VOLUNTEER & STAFF UPDATES

Part-time keeper, Kaylee Raines, has accepted a full-time position with the Animal Forest, so you will be seeing a lot more her around the zoo!

Jennifer Stieglitz, a former Saturday volunteer, has been named the zoo’s newest zookeeper! Congratulations Jennifer, and welcome aboard!

Deb Faison will become our early morning opening keeper starting this month. Her shifts will be 7:00-12:00.

WELCOME NEW VOLUNTEERS!

Sarah Ives
Tiger Alfieri
Ben Estevez
Barry Alexander

Special Thanks

To the volunteers and zoo staff who assisted with our annual event, Dreamnight @ the Zoo!

To Lynn West for donating her push mower!

To Bella Valiulis for forfeiting her birthday gifts in lieu of supplies for the zoo!

UPCOMING EVENTS:

Vulture Awareness Day – September 1st.

Fall Frolic – November 3rd

Volunteer Opportunities:

ASL PROGRAMS: Do you know sign language or know someone who does? Keepers are searching for a volunteer who is fluent in ASL to sign a Keeper’s Choice Program.

TODDLER TUESDAY: Want to do more education? This program is easy and ideal for anyone who wants to share cool zoo facts with kids!
The Charleston Elk’s Lodge 242 has named Clark as their mascot. They held a Clark the Elk Benefit July 28th with a Silent Auction and Concert on his behalf.

The river otters at Charles Towne Landing’s Animal Forest are participating in cognitive research this summer. Dr. Audrey Parrish (Psychology professor) and Shona Sulzbach (senior Psychology major) of The Citadel are assessing otter numerical cognition abilities. The otters are presented with two quantities of food to determine whether they can differentiate and select larger food amounts from smaller food amounts of varying ratios. This ability to maximize is seen across the animal kingdom and is important to an animal’s ability to survive in the wild. Otters are known for their curious and playful nature, and cognitive research tells us more about their intelligence!
Charles Towne Landing
Animal Forest Volunteer Newsletter
August 2018

BULLET POINT REMINDERS

- The park is **OPEN** on Thanksgiving Day. If anyone would like to volunteer on that holiday, we’d love to have you!
- The park will be **CLOSED** on Christmas Eve and Christmas Day, but zookeepers still need to tend to the animals. If anyone is willing to assist on either of those days, please let Susan know!
- We are looking for docents, so if anyone is interested in earning extra hours, please see Susan for more information!
- If you are unable to attend a shift, please remember to inform Susan, and call the Zoo Office Line (573-8517) and leave a message with the working staff.

SPOTLIGHT ON OTTER

NORTH AMERICAN RIVER OTTERS ARE IN THE MUSTELIDAE FAMILY AND ARE RELATED TO WEASELS, FERRETS, AND BADGERS. THEY LIVE ALL OVER NORTH AMERICA AND MAKE THEIR HOMES IN BURROWS CLOSE TO STREAMS, LAKES, AND COASTAL SHORELINES. THEY ARE SEMIAQUATIC MEANING THEY ARE AT HOME ON LAND OR IN THE WATER. THEY ARE CREPUSCULAR MEANING THEY ARE MOST ACTIVE AT DAWN AND DUSK.

THEY CAN LIVE 8-13 YEARS IN THE WILD, 20-25 IN CAPTIVITY. THEY WEIGH 11-30 POUNDS. THEY ARE CARNIVORES, AND THEIR DIET MAINLY CONSISTS OF FISH AND AMPHIBIANS. THEY CAN TRAVEL UP TO 26 MILES A DAY. THEY HAVE A GOOD SENSE OF SMELL AND HEARING AND ARE NEARSIGHTED FOR BETTER VISION UNDERWATER.

THEY CAN STAY UNDERWATER FOR UP TO 4 MINUTES, SWIM UP TO 6MPH, AND DIVE UP TO 22YD. THEY HAVE A THICK WATER REPELLANT COAT WITH 300,000 HAIRS PER SQUARE INCH. THEIR THICK LONG WHISKERS HELP WITH SENSORY PERCEPTION.

THEY ARE SOME OF NATURE’S MOST PLAYFUL CRITTERS! THE OTTERS THAT LIVE AT CTL RANGE IN AGE FROM 6-13. THERE ARE 4 MALES AND 1 FEMALE. BE SURE TO STOP BY AND WATCH THEM PLAY!

IN CASE YOU MISSED IT:

Columbia’s Riverbanks Zoo welcomed an infant male gorilla to the troop this summer, and are expecting another birth soon!
Staying Cool at the Zoo

By: Todd Heldreth, D.V.M.

It’s been hot lately. I have heard that cows are giving evaporated milk and chickens are laying hard boiled eggs. Not sure if I believe that, but I do know that I recently heard a fire hydrant whistling for dogs....

Most animals are ectothermic, meaning their body temperatures are regulated by the environment. They get their heat from the sun or from objects warmed by the sun. Note on the graph below that the fish body temperature changes as the ambient temperature fluctuates. All of our zoo critters are mammals and birds, which are endothermic. This means that they generate their own heat through internal metabolism. They can maintain a stable internal body temperature regardless of external influence. Note below that the otter’s temperature stays close to constant regardless of the environmental temperature. Endotherms, however, have to cope with extreme cold and heat using physiological and behavioral methods. Let’s look at their response to heat.
There are four primary ways that heat is transferred. The diagram below shows these processes.

![Diagram of heat transfer mechanisms]

Radiation is heat transfer between two surfaces not in contact. Heat is normally radiated from an animal’s exposed surfaces into the air. Think of the big ears of mammals like a jackrabbit or elephant. When it’s hot, the blood vessels in the skin will dilate so that heat from the body’s core can be transferred to the surface and radiated away. This method is not as effective in haired or feathered regions of the body. In turkeys, more blood is shunted to the legs, head, neck, wattle, and snood (the goofy-looking thing hanging off the male turkeys’ faces).

Evaporative cooling occurs when water leaves the body and carries heat away with it. This is a function of sweating and panting. Birds have no sweat glands and many mammals have them primarily on the foot pads. Our wolves rely mostly on panting as a physiological heat loss mechanism. Our pumas and bobcats generally will pant only when very heat-stressed. They lick their bodies and the saliva evaporates to help cool them. An increase in water intake counters the extra fluid loss. When a vulture defecates on its legs, the water evaporates from the legs, carrying heat away. The water misters located in the exhibits help with evaporative cooling as well.
Conduction is heat transfer between two surfaces in contact. The warmer surface will transfer heat to the cooler surface. When you see Tupelo or Memphis going swimming or sitting in their tubs, they are losing heat to the water. I like to think of this as “bear conditioning”. This is also why Madame is constantly (and politely) asking for construction of a nice mud-bath to wallow in. I don’t feel too sorry for her - she is one of the few pigs I know of with her own personal swimming pool.

Convection occurs when warm air rises away from an animal’s body and is replaced by cooler air. This is why a breeze on a hot day helps with heat elimination. The fan in the wolf holding area helps with heat loss in addition to keeping flies away.

Another method of coping with the heat is known as behavioral thermoregulation. Note how the animals use habitat features such as shady areas to aid in dealing with the heat. Decreased activity helps, as does body posturing that maximizes exposed surface area for radiation of heat. For example, a bird might hold his wings away from his body when he is hot, which helps to lower his body temperature and allows cool air to reach the skin under his wings. Note how a puma will stretch out in a “purrrfect” position to increase skin exposure. Red wolves use the holes they dig to come in contact with cooler ground.

So despite their feathers and fur, our Animal Forest friends are not likely to suffer from heat stroke this summer. They have plenty of tricks for making it through the season without losing their cool.

"You can always tell about somebody by the way they put their hands on an animal."

– Betty White