

April 28, 2019

“The Life of Every Creature”

Earth day and Easter fell on the same weekend this year. I’m proud to be a member of a church that prioritizes Earth Day enough to give it its own celebration. I was asked to preach today because it is a day near and dear to my heart. And here’s why...

As many of you know, I am a zookeeper. And I don’t just mean I’m a mom of boys, but a literal zookeeper. I feel strongly that I have one of the best jobs in the world, and I never tire of telling people what I do for a living. In fact, I could probably spend the entire sermon just telling zookeeping stories. While you might not mind that at all, I will try to tie everything back to scripture. But, don’t worry, there will be PLENTY of stories along the way.

I often get the question, “How does someone become a zookeeper?” Well, here’s how I did it. I have known for as long as I can remember that I wanted to work with animals. I did think seriously about vet school, but I decided that I wanted to care for animals every day, not just when they’re sick. I grew up in Bedford, about 90 minutes northeast of here. I attended Indiana University and began my zoo work experience as an intern at the Indianapolis Zoo during college. I’ll never forget my very first day on the job. (And I use the term “job” loosely as it was an unpaid position, as most zoo internships are.) I was with one of the zookeepers in the quite-large African plains exhibit. At the time, it housed zebra, ostrich, greater kudu (which is a large species of African antelope), and a variety of other bird species. The keeper was called away to assist with something, so he left me in the yard to continue cleaning. And when I say cleaning, I mean cleaning up that certain, smelly, biological material that all animals produce. And I thought to myself, very briefly, “What am I *doing*?” But that thought was quickly followed by, “but a *zebra* made this. I’m cleaning up after a ZEBRA!” From that moment on, there wasn’t a doubt in my mind that I wanted to be a zookeeper.

I graduated from IU in 2002 with a B.S. in biology and a double minor in animal behavior and psychology. Most zookeepers have a degree in biology, environmental science, zoology, or other life science fields. Leading up to graduation, I quickly learned that the zoo field is VERY competitive. For example, there are only four zoos in the entire state of Indiana, and I wanted to stay relatively close to home. I graduated in May, and it took me until December to get my first paying job: a *part-time* zookeeper in the bird department of the Louisville Zoo. Despite the whole “part-time” aspect, I was thrilled. And so began my love of birds. Their diversity and adaptations for flight are amazing! I have since worked with many other groups of animals, which I love very much, but birds will always be my first zoo animal love.

But, as much as I loved them, this was a part-time position. My parents, God bless them, were still paying my rent! So, I began looking for a full-time job, this time farther from home since there simply weren’t any available positions nearby. Remember how I told you there are four

zoos in Indiana? Well, there are about 25 in Florida. After two and a half years in Louisville, I got a FULL-TIME job at the Jacksonville Zoo in Florida, also in the bird department. I loved the facility and I loved living in Florida. However, after the birth of my first son, Jacob, that desire to be closer to home hit me like a ton of bricks. And now I had over 6 years of experience under my belt. During my interview for the open zookeeper position here at Mesker Park Zoo, they told me there were over 100 applicants for the job. My heart sank. But by God's grace, I got it! I'll never forget calling my parents to tell them the news and hearing my mom's excited shriek of delight in the background. That was ten years ago. In the last decade I have expanded on my bird experience to include monkeys, lemurs, red pandas, ocelots, an amazing clouded leopard, tigers, jaguars, reptiles, amphibians, fish, and much more. So that's me, or my career anyway, in a very tiny nutshell.

As a biology major in college, evolution was a big area of study. Some people believe that you absolutely cannot believe in God and also agree with evolution. The two concepts MUST be mutually exclusive. Personally however, I have never found that to be true. If anything, the more I learned about evolution and biology in general, the more I realized, wow, there's no way this has all happened by coincidence or chance. There must be a genius mastermind behind it.

Natural selection is a widely accepted scientific theory that states that organisms which have adaptations better suited to their environment are more likely to survive and produce more offspring. To me, that just makes sense. And it also means that not only did God create this immense variety of life, but he also gave EVERY species the ability to change as it *needed* to. *That* is truly amazing.

A couple of years ago, in our Sunday School class we did a series by Adam Hamilton called "Making Sense of the Bible." It is composed of a series of video segments and accompanying discussion material, each tackling a different, somewhat controversial topic. One of these topics was creation versus science. As soon as the video portion was over, I thought to myself (and quickly shared with the class,) "*This* is exactly what I believe!" Adam Hamilton also believes that science and creation can go hand in hand, and he explains it with an eloquence and clarity I wish I had. I could just read the entire chapter of the book to you, but, in the interest of time, I'll attempt to summarize.

Did you know there are actually two creation stories in Genesis? Our minds, or at least my mind, have merged them into one. Genesis 1, which Dick read for us this morning, contains the familiar six-day account, with God resting on the seventh day. In Genesis 2, creation occurs in just one day. In chapter 1 plants are created before man, and man and woman are created simultaneously. In chapter 2, plants and woman are created after man, Eve from one of Adam's ribs. The first creation account has an optimistic view of the world and humanity, while the second account is more pessimistic or perhaps just realistic. Genesis 1 reads like a poem or a hymn, with repetitive language: and there was evening and there was morning the first day, the second day, and so on. That clearly illustrates that God created the world and it is a beautiful gift. When you examine Genesis 1 in the time it was written, it is a reflection of what people

knew of science at the time: the atmosphere and light had to come before life could exist, and the more primitive life forms came before those more advanced. Genesis 2 is more the story of humanity. In Hamilton's words, it is *our* story. Adam and Eve turn from God and experience the consequences. But they also experience God's grace. Is this not what humanity does again and again? The name Adam means "man" and Eve "bearer of life," so even their names are symbolic. Hamilton posits that when we take these *stories* and force them into being *scientific* accounts, we may actually miss their point entirely. In Romans 15:4 Paul writes, "For whatever was written in former days was written for our instruction, so that by steadfastness and by the encouragement of the scriptures we might have hope."

I would also like to take a moment to dispel a couple of the popular myths surrounding evolution. The first misconception concerns the phrase "survival of the fittest." Many people think that means that the animals that are the strongest, fastest, and healthiest are the most fit. But, in evolutionary terms, your "fitness" is the measure of how much of your genetic material survives into the future. In other words, the more offspring you produce, the higher your level of fitness and the more likely you (or your genes) are to "survive." That's a simple fact of biology that's pretty hard to argue with.

The second misconception is that evolutionary theory states that humans evolved from chimpanzees. This is not the case. Not even Charles Darwin, the father of evolutionary theory believed this to be true. Even today there is very little known about the evolution of humans, but one thing is for sure, we did not evolve from modern day apes. We potentially share a common ancestor that existed millions of years ago. This does not indicate some magical "missing link" between us and chimps, but, if ever discovered, it would simply be a point of divergence in the development of our two species. I will say this is one area that gives me pause: how DID humans evolve? Did Adam and Eve not really exist? But I've known that story since my early childhood! Again, I'm going to turn to Adam Hamilton. And this time I'm going to quote directly from "Making Sense of the Bible" because I just couldn't possibly put it any better myself. "The Genesis 2 and 3 story of Adam and Eve and how they succumbed to temptation was not written to be a journalist's or biographer's eyewitness account of the first two humans. Adam and Eve represent all of us. Nevertheless, it seems to me that their story is, in a very real way, the story of the earliest modern humans and how God gave them a soul and of their tragic decision to turn from God's will, a decision that brought with it pain, shame, alienation and death."

Obviously, the debate between evolution and creationism has been ongoing for more than 150 years. I am definitely *not* going to try and fully tackle that debate. I would like to give you one more quote from Hamilton's book, this one courtesy of a member of his congregation: "Any craftsman can build a chair, but how many can design a chair that builds itself and improves over time?"

What I do want to focus on is conservation: conservation of this wonderful, immense gift God has blessed us with, the Earth. For that, I will use some visual aids. (I realize these pictures are

small and may be difficult for some of you in the back to see, but I encourage you to come take a closer look after worship.)

[Langurs] Joel Sartore is an award-winning photographer who regularly contributes to National Geographic. In 2005, when his wife was diagnosed with cancer, his career came to a temporary halt as he stayed home to help care for her and their children. He says that this year at home helped him to realize just how fragile life can be. Fortunately, his wife recovered, but he just kept asking himself, “How can I get people to care that we could lose half of all species by the turn of the next century.” And so, the Photo Ark was born. That’s ark, A-R-K, as in Noah’s Ark. The Photo Ark is Sartore’s answer to that question. He has made it his mission to photograph each and every species in captivity. So far, he’s up to 9,000. In some cases, he has photographed the very last, or nearly last member of a species. He uses the technique you see here: a simple portrait of the animal with a clean black or white background. This puts all species on the same level: in Sartore’s words, the mouse is as grand as the elephant.

On a personal note, these pictures *speak* to me. They bring me to tears. They show you the heart and soul of these animals; these animals that are relying on us to change what we’re doing and save their home. Both my husband Dan and I are big fans of Sartore’s work and our Christmas’s over the last few years have featured gifts for me of beautifully framed portraits.

This one features the Francois langur monkey, a species I work with at the zoo. Black in color as adults, their infants are born bright orange as you see here, and no one’s really sure why. Because all langur females in a troop help care for the young, this bright color could ensure that they don’t get lost in the shuffle between monkeys. Another theory is that the orange gives them a free pass when it comes to discipline. Monkeys, just like humans, have social rules, but, just like humans, the very young ones get to break them. I’ve been fortunate enough to watch our langur troop at the zoo raise five youngsters to adulthood. They are tremendous mothers and have been one of my favorite groups of animals to care for. Ecclesiastes 11:5, “As you do not know the path of the wind, or how the body is formed in a mother’s womb, so you cannot understand the work of God, the Maker of all things.”

[Tenrec] This is a lesser Madagascar hedgehog tenrec: a very large name for a very tiny creature. Even though “hedgehog” appears in their name and they look very much like one, the tenrec and the hedgehog are *evolutionarily* very different. Found only on Madagascar, lesser tenrecs are smaller, climb trees, and go through a period of inactivity in the winter called torpor.

This species is special to me because I serve as their SSP Coordinator. SSP stands for Species Survival Plan, a program created by AZA, the Association of Zoos and Aquariums. (The zoo world is FULL of acronyms!) When I mentioned earlier that there are only four zoos in Indiana, I meant only four that are accredited by the AZA. This association requires the nation’s highest standards in animal care. The lengthy list of what they inspect in a zoological institution includes everything from the animals’ living environments, health, and nutrition, to the facility’s

involvement in conservation and research, education programs, and even their finances. If a facility is accredited by AZA, you can be sure their animals are receiving the best possible care.

As an SSP coordinator and studbook keeper, I keep track of the genetics of all the lesser tenrecs in AZA zoos across the country. Every 3 years I meet with the Population Management Center at the Lincoln Park Zoo in Chicago and create what's known as a Breeding and Transfer Plan. Just think of it as a kind of animal dating service.

Here's the important part. Gone are the days when zoos pulled animals from the wild and stuck them in cages for people to look at. Today the primary focus of zoos is conservation of species in the wild. Cumulatively, all AZA-accredited institutions form the largest wildlife conservation movement in North America. They contribute an average of \$160 million annually to 2500 conservation projects in 100 countries. One way they accomplish this is through the aforementioned Species Survival Plan. SSP's help to create genetically sustainable populations in captivity so that people can still learn about animals in the wild and what they can do to save them. Proverbs 12:10 "Whoever is righteous has regard for the life of his beast, but the mercy of the wicked is cruel."

[Dean] This is Dean. He is a Coquerel's sifaka lemur (aka Zoboomafoo for those of you familiar with the children's TV show from the late 90's.) Sifaka get their name from a vocalization they make, which sounds like *shif-auk*. I actually know this guy personally. He currently lives here at Mesker Park zoo. When he lived at the Houston Zoo, Joel Sartore visited to take pictures of several species, including Dean here. This picture has graced the cover of National Geographic and even been projected onto the side of the Empire State building. He is our zoo's resident celebrity.

This picture captures his personality *perfectly*. He is an incredibly sweet animal and enjoys being groomed both by his mate, Arcadia, and by his keepers. Also, of all the hundreds of animals I've worked with throughout my career, he is the most in tune with how I'm feeling. I can't really explain it, but if I ever enter his enclosure in a bad mood or feeling frustrated, Dean can tell. Once, I hit the back of my head on the rather sharp underside of a shelf in their holding area and cried out in pain. Dean came swinging over, hung upside down, and bumped into me with his upper body as if to say, "Are you ok?"

There are not very many zoos that house this species, and even fewer that breed them. A few years ago, we received a female for Dean. Her name is Arcadia and she is about as opposite from Dean as you can get. In lemur groups, the females are the boss, and she makes sure Dean is aware of that fact.

Back in mid-January of this year, I walked into the lemur building first thing, just as I do pretty much every morning. But on this morning, Dean was holding a baby. We had suspected that Arcadia was pregnant based on her weight gain. Lemurs and monkeys do not ever really look pregnant or at least not as humans do. Think about how hard it would be to live out in the wild with a very large pregnant belly slowing you down! I was thrilled to see that the baby was clean,

dry, and holding on well. Primate infants are held literally constantly for the first few months of their lives. It's not unusual for a male sifaka to hold the infant. Dean was keeping the baby warm which is step number one for its survival. However, only Arcadia could feed or nurse the baby, which is step number two. Throughout the morning, I checked back on the family, but each time I did, Dean was still holding the baby. Baby was holding on well and was quiet, which is a good sign. A baby that is vocalizing means a baby that is hungry. But I still had not seen Arcadia with the baby and I knew she needed to feed it soon. So, we formulated a plan for the afternoon: we would take the baby from Dean and place it on Arcadia.

After lunch, I quietly stepped into lemur holding to check their status before we put our plan into action. Arcadia was holding the baby! I think I had tears in my eyes, I was so relieved. And, even better, it looked like the baby was nursing. We immediately altered our plan. We separated Dean and gave mom and baby some time together. Then, we grabbed Arcadia, made sure she was producing milk and looked good physically after giving birth, and weighed the baby. Obtaining weights on animals is a huge part of zookeeping and enables us to pick up on any health changes. In this case, of course, we needed a starting weight so that subsequent weights would let us know if the baby was getting enough food. Oh, and it was a boy!

We weighed the baby a total of five times in the first week. Then twice a week for the first month, once a week for the second month, and every two weeks for the third, fourth, and fifth months. Let me say, grabbing Arcadia is NOT easy. She only weighs about 10 and a half pounds, but she is pure muscle and she is protective of that baby. But it was absolutely worth it to have the peace of mind in seeing those baby weights go up and up in number. Little Finnegan continues to thrive, eating solid foods and learning to leap like a lemur. It's been a privilege to witness this whole process, seeing the natural instincts of this first-time mom kick in and watching her do everything she's supposed to. One day we had two sifaka, and then the very next we had three. I give Dean here the credit for keeping little Finn alive for the first hours of his life. Life is a true miracle from God.

Earlier this year, Dan and I were able to see a selection of photos from Sartore's Photo Ark at the Preston Arts Center in Henderson. The pictures were on a much larger scale than you've seen here this morning, and, the best part was, this picture of Dean was among them. When I stood in front of this picture, I wept. I didn't cry, I wept. I wept because so often I get caught up in the politics or gossip at work and I forget. I forget why I do what I do. I forget what a privilege it is to be the primary caregiver of these amazing animals that God created. I forget that it's my responsibility to make other people fall in love with them too so that we can create a culture of saving this planet, instead of neglecting it.

Revelation 4:11 "You are worthy, our Lord and God, to receive glory and honor and power; for You created all things, and by your will they were created, and have their being."

[Clouded leopard] This is a clouded leopard. I do not know this particular clouded leopard, but the one that lives at Mesker Park Zoo is one of my two favorite animals on the planet (the other

one being my 20-year-old domestic cat at home.) The leopard's name is Miri and I am closer to her than I ever thought possible with a wild animal. She lived at Mesker when I started so I've known her about 10 years. She was hand-raised, which is common among clouded leopards. She greets me every morning by rubbing the mesh, just as your house cat might rub against your legs. She also vocalizes with a sweet meow-like sound that melts my heart instantly.

About eight years ago, for some reason that we will never know, Miri began attacking her own tail. In addition, she simply was not herself: she paid no attention when I entered the room and showed no interest in food. She injured her tail so badly that a good portion of it had to be removed. Our vet staff did a full exam when they repaired her tail injury but could not find any medical reason for her behavior. She had lost a fair amount of blood and was very anemic as a result. Anemia combined with her lack of appetite made for a very sick cat. I remember leaving her the day of her procedure. She was on sedatives, under blankets and towels, and hooked up to an IV to provide fluids and additional medication. I didn't think she was going to make it through the night. But, she did. Then she started eating. And then we found the right combination of medications to remedy her behavior. And slowly she became Miri again. I will never forget the first morning I came in her holding area, and she came over to me, rubbed the mesh, and vocalized just like she used to.

I have loved Miri pretty much since the day I met her. She has brought me joy, laughter and comfort. One of the highlights of my career is helping to nurse her back to health. Miri is doing fine today, although she will be 16 years old in June, a somewhat elderly clouded leopard. But that's ok. It is my joy to care for her to the best of my ability for as long as I can. Ecclesiastes 4: 9-10 "Two are better than one, because they have a good return for their labor: if either of them falls down, one can help the other up. But pity anyone who falls and has no one to help them up."

I've shared these animals and stories with you today because they mean a lot to me. These four species and SO many others have touched my life in countless ways. God has blessed me with the ability to work with them, form relationships with them, and now the opportunity to fight for them.

Over the course of the history of this planet, there have been five mass extinction events. In each event, at least half of all species on the planet became extinct. The exact reasons are unknown but are most likely due to rapid climate change and/or asteroids; *unstoppable* occurrences.

There is currently a growing school of thought that we are in the middle of the sixth great extinction. This one is the fastest ever, and this one is caused by us. Isaiah 24:5 "The earth is defiled by its people; they have disobeyed the laws, violated the statutes and broken the everlasting covenant." I believe that Isaiah is referring, of course, to the sinful nature of God's people both within themselves and towards each other. But I also believe this extends to the sin of destroying the planet itself, one of God's greatest gifts to us.

A study published in the journal “Proceedings of the National Academy of Sciences” calls this mass extinction event a “biological annihilation.” Nearly half of all land mammal species have lost 80% of their range over the last century. A 2014 analysis of 3000 species indicated that HALF of individual animals have been lost since 1970. The primary causes of these dramatic declines are habitat loss, overhunting, and toxic pollution. Animals are still adapting, but that takes a long time, and humanity is greatly decreasing the amount of time animals have to adjust. Ezekiel 34:18 “Is it not enough for you to feed on the good pasture? Must you also trample the rest of your pasture with your feet? Is it not enough for you to drink clear water? Must you also muddy the rest with your feet?”

Joel Sartore has been around the world and has witnessed these animals disappearing firsthand. He says, “It is folly to think that we can destroy one species and ecosystem after another and not affect humanity. When we save species, we’re actually saving ourselves.” And therein lies the key. We may be causing this rapid loss of biodiversity, but we can also stop it and even reverse it. Some scientists believe that we are not yet in that mass extinction event, but at the edge of it. Organizations like The Nature Conservancy, Wildlife Conservation Society, Oceana, the International Rhino Foundation, Bat Conservation International, the Red Panda Network, the International Crane Foundation, and SO MANY more are working tirelessly everyday to save animals and their habitats. A few years ago, the aforementioned Association of Zoos and Aquariums created the SAFE program; that’s S-A-F-E, Saving Animals From Extinction. This program quote “focuses the collective expertise within AZA-accredited zoos and aquariums and leverages their massive audiences to save species.” SAFE is currently focused on twenty species, from Asian elephants to African vultures and even the Western pond turtle. Zoos exist to *connect* people with animals, to spark in them the desire to make a difference and literally save their lives.

The four species I’ve highlighted here today are in danger, along with so many others. The Francois langur is endangered. BUT the Rainforest Trust is helping to establish the Francois Langur Community Conservation Area, a reserve covering over 53,000 acres of limestone forest in Vietnam.

Tenrecs and lemurs are found only in Madagascar, a country that has lost 90% of its original forests. Lemurs are the planet’s most endangered group of mammals. The Coquerel’s sifaka, Dean’s species, was recently uplisted to critically endangered, along with all eight other species of sifaka. BUT the World Wildlife Fund along with Conservation International are creating the Madagascar Foundation for Protected Areas and Biodiversity, which aims to raise 50 million US dollars to protect the forests of Madagascar. In addition, the group Net Positive Impact is working on the ground in sifaka habitats, preserving them while encouraging ecotourism. Tourists traveling to see these highly charismatic lemurs means thousands of dollars for the Malagasy economy.

The clouded leopard is listed as vulnerable, which means numbers are declining. BUT the Clouded Leopard Project works to fund a myriad of conservation and research initiatives. The

key component to all of these projects for all of these species is direct involvement in the countries to which these animals are native. Making a connection with local people, finding out why these animals are being hunted or exploited or why their habitat is being destroyed enables conservationists to offer alternative solutions to the problems of the people.

So what can WE do? I mean, you and me right here in Evansville, IN. Well, you can always make a donation to any reputable conservation organization. You could also find a way to help locally by volunteering your time for a riverfront or park cleanup. But there are a thousand little, simple things, that if we all did would have a huge impact. Carpool to work. Reduce your dependence on single-use plastics. Use reusable grocery bags. Plastic straws are especially heinous for our oceans, but there are a wide variety of reusable alternatives readily available. Keep a set of silverware in your car to avoid using plastic utensils. Use cloth towels instead of paper ones. Recycle! Use reusable water bottles and coffee mugs instead of plastic or paper. Once a week, have a meatless dinner. Its easy to do and helps reduce greenhouse gasses as well as the demands on the use of water and land. Only use products with sustainable palm oil. Palm oil is in everything, and historically it's been farmed by clear cutting rainforests to make room for crops. But now there are companies dedicated to growing the palm trees sustainably and avoiding that destruction. Earthday.org has many other simple tips that anyone can do.

The situation is dire, but there is hope. We have a chance to save this beautiful planet and all of the extraordinary creatures it holds. The immense variety and complexity of life could only have been created by God the Father because the tremendous beauty is a true miracle. I leave you with this passage from Job:

“But ask the animals, and they will teach you, or the birds of the air, and they will tell you; or speak to the earth, and it will teach you, or let the fish of the sea inform you. Which of all these does not know that the hand of the Lord has done this? In his hand is the life of every creature and the breath of all mankind.”

Amen.

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