The cream of the crop
Interns help The Raptor Center push the envelope
Raptor spotlight

### Average lifespan
The oldest recorded banded wild vulture was 16 years old, but there are many examples of this species living over 30 years in captivity. Currently, Nero is one of the oldest known captive turkey vultures — he is one of two living turkey vultures with confirmed hatch years of 1974, which makes them the oldest living turkey vultures on record in the world.

### Migratory pattern
Most turkey vultures that spend the summer in the northern United States migrate to southern states for the winter, though some populations travel all the way to South America. Year-round populations of turkey vultures are also common throughout the rest of the Americas and the Caribbean.

### Diet
Turkey vultures are scavengers, using their unique sense of smell to find fresh carrion. They not only speed up decomposition, but their specialized stomachs digest the harmful bacteria that would otherwise grow and spread to living animals. This is a very important service that vultures all around the world provide to our shared ecosystem.

### Nero’s story
Nero was raised by scientists trying to find the best way to tag and track the critically endangered California condor (Gymnogyps californianus). At the time, the California condor population was dangerously low and the scientists could not risk a single bird for their study. Luckily, the California condor’s cousin the turkey vulture had a large population, as well as a similar soaring flight pattern and carrion diet, so a small number of young vultures, including Nero, were used in this vital research. Since Nero was raised by people and does not have the mindset required to be released back to the wild, he became an education ambassador. He has since taught thousands of people about turkey vultures and the importance of scavengers in our environment. He has been one of our main display birds since 1993, so almost every person who has visited TRC since then has seen him and learned from him.

Clinic stats

### Total clinic admissions in 2018: 950 raptors
- Bald eagle: 188
- Great horned owl: 182
- Red-tailed hawk: 166
- Cooper’s hawk: 108
- Barred owl: 70
- All other raptors: 236

### Admissions
- January 1–May 1, 2019: 148
- January 1–May 1, 2018: 222

A shared corner of the wild

In January, TRC’s clinic admitted two new patients that were found within a block of each other on the same road in Stearns County. The first was an adult female great horned owl that suffered a fractured collarbone and internal trauma from an unknown cause. She is still in the clinic undergoing rehabilitation.

The second was a banded adult female bald eagle that was admitted with injuries that suggest she was in a territorial fight. The first time she visited us was in 2014, after sustaining a broken wing and leg from an unknown cause. She was released at a public bird release in Hastings, Minn., later that year. This time, she suffered from minor soft tissue wounds, which healed quickly, and was released yet again.
When a homeowner in Mendota Heights, Minn., went to light a fire in her fireplace, the sound of a distressed bird in her chimney gave her pause. Suspecting the bird was an owl, she knew to call The Raptor Center (TRC) to perform a rescue.

Time rescued: 4:20 p.m.
Location: Mendota Heights, Minn.

Walden transported the bird to TRC for evaluation and rehabilitation. TRC determined that the female owl had been trapped for about a week. “She was thin and moderately dehydrated,” says Veterinary Intern Annette Ahlmann, DVM, who managed the owl’s treatment. “She also had frayed feathers, abrasions on both wings, and blunted talons, likely from beating her wings and scratching her feet while attempting to escape.”

The owl did not have any life-threatening conditions due to her entrapment. “Our main goals were to keep her hydrated, get her feathers clean, and get her weight back up,” Ahlmann says. “After stabilizing the owl, we placed her in a convalescent cage until her wing abrasions healed. Then, we moved her to an outdoor flight pen with room to stretch before a test flight.”

A couple of weeks after admission to TRC, the bird was released back into the wild by the same volunteer who initially saved her. “This was a unique rescue and a lot of work,” says Walden. “When I found out she made it, I was happy to be able to release her back into the wild.”

DID YOU KNOW?

Some species of owls are cavity nesters. Barred owls, eastern screech owls, and northern saw-whet owls may mistake a chimney for a hollowed out tree when they are seeking a place to lay eggs. Once the birds go down chimneys, they are unable to fly back up.

The Raptor Center has seen six owls with injuries from chimneys since November, which is higher than usual. You can help by putting a cap on your chimney, which could ultimately save a life.
The cream of the crop
Interns help The Raptor Center push the envelope
By Kasha Stoll

The Raptor Center staff has been teaching and learning from dozens of interns and residents since 1990. “We see more than 1,000 raptors each year,” says Julia Ponder, DVM, MPH, TRC executive director. “Interns are the first line of admission and treatment.”

When selecting interns, “we look for a natural ability to see the big picture,” she says. “How would they approach a case? How does their thought process work? We want people who can look at the info we have and the info they know and make good decisions that are supported by evidence.”

TODAY’S INTERN, TOMORROW’S WILDLIFE VETERINARIAN

Current TRC intern Kyra Knutson, DVM, is unsure of where her career will lead her, but she is certain the training and experience she is receiving at TRC will be invaluable.

“Wildlife rehabilitation medicine is still in its infancy,” says Knutson, who graduated from Oregon State University Carlson College of Veterinary Medicine in 2017 and has the goal of becoming a wildlife specialist. “It is an ever-expanding field.”

Knutson says. “Some of them have advanced training, and some of them don’t. Wildlife rehabilitation centers have to have a relationship with a vet, but some of them don’t have a good, close relationship. As a volunteer, I really wanted to do more.”

Knutson applied for an internship at TRC because of the center’s “amazing reputation for being a leader in raptor medicine,” she says. “They practice high-quality medicine, and work extensively with birds that most veterinarians don’t often get to work with.”

During her internship, Knutson received specialized training in avian medicine, performed orthopedic surgery, saw a great gray owl for the first time, and helped treat and save a red-shouldered hawk that was severely debilitated. She says her experience at TRC helped her secure a residency in zoological and exotic veterinary medicine. Knutson will start her residency program in North Carolina this summer, joining TRC’s many internship alumni who are continuing their careers in raptor rehabilitation and conservation around the globe.

NEW TRAJECTORIES

After three years of hard work, Paula Castano, DVM, MS, took a deep breath, hoped for the best, and released hawks back into the wild on one of the Galapagos Islands in Ecuador.

The Raptor Center (TRC) has partnered with the Galapagos National Park Service (GNP) since 2010 to protect indigenous hawks during a long-term conservation project. Non-native black rats have had a significant, detrimental effect on the natural biodiversity of the islands, and the GNP is eradicating them with pesticide bait. However, since hawks feed on rats, this places the hawks at high risk of secondary poisoning. The researchers decided to place the hawks in temporary captivity during the eradication process.

TRC provides veterinary expertise with raptors. Castano was asked to care for and manage the hawks during their captivity.

Castano completed her DVM at the National University of Columbia in 2007 and interned at TRC in 2009. After that, she earned her master’s degree in conservation medicine from Tufts University in Medford, Mass., in 2012. Castano planned to return to her native Columbia and establish a mutual win-win

A MUTUAL WIN-WIN

“We are the leading program in the world for raptor medicine, and we try to fill the interns’ heads with everything we know in one year,” Ponder says. “They are the cream of the crop from everywhere, and they bring us fresh ideas.”

Two of this year’s three interns had completed an internship with small animals prior to joining TRC. They brought with them cutting-edge knowledge of critical care, pain management, and treatment.

“We take our extensive knowledge of birds and raptors and combine it with their ideas,” Ponder said. “Does this make sense for raptors? Is it something we should consider in birds? We push the envelope the hard way.”

Paula Castano
Onward and upward
Searching for the first Patrick T. Redig Endowed Chair in Raptor and Ecosystem Health

By Jodi Auvin

Raptors have always served as a collective barometer of ecological health and, in recent decades, the news is increasingly concerning. Loss of habitat, disturbances in food availability, poisonings, emerging diseases, interactions with human-made structures (such as wind turbines), and other challenges are seriously affecting raptors—and sending an environmental wake-up call.

As the global leader in raptor medicine, no institution is better equipped to identify and help address these challenges than The Raptor Center (TRC). Every year, the center admits almost 1,000 sick and injured raptors, trains veterinary students from around the globe, and reaches approximately 150,000 people through educational offerings. TRC also leverages the powerful data gathered from the raptors that come into the clinic to learn more about our shared world and how we can all protect and sustain it.

This focus on the increasing intersection of humans and wildlife and what it means for all species is driving TRC’s next ambitious undertaking—endowing the Patrick T. Redig Chair in Raptor and Ecosystem Health, which is named after TRC’s recently retired co-founder and longtime leader.

Endowed chairs play an invaluable role at colleges and universities, providing a perpetual source of income for academic endeavors and attracting top talent. The Redig Chair—a first for TRC and the only chair of its kind in the world—will permanently support our work in raptor and ecosystem health, ensuring the center’s future and growing impact on environmental issues.

The generosity of Douglas and Wendy Dayton, who made the two largest gifts to fund the chair, paved the way for its becoming a reality. “The effort began in 1999 when they made a lead gift to create a professorship in Redig’s honor,” says Executive Director Julia Ponder, DVM, MPH. “After Doug’s passing in 2013, Wendy made a second gift. The plan now is to transform the professorship into an endowed chair.”

To date, 87 donors have contributed to the chair and the minimum goal has been raised. A search committee has also been formed.

“We’re looking for a leader with a unique vision to further Redig’s legacy,” says Ponder. “An international search has just begun.” With the generous support of our community of donors, the Patrick T. Redig Chair will power TRC’s flight for decades to come.

To contribute to the Patrick T. Redig Endowed Chair in Raptor and Ecosystem Health, please contact Ellen Orndorf at 612-624-8457 or send a gift to The Raptor Center, 1299 University Drive Southeast, Rochester, Minnesota 55903.

Partnering for wildlife

By Steve Turnbull

In 2018, The Raptor Center launched a new three-year initiative aiming to improve animal welfare in wildlife rehabilitation across all species—not just raptors. This first-of-its-kind program, called Partners for Wildlife (P4W), is being piloted in Wisconsin, Minnesota, North Dakota, Montana, Idaho, Washington, and Alaska.

P4W’s goal is to improve animal welfare in wildlife rehabilitation so that animals are rehabilitated more quickly and have greater chances of release back into the wild. P4W also aims to provide unprecedented opportunities for wildlife rehabilitators to access resources and connect with veterinarians who are skilled in wildlife medicine.

In the past year, P4W has worked directly with more than 25 different wildlife rehabilitation organizations, helping them achieve their goals for providing improved animal welfare in their facilities. For example, P4W has delivered on-the-ground mentoring to novice rehabilitators who might otherwise have to learn the ropes of rehabilitation in relative isolation.

The program has also provided targeted funding for rehabilitation organizations to build or remodel animal enclosures, purchase new medical supplies, or transition from paper to computerized databases so that patient data can be shared and optimized.

P4W created an annual fellowship program in which three wildlife rehabilitators and three general practice veterinarians come together to learn, share, and network with each other via workshops, conferences, and virtual discussions, while completing projects related to promoting animal welfare. P4W’s current fellows will complete their program in September and a new cohort of fellows is being recruited to begin in October.

All these initiatives have kept the P4W team and their partners busy, and more partnerships and opportunities are planned for 2019 and beyond.

Oh, baby!

Each spring, The Raptor Center clinic receives an influx of young raptor patients. The nesting season for raptors in Minnesota is lengthy. A few raptors, such as great horned owls and some bald eagles, nest as early as January or February, while others, such as Cooper’s hawks and broad-winged hawks, have nestlings in June and July.

The first few months of life are the most challenging for young raptors, as they are especially vulnerable to storms, downed trees, failed attempts to fly, and unnecessary human intervention.

In a typical year, The Raptor Center sees 120 young raptors, which require TRC’s specialized care and treatment. The knowledge and experience our clinic staff and volunteers provide gives raptor babies the best chance of survival in the early—and often the most difficult—months of their lives.

Please help us care for these young birds by making a gift today. Please visit our secure website link below or call Ellen Orndorf at 612-624-8457.

www.raptor.umn.edu/babyraptors19
A cascade effect
Improving vulture health to preserve ecosystem health

By Carolyn Bernhardt

When the European Union (EU) passed legislation allowing veterinarians to prescribe diclofenac, Irene Bueno-Padilla, DVM, MPH, PhD, postdoctoral associate in the University of Minnesota College of Veterinary Medicine (CVM) Department of Veterinary and Biomedical Sciences, became worried about the Iberian Peninsula, which stretches across Spain and Portugal and is home to a large population of vultures.

Diclofenac is a non-steroidal anti-inflammatory drug (NSAID) used in veterinary medicine to treat various types of inflammation. It’s also known to cause harm to vulture populations who become exposed to it through the carrion they consume. For example, in India, vultures’ main sources of food are cow carcasses left at dumps or on the edge of villages. Bueno says that researchers modeled contamination of just 0.3–0.7 percent of cattle carcasses with a lethal level of diclofenac in India and Pakistan. The model showed that these levels were enough to cause the population of the oriental white-backed vulture (Gyps bengalensis) to decline at a rate of about 50 percent in one year.

“Vultures are cleaners of the environment,” says Bueno. “In India, once they began to disappear, there were dead animals left to decay— and other scavengers, such as feral dogs and rats, were interacting with the carrion. Around that time, the feral dog population went up, which was at least partially the cause of a rabies outbreak in humans.” What happened in India is just one example of how public health can be affected by an environmental problem. “Sometimes we wonder why it matters if a species disappears, but it has a cascade effect.”

Bueno is collaborating with a team of researchers on a project on diclofenac, which is being funded by the Morris Animal Foundation and led by a research group at the Autonomous University of Barcelona (UAB) in Spain. At a conference in 2014, Bueno crossed paths with Ignasi Marco, DVM, PhD, professor at UAB, who later became the PI on this project. His team is doing the field work, which includes carcass sampling and collecting samples from vultures that arrive at wildlife rehab centers throughout Spain.

“At the University of Minnesota, we are using the data they collected, along with data from surveys we have conducted with veterinarians and people that work at the vulture feeding stations in Spain and Portugal, to develop a risk assessment. Then, we can estimate the risk of exposure of diclofenac and other NSAIDs to vultures,” Bueno says. The project could be finished as early as September.

Once analyzed, data from this project can be used to guide government and veterinary authorities in their drug management policies. “Through surveys we have conducted with veterinarians in Spain, we have learned that many vets have not received education on how drugs they might prescribe can have consequences to wildlife and the environment,” says Bueno. “This might be an avenue we can pursue to suggest outreach and education to professionals in Spain. I think it would be good to create a framework for them in the future.”

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