CONSERVATION
ANIMAL CARE
EDUCATION

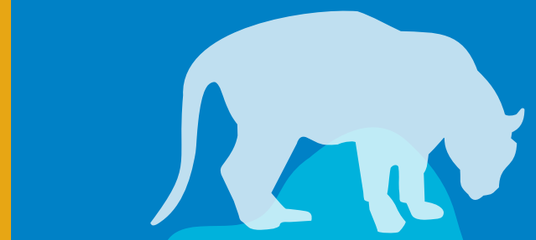
OMAHA ZOO FOUNDATION

IMPACT REPORT

This report is dedicated to the impact that people are making on our three centers of excellence: conservation, animal care and education.

CONSERVATION

BREEDING THE FUTURE



Dr. Jason Herrick

Each time an animal dies, the world becomes just a little bit poorer. This inevitable truth drives the passion and work of Dr. Jason Herrick, the Omaha Zoo's Director of Reproductive Sciences. One of the leading experts in the field of tiger reproduction, Dr. Herrick seeks to rewrite the future, both for tigers — and the planet.

He puts it bluntly, "Without aggressive breeding programs, wild tigers will become extinct in our lifetime. Think about that. When we lose an animal, we lose diversity. When we lose a species, we lose everything."

Omaha's Zoo is the only institution in the country working specifically on tiger reproduction. Last year, Dr. Herrick oversaw the opening of the Zoo's tiger genome resource bank, a state-of-the-art facility that has collected genetic material from 30 of the 130 male tigers in U.S. zoos, part of the Species Survival Plan (SSP) developed by the Association of Zoos and Aquariums. Although there have been 4 historically successful artificial inseminations in tigers (with two in Omaha), the technique is not consistently repeatable. The new samples will help advance this science.

Says Dr. Herrick, "We want to keep leading the charge as the number of tigers in the wild continues to decline."

The Zoo has also opened a first-of-its-kind tiger breeding facility funded by the Lawrence and Jeanette James Foundation. The facility is off-site, increasing the odds of natural breeding by creating a calmer environment with fewer distractions. Right now, the highest priority is finding a suitable genetic mate for Patrice, an Amur tiger at the Zoo.

"Because Patrice was born at a zoo in the Czech Republic, her genetics would be new to the tiger population in U.S. zoos," says Dr. Herrick. "Getting new genes into the population doesn't happen very often, so she is priceless. A successful impregnation is critical."

CONSERVATION

A VISION FOR TWO MILLION TREES

Dr. Ed Louis

When one part is healed,
the whole begins to heal.
Everything is connected.

Impact one thing and you impact another. Everything, after all, is connected.

No one knows this better than Dr. Ed Louis, the Zoo's Director of Conservation Genetics. He was conducting reptile research in Madagascar when confronted by a shocking fact: massive deforestation. Slash-and-burn farming, mining, and illegal logging and poaching had destroyed 90% of the island's original forest — in a place considered one of the most ecologically important on the planet. With the trees gone, the animals lost their habitats and the area experienced a total loss of biodiversity.

Shock turned to anger. Anger turned to action.

Backed by our commitment to conservation and generous partners, such as the Arbor Day Foundation and DHL, Dr. Louis created the Madagascar Biodiversity Partnership, a multi-dimensional conservation program focused on biodiversity, community education and livelihoods, and tree planting. One of the many and initial goals of MBP was to plant one million trees on the island of Madagascar. Dr. Louis and his team enlisted the Malagasy people to help with the planting and to start taking ownership. Another program was established to reimburse the local people for their efforts, allowing them to accumulate conservation credits that could be used toward the purchase of basic items.

It took Dr. Louis and the Malagasy community four years to reach the goal of planting one million trees. Just a short time ago, they raised that total to two million trees in a mere 18 months. When one part is healed, the whole begins to heal. Everything is connected.

CONSERVATION

SECORE

Healing the Oceans

Mitch Carl, Curator of Aquatics

Nature gives us warnings. Subtle and not-so-subtle signs that balance has been lost. That our ecosystems are threatened. It's up to us to heed nature's messages.

In the oceans, the warning comes from coral reefs. More and more, instead of the vibrant colors of living coral, we encounter bone-white lifelessness. This is known as coral bleaching, a process that happens when corals are stressed and expel the colorful algae that keep them healthy.

Coral bleaching is caused by a number of factors: rising ocean temperatures, changes in light and nutrients, sunscreen residue and plastic pollution. When coral dies, so does the sea life that relies on it.

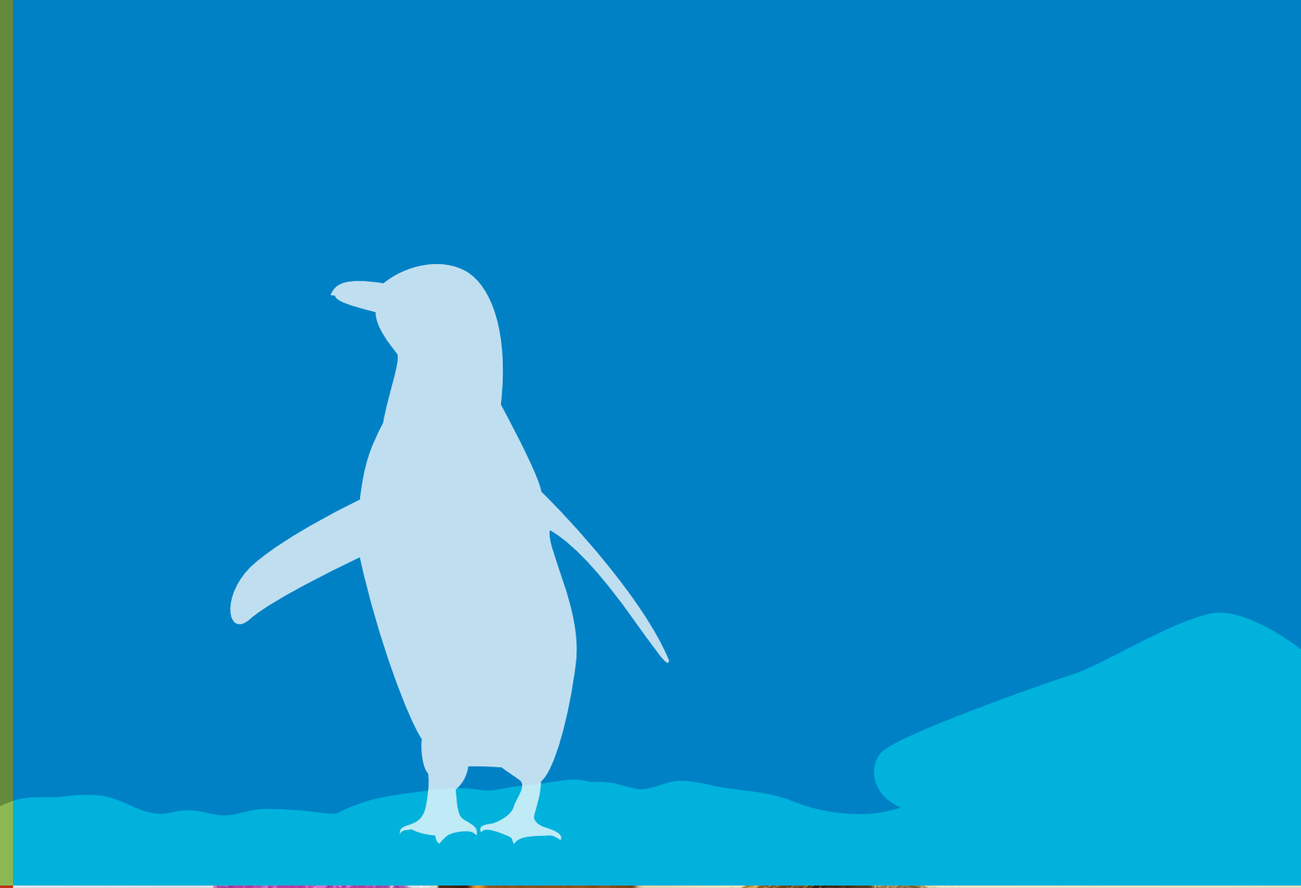
This is why, for the past 13 years, we've partnered with SECORE (SExual COral REproduction), a global network of scientists, aquarium professionals and inhabitants of coastal areas dedicated to conserving and restoring the earth's vital coral reefs.

In June 2018, thanks to a generous gift from our Ocean Health Partner, Diventures, and the continued support of our donors, we were able to increase annual contributions, becoming platinum partners with SECORE, and taking a lead in coral reef conservation. SECORE will now be able to purchase thousands of coral seeding units, which are integral to coral restoration efforts in the Caribbean.

What began as seed planting in one or two coral reefs can now expand to seeding acres and acres of reef. Nature has shared its warning, and we are responding — but the work, really, has just begun.

ANIMAL CARE

THE SCIENCE OF ANIMAL CARE



Dr. Alison Righton

Dr. Righton isn't just helping the animals in our Zoo, but connecting with other zoos to discuss disease outbreaks, treatments and emerging patterns. Thanks to her unique experience, other institutions are looking to Omaha's Henry Doorly Zoo and Aquarium as a leader in animal care and conservation.

The truth is sometimes found under a microscope. Other times, it is found by hands-on experience, in the real world. But often, it's a combination of both. And that's where true animal care begins.

The Omaha Zoo's Dr. Alison Righton is only one of a handful of U.S. pathologists who works full-time at a zoo. She's a master of both the microscopic and macroscopic worlds. Her specialization in zoo pathology and her extensive research into animal behavior has trained her to spot certain indicators that might otherwise be missed.

"Animals don't act the same in a similar setting," Dr. Righton says. "A cheetah behaves differently from a tiger or a leopard in certain situations, so I'm able to assess when an animal is stressed, or its environment needs to be tweaked or something needs to be added for its enrichment."

With Dr. Righton on the team, the turnaround time from diagnosis to treatment has been remarkable. In one situation, black-footed penguins were getting sick without indication as to why. She immediately suspected a parasitic disease and put a rush on lab samples. Sure enough, her theory was right. The penguins were given antiparasitic medicine and they quickly recovered.

ANIMAL CARE

HABITATS

The Impact of Choice on Well-Being

Dennis Pate, President and CEO

Animals, whether human or otherwise, thrive when given choice and purpose. A simple but profound insight — and one that is guiding the Zoo's evolving philosophies around habitat design.

For years, animal habitats at zoos had to balance two, sometimes competing, goals: mimicking natural habitats so that animals behave in the same way as they would in the wild — while also maximizing the views for zoo guests. But now, we are focusing on an additional goal, which, interestingly, helps better balance those original goals.

It’s the power of choice.

As part of this new era of exhibit design, the Zoo is creating habitats that allow for animal choice, building trust between animals and keepers, and instilling a greater sense of social and psychological well-being in the animal.

By utilizing different spaces such as behind-the-scenes patio areas, animals now have choice about where they spend their time. For example, depending on weather, rhinos can be near a shower or an infrared heating unit, in the sun or in the shade.

Encouraging group interaction is also key, because animals learn through observation. And it’s important for newborns to be raised with their mothers within the main habitat when possible.

All of these new approaches encourage development of healthy, natural behaviors while providing even more viewing and educational opportunities for our Zoo guests.

ANIMAL CARE

BUILDING TRUST BETWEEN ANIMALS AND KEEPERS

Jay Pratte

The affinities between humankind and animal-kind are as close as a touch.

We all desire control over our lives. We all need the opportunity to live according to our nature. While some thrive with social interaction, others choose to be solitary.

For all of us, the ingredients for a happy life are very similar.

These truths have been taken to heart by all those at the Zoo entrusted with animal care and training.

In tandem with keepers, Jay has worked with many of the animals at the Zoo, building trust through positive reinforcement. This method establishes an understanding between animals and keepers that allows animals to actively participate in their healthcare and well-being. Over time, the animals learn what the keepers want them to do and they willingly do it.

“Studies have shown that when animals feel like they are in control of what they get to do, their stress levels decrease and their physical and mental well-being increases,” says Jay Pratte, animal-training coordinator.

Jay has witnessed firsthand the changes in the animals’ perceptions and behaviors toward keepers and veterinarians. As he recounts, “My favorite part of the job is seeing the shift in attitude. Like when Claire, one of our elephants, learned to put her trunk up so a vet can safely examine her mouth. Or when Misha, a female lion, laid down on a bench and allowed a vet to perform an ultrasound so we could check on her cubs. I have so many of these stories.”

EDUCATION

FROM ZOO ACADEMY TO PH.D.

Dr. Nichole Huntley

Dr. Nichole Huntley's high school experience was anything but typical. In biology class, she didn't explore the anatomy of earthworms or frogs, but that of giraffes and fossa.

“Because of what I learned at Zoo Academy, I didn’t have the same research learning curve that other students did. I was able to take off earlier than most.”

Dr. Huntley is a graduate of the Zoo Academy at Omaha’s Henry Doorly Zoo and Aquarium where she received a rich, STEM-based education that’s supported with three major academic components: career exploration, classroom experiences and scientific processes through research opportunities.

Like many Zoo Academy students, Dr. Huntley was drawn to the program because of a desire to work with animals. After attending a lecture given by Dr. Cheryl Morris, then head of the Zoo’s comparative nutrition department (now our Chief Conservation Officer) she fell in love with animal nutrition. “I’ve always found it fascinating that the right nutrition can be a key to keeping endangered animals healthy and thriving,” she says.

Throughout her academic career, Dr. Morris and others helped Dr. Huntley connect with advisors and important internships. While pursuing her master’s degree in animal science at the University of Missouri, Dr. Huntley was awarded the rare privilege of being able to choose her own thesis project, which focused on iron-overload disorders in black rhinoceroses.

As a comparative nutritionist at Mazuri Exotic Animal Nutrition in St. Louis, Dr. Huntley says she still uses the skills she learned from Zoo Academy every single day and loves to remind others in our community that the program exists to produce the scientists of the future. Many of her professional peers marvel at the experiences her high school education provided. She says, “I have scientists tell me all the time that they wish they’d had something like Zoo Academy when they were in high school.”

EDUCATION

LEARNING THROUGH PLAY

By necessity, the Zoo is a place of two minds. The first mind is scientific, seeking facts, analyzing research and testing hypotheses. It is measured by data. The other mind is playful and joyful. It seeks connections and emotional moments. It is measured by the laughter of children. Both minds are critical to the mission of the Zoo, where learning happens at the intersection of science and play.

Dr. Elizabeth Mulkerrin

Dr. Mulkerrin has been leading the charge for moving education from formal classroom settings to informal areas where children learn through intimate, hands-on situations. She's also developing better ways to support schools and other formal teaching environments.

"In our master plan, we factor play into every new project," says Dennis Pate, Zoo Director and CEO, who attributes this focus on integrating play and learning to Dr. Elizabeth Mulkerrin, the Zoo's Director of Education, and an independent child-development expert.

"Zoos are full of scientists, so they're very linear places," says Dr. Mulkerrin. "The play areas are the opposite of that. They're actually a little chaotic so kids can follow their passions."

Nowhere is this more evident than in the Bay Family Children's Adventure Trails, which immediately became one of the Zoo's most beloved attractions when it opened in the summer of 2017. While it may look like the perfect fun playground, every element was designed to address the three key areas of child development: cognitive, physical, and social and emotional. Parents are encouraged to hang back a bit so that children can build confidence exploring on their own.

Alexzia Plummer, Education Department team member and Children's Adventure Trails Supervisor, creates activities within the interactive nature play area to harness the curiosity within children and to connect them to the natural world. As she watches their eyes light up when they make a new discovery, she says, "Even though it may just look like child's play, we are helping to cultivate the next generation of conservationists"

EDUCATION

STEM ECOSYSTEM

Connecting a Community to Build Tomorrow's Talent

Julie Sigmon

For more than 20 years, Omaha's Zoo has been a leader in formal and informal STEM education. STEM — the courses of study focusing on science, technology, engineering and math — has an impact reaching far beyond those subjects. STEM education trains students for virtually all industries and careers, from wildlife biology, farming and tech careers, to design and carpentry. Many of these fields are important to the work of the Zoo.

"Omaha is facing a shortfall of college graduates who have a STEM background," says Julie Sigmon, Director of the Omaha STEM Ecosystem (OSE).

"Our goal is to create a pathway from preschool to careers in those key areas important to our community: IT, construction, architecture and engineering, and medical research. But those fields are scratching the surface of a greater need."

The Zoo and the University of Nebraska at Omaha have partnered to formally create the Omaha STEM Ecosystem. Together with founding members The Peter Kiewit Foundation, Omaha Public Power District, The Pacific Life Foundation, University of Nebraska Medical Center, Metropolitan Community College, The Parker Family Foundation and the NU College of Engineering, the OSE envisions a community where all young people, especially those underrepresented in STEM industries, will have the opportunities needed to be successful.

It's the only public/private shared partnership of its kind. Today, there are 680 members, with more getting involved every day.

"We're in a unique position to prepare and maintain graduates so we're not losing young talent to either coast," says Sigmon. "This ecosystem involves the entire community. Once people understand the value and potential of OSE, they want to be a part of it. Omaha is fortunate to have so many organizations and people invested in our city's future."

IMPACT IN ACTION

Last year, Omaha's Henry Doorly Zoo and Aquarium welcomed 1,694,954 visitors from across the region.

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Currently, there are 42,271 animals in the Zoo's care, representing 1,165 species.

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In 2018, 1,651 dedicated people volunteered their time to Omaha's Henry Doorly Zoo and Aquarium.

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From docents, divers and diet kitchen volunteers, their collective 124,987 hours of service had an operational impact of $1,374,857.

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In 2018, Omaha's Zoo invested more than $2.3 million in conservation and research field projects.

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More than 58,000 amphibians have been released to their natural habitat since 2006. Omaha Zoo's Amphibian Conservation Area was developed as an ambitious project to continue to enhance the Zoo's commitment to helping with the global amphibian extinction crisis.

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750 Salt Creek tiger beetles were hatched in an effort to increase their population numbers. Found only in a small area of Nebraska along the Salt Creek, Omaha's Zoo has been working to protect the critically endangered beetles and their habitat.

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The Omaha Zoo's Virtual Field Trip program served 10,909 students. Virtual Field Trips are live interactive programs that connect students from around the world to the Zoo through two-way videoconferencing. Without leaving their school, students participate in classes taught from Zoo exhibits such as the Scott Aquarium or the Lied Jungle. In 2018 alone, Virtual Field Trips allowed Omaha's Zoo to spread the message of conservation to over 10,000 students from 37 Nebraska counties, 17 states and four Canadian Provinces or Territories.

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