

THE RAPTOR CENTER | *Ensuring the health of raptors and the world we share*

Raptor Release

Spring 2024



50TH ANNIVERSARY
COMMEMORATIVE SERIES

“ SPREADING OUR WINGS ”

Letter from the director

For 50 years, The Raptor Center has stood as a beacon of hope and compassion, tirelessly working to provide vital medical care and rehabilitation to ill and injured raptors. Through our unwavering dedication, we have given a record number of birds a second chance at life, allowing them to soar once again in the skies they call home. Our specialized hospital has supported more than 30,000 birds in need and has trained a global network of veterinary and rehabilitation professionals who now enhance the care and welfare of raptors worldwide.



Dr. Victoria Hall | Photo by Nathan Pasch

Alongside our rehabilitation efforts, The Raptor Center has become known for actively championing public education. We enlighten minds and inspire hearts with our engaging educational programs and professional workshops. By deepening understanding and appreciation for raptors, we empower individuals to become guardians of our natural world, working toward a brighter future for all generations.

As our clinical and educational work helps to grow the environmental stewardship of the public, behind the scenes our commitment to ecosystem health research helps to grow the collective knowledge of professionals. Our work is leading to invaluable discoveries that not only benefit raptors but also enrich the broader field of environmental and conservation science. This ongoing research continues to break new ground, offering innovative solutions to the environmental challenges we face.

Presently, The Raptor Center serves as a global leader in wildlife rehabilitation and environmental stewardship through community support and dedicated effort. We are renowned not only for setting the standards of care but also for our openness and eagerness to share knowledge and engage on a global scale. We recognize that the future of raptors and the environment we share depends on a worldwide network of experts collaborating to safeguard tomorrow.

In this issue, we are sharing the stories of the excellence that The Raptor Center carries out every day. I invite you to rejoice in the ways you have helped raptors and allowed The Raptor Center to spread our wings, making us not just “A” Raptor Center, but “The” Raptor Center. This is the second of three 50th Anniversary “Raptor Release” editions, over the course of which we aim to take you on a journey into our past, through our present, and into a promising future.

- Victoria Hall, DVM, MS, DACVPM
Executive Director and Redig Endowed Chair
in Raptor and Ecosystem Health

Victoria Hall

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Images courtesy of Canva & Unsplash.

Aiding the endangered Dedicated care at TRC returns young California condor to the wild

by Lori Arent

In the fall of 2005, The Raptor Center (TRC) hospital spread its wings to help a California condor injured at the northern rim of the Grand Canyon in Arizona. The veterinarian for the California Condor Recovery Program was unavailable at the time, so the 2-year-old condor was shipped via airline to TRC for expert care.

At the time, this condor was one of only 127 in the wild and one of three surviving wild-hatched condors. It weighed in at 17 pounds, had an awe-inspiring wingspan of over 9.5 feet, and was the largest bird ever treated in TRC’s hospital.

It sustained a wing fracture that did not require surgery. The challenge was managing this bird as its fracture healed. In captivity, young condors often habituate to people quickly, which prevents their release to the wild. According to the recovery team, this was the expected outcome for this unique patient.

But with the hard work of TRC staff and dedicated hospital volunteers, the condor patient never saw or heard people. The bird was in TRC’s care for a little over three weeks and remained as wild as the day it entered the hospital doors. Its fracture healed beautifully, and the bird was shipped back to Arizona, where it once again spread its formidable wings over its rightful home in the canyon skies.

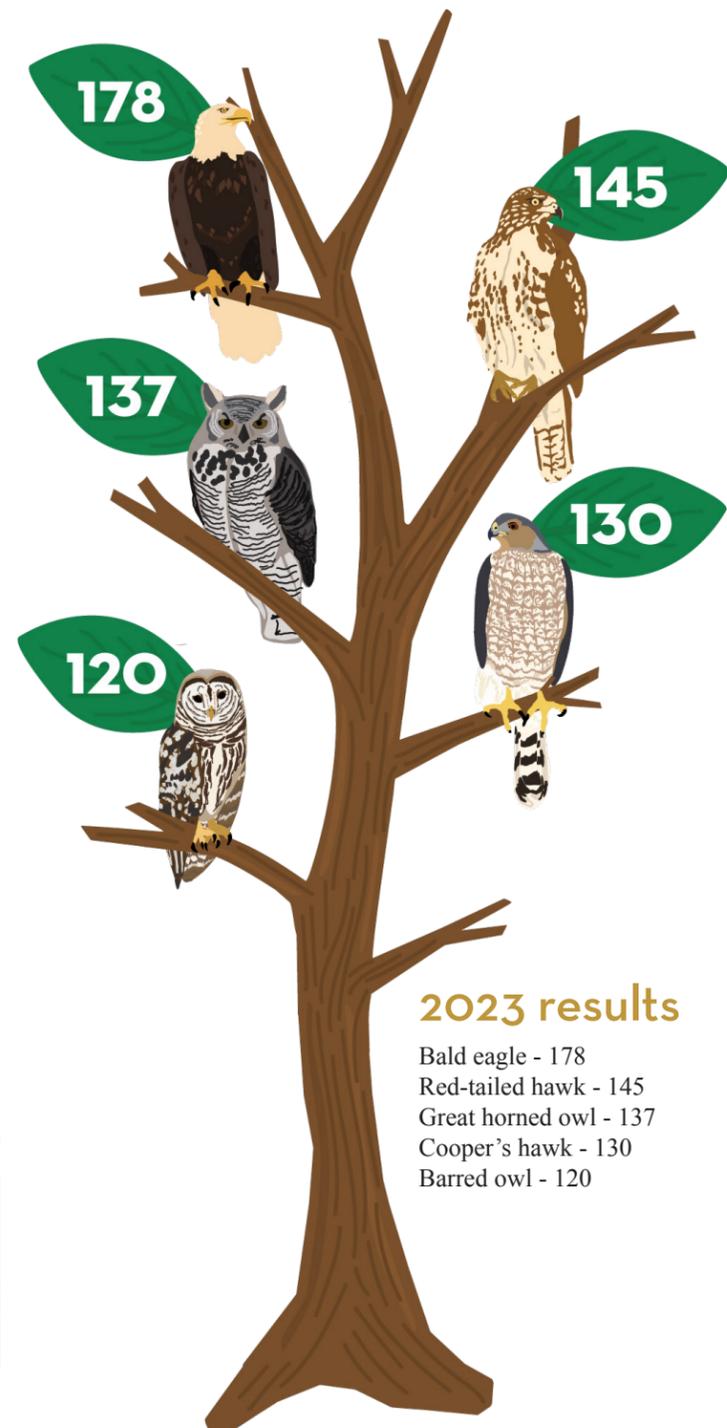


TRC’s condor patient is released by Chris Parish of The Peregrine Fund over the Grand Canyon in Arizona. | Photo by the CA condor recovery team

Clinic statistics

by Lori Arent

Interesting fact: The top five species admitted to TRC’s hospital have remained stable over many years. However, what position each holds changes slightly. Bald eagles rose to the top for the first time in 2011 and have held the top of the leaderboard for six of the past 12 years.



2023 results

- Bald eagle - 178
- Red-tailed hawk - 145
- Great horned owl - 137
- Cooper’s hawk - 130
- Barred owl - 120



Protecting raptors abroad

TRC lends expertise to preserve the Galápagos hawk population

by Dr. Julia Ponder

An adult Galápagos hawk on the island of Rábida | Photo by Julia Ponder

Galápagos. The word alone is magical to scientists, biologists, and conservationists. Having the opportunity to contribute to on-the-ground conservation in Galápagos with almost immediate and tangible impact has been one of the greatest highlights of my professional career.

The Raptor Center (TRC) was invited to Galápagos in 2011 during a time of urgent need to protect the Galápagos hawk population as a result of a project to eradicate invasive rats on several islands. Invasive rodents are one of the leading causes of extinctions on islands, bearing an inordinate portion of contemporary extinctions (80 percent of all extinctions since 1500). Removing invasive rodents on islands is one of the most impactful

conservation actions to protect these unique ecosystems, many of which are home to species found nowhere else in the world.

The issue, however, is raptors and other endemic species are at risk of eating the grain-based bait used or a dead/dying rodent with the poison in its system during the eradication. The Raptor Center's initial work involved sharing our expertise in captive management of raptors, and, over time, our involvement and contributions became broader and deeper.

It was challenging both mentally and physically. It was humbling in times when our best attempts had unfortunate outcomes. It was eye-opening as some hawks were lost due

to poison exposure through previously unrecognized paths.

The reward for this hard work was, and remains, invaluable. Our work was crucial to the overall eradication projects, resulting in ecological recovery as well as the recovery of species once thought lost to the world.

The work in Galápagos hit on all aspects of TRC's mission—providing service and support to conservation, creating new knowledge through research, and training future generations of veterinarians working in conservation.



Left: Dr. Julia Ponder (right) and Fanny Cunninghame taking a blood sample to assess the health of one of the Galapagos hawks managed in captivity. Right: Construction of the temporary enclosures on Pinzon in 2012. | Photos courtesy of Julia Ponder

Educational evolution

Knowledge gained at TRC shared across the decades to improve raptor care and conservation globally

by Melissa Moore

When meeting Luta the red-tailed hawk, Bubo the great horned owl, or any of The Raptor Center's (TRC) 27 ambassador birds, the impact of the encounter is evident.

People's hearts burst open, igniting a passion for raptors and conservation. These ambassadors are at the heart of TRC's mission, bridging the gap between humans and wildlife through education.

Beyond pioneering raptor medicine, TRC has developed comprehensive methods to assess the welfare of captive raptors, using medical and behavioral data to refine care and management strategies.

In 2007, the publication of "Care and Management of Captive Raptors" by TRC's Assistant Director Lori Arent became the standard in care for the

field. Covering everything from raptor diets, nutrition, first aid, housing, and training, this book—alongside TRC's workshops—has equipped thousands of educators and animal care professionals with the knowledge to excel in raptor conservation.

Until then, raptor care drew heavily on centuries of falconry practices. However, the inception of organizations such as TRC introduced a modern scientific approach, blending raptor medicine and behavioral science to revolutionize human-raptor interactions and deepen understanding of these birds.

Today, TRC is set to host its renowned workshop now split into two opportunities: a virtual session in the spring followed by an in-person event in the fall. This approach ensures that TRC's groundbreaking



Ambassador Lois helps teach a program at TRC's annual Raptor Release event. | Photo by Anthony Baffo

work is accessible to everyone seeking out knowledge and betterment in raptor care.

Sharing expertise not only enhances the lives of ambassador birds but also positions TRC as a leader in the global conservation community, demonstrating its unwavering commitment to the well-being of raptors and the ecosystems they inhabit.



Participants learning proper handling techniques in Bird Bootcamp. | Photos by Ann Skaja

TRC in the 21st Century

2008

TRC hosts its first Care and Management of Captive Raptors four-day workshop, complementing its "Raptors in Captivity: Guidelines for Care and Management" book and expanding its reach in helping people improve the welfare of ambassador raptors nationwide.

2011

TRC admits its 20,000th patient, an adult red-tailed hawk.

2015

TRC establishes Raptor Academy, a collection of professional learning opportunities, and receives a grant to create an online learning environment, removing geographic and monetary barriers to expand global learning in raptor care and rehabilitation.

2010 – 2017

TRC is asked to join a coalition and implement a mitigation plan to protect Galápagos hawks during rodent eradication on several islands in Galápagos.

2018

The Susan P. Wilder Visitor Center renovation is completed and open to the public, enabling TRC to educate and inspire over 100,000 guests every year.

2020

Dr. Victoria Hall joins TRC as the Redig Endowed Chair in Ecosystem Health.

2022

TRC admits its 30,000th patient, an adult red-tailed hawk.

2005

TRC is entrusted with the emergency care of an endangered California condor, demonstrating its reputation for excellence.

2009

TRC's hospital equipment modernizes, including digital radiography, thanks to a grant from the Katherine B. Anderson Fund of the St. Paul Foundation.

2014

TRC celebrates its 40th anniversary and breaks ground on new outdoor housing for education ambassadors and hospital patients, elevating the quality of care TRC can provide to raptors.

2016

The first time TRC's hospital admits more than 1,000 patients in a single year, making TRC one of the busiest raptor centers in the world.

2017

TRC readmits its oldest previous patient, a 21-year-old bald eagle from Minneapolis.

2018

A new grant-funded initiative, Partners for Wildlife (P4W) is created, sharing the level of world-class wildlife welfare performed by TRC with wildlife rehabilitators treating all species across seven states.

2021

Dr. Julia Ponder steps down as executive director and Dr. Victoria Hall steps into the role.

2022

TRC leads the wildlife rehab world in response to highly pathogenic avian influenza, a disease fatal to many raptors and evolved to impact mammals, threatening the ability to care for wildlife in rehab settings.

Photo by Alice Yamamura

Persistence and progress

TRC continues decadeslong work to prevent lead poisoning in eagles

by Dr. Patrick T Redig

Preventing lead poisoning in eagles has been part of The Raptor Center's (TRC) history of eagle restoration and preservation as far back as the early 1970s. Despite national, multi-organizational, and legislative best efforts over the years, lead poisoning in bald eagles persists.

In 1997, TRC published the paper "Sixteen years of lead poisoning in eagles 1980–1995" identifying the persistent source of exposure from deer carcass remains left in the field during deer season. Inspired by similar findings in California condors, a long-term investigation was launched in Minnesota to confirm the findings.



Left: A spent lead bullet with lead fragmentation debris. Right: A spent copper bullet with no fragmentation.

| Photo by Anthony Baffo

By 2012, efforts to mitigate this issue saw partial successes, including the U.S. Fish and Wildlife Service's ban on lead ammunition in certain refuges and the Minnesota Department of Natural Resources restricting lead use in state parks and natural areas. However, broader legislative changes faced significant opposition and still do today.

Due to these legislative hurdles, a strategic shift in 2015 toward engagement and education led to the formation of the "Copper Roundtable," a collaborative effort aimed at promoting non-toxic ammunition alternatives.

In 2020, this initiative gained momentum through what became the Hunter's Choice Program, a grant issued by Minnesota's Environmental and Natural Resources Trust Fund to provide hunters with unique interactive experiences using non-toxic ammunition and, through education, encourage them to voluntarily switch their ammunition choice. This program has reached more than 1,500 hunters in Minnesota. The work is not done as TRC continues to admit and treat eagles poisoned with lead.

The drive toward change is gradual. Educational efforts at TRC aim to instill a responsible hunting ethos in younger generations, demonstrating non-toxic ammunition as both effective for hunting and safer for the environment. The ultimate goal is a future where eagles and other wildlife are no longer threatened by lead poisoning, a testament to the power of informed, compassionate conservation efforts.



Radiograph view of an eagle revealing lead fragments in the stomach. | Radiograph courtesy of TRC hospital



Partners for Wildlife staff and 2024 interns and fellows | Photo by Anthony Baffo

P4W program meets wildlife rehabilitation's broader needs

by Rob Kulhanek

The call for veterinary expertise and support is growing in the rehabilitation community. Lack of formal training, professional isolation, funding scarcity, and access to medical expertise have negatively impacted the rehabilitators working to provide the best care for wild animals.

The Raptor Center (TRC) has become a beacon for improving animal care across wildlife rehabilitation through the first six years of its first-of-a-kind, externally funded initiative aptly named Partners for Wildlife (P4W). Founded in 2018, P4W brings support to rehabilitation centers and veterinary practitioners across seven states helping birds, mammals, reptiles, and amphibians.

Many may assume there's a governmental response for injured, ill, or orphaned wildlife. However, across the country, many operations have humble beginnings starting with citizen volunteers helping wildlife all on their own.

Historically, wildlife rehabilitation has been driven by passionate and self-motivated folks on a grassroots level fighting to make a difference.

Partners for Wildlife is bringing together expert organizations and home-based wildlife rehabilitators, fostering a community for change. On the ground, the P4W team is directly supporting 12 current interns and fellows, 36 program alumni, and 80 organizations and practitioners. On the web, a newly developed national online platform is connecting rehabilitators of all expertise levels. These growing networks are furthering the education of hundreds of practitioners and improving the quality of care for tens of thousands of individual animals annually.

Supporting folks who rescue and rehabilitate wildlife beyond raptors through P4W is expanding TRC's mission of excellence and protecting the environment we all share.

Fighting infection

TRC provides care and expertise at the front line of disease outbreaks

by Dr. Dana Franzen-Klein

Wildlife rehabilitation centers are often among the first to discover and respond to a new infectious disease in the local ecosystem. The Raptor Center's (TRC) rehabilitation hospital has been on the front lines of several infectious disease outbreaks throughout its 50-year history, especially throughout the 2000s.

In 2002, TRC's clinical staff immediately responded when West Nile virus (WNV) arrived in Minnesota. TRC staff conducted research on WNV vaccines to better understand how they can protect captive raptors. Utilizing existing medicine that helps prevent WNV in horses, TRC found the equine vaccine also protects raptors. This allowed staff to deliver life-saving care and share protocols with others who manage captive raptor collections.

In 2015, an avian influenza outbreak in poultry caused concern at TRC but fortunately did not transfer to wild birds. However, the same wasn't true of the deadly highly pathogenic avian influenza (HPAI) strain that presented in 2022. The Raptor Center's success in its HPAI response speaks to years of front-line work that kept it from closing its doors to raptors in need of help.

TRC's veterinarians also have developed clinical guidelines and treatment protocols for several diseases that affect raptors, from aspergillosis (fungal pneumonia) to liver disease caused by the highly infectious adenovirus. Its staff members work hard daily to learn all they can from each bird that enters care to improve practices and achieve better outcomes for the next patient and the next outbreak.

As the environment changes, wild bird populations will continue to face new infectious diseases. The Raptor Center is ready to handle the next challenge when it arrives using the information learned by the One Health approach, the understanding that human health, animal health, and ecosystem health are all deeply connected.



Above: A newly admitted eastern screech owl having its heart rate and rhythm checked.

Right: Dr. Annette Ahlmann, following strict biosecurity protocols, conducts an admission exam on a great horned owlet. | Photos by hospital staff



Advancing raptor medicine

For decades, TRC has pioneered new procedures, tools, and techniques to elevate patient care

by Dr. Dana Franzen-Klein

Starting in the 1970s with devising the leading surgical fracture repair technique for birds worldwide, The Raptor Center (TRC) has been a pioneer in avian medicine and surgery over its 50-year history. Co-founder Dr. Pat Redig pioneered the practice of reimagining the tools used in small animal veterinary care for raptors, which until then had no modern species-specific medicine.

Advancements in medical and rehabilitative care at TRC have never stopped. Enhanced radiograph (X-ray) technology allows clinic staff to diagnose more subtle injuries that could not have been previously detected. Effective medications for the species cared for at the center are continuously identified, including antibiotics, and pain and stress-reducing medications. Reliable techniques have been developed to best help young raptors reunite with their family or a foster family, so they can have the best possible chance for a wild life.



Tools used for "Tie-in Fixator" surgery | Photo by Anthony Baffo

TRC's expertise stems from examining more than 31,500 wild raptors, which has expanded knowledge of raptor natural history and behavior while enriching veterinary skills and raising environmental awareness.

Dedicated to continuous progress in raptor medicine and supported by volunteers and donors, TRC has contributed greatly to the veterinary sciences and wildlife conservation, aiming to extend its legacy and advancements into the future.

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EDITORIAL TEAM:

Managing Editor: Brandi Rupard
Executive Director: Victoria Hall, DVM, MS, DACVPM
Assistant Director: Lori Arent, MS
Writers: Lori Arent, Anthony Baffo, Dr. Dana Franzen-Klein, Dr. Victoria Hall, Rob Kulhanek, Melissa Moore, Dr. Julia Ponder, Dr. Patrick T. Redig

DESIGN TEAM:

Graphic Designers: Nathan Pasch, Jessica Yokubonis

THE RAPTOR CENTER

Please notify us of your change of address or duplicate mailing by calling 612-624-7624, emailing cvmcomm@umn.edu, or writing to:

The Advancement Department
College of Veterinary Medicine
1365 Gortner Avenue, St. Paul, MN 55108



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612-624-4745 | www.TheRaptorCenter.org

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Ellen Orndorf, 612-624-8457, eorndorf@umn.edu

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Front desk: 612-624-4745

Email: raptor@umn.edu

Address: 1920 Fitch Ave, St. Paul, MN 55108

Website: www.raptor.umn.edu



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