



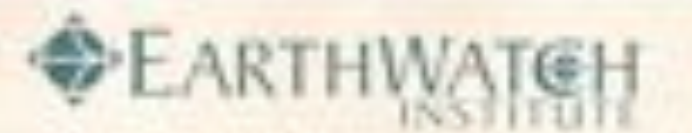
# Elephants of Tsavo

*Loxodonta africana*  
THE FASCINATING LIFE OF THE AFRICAN ELEPHANT AND THE KENYAN ENVIRONMENT IT WHICH IT SURVIVES.

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Visit [www.wphillips.com](http://www.wphillips.com) for more information on elephants and HOWL



What is Earthwatch? Earth watch is a nonprofit organization that involves people directly. Earthwatch does many things. People work with scientists to monitor environmental issues. They also manage the environmental and social impacts of its activities, and communicate with scientists about proposed research projects. They want to promote and teach the understanding and action necessary for a sustainable environment.

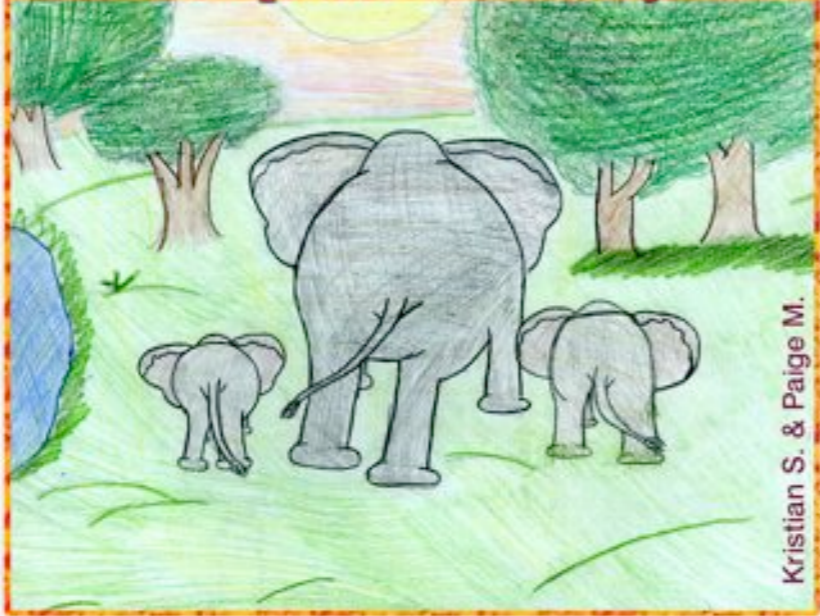
Earthwatch is studying elephants in Kenya. Elephants utilize a lot of resources, competing with farmers for water and eating many types of plants. This human-elephant conflict is a major concern of the Elephants of Tsavo Earthwatch Team.

## Elephant Intelligence



Among some of the most intelligent animals, there is the elephant. The elephant has the largest brain of all land animals. Behaviors associated with learning: mimicry, art, use of tools, memory and possibly language are just a few of the highly intelligent things that elephants can do. The elephant has a large and highly complicated hippocampus, a brain structure in the limbic system. It is much larger than the hippocampus in other animals, taking up 0.7% of the brain. For humans it is only 0.5%. The hippocampus is linked to memory and processing emotion.

## Elephant Family



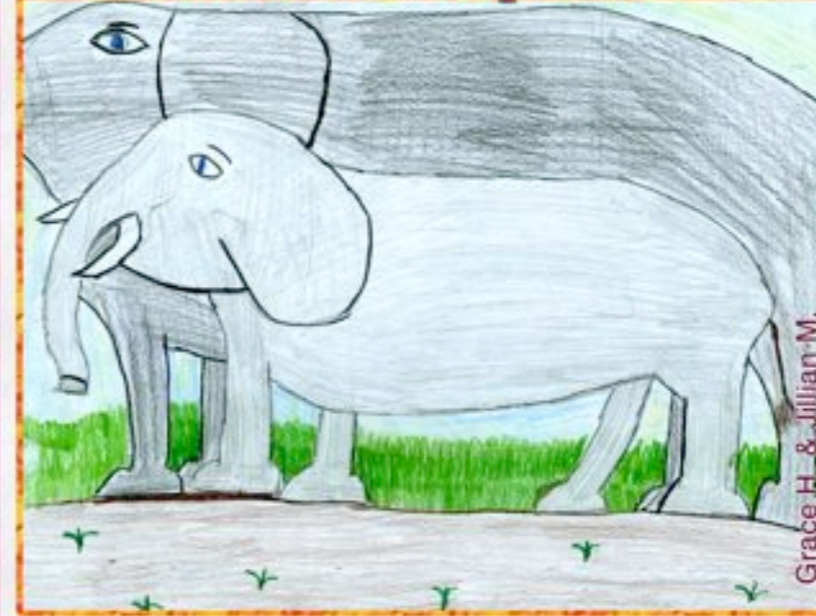
The matriarch, an older female, is the leader of the family. The elephant's family is very important. Once the matriarch dies, the next oldest female "takes the throne". The matriarch remembers where their mother or grandmother took them in bad droughts. Then, that matriarch takes its herd to that exact spot and saves the herd. The whole herd depends on each other to survive. If they didn't have each other, they would have a hard time surviving. A basic elephant family contains 6-12 members, but more than 12 members are common in some areas. Elephant families truly care for each other.

## Waterholes



Elephants wouldn't be able to survive without waterholes. They need them for many things. First of all, they need to drink water to survive. Elephants drink up to forty gallons of water everyday. Otherwise the elephants get dehydrated and will die. This causes different herds to have to use the same waterhole, sometimes leading to fighting, or mating. Waterholes are a huge part of elephant's lives for another reason too. The waterhole is where a family could reunite or where two elephants could mate. Whether the elephant is using the water for play or health, waterholes are a huge part of an elephant's survival.

## Mother Elephants



Mother elephants are excellent mothers. They care for their young for the first two years. If there is an enemy around, a group of elephants would make a circle around the baby to protect it. The mother is especially careful around the baby so she doesn't step on it. Whenever the calf wanders out to far the mother goes and fetches it. She will shade the calf from the hot sun and actually hauls it over obstacles. If a baby elephant dies, the mother may grieve over the baby for many years after.

## Acacia Tree



The acacia tree was first discovered in Africa. The trees have lots of thorns on them! There are about one thousand three hundred species around the world. Acacias are the woody trees of the Sub-Saharan Africa. Acacias have yellow or white flowers on the branches of the tree. Since the African savanna is so incredibly hot, the plant has to find its own moisture somewhere else. They get their moisture from all different kinds of animals. Acacias grow about sixty five feet in their lifetime. They will only live about fifty years. The Acacia tree will only grow in sandy places. The tree gives shelter to many animals and graffes eat the flowers off the tree without getting picked. Elephants love to eat acacias!

## Elephant Ears



The large flapping ears of an elephant are made up of a very thin piece of skin stretched over some cartilage. The ears are good for maintaining their body temperature in the hot savannas. They can also use them to display aggression. To intimidate other animals, they will spread out their ears to make them look more massive. The average size of an African elephant's ear is 73.2 by 45.6 inches, while the average size for an Asian elephant's ear is 24 by 12 inches. The elephant's ear is extremely sensitive, and can pick up sound from far away distances. This is a way they can communicate.

## Pans



Pans are waterholes that elephants play in and drink from. Pans can also be places for socializing. Elephants roll around in the mud to keep cool or just as a game. Elephants create pans by pushing their big feet into the ground to create a depression in the ground. Eventually, these become large enough to turn into waterholes, an important resource for many animals.

## Elephant Tusks



An elephant's tusks are made of ivory. A tusk is actually an enlarged, upturned incisor tooth. Elephant tusks are not made any differently than the elephant's regular teeth. The visible, ivory part of the tusk is made of enamel. The tusks never stop growing. They can have very long tusks if they don't get damaged. Hunting, though, has caused the size of tusks to decrease. Elephants use their tusks to do a lot of things. They use them for defense against other animals. Tusks are also used for stripping bark, soil, and clearing paths to walk on. Elephants prefer one tusk over the other. The dominant tusk is called the master tusk. Tusks can be ten feet long and weigh two hundred pounds!

## Elephant Musth



Musth is when a bull (male) elephant goes through a state of heightened aggression. During this period which lasts about a month, bull elephants fight with other bull elephants and attack anything in their path, including entire villages. Elephants in musth make a low rumbling sound and produce a thick scent from a gland near the eye. African elephants do not reach this stage until they are about twenty five years old. People and trainers have to be extremely careful when a full grown bull elephant goes into musth. Even expert handlers have been killed during the musth period. In the Hindi language, musth means "madness" because of the unpredictable and wild behavior of the bull elephants.

## Kenya



Kenya is a country in east Africa. It is named after Mt. Kenya, which is located in the highest mountain peaks of Africa. They call Kenya "British East Africa", because beginning in 1890, Britain owned the land. It wasn't until 1963 that Kenya got their full independence. In January 2006, a drought ravaged Kenya and 2.5 million people starved. Kenya also has many amazing animals like lions, leopards, elephants, buffalos, rhinos, giraffes, zebras, and much more. Sadly, a lot of animals are illegally hunted, or poached, for their skins, tusks, antlers, and a lot more. Some people are trying their best to get the animal numbers back up.

## Baby Elephants



Pregnant elephant mothers go through 22 months of pregnancy before giving birth to new baby elephants. Babies usually weigh around 250 pounds and stand over 2.5 feet tall. Elephants are born with less survival instincts, so they have to learn more from their mothers and their herd. Elephants are blind at birth, so they feel around with their trunks at first. After birth, the mother of the calf selects an allomother, or babysitter, from the herd. Allomothers are females that could not have a baby. They stay with the calves during travel in case it falls over or gets stuck in a mud pit.

## Elephant Communication



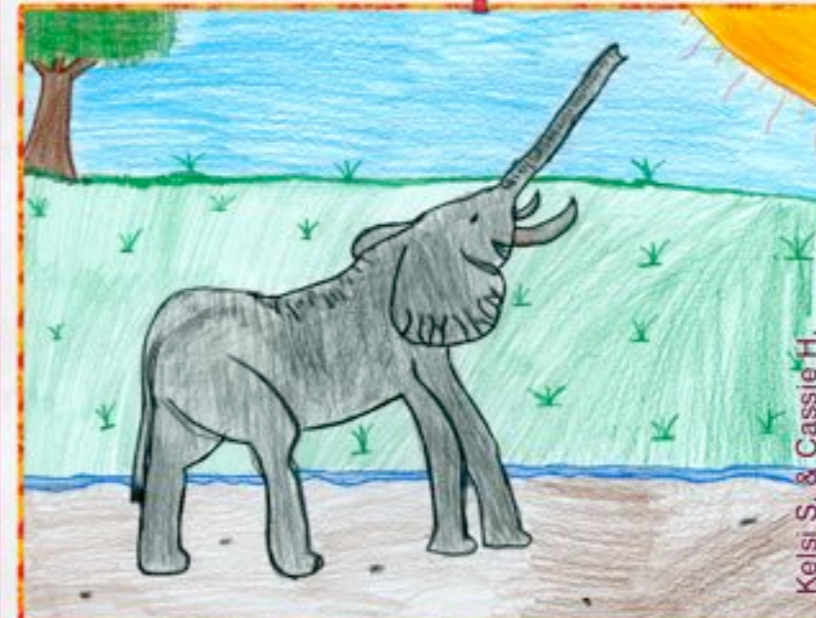
The communication of elephants is an amazing thing. Elephants use something called infrasound. Infrasound is so low that humans cannot hear it. These sounds can travel for five miles, and travel faster through the ground than through the air. Elephants pick up this sound with their very sensitive feet. Infrasound is very useful to elephants because they can find a mate from miles away, they can communicate when searching for food, and they can use it to find a lost calf. Another way elephants communicate is to "act out" what they are trying to say. Mothers will gently slap young elephants to discipline them and infants will touch a mother's leg to beg for milk. To greet each other, elephants entwine trunks. Scientists think elephants must be very intelligent to have such a complicated way of communication.

## Elephant Trunk



A trunk is mainly the fusion of the nose and upper lip. Biologists believe that the elephant's trunk may have more than fifty thousand muscles inside of it. Elephants use their trunk to rip up food and place it into their mouth. When elephants drink water, they will suck water up with their trunks, and place it into their mouth. An elephant can suck up to fifteen quarts of water into their trunk at once. Elephants also use their trunk to meet and greet each other. They will defend themselves by swinging their trunks freely to keep the enemies back. An elephant will depend on its trunk because of its developed sense of smell and ability to find where the food sources can be found.

## Bull Elephant



A bull elephant is actually just a male elephant. Since females don't like to be alone, if you only see one elephant you can bet it's a male. Bull elephants are usually 10 feet tall to 12 feet tall, weigh 10,000 to 12,000 pounds and live to 60-70 years old. Every few months a male goes into musth. The elephant gets very aggressive and secretes oil from the temporal glands on the side of his head. He also has strong smelling urine that sprays all over its legs when it pees. Musth is the time when mating takes place.

## Dust/Mud Baths



In sand-choked riverbeds, elephants scoop out pits with their feet. When the pits are filled with water, the elephants will drink. After they leave, the "cistern" is available for use by other animals. To cool off, elephants will take a mud shower by sprinkling themselves with water from their trunk. They will then roll around in the mud. This packs the mud down and produces huge, firm-bottom pans. The rainwater collecting there may last throughout the dry season. This is another bonus for animal life.

## Elephant Skin



Elephants are very thick-skinned animals. Their skin is usually about two and a half centimeters thick and is very tough in most parts of the body. However, the skin around the mouth and inside the ear is paper thin. The skin of the Asian elephant is usually covered with more of the sparse bristle hair than the skin of the African elephant. As they mature, their hair darkens and becomes sparser, but will always have hair on its head and tail. The Asian species is usually grayish in color, while African elephants typically appear brown or reddish from wallowing in mud holes to protect skin. Elephant skin is also very sensitive so elephants need to take mud baths to shield themselves from the dangerous ultraviolet rays of the sun. Elephants have no sweat glands, so they are unable to rid themselves of excess heat the way we do.

## Safari



Safaris are amazing. You can see many different and wonderful animals. Some of the animals you can see are lions, gazelles, giraffes, zebras, and elephants. These animals are beautiful animals. If you want to go on a safari, you should pick the dry season because you have a better chance of seeing more animals. The dry season also means that vegetation has thinned out. If you go on a safari in the dry season, if you go by a water hole there is probably going to be a lot of animals. That is because there is not a lot of water and they all need it. When you go on a safari, you will see a lot of amazing sights.

## Elephant Feet



The footprint of an elephant can tell you how old it is, the elephant's gender, and even how tall it is. The circumference of an adult elephant foot is 1.34 meters, which is equal to about half of the shoulder height. Most of the foot is made of fibrous, fatty tissue. This tissue, acting as a shock absorber, has elastic properties that allow the elephant to move silently and maintain its grip. It is formed in such a way that the elephant is essentially walking on tiptoe. The structure of the foot allows the elephant to walk in mud without difficulty. When withdrawn, the circumference of the foot becomes smaller which reduces suction.

## Elephant Memory



I'm sure a lot of people have heard the saying "memory like an elephant", but how good is an elephant's memory? Scientists have gone into this and found that the dominant female, or matriarch, builds up a large social memory. They use this memory to recognize "friendly" faces. She will alert the herd of hostile elephants, so the herd can relax and focus on breeding. The older the matriarch, the easier it is to recognize old friends, which means the herd will produce more calves. Without the dominant female, the herd's survival would be in jeopardy.

## Human-Elephant Conflict



Humans and elephants have co-existed for many hundreds of years. Elephants have no natural predators except humans and occasionally lions. But, the elephant population has gone down because of humans. The most common reason for hunting elephants is for their tusks, which are made of ivory. Since elephants are very large they are easier to hunt. They can't hide and it takes a while for them to grow and reproduce. Another cause of the decline in population is habitat loss. They need to eat around 300 pounds of vegetation each day to survive. Often, elephants are competing with humans and their livestock for valuable resources.