includes the arena where seasonal animal shows take place, along with several rides attractions for children.

The Commons

The Commons is the central "habitat" for Zoo visitors. Located in the middle of the Zoo, the Commons is the spine on which visitors enter and exit the biomes. Restrooms, a gift shop, restaurants, a playground, and other human amenities are available in the Commons. Visitors can also interact with animals by stepping aboard a horse-drawn trolley or attending an animal show at the Amphitheatre. Zoo guests also share "their" space with flamingos, black-necked swans, and four species of lemurs.

Enriching Animals' Lives
Large dead trees may appear to be clutter in the Kodiak bear exhibit, but keepers actually strategically place them to serve as playthings for the bears. It's part of the behavioral enrichment program to encourage the animals' natural behaviors by providing opportunities for foraging, environmental stimulation and social contact, using scents, objects, food and more. For example, honey and peanut butter are hidden in crevices for the bears to encourage foraging behavior. Understanding the animals' behavior greatly enhances conservation opportunities, particularly captive breeding efforts to conserve endangered species.

The Zoo's Behavioral Enrichment Committee, comprised of keepers from all over the Zoo, has been investigating and developing plans for enrichment through the husbandry, training, and physical space needs of the animals. Among their exhibit changes was the complete renovation of the baboon exhibit. They replaced the soil with fresh, clean fill sand. The sand makes it easier to bury food for the baboons, which prefer to hunt for their food. New tree "props," large trees that the baboons can climb on, roll and peel, were lowered into the exhibit. Other enrichment activities include giving animals blocks of ice, indestructible plastic balls, or browse (leafy tree branches) with which they can play.
Genera' Zoo Information

Located in White River State Park, the Indianapolis Zoo is a 64-acre zoological and botanical complex where animals, plants and people connect through education, exhibition, conservation, and research. The Zoo takes pride in providing lifelong recreational learning experiences for its visitors and instilling in them a sense of stewardship for the Earth's plants and animals. The primary points where people connect with animals and plants are within the Zoo's "biomes," or collection of habitats. The biome concept presents approximately 350 species of animals and 1,900 species of plants together in simulated natural habitats. Visitors can see a showcase of our wondrous plants at White River Gardens.

As visitors "travel" through the Zoo, they go from one fascinating ecological system to another, and they begin to get a sense of appreciation for the diversity of life. Because many people will never have the opportunity to visit an African Savannah, an Asian temperate forest or the Amazon River, the Zoo attempts to recreate the natural environments as clearly as possible. From the arctic land of the polar bear near the front of the Zoo to the realm of the King of the Beasts - the majestic African lion - near the far end, a visit to the Indianapolis Zoo is literally a trip around the world!

Hours of Operation
Open at 9am, closing hours vary depending upon the season. Call (317) 630-2001 to confirm hours.

Indianapolis Zoo Shows

EdZootainment

Combining education and entertainment, EdZootainment is unique to the Indianapolis Zoo. Through daily animal shows, narrated feedings and interactive chat sessions with keepers, EdZootainment enhances a Zoo visit with opportunities to enjoy face-to-face encounters with a variety of animals as well as a chance to learn more about animals, plants and nature by talking with Zoo staff. For the day's schedule, visitors can check signage in front of each of the Zoo's areas, such as Forests or the Waters Building, etc. The goal of EdZootainment is to provide visitors with a series of interactive experiences from watching a penguin feeding, feeding the lorikeets, or just petting a llama.

Coca-Cola Dolphin Demonstrations

The Zoo's Atlantic bottle-nosed dolphins demonstrate learned and natural behaviors during daily demonstrations throughout the year.

Times: 10:30am, 12:30pm, and 2:30pm*
Location: Dolphin Pavilion

*Based on the number of people at the Zoo on a given day, additional times may be added to provide more visitors the opportunity to see the popular dolphin shows. Typically, in the summer the additional show is at 4:30pm. Upon arrival, visitors can check the front gate for daily dolphin show schedules. Special dolphin shows are normally scheduled for Kroger Christmas at the Zoo at 6:30 and 8pm.

Elephant Encounters

The Elephant Encounters area in the Plains Biome features twice daily bathing of an African elephant during the summer season. Following the bathing demonstrations, which features an informative keeper chat, audience members are allowed to approach and have a real "close encounter" with the elephant. After Memorial Day, Elephant Behavior Demonstrations also occur in the Arena of the Encounters area.

Encounters Arena

During the spring, summer and fall, the Encounters Biome presents EdZootainment shows in the 600-seat performance arena. Throughout the year, keepers train animals in the arena. Visitors are invited to watch as keepers work with horses, llamas, and birds of prey. The Plains staff also conducts Elephant demonstrations in the Arena. Show times are posted in the Encounters Biome. No extra fee is charged for the demonstrations.

The Enchanted Mill Children's Play Area

Located in the heart of the Zoo across from the Cafe on the Commons, this dynamic play area features a mix of "wet" and "dry" play elements in a unique, colorful setting. The entrance to the attraction is framed by what appears to be a fanciful, multi-colored riverside mill, which actually serves as a seasonally operating cold beverage location. A snack location is also available. Passing under the overhead water trough, visitors can choose to go to either the "dry" side or the "wet" side of the
playground, each with its own selection of activities just for kids.

On the "dry" side, kids climb or slide on the new play structure or bounce on one of the new animal-shaped spring rockers. There's also a picnic area with a special smaller table "reserved" just for kids. In the center are eight "popping" water jets surrounding a center fountain. All of them are computer-programmed, and you never know exactly when they'll go off.

Adjacent to the fountains are sculpted seal lion and porpoise statues, each spraying water with equal unpredictability. The complete play surface, on both the wet and dry sides, is covered with a soft, shock-absorbing material for maximum safety.

**Amphitheatre**

A number of EdZootainment shows take place during the spring, summer, and fall in the intimate, 300-seat amphitheatre located in the Commons Area. These shows typically include opportunities for members of the audience to participate and include shows featuring the Zoo's exotic birds, birds of prey and domestic dogs. There is no extra fee to attend shows in the Amphitheatre.

**Rides**

Weather permitting, a number of rides are available for a nominal fee. For ride times and availability, the public may call (317) 630-2001 and check on the Zoo map as they enter the grounds.

**Pony Rides**

For younger visitors, the pony ride is located in the Encounters Biome. It is offered daily in spring and summer and on weekends and holidays in September and October. A portion of the pony ride fee benefits the Zoo's educational programming and amenities within the Encounters Biome.

**Carousel**

Located in the Encounters area next to the pony ride, guests can a different type of animal on this endangered species musical merry-go-round.

**Kombo Family Coaster**

Prepare to go on safari on our rollercoaster. Each in the coaster train is a jeep outfitted for adventure. This coaster is designed for children but adults are welcome to ride as well.

**Virtual Safari 4-D Simulator**

Computer technology combined with hydraulics add a fourth dimension to the 3-D safari movie ride. The simulator pitches and turns with the motion on the screen. Also, one needs to beware buzzing bees that you buzz your seat!

**Train Ride**

Visitors climb aboard the Pride Train Ride for a tour of the "Zoo Behind the Zoo." During the ten-minute journey, visitors learn about Plains Biome animals, commissary, greenhouse, gardens, the Zoo's 15,000 square foot veterinarian hospital, maintenance and exhibits, departments and other behind-the-scenes operations necessary to run the Zoo. The train runs regularly from March through December. Dependent upon weather conditions and attendance, the train operates on an occasional basis in January and February.

**Food at the Indianapolis Zoo**

The Zoo's exclusive caterer manages all of the food operations at the Indianapolis Zoo. Crystal Food Services provides food from picnic fare to gourmet cuisine for company picnics, weddings, corporate functions and other special events. For the safety of the animals, the Zoo does not provide straws or soft drink lids.

Although visitors are not permitted to bring food into the Zoo, they may enjoy their picnics at one of the tables located just outside the admission gates. To get back into the Zoo after lunch, visitors should present their receipts at the admission gates.

**Cafe on the Commons**

This restaurant offers hot meals, sandwiches, fruits, beverages and snack items. The cafe has indoor seating for 125 visitors, and the patio accommodates up to 200 people.

**Safari Grill - Dog-N-Suds**

Located in the Commons Area just outside the entrance to the Plains Biome, the Safari Grill
offers hot dogs, hamburgers, fries and beverages. Hours vary seasonally.

**Other Food Locations**
During the summer months, ice cream and soft drink kiosks or stands are located throughout the Zoo. There is also a snack bar and beverage station, *The Outpost*, located near the Enchanted Mill playground.

**Other Services**
Wagons, strollers and wheelchairs are available for nominal rental fees. Visitors should check in at the “Bear Necessities” gift kiosk near the Zoo entrance. The first aid station is also located at the front of the Zoo, and Emergency Medical Technicians are always on duty when visitors are inside the Zoo.

**Indianapolis Zoo Store and Gardener’s Pride Gift Shop**
Operated by Event Network, one will find books, jewelry, clothing, stuffed animals, magnets, and other items available for sale at the Zoo and Garden Gift Shops.

**Visitor Tips**
- Particularly during the hotter summer months, arrive early in the day when the animals are likely to be more active.
- In order to find a good seat for the daily dolphin shows, the Zoo recommends that visitors arrive 20 minutes before show time. So that everyone may enjoy the show free from distractions, visitors may not stand to view the show. When sitting in the bleachers directly in front of the performance pool, visitors should be prepared to get wet and properly secure camera equipment and other items that may be sensitive to water.
- If visitors arrive later in the day, it's best to begin the trek through the 64-acre facility in the Plains Biome at the back of the Zoo. Plains animals go into their evening holding areas earlier than other Zoo inhabitants.
- The best time for food service is a half-hour before and during the dolphin shows. The restaurants tend to become crowded right after the performance.
- There is no smoking inside any building at the Indianapolis Zoo or within the animal biomes.

**Community Tuesday**
A monthly program, Community Tuesday offers $6 admission and complimentary parking to all Zoo visitors on the *first Tuesday of each month* (except in January through mid-February when the Zoo is closed on Mondays and Tuesdays).

**Zoo Membership**
When they “Join the Zoo Pride,” members receive free admission and free parking and many more benefits. Memberships help the Zoo provide food and medical care to its 350 species of animals as well as care for its 1,900 species of plants. Benefits include:
- Free admission while visiting the Zoo during regular Zoo hours (membership card and photo ID required at entrance)
- Free parking during regular Zoo hours
- 20% discounted admission for guests
- Discounted admission to special Zoo events and education classes
- 15% discount on most gift shop purchases
- Special invitations to member-only events
- Member-only Express Entrance (seasonal)
- Free subscription to "Zoosletter," the Zoo's quarterly publication
- Special discounts at other participating attractions
- Discounts to area restaurants and entertainment venues

**Animal Amigo Program**
As one of the few zoos in the nation that receives no tax support, the Indianapolis Zoo relies on contributions from corporations and individuals to help meet operating costs. One way that individuals take pride in the Zoo is through the Animal Amigo program (formerly the Animal Adoption Program). Through their annual sponsorships, Animal Amigos help provide food and maintain health standards for
the Zoo's nearly 4,000 animals and receive a certificate, a decal, an invitation to the annual Animal Amigo Party, and a photograph of the animal. The sponsors' names are listed on the Animal Amigo board in the Waters Building. For additional information, the public can call (317) 630-2025.

**Group Events at the Zoo**

Dine with the dolphins or party with the penguins at the Zoo. With its lush landscaping and facilities centered on animals and plants, the Zoo is a popular site for picnics, meetings, receptions, and other events. A number of facilities are available to rent, as are special programming and animal appearances.

**Zoo Buyout**

With certain parameters, companies can rent the entire Zoo for the day or the evening. Special animal demonstrations and rides as well as a complimentary dolphin demonstration are available.

**Rental Spaces at the Zoo**

- **Dolphin Gallery** - The most popular of the Zoo's rental facilities, the Dolphin Gallery offers an underwater view of the Zoo's bottle-nosed dolphins. Partygoers or meeting delegates can enjoy hors d'oeuvres and other fare while watching the dolphins swim by the oversized gallery windows. The gallery seats up to 300 people.

- **World of Waters Building** - Ideal for receptions or small intimate dinners, the World of Waters Building is Indiana's largest aquarium. Sharks, tropical fish, penguins, sea lions and polar bears are among the animals that partygoers will encounter and discuss during their event in the World of Waters Building.

- **Kroger Party Pavilion** - Accommodating up to 600 people for a sit-down dinner or 800 guests for a reception, the large tented Kroger Party Pavilion is ideal for picnics and cookouts. The pavilion is available from April through October.

- **Deserts Pavilion** – This facility was new in 1998 and has the same specifications as the existing Kroger Party Pavilion. This tented facility would be ideal for receptions, parties, dinners and other special events.

- **Lemur Plaza** – Located in the Commons area, Lemur Plaza offers a dramatic view of the skyline. Outdoor patio seating overlooking the pond by Lemur Island is available for 200 guests, while the Café on the Commons can accommodate 80 people.

- **The Education Suites** – These rooms in the Education Building are suitable for business meetings and presentations. The total area can be sub-divided into four rooms, or the entire 2,250-square-foot room can seat up to 125 guests for a banquet-style event.

- **Café on the Commons** – For small corporate or group picnics, the Café on the Commons can be rented. This area can accommodate up to 80 people.

- **Fountain Plaza** – For an evening event, the beautiful area by the fountain in the Zoo's entry plaza overlooks the seal and sea lion exhibit. Invite 75 to 125 people for dinner!

- **Hulman Riverhouse** – This dining facility within White River Gardens overlooks White River and the downtown skyline and seats from 50 to 160 people.

**Group Rates**

The Zoo also offers special rates for 15 or more people. Reservations are required. To make a group reservation or to learn more about the Zoo's rental facilities and packages, please call (317) 630-2014. For school or group reservations, the public should call (317) 630-2000.

**Catering**

The Zoo's exclusive on-site caterer, Crystal Food Services, offers a wide array of food from picnic fare to box lunches and ice cream to gourmet cuisine. For more information about food options, the public may contact Crystal at (317) 488-5555.
Zoo Fun Facts

- The Zoo stresses the following in relation to animals: Education, Conservation, Research, and Recreation.
- From the Education Building to the Commissary the distance is ½ mile.
- There are 100 miles of irrigation piping on the Zoo grounds.
- There are approximately 12 miles of piping in the Waters Building.
- Most of the rocks on the Zoo grounds are man-made from a substance called gunnite. Gunnite, a type of cement, is sprayed onto a mesh frame and then sculpted as it dries.
- "Instant Ocean" is a special blend of salts and minerals that duplicate what is contained in sea water. We add it to tap water to create our sea water. For salt water we just add salt to tap water.
- The pump systems in the Waters Building replace the water in each exhibit every 60-90 minutes.
- There is an alarm system in the Waters Building that monitors the water levels of each exhibit. When the water gets too high or too low the alarm sounds.
- The artificial corals found in the Coral Reef Exhibit are fiberglass castings of real coral.
- Kodiak bears are the largest bears on the average though an individual polar bear can get larger.
- Cita, one of the Zoo's elephants starred in movies such as "The Color Purple" as well as "Sheena of the Jungle".
- The Indianapolis Zoo is one of only two zoos in the country that started as a not-for-profit organization and continues to be totally self-supporting, receiving no tax support.
- In one week, our animals will consume 140 pounds of apples, 160 pounds of bananas, 100 pounds of carrots, 72 bunches of kale, 6 pounds of mustard greens, 80 pounds of yams, 50 pounds of potatoes, 24 heads of romaine lettuce, 20 pounds of spinach, 7 bunches of broccoli, and 8 pounds of collared greens—and that is just produce! A couple other things for the monthly grocery list include 10,000 pounds of alfalfa and timothy hay, 1000 pounds of fish, 70 loaves of bread, not to mention bagged specialty dry diets, grain, meat, bones, suet, cod liver oil, vitamins, mineral salts...and the list goes on! The Zoo spends approximately $250,000 per year on food alone (by comparison, an Indiana family of four spends about $6000 per year for food).
The History of White River Gardens

In October 1996, the Indianapolis Zoological Society, Inc. “unmasked” design plans for a three-acre conservatory and garden complex. Later named the White River Gardens, the new horticultural institution was the first major development undertaken by the Society since the Zoo opened at its present location in 1988. It is located adjacent to the White River levee that flanks the eastside of the Zoo, as well as on what is now part of the Zoo's parking lot.

Funded by donations and grants, the $14 million plus project broke ground in October 1997 and opened to the public in June 1999. White River Gardens includes a glass-enclosed conservatory; outdoor design gardens; water garden; a wedding garden for ceremonies and receptions; a resource center; a gift shop; one and a half miles of winding paths and walkways; and, an indoor/outdoor dining facility with a dramatic view of the downtown skyline and the riverfront.

Garden Blossoms from Master Plan

The decision to create a garden was the result of a new master plan adopted by the Society in 1996. The master planning process involved an extensive 18-month internal and external review of a number of capital growth options. The long-range planning committee is still working on the feasibility of other master plan components, including an expanded aquarium facility and a tropical rain forest exhibit. The garden emerged as the first development because of overwhelming support within the community. In addition, the Zoo considered how the timing of the garden project would complement current downtown and White River State Park developments. Zoo officials realized that the City of Indianapolis is committed to making improvements along the city's waterways, as well as continuing the momentum of downtown development through the Central Waterfront Project. White River Gardens, along with other projects such as the NCAA national headquarters, the new Indiana State Museum, Conseco Fieldhouse and others, helps secure downtown's appeal as an entertainment destination for visitors, enhances the city's already solid reputation as a convention destination, and creates additional appeal for new downtown businesses and residents.

White River Gardens continues the Indianapolis Zoological Society's mission of connecting animals, plants and people. This stunningly beautiful 3.3-acre landmark botanical attraction combines the best of gardening ideas, plant information and inspirational design to serve the needs of all visitors. With over one thousand plant varieties on display plus entertaining special exhibits throughout the year, White River Gardens is an international showplace for Indiana where visitors can enjoy and learn about the bounty of the natural world. Whether collecting plant information from the resource room, staging a wedding in the most attractive location in the city, or simply strolling through the one and half miles of flowered pathways, visitors to the Gardens will be inspired, impressed, enlivened and entertained.

White River Gardens Extends Zoo's Mission

White River Gardens is the natural extension of the long held mission of the Indianapolis Zoological Society to provide recreational learning experiences for the citizens of Indiana through the exhibition and presentation of elements of natural environments in a way that will foster a sense of discovery, stewardship, and the need to preserve the Earth's plants and animals. The Indianapolis Zoological Society formally presented the design plans for the conservatory and garden to the White River State Park Development Commission on November 20, 1996. Rundell Ernstberger Associates in conjunction with Woollen, Molzan and Partners, Moore Engineers, TT-CBM Engineers and Lynch, Harrison and Brumlieve, Inc., the team selected to design the new facility, worked very hard to get every detail for the garden planned. In October 1997, the firm of Hagerman Construction Company was named general contractor for the project and groundbreaking signaled the start of a 17 month construction phase.

Hilbert Conservatory

Celebrating the roots of gardening in Indiana, the glass-enclosed conservatory is the site of four to five seasonal shows each year featuring past shows such as Orchid Oasis and Killer Plants. The highlight show of the year is the Butterfly Exhibit which runs from May through September each year. The conservatory is 5,000 square feet in area and 65 feet in height, and it includes the 12-foot high mezzanine level. At nightfall, the conservatory's barn-like dramatic profile is highlighted against the
dark sky. The Conservatory is named in honor of Stephen and Tomisue Hilbert, lead donors to the project.

**DeHaan Tiergarten**

The outside gardens in their entirety are named for the DeHaan Family Foundation. The name “Tiergarten” (animal park) honors the origins of the DeHaan family, as well as the sister relationship of the Gardens to the Zoo. The landscape architect responsible for developing the Tiergarten’s plant design is Ann Hildner of Rundell, Ernstberger and Associates.

**Polly Horton Hix Design Gardens**

These themed garden rooms provide examples of unusual design techniques that visitors can try at home, and are named in honor of Polly Horton Hix, a lead donor and special friend to the Zoo. Some concepts explored in the Design Gardens are symmetry versus asymmetry, use of sculpture, layering, patterning and whimsy and metaphor as garden elements.

**Knot Garden**

The knot garden pattern is created with sculpted low evergreen hedges of inkberry, barberry and yew that form intricate geometric patterns and includes a number of wandering perennial and annual vines. This garden culminates in sculptor Dale Enochs’ 12-foot-tall Earth Stone sculpture – the central feature of the outdoor landscape. Ten columnar ginkgo trees that complement the stone’s ancient qualities surround it.

**Sun Garden**

This garden was conceived as an “abstracted prairie” with bold drifts of color intermixed with waves of native prairie grasses. The color palette will include purple coneflower, black-eyed Susans, blazing star and butterfly weed. A stream will create a band of color that meanders through the prairie, its banks planted with sedge meadow flowers.

**Shade Garden**

The garden provides a soothing canopy using a number of native Indiana woodland trees, including buckeye, blue beech, yellowwood, bald cypress, and various oaks and ashes. Early spring visitors will be greeted by a grove of 800 native woodland wildflowers. Several large shade trees will include oaks, ashes and tulip trees.

**Ornamental Allee**

This linear space on the west side of the Gardens nearest the parking lot is defined by low-canopy trees and an outer wall of vines and shrubs that provide a tapestry of colors and textures. Plants include natural shade and woodland species organized in families of color and texture. Look for delightful sculptured bricks placed in the walls and the fall-blooming golden rain trees.

**Allen W. Clowes Water Garden**

Reflecting from the tranquil pools they surround, colorful flowers will be planted throughout this space and aquatic gardening ideas will be presented in the pools. The water garden is named in honor of Allen W. Clowes, another of the lead donors and a man whose own gardens at his Westerly estate are among the most beautiful in the country.

**The Efroymson Wedding Garden**

A 150-foot diameter lawn accommodates weddings, receptions and other events. A large semicircular pergola structure encloses the space and anchors the southern boundary of the complex. A colorful mix of meadow hybrids and annuals, the Indianapolis Zoological Guild’s hedge maze and the Indianapolis Garden Club’s heirloom garden border it. It is named for donors Dan and Lori Efroymson.

**Norb Schaefer Rotunda/Midwestern Panorama**

Donors Mrs. Norb F. Schaefer, Jr. and family support the round silo-like entrance to the Gardens. With its limestone walls and floor, the stunning rotunda is not only a spectacular entryway into White River Gardens, but an ideal location for receptions. The signature piece of artwork for White River Gardens is “Midwestern Panorama,” a spectacular circular mural located in the rotunda executed by Miami-based muralist Andrew Reid.
Dick Crum Resource Center
White River Gardens will cater to the casual, beginning gardener as well as challenge the seasoned gardener. Visitors will be able to stop by the Dick Crum Resource Center for gardening tips, resource materials and information services. Master Gardeners will be on hand to help visitors select plants for their yards; advise them about plant care, weed control, and plant identification; and tell them how to recreate botanical examples presented in the various components of White River Gardens. The Center is open at no charge to the public and is named in honor of Dick Crum, long-time horticultural expert to the citizens of Indiana.

Hulman Riverhouse
Donors the Mary F. Hulman Charitable Trust and The Hulman/George Family are honored at the dining facility at the Gardens. Located on the eastern side of the main building, the Riverhouse overlooks White River, and with its large, expansive windows, offers a truly spectacular view of the Indianapolis skyline.

Horticulture at the Indianapolis Zoo
Where can Zoo visitors find a goatsbeard, mother-in-law's tongue and elephant garlic? Those are just a few of the plants that create the African grassland atmosphere in the Plains Biome. What began as an effort to create the look and feel of natural habitats for the animals has evolved into a horticulture collection that now contains more than 20,000 individual plants representing more than 1,700 different species and that holds more monetary value than the Zoo's animal collection. In fact, the Indianapolis Zoo is the only institution in the country that is accredited as a zoological park, aquarium and a botanical garden.

Plants Beneficial to People and Animals
Over the course of thousands of years, plants have played countless roles in human culture ranging from food to medicine. The historical uses for some of the plants at the Zoo are varied. Euphorbia ingens, a plant similar to a cactus that grows in the Deserts Biome, was once used by native Africans to harvest fish. When submerged in water, toxins in the plant tranquilize the fish, allowing the natives to gather the dazed fish as they floated to the surface. Other plants like common mullen, used in landscaping throughout the Zoo, were predecessors to modern products. The velvety gray leaves of this plant are so soft that native Americans used them as insoles for their moccasins.

Just as some plants benefit humans, others benefit wildlife. Considered a nuisance by many people, the milkweed actually contributes to the survival of the monarch butterfly. During the caterpillar stage of growth, monarchs feed on the milkweed. Toxins in the milkweed do not harm the butterflies, but render them distasteful to predators. The loss of milkweed in the monarchs' habitat, particularly in urban areas, has made them more susceptible to predators. Rather than weeding out the milkweed that grows wild on the grounds, Zoo horticulturists leave it for the butterflies.

Plants, like animals, have adapted over time to survive in a variety of climates. With less than ten inches of rain each year, desert plants developed a way to savor each drop. Over time, thin spines eventually replaced the plants' larger leaves to direct rainfall toward the soil and roots where the moisture is needed.

Other plants developed internal mechanisms to protect their water supply. Adenia spinosa, a Deserts Biome plant, secretes a natural herbicide to keep other plants from growing around it and competing for water. Within the Zoo's plant collection are at least ten species that are endangered in Indiana, including the bearberry, gray birch, northern catalpa, black bugbane, yellowood tree, sweetfern, tamarack, Jack pine, eastern white pine and bald cypress.

Browse Garden
You won't find any corn, berries or vegetables growing in this garden. In fact, the assortment of trees and shrubs growing along the railroad tracks at the Zoo does not resemble a typical garden at all. It is called a browse garden, and Zoo staff harvest branches as enrichment for animals to play with and eat. Herbivores are classified either as grazers, who eat plants and grasses on the ground, and browsers, who eat leaves and branches from bushes and trees. Planted as an Eagle Scout project, the browse garden
includes trees such as sugar and silver maples, ash trees, and bamboo. Browse is cut from the trees and given to many Zoo animals, including the primates, red pandas, elephants, and llamas.

**Beautiful Venues**

The Zoo takes special pride in its horticulture collection and the beautification of its grounds. Some highlights for visitors are the springtime displays of tulips in the entry plaza (a wonderland of color!); the ornamental grasses growing throughout the grounds, especially in the Plains Biome; the witch hazel blooming in the early spring (probably the first plant to bloom in the city!); the gorgeous deciduous trees that bloom pink and white in the spring and red and yellow in the fall; and, the overall look achieved by the habitat gardening throughout the Zoo.

**Plant Rescue Program**

United States Customs officials confiscate hundreds of plants each year from people trying to bring a little bit of their vacation home with them. U.S. Fish and Wildlife and USDA officials prohibit foreign plants from entering the U.S. to avoid introduction or spread of disease. The Zoo is one of 60 designated plant rescue centers in the United States that cares for such plants and sends them back to their native country if requested. Countries rarely ask to have the plants returned; and, at that point, the Zoo is free to add the plants to its collection. Unable to take many exotic plant-collecting trips, Zoo horticulturists have added unique plants to their collection through the program.
INTERPRETATION SKILLS AND TECHNIQUES

Excerpts from Visitor Perception Studies

During 1979-80, Dr. Robert Wolf and Dr. Barbara Tymitz of Indiana University conducted studies of visitor perceptions and experiences at the National Zoo in Washington, D.C. Wolf and Tymitz interviewed visitors to find out: why people came to the Zoo; the value of their visit; what they learned; and how their overall experience impacted them. The following excerpts are taken from Wolf and Tymitz’s studies: “Do Giraffes Ever Sit? A Study of Visitor Perceptions at the National Zoological Park, Smithsonian Institution”; and “Studying Visitor Perceptions of Zoo Environments: A Naturalistic View.”

“Many visitors indicated an interest in being able to listen to and ask questions of keepers or guides. These visitors stated that a sign cannot always answer their specific question and that a human source is preferable. This visitor interest reflects an alternative way of learning—that of receiving information auditorily, via a spoken verbal source. Further, the visitor has the opportunity for quick feedback to questions and the chance to check accuracy of interpretations or observations.

The effectiveness of interchanges between guides/keepers and the visitor was strongly supported in our observations and interviews. Most visitors readily welcome input from a source more knowledgeable about the species or more familiar with the specimen. When information is provided by the keeper or guide, the visitor is able to observe simultaneously. In learning terms, the visitor is receiving multisensory stimulation, a long-recognized approach for effective learning.

Keepers or guides can do what many signs cannot. They can remain current, extend information, appeal to a broader age range as well as attract those who, for one reason or another, are unable to read the labels (youth, special needs or foreign visitors).”

The sum of visitor comments and our own observations suggest that an effective guide or spokesperson is one who:
1. is informed
2. can present information interestingly
3. has the ability to respond to the same question as if it were asked for the first time
4. provides casual remarks, rather than structured speech
5. is friendly and courteous.”

Although this study is over twenty years old, the value of its content still applies today.

Public Speaking Hints

When you are in front of an audience, whether it be in the Zoo, Gardens, or classroom, certain public speaking techniques should be considered. Effective speaking fuses the verbal and non-verbal elements so successfully that how you say it becomes an indistinguishable part of what you say. Speaking traits can be broken into two parts: what the audience sees and what the audience hears.

What does the audience see when you are interpreting a message? Usually the audience will reflect your own enthusiasm and confidence. If concern and uncertainty is sent, then concern and uncertainty will likely be returned. Just by your appearance and introductory remarks, you have set the tone for your program. Be sure this is one of confidence and excitement. It’s all rather simple. If you are enthusiastic, motivated, and excited, your audience will be too. It’s just like a mirror.

>> Appearance – There is a familiar statement that says, “First impressions don’t wait; they cannot be postponed.” When a visitor meets you, an impression is immediately formed. If visitors like what they see, you will have no difficulty establishing rapport with them and your message will be received more easily. If the visitors are somewhat reserved from your appearance, you must overcome their reservations before any rapport can be built. The way
you wear your uniform and the way you present yourself (well groomed, etc.) reflects how much your job means to you. Fortunately or unfortunately, a visitor may form an opinion, positive or negative, of you and the institution based upon their first impressions.

> **Body Movements** – Movement draws attention and can be an asset or a liability. Use body movements to direct the audience attention to the verbal message being communicated. Avoid movements that may communicate uncertainty, a lack of confidence, or boredom (tapping, crossing arms, looking down often, tugging on sleeves...)

> **Hand Gestures** – they should be used sparingly and reflect what you are saying. Paint pictures with your hands, don’t just wave them around.

> **Facial Expressions** – Faces, especially the eyes, are expressive and dynamic. Be theatrical and create awe with your expressions. Use your eyes to evaluate the reactions of your audience.

Your audience hears more than you think. The proper delivery of your message can easily affect its success. Be aware of:

> **Voice Volume** – How well can you be heard? Also be aware of how volume changes can influence an audience and emphasize points.

> **Voice Inflections** – If you are excited, let your voice sound excited. Use your voice to emphasize points.

> **Voice Pauses** – Use pauses for effect, not to stop and think things over. Pauses can have dramatic effects.

> **Rate of Speaking** – Speaking too fast or too slow will affect your message effectiveness.

> **Repetitive Expressions** – Avoid expressions like let’s see now, this is um, a common ah, flaw of, well, many speakers, OK? Try to recognize and kick the habit of ums, ahs, OK’s, and you knows in your speaking. Record an interpretive session to listen to what you are saying.

Speaking to an audience can sometimes be nerve racking, so, remember the importance of what your audience sees and hears while you are speaking.

**Characteristics of an Interpreter**

**Interpreters should be:**

1. **Energetic and Enthusiastic** – A friendly, outgoing appearance is a must in dealing with the public. This trait is contagious and will be sensed by all others.

2. **Passionate** – Believe in what you are doing and why you are doing it. Leaders are followed more for their passion than for their knowledge.

3. **Knowledgeable of the Subject** – Even with all the other characteristics listed above, the true goal of the interpreter is to get the message across so visitors can take a positive learning experience with them. The more you know about your subject, the easier it will be to get that message across.

4. **Committed** – A commitment to your subject matter, visitors, and institution is essential. Commitment shows them that you take pride and care for what you do.

5. **Communication** – Interpretation is communication. An interpreter without communication skills is like a bird without wings – you may never get off the ground.

6. **Personalized** – Let your interpretation be an extension of you. Share yourself with the visitor. Don’t try to copy other interpreters. Develop and find comfort in your own style while incorporating what you have learned.

7. **Self Confident** – Confidence will reflect positively upon an audience. It will help to establish credibility of a presentation. Confidence in your interpretation comes with knowledge, practice, and time.

8. **Humorous** – A sense of humor and sense of perspective go hand in hand. Together they remind us not to take ourselves too seriously, nor our jobs too lightly. An appropriate touch of humor keeps interpretation light and comfortable as well.

9. **Warm and Sensitive** – Warm people are easy to approach and comfortable to be with. An interpreter who is personable and exhibits warmth attracts visitors because he/she appears to be
human just like the visitor. When dealing with a wide cross section of people, interpreters must be sensitive to their needs.

10. **Creative and Innovative** – Presenting messages in new and unique manners add interest, color and variety to subjects that may otherwise appear unattractive.

11. **Prepared and Flexible** – Always be prepared, especially for the unexpected. A crying child, weather, minor disasters, and a variety of visitors will challenge your need for flexibility. Have a plan 'B' to fall back on. An unprepared interpretive program can be embarrassing for everyone involved.

12. **Opportunistic** – Capitalize on the unexpected as it may develop. Avoid using the same method all the time for presenting information.

**Talking With Children**

Young children will constitute over one half of your audience at the Zoo. Children should not be receiving a “watered down” version of the adult interpretation, but instead, interpretation specifically aimed at them. The following guidelines should help you communicate effectively with children.

**Eye Contact**

Position yourself at the child’s “eye level” when talking. Whenever possible, do not stand up and talk down to children. Try to maintain direct eye contact with children when talking.

**Voice**

With pre-schoolers, use words and a tone of voice that will help the child feel confident and reassured; simple, direct and slow. With all children, decreasing speed is more effective than raising pitch. The voice of the Interpreter should be loud enough to be easily heard by the entire group, but soft enough to encourage listening. Remember, we are not trying to lecture everyone, we are just talking to the visitors right around you.

**Concrete Analogies**

An abstract question or idea requires a concrete answer. For example, to answer the question, “How long is the anaconda?” an answer of “20 feet” is meaningless. You can show them by saying, “From here to that wall,” or if possible, have the family hold hands to measure the length.

**Facial Expression**

Young children rely on non-verbal communication as a way of understanding others. Facial expression (smile, frown, stare, nod, etc.) are important during communication. Often a message can be understood without the use of words.

**Questions**

Asking Questions is one of the most effective means of stimulation thinking and learning. Ask open-ended questions whenever possible. For example, “What do you think that fish eats?” is an open-ended question. Recall questions like “What color is that fish?” are sometimes necessary but generally only allow one right answer. Open-ended questions allow for continued discussion. Allow time for children to ask questions and to respond to yours. With very young children, you should ask, “Would you like to know anything else about the ______? rather than “Do you have any questions?”

**Directions**

State directions or suggestions in a positive form. Tell a child what they should do instead of what they should not do. Saying “Don’t touch anything,” will bring little results. Saying “Keep your hands down at your sides,” or “You can touch this with two fingers,” is more likely to bring positive results.

**Demonstrations/Hands-on Activities**

Children should participate in the demonstration or hands-on activity rather than being an observer. Demonstrations may be used to “show how it is done.” They should be followed by an
opportunity for children to try their hand at the skill. Children should be seated close to the
demonstration and positioned so that they can all see easily.

**Touchable Animals, Artifacts, and Interactive Devices**

Hands-on devices should be used when appropriate. Children will need a long turn, or many
turns, for direct contact with each animal. Seeing, hearing, smelling, and touching take more time than
seeing itself. Emphasize the preferred method of approaching and touching the animal; give immediate
praise to children who are following directions. Artifacts and interactive devices should be durable and
easy to handle. Demonstrate care when using fragile items. Presenting more touchable items is
preferred.

**Role Playing**

Role playing activities should encourage creativity and exploration. Adults, as well as children,
should participate in the activity. Opportunity should be provided to observe a particular activity before
engaging in role playing.

**Visuals**

Children are visually oriented. A visual should be used when talking about something that is not
presented or cannot be directly observed. Visuals should be large, colorful, clearly printed, and mounted
or held at the child’s “eye level.” Picture details should be accurate and true to life.

**Discussions**

Discussions should have a specific purpose. The Interpreter should encourage the discussion by asking
challenging questions.

**POINTS TO REMEMBER**

1. Young children are participators. Involve each child directly, actively, and immediately.
2. Curiosity acts as the young child’s most powerful drive and activates him toward learning.
3. Awareness of his senses is the foundation of a child’s understanding.
   Programs should be designed to encourage him to touch, see, hear, taste and smell as his main
   means of making sense of his world.
4. Personal knowledge is all that a young child understands. Learning should always be based on
   first-hand experiences.
5. The combination of many factors describes his attention, how it is attracted, and how long is it
   held. The appeal of the activity, in combination with the individual child who participates, figure
   into the total plan. Do not be misled by thinking that young children have short attention spans.
   Age-related increases in time of concentration are only one of many contributing factors.
6. A young child’s need for movement is tremendous and generates much of his learning. To ask a
   young child to sit or stand still for a lengthy time is to make him feel inadequate, since he is
   being asked to do what he is not able to do well and finds difficult to do at all.
7. A young child has little idea of time. The present and how he feels is all that matters to him. He
   needs immediate rewards for his efforts.
8. Young children have many fears – including unfamiliar animals. Try to relieve his fears and give
   realistic support to feelings of caution.
9. Effective interpretation for young children will utilize a multi-sensory technique. Activities
   should provide opportunity to explore with at least four or five senses.
Themed Interpretation

Are you interpreting?

Interpretation is:

An activity that aims to reveal meanings and relationships through the use of original objects, firsthand experience and by illustrative media rather than simply to communicate factual experience.

Interpretation is:
- Pleasurable
- Relevant
- Organized
- Has a theme

What's a theme?
- Not a topic – a topic is the subject matter for an activity, not the message
- A theme is the message you want your audience to walk away with.
- A theme identifies the central idea
- A theme presents ONE idea
- A theme is specific
- A theme uses interesting, active, evocative language
- A theme is expressed in a short, simple, complete sentence.

Theme or topic?
- Animals of Africa
- Ostriches – Vicious when cornered, tasty when cooked right
- Human fisheries are in conflict with many marine mammals
- Exploring the Congo
- Island Biodiversity
- Camels are the ships of the desert
- Primates make decisions
- Those pesky invertebrates
- Vomiting is a useful activity

Theme writing activity
- Pick a topic
- Generally, my presentation is about...
- Specifically, I want to tell my audience about ....
- After hearing my talk, I want my audience to understand that....

Supporting your theme
- People remember about 5 +/- 2 things from a presentation
- Pick 3-5 pieces of information, exhibit features or objects you would use to support your theme.

Questions – One more way to look at them...
- Open ended questions – non threatening, a warm up
- Focus questions –directs attention, compare, contrast, etc
- Integrating – allows audience to connect recent experiences with past.

Design one of each type for your theme
Themed Interpretation Worksheet

Theme (the one sentence message you want guests to take away with them):

Expanded Summary of Theme:

Supporting Artifacts/Items:
1.
2.
3.

Supporting Facts/Tops:
1.
2.
3.
4.
5.
"I Don't Know!"

One of the hardest tasks you will have as a Naturalist is trying to deal with questions that visitors will be asking you. Hopefully, you will be able to answer the majority of their questions. However, there will be many questions that you do not have an answer for. It is important that you tell the visitor "I don't know, but I can find out for you."

Saying, "I don't know" once isn't hard. Saying, "I don't know" six or seven times in a row can be very difficult. Since no one wants to look uninformed in front of the visitors it is very tempting to create an answer or try to guess the answer. Don't do it!! Sometimes the visitor asking the question already knows the answer and is just using the question to start a conversation. Other times the visitor might learn the correct answer from another source after hearing you give the wrong answer. As a Naturalist, it is vital that the information you give to the visitors is as accurate as possible.

If you know the answer to a similar question you could mention it for them to consider. For example, you might be asked "How long does a caiman live?" You may not know that answer but you do know that alligators can live for 50 years or more. You could then answer, "I don't know how long the caiman can live, but a close relative, the alligator, lives 50 or more years."

If you cannot give them an answer then say, "I don't know, but I can find out for you." You can then ask another Naturalist or ask for their name and address so that we can write them with the correct answer. You will be provided with a card to write down their question, name and address. Make sure that you either write to them yourself or that you check with the Zoo's library staff to see who should answer the question. Your extra effort will be appreciated and reflects well on the Zoo.

Points To Remember

1. If you don't know the answer, say, "I don't know, but I can find out for you."

2. Don't make up or guess an answer!

3. Only give out accurate information.

4. Be as helpful to the visitor as possible.

5. Remember, you can't know everything!!

Self Evaluation/ Do's and Don'ts

Do ask questions that make the visitor think and/or respond with an answer - especially questions with answers other than yes or no.

Do wait for several seconds after asking a question.

Do act enthusiastic about your subject.

Do try to help the visitor see a larger idea.

Do relate the information to the visitor's own life using an analogy, example, application or extension.

Do follow the visitor's interest in your subject.

Do allow the visitor to ask questions or respond to your information.

Do give the visitor interesting information or facts to get or keep their attention.

Do use language and concepts appropriate for the age level of the visitor.
DON'Ts

Don't make up answers.
Don't lecture or tell the visitor a bunch of unrelated facts.
Don't overload the visitor with facts.
Don't ignore a visitor's question.
Don't tell the visitor everything you know (information dumptruck).
Don't talk so fast you lose the visitor.
Don't talk non-stop.
Don't use unnecessary words or behaviors (uh-huh, right, um, excessive movements.)

Questions, Questions, Questions

Listed below are some of the questions you will be asked most frequently. Please learn the answers to these questions since you will be asked them over and over and over.

Q: "Where's the nearest restroom?"
A: Refer to the Zoo map to direct them to the nearest restroom. Locations will be discussed during training.

Q: "Where can I get a band-aid?"
A: The First Aid Station is located in the building between the entrance and exit gates and at the Security Office in the Administration Building. Show them the location on the Zoo map.

Q: "Have you seen a black camera bag? I seem to have misplaced it."
A: Lost and found items are taken to the Security Office in the Administration Building at the end of each day.

Q: "I can't find my mother!" (accompanied with tears.)
A: Lost children are reunited with parents or group leaders by contacting Security by radio or by phone at 630-2085. Be sure to comfort the child (without touching) until a Security staff member arrives on the scene.

Q: "Where did you get the money to build this place?"
A: The Indianapolis Zoo is a non-for-profit, privately operated zoo receiving no tax support from any government agency. Operating funds come from admissions, in-park sales, memberships, and donations.

Q: "How can I become a Zoo member?"
A: We have a membership booth located at the entrance. They will be happy to talk to you about a Zoo membership. Show them the location on the Zoo map.

Q: "How can I become a Volunteer?"
A: You can stop by the Education Building to pick up an application or call 630-2041 or visit our website www.indianapoliszoo.com to receive information on becoming a Volunteer.
Interpretation Resources

“Interpretation is a communication process that forges emotional and intellectual connections between the interests of the audience and the inherent meanings of the resource.”

National Association for Interpretation

The following is a sample of resources Naturalists may find helpful.

**Environmental Interpretation** Written by Sam Ham. Published by Fulcrum, 1992.


**Interpreting Our Heritage.** Written by Freeman Tilden. Published by The University of North Carolina Press, Chapel Hill, NC, 1957.

**Interpreting the Environment** Written by Grant Sharpe. Published by John Wiley & Sons, 1976.


**Zoo Culture: The book about watching people watch animals.** Written by Bob Mullan and Garry Marvin. Published by University of Illinois Press, 1999 Second edition.

**Internet resources**

National Association of Interpretation  [www.interpnet.com](http://www.interpnet.com)

North American Association for Environmental Education  [www.naeee.org](http://www.naeee.org)
Chat Examples

Seal Lion and Harbor Seal Chat

Good morning/afternoon and welcome to the Indianapolis Zoo’s Sea Lion and Harbor Seal exhibit. My name is Erin and I am joined by marine mammal trainers (name them). Today we will be working with our 4 sea lions and our 3 seals.

First I’d like to introduce our four seal lions.

Vieto is the largest sea lion. He is one of the 2 males that we have and is almost 8 years old. He weighs in around 400 lbs.

Next are our 2 females, Marcy and Snapper. These two look very similar, but there is one easy way to tell them apart. Marcy has short whiskers while Snapper has long ones that almost reach to her neck. Both are 18 years old and were born at Sea World of Ohio. They came to the Indianapolis Zoo when they were one year old.

Diego is our youngest seal lion and is the son of Vieto and Marcy. Diego was born at the zoo last summer.

Many people confuse Sea Lions and Seals, but there are some easy ways to tell them apart. First adult sea lions are a lot larger. Their coloration is also different; Sea lions are a dark brown color where Seals are more spotted. The sea lions are also the ones making all of the noise. Seals can make a grunting noise but do not vocalize as much as the sea lions. Now both the seals and the sea lions are very agile in the water. However, the Sea lions use their front flippers to propel themselves through the water, where the seals use their back flippers. There is also a major difference in their movement on land. The Sea lions are able to rotate their hips under their body which allows them to move easily and quickly over land. The seals are not able to do this so they use their strong stomach muscles to move. This causes them to move more like an inch worm or a caterpillar.

One similarity between all of the marine mammals is how they are trained. We use a technique called operant conditioning. With this we reward the behaviors we are looking for and ignore the behaviors we are not looking for. A reward can be anything from a back rub, to play time with their favorite toy, but their primary reward is the fish that they eat. The sea lions and seals eat two different kinds of fish here at the zoo the larger of the two fish is herring and the smaller is capelin.

There are 2 different types of behavior we train the first and most important are the health and husbandry. These allow the trainers to insure that the animals are in good health. Some examples are having them open their mouths so that we can look inside. The trainers will also some times brush their teeth to get the animal used to the trainers manipulating their teeth. This is helpful because if the animal were to ever get an infection on their gum they would allow the trainer to apply medicine with out any struggle. This helps keep stress levels all round low. The animals are also trained to lay down and allow the trainers to run their hands down their backs. This can
allow the keeper to measure the animal or even get a blood sample. They are also trained to roll on their sides. Marcy did this a lot last year. It allows the trainers to use an ultrasound, which was very important when Marcy was pregnant to make sure Diego was developing correctly.

The other types of behaviors are the show behaviors, which everyone likes. To show these off I would like to play a little game with you. But I will need all of your help!!! You have all heard of Simon says, right? Well our version is Sea Lion says. The rules are the same, when I say Seal lion says, do the behavior along with the Sea Lions. Ready??

Sea lion says—clap your hands  
Sea lion says—turn in a circle  
Sea lion says—shade your eyes from the sun  
Now—Kiss your neighbor

But I didn’t say sea lion says. Now all of you have an excuse because I bet you don’t play this game a lot. But our Sea lions are very ashamed because they play every day. So we will give them one more chance to redeem themselves. All of you may have a little trouble with this, depending on how flexible you are.

Sea lions says—touch your nose (pause) to your back.

Well that is the end of our show. I hope you all learned a little something and had some fun. The trainers are going to finish up feeding and then if you have some questions they would be glad to answer those. Otherwise we all hope you enjoy the rest of your day at the zoo.
Pacific Walrus chat

Good morning/afternoon and welcome to the Indianapolis Zoo's Pacific Walrus exhibit. My name is Erin and I am joined by trainers (name them). And the three stars of our show are Aurora, Brutus, and Nerius. Brutus is the big guy in the middle and he is currently weighing in right around 2,200lb. To your far right is Aurora. She is the only female walrus we have here and she has been with us since she was a few weeks old. And to your far left is Nerius the baby of the group. He has an interesting story behind him if you don’t already know it. A few native boys found him in Alaska when he was just a few days old. He was malnourished and dehydrated. And there was no mother in sight. So they took him to the Alaska Sea Life Center where they nursed him back to health. And then since we had such good luck bottle feeding Aurora they brought him to us. So he has been here since he was a few weeks old. And he is currently weighing around 450lb.

One thing people think of when they think of Walruses are their tusks. And one thing you might find unusual about our adults are that they do not have tusks. In the wild both males and females have tusks. The tusks, however, extend up into the brain cavity. Both Aurora and Brutus were rubbing their tusks down on the exhibit and they were developing wholes in them. If these wholes would have become infected it could then spread into the brain cavity. So their tusks were removed for safety reasons. Nerius, however, still has his tusks and when he is swimming around on his back you can sometimes get a good look at them. They are currently about five inches long and like human teeth will grow in as he gets older.

Another characteristic of Walruses are their whiskers or Vibrissae. Walruses are bottom feeders and when they are searching around on the ocean floor they tend to stir up a lot of muck, so they use their vibrissae as sensory perceptions to find food. They also use their strong suction power to search out food. As Brutus is demonstrating they can spit water at the ocean floor to help stir up food. They can also use their suction power to hold a clam in their mouths and suck the clam out of the shell.

Now people always ask us “How do we train all of the tricks that the animals can do?” Well first they aren’t tricks they are behaviors. And we train them using a process called operant conditioning. And by this we just mean that we reward the behaviors we are looking for and simply ignore the behaviors we are not looking for. The primary reinforcement for these guys is the food that they eat and they do receive a variety of food. They eat two different types of fish a larger fish called Haring and a smaller fish called Capelin. They also eat clams on a daily basis and Brutus receives squid everyday and the other two get squid once a week.

We do train three different types of behaviors here at the zoo. The first and most important are the health and husbandry behaviors. These allow us to look over the animals over all health. They are first taught a down position. From here we can look over their body make sure there are no cuts or scrapes. We can also take a voluntary blood sample from their spinal region. I do emphases voluntary. These are very large animals and we need their full corporation in any medical procedures we are doing. There is no way we are ever going to force one of them to do anything it doesn’t want to do. From the down position they are also trained to roll on to their side and back so that we can look at their underside for cuts and scrapes. And from this position
we can also ultrasound our females. We hope to be starting this with Aurora soon to see if she is pregnant. They are also trained to open up their mouths and let us look at their teeth and gums. This is very important so that we can see how Nerius’s tusks are growing in and to make sure that the adults tusks are growing in properly if they do come back.

The other types of behaviors we train here are the safety behaviors. These are more important for our safety. We are working with very large animals and we have to be careful when we are out here. One thing you may have noticed is that the trainers never place themselves between the animal and the water. Surprisingly for these animals size they are very skittish animals and a plane or a bird flying over head can scare them. When they do get scared these animals first reaction is to run to the water and if a trainer is caught between them and the water they are merely going to be a speed bump on the animal's way to the water. Along with this we do train the animals a water command so that we can send them to the water if we feel they are getting slightly uneasy or if we feel we need a lot of space between us and the animal. They are also trained a back command. This just requires the animal to keep stepping back until we tell them good. This is very important for both Aurora and Nerius, because we have had them since they were very young they are use to sitting in our laps and have not realized how big they have gotten. The back command simply allows us to have them give a little more space if they are getting to close. And the last safety behavior is one you will see at the end of the show. I will head up to our catwalk in a few minutes with some fish. The animals will then be sent to me in the water and will be feed from up there. This allows all of the trainers to exit the exhibit safely. Again this is because Aurora and Nerius use to fit in our kitchen when they were younger; they however have gotten a lot bigger and we don’t all fit in there any more.

And the last type of behaviors we train here are the show behaviors. These are the ones you all come to see they get the animals physically and mentally stimulated. The show behaviors include all of the waves and vocals that you have heard throughout the show. Brutus also has a few fun behaviors that he does. He and the trainers get a work out by doing push-ups and sit-ups. He and Aurora can also do a little dance for you. And this is one of the trainers favorite behaviors (wait for Brutus to slap his back end).

Well it looks like the trainers are getting low on food so they are going to finish up feeding the animals and I'm going to head up to the catwalk. We thank you guys for coming out and we hope you enjoy the rest of your day at the zoo. Good-Bye.
Advancement

Training New Trainers

Step 1:
- Basic understanding of thorough cleaning of buckets, exhibit/holding areas, kitchens, chores and projects.
- Ability to make animal buckets.
- Observe feeds.
- Sort fish.
- Goes for dive physical and gets checked out to dive for marine mammals.

Step 2:
- Familiarity with the routine of all areas.
- Animal identification.
- Animal facts.
- Familiarity with zoo policies (Animal Escape, Diver Down, Snake Bite).
- Start learning narration.
- Begin doing daily routines of an area.

Step 3:
- Second person an all husbandry.
- Take the initiative to find projects to do.
- Ability to play with animals and knows the rules.

Step 4:
- Free feed animals with trainer. *steps 4-7 do not include demos (chats).
- Start learning hand signals and criteria without animals.
- Watches and critiques demos and talked feeds.

Step 5:
- Given bridge and tested on ability to use it properly (crisp tone) no animals.
- Hand signal test and criteria.
- Learns how to narrate and do talked feeds.

Step 6:
- Behaviors with trainer supervision (no bridge).

Step 7:
- Starts learning maintenance behaviors with trainer and animals, using bridge.

Step 8:
- Starts following trainer in demos.
Step 9:
• Demo with trainer following.
  • Approval by majority of staff to move to step 10.

Step 10:
• Demo alone.

Step 11:
• Learns how to hold and work multiple animals.
• Tested on water work communication.

Step 12:
• Learns maintenance behaviors with water work with dolphins (senior staff approval required).
• Learns to hold dolphins during water work segment (senior staff approval required).

*(The 12 steps may take as long as one year plus to complete.)
Marine Mammal Trainer Skills Advancement to Next level

THE TRAINER MUST COMPLETE THE FOLLOWING FROM THE KEEPER SKILLS LIST IN ORDER TO ADVANCE LEVELS. (The keeper skills list is attached.)
(The trainer will also need at least 1 year of good job evaluations plus the approval of the Senior staff to advance to the next level.)

Required to go from Level One to Level Two: (Assistant Trainer to Trainer)

- #51 SCUBA
- #11 CPR
- #12 Emergency First Aid
- #15 Shows
- #20 Tour Host
- #40 Handler
  (plus two electives)

Required to go from Level Two to Level Three: (Trainer to Senior Trainer)

- #29 Behavioral Enrichment
- #38 Animal Medical management
  (maintain all previous skills)
  (plus five electives)

ADVANCEMENT TO SENIOR TRAINER LEVEL
ADDITIONAL SKILLS

***The following skills are in addition to the trainer skills list and courses.***

- Needs to assist in the training of four staff members or attain four points – this includes new marine mammal training staff and interns. Thoroughly trains a staff member/intern from start to finish in one area. Training the staff member thoroughly would mean that they are able to: Pass a 10 question quiz with 80% correct for each area they were “trained” in. The quiz would cover appropriate knowledge for the individual, i.e. a summer intern would not be expected to know winter routines, however a new staff member would. Be able to run the area (make buckets, clean) without supervision (if allowed). Have no safety breaches in “trained” area – includes not failing any surprise approved lock tests. Each staff member fully trained would count as one total point. Each staff member trained in an area (Walrus, Polar Bear, Sea Lion/Seal and Dolphin) would count as ¼ of a point. Some portion of the four points must apply to three of our four areas. (Walrus, Seal/Sea Lion, Polar Bear and Dolphin).
- Will be given five random scenarios to problem solve by the Area manager and Curator which will need to be passed with 95% accuracy per year if written. If given oral the trainer must hit on ¾ of the important points to solve the problem.
- Quizzes given three times per year must be passed with 95% accuracy in the year prior to advancement
• Must pass written test to attain Senior Trainer level with 90% accuracy
• Must display a team-orientated approach when dealing with all staff. This would mean being able to deal with differences of opinion on training aspects and handling them tactfully. (Will be discussed and addressed in yearly evaluations).
• Must be able to constructively give and accept criticism. (Will be discussed and addressed in yearly evaluation and progress reports)

**Duties**

Senior Trainers will do the following:
• Critique trainers and assistant trainers four times per year – (quarterly) – on critique sheets developed by Area Manager and Curator. Critique sheets will be turned in to Area Manager.
• Quarterly progress reports of all training staff.

Area Manager and/or Curator will do the following:
• Review goals and priorities of senior Trainers four times per year – (quarterly)
• Comprehensive test on marine mammal handbook, zoo policies and natural history facts on all marine mammals that we house – offered one time per year.
• Trainer and Senior Trainer tests – (to obtain next level) will be given after skills list and courses are completed and must be passed with 90% accuracy.
• Quizzes will be given to staff on marine mammal handbook three times per year – quizzes must be passed with 85% accuracy for Assistant Trainers and Trainers

Required to stay at Third Level (Senior Trainer):
• Twelve additional skills and maintain all previous skills.
Animal Enrichment and Behaviors

Enrichment

Toys

Bottlenose Dolphin

- Squirt guns
- Bowling pins
- Plastic bats

Bottlenose Dolphin

- Squirt guns
- Bowling pins
- Plastic bats

Training

Show

Jumps
Spins
Beach
No

- Flips
- Wave
- Tail walks
- Kiss

- Tail lobs
- Vocals
- Yes
- Peck fly

Health and Husbandry

Lay outs
Mammary manipulation
Fecal samples

- Blow whole sample
- Eye checks
- Blood samples

- Tail presents
- Gastric samples
- Teeth brush

California Sea Lion

Enrichment

Toys

- Mirror
- Bobbling Penguins
- Ice toys

Training

Show

Wave
Tail Stands
Spins
Yes/No

- Vocal
- Chest stands
- Food refusal
- Shade eyes

- High Jump
- Kiss
- Shame
- Refusal
Health and Husbandry
Down
Over
Flipper presents
Blood sample
Lay outs
Teeth brush
Touch
Eye checks

Training
Show
Kiss
Spin
Health and Husbandry
Lay out
Blood sample
Teeth brush
Over

Harbor Seal
Wave
Salute
Down
Flipper presents
Eye check

Pacific Walrus

Enrichment
Toys
Boomer Balls
Black tubs
Plastic chairs
Ice toys
Food
Squid
Clams

Training
Show
Wave
Spit
Kiss
Vocal
Sit ups
Spin
Push ups
Safety
Back
Up
Here

Water
Hold

48
Health and Husbandry

Down
Brush teeth
Blood sample

Over
Open mouth
Flipper present

Polar Bear

Enrichment

Food

Apples
Fish
Coconut
Peanut Butter
Peanuts

Grapes
Oranges
Jelly
Hard boiled eggs
Bones

Toys

Ice Floats
Boomer Balls
Wood stumps

50 gal. drums
Small boomer balls
Hanging toys

Phone books
Ice toys

Misalliances

Perfume
Drawings (paint)
Drawings (chalk)

Training

Indoors

Stands
Paw Presents
Double Paw Presents
Weighing

Down
Open mouth
Gating
Sit

Outdoors

Stands
Sit
Stationing

Down
Open Mouth
Moving somewhere else