

UNIVERSITY OF MINNESOTA
Spring 2013

Raptor Release

The Raptor Center

Ensuring the health of raptors and the world we share



In this issue of *Raptor Release*

Human-Raptor Connections: What's Next for TRC?

Tales from the Trauma Center: Coffee Shop Owl

Book Reviews: Returning to Nature

Mark Your Calendar: Spring Raptor Release

UNIVERSITY OF MINNESOTA

College of Veterinary Medicine

Driven to DiscoverSM

Raptor Release The Raptor Center

Spring 2013

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On the cover

Educational ambassadors

Gail Buhl, education program manager, with Pi, TRC's newest education eagle, at Target Field for the Minnesota Twins home opener. Representatives of The Raptor Center are invited to present educational programs at public events throughout the region.

Photo by Adam Barnett

FROM THE DIRECTOR

Dear Friends,

I am so excited that spring has finally arrived in Minnesota. Soon we will release several rehabilitated raptors back into the wild at the annual Spring Raptor Release, an event that always fills me with great hope—hope for raptors, the future of The Raptor Center, and the next generation of environmental stewards.



We have inspiring news, much of which you will read about in this issue of *Raptor Release*. However, some of it is so compelling that I must share a bit of it with you here.

First, the work we were involved with in the Galápagos Islands—caring for the endemic Galápagos hawk while invasive rats were being eliminated from Rábida Island—has already resulted in a healthier ecosystem. In fact, two species previously thought extinct—a land snail and a gecko—have been spotted alive on Rábida, and the hawks continue to be monitored.

Second, Dr. Patrick Redig, co-founder of The Raptor Center, was instrumental in drafting and introducing language that would put the American Veterinary Medical Association, an organization of 80,000 veterinarians, on record as recognizing the hazards of spent lead ammunition and fishing tackle on raptors and other wildlife, as well as recommending alternatives to lead.

Third, we have expanded our nine-month middle-school environmental education initiative to include two additional middle schools in the Twin Cities. We have also applied for a grant to help us expand this important curriculum into a distance-learning program for middle-school students throughout the five-state area. Our hope is to eventually teach this science-based, real-time environmental program nationally. Teaching this next generation of adults about the importance of ecosystem health is the future for us all—raptors and humans alike.

Thank you for everything you already do to help preserve the environment, advocate for raptors, and sustain The Raptor Center. The future can be as bright as we want to make it. Please consider giving a gift of either time or money to The Raptor Center so we can meet today's environmental challenges together—for raptors and the health of the global ecosystem.

Best regards,

A handwritten signature in blue ink, appearing to read 'Julia Ponder'.

Julia Ponder, D.V.M.
Executive Director

The next generation of The Raptor Center

By Fran Howard

In 1974, when Dr. Pat Redig and Dr. Gary Duke began treating sick and injured raptors on the University of Minnesota St. Paul Campus, the bald eagle and peregrine falcon had just been listed as endangered under the 1973 Endangered Species Act due to persecution and environmental contaminants. At that time, few people knew much about the physiology and health needs of raptors.

“We were the right people at the right time in the right place,” says Dr. Pat Redig, co-founder of the The Raptor Center (TRC).

Today, populations of both the bald eagle and the peregrine falcon have recovered, yet TRC remains at the center of the world’s accelerating environmental issues affecting the health of raptors, other wildlife, and humans. Among wildlife rehabilitation centers, TRC plays a leading role because it is the largest, most advanced wildlife rehabilitation facility connected with a major university. This synergetic relationship gives TRC a distinct advantage in its critical work to uncover the links between ecosystem and raptor health, train the next generation of avian and wildlife specialists, and press for environmental changes that benefit raptors, other wildlife, and humans.

The early days

Redig hired student workers to help maintain TRC’s early operations, but TRC’s pioneering work also attracted veterinary students interested in wildlife medicine. Many were willing to help out in return for training. Some veterinarians even traveled halfway around the world to be part of what was then a burgeoning environmental movement. In 1985, two veterinarians from France contacted



“Dr. Bud Tordoff held open the caps so that Pat Redig could put one of the falcons inside.”

This 1985 newspaper clipping shows Drs. Pat Redig and Bud Tordoff atop the Multifoods Tower in Minneapolis. Redig holds one of the first captive-bred peregrine falcon chicks to be released in a downtown area as part of the Midwest Peregrine Falcon Restoration Project.

Redig, saying they wanted to train at TRC. Soon veterinarians from Spain came to study. Eventually TRC launched a formal international training program.

About the same time, Redig and Dr. Harrison (Bud) Tordoff, director emeritus of the University’s Bell Museum of Natural History, released young captive-bred peregrine falcons at Weaver Dunes near Kellogg, Minnesota. In 1985, the program began releasing birds in the Twin Cities metro-area downtowns. The watershed decision to release birds in the urban landscape helped establish an urban population of peregrines, which became an incubation population for birds eventually reintroduced to the species’ historical nesting sites on cliffs along the Mississippi River.

TRC’s work in teaching, environmental outreach, and veterinary medical research had only begun, yet much of the early work laid the foundation for its current initiatives.

An expanding reputation

Today, the College of Veterinary Medicine offers its senior veterinary students the option of a two-week clinical rotation in raptor surgery and medicine. The college also offers veterinary students from other universities the opportunity to enroll in a multi-week clinical rotation through TRC.

TRC’s international program for veterinarians has grown impressively. In total, more than 300 veterinarians from 26 countries have studied at TRC.

“Many have gone back to their home countries to develop their own version of The Raptor Center,” says Redig.

As the reputation of TRC spread throughout the world, so, too, did the world’s desire for knowledge.

“We continue to get international requests to teach around the world,” says Dr. Julia Ponder, executive director. “And we are talking more and more about conservation issues, environmental issues, and the role of veterinary medicine at those sessions.” This April, Ponder will give a presentation on conservation medicine at the annual conference of the European Association of Avian Veterinarians in Germany.

“Since the availability of Internet technology, all of us at The Raptor Center have been involved in responding to e-mail inquiries from around the world,” Redig notes.

HUMAN-RAPTOR CONNECTIONS



Dr. Pat Redig conducted surgery on a bald eagle with Dr. Jalila Abu, a veterinarian from Malaysia, in the late '90s. Abu was a veterinary resident at The Raptor Center from 1996-2002, earning her PhD in the use of bone grafts to repair fractures in avian species. She returned to Malaysia to teach. Photo by Sue Kirchoff

TRC has also started to directly involve the public in conservation issues through citizen science projects like Kestrel Watch, a Web-based project designed to monitor American kestrel populations throughout their range in an effort to better understand why populations are declining.

Another TRC project is the Clinical Wildlife Health Initiative. This network of professionally staffed wildlife rehabilitation centers tracks population and health data of wild animals through an Internet-based data management program to determine the links between changes in the environment and disease and injury in wildlife. Each animal admitted to wildlife centers becomes a data point for researchers to better understand environmental contaminants and how they affect wildlife.

A larger vision

TRC's work in rehabilitation and its focus on the health of individual birds has resulted in a wealth of knowledge and rich datasets that can be applied at a much broader level: how the health of raptor populations is intricately linked with the

well-being of all species and the overall state of the environment.

"From all perspectives—research, teaching, and outreach—we are moving more toward populations to make sure our work has a broad impact," says Ponder, who recently participated in the second phase of an ongoing project in the Galápagos Islands. TRC has provided critical care and management expertise to protect the Galápagos hawk population during a rat eradication program there. This groundbreaking project is TRC's first in the Southern Hemisphere.

TRC's research focus is also expanding in the areas of infectious diseases and environmental contaminants and toxicology.

"Research can provide us with the tools to better understand and address immunotoxicity," says Redig. "The immune system is one of most important interfaces with the environment." Chemicals introduced into the environment can impair the ability of the immune system to fight disease. In addition, TRC's long history of outreach and education positions the research faculty to play a larger, more vital role in recommending changes in behavior or policy that result in healthier environments, including reducing or eliminating the use of lead-based ammunition, the single biggest cause of lead toxicity in bald eagles.

Technology is also allowing TRC to reach out to larger groups with more in-depth, evocative programs.

"Rather than have a program for every class in K through 12, we are focusing on middle-school students with a nine-month environmental program," says Ponder. "We want to build on that program and develop more in-depth classes to offer, both locally and through distance learning, based on science and real-time cases and issues in the clinic."

The nine-month program strives to educate young minds about the human

impact on the environment, with the goal of changing behaviors in ways that reduce environmental degradation—ultimately improving the health of raptors, other wildlife, and humans. It will be taught in three Minnesota schools this year.

TRC is also developing a relationship with wildlife organizations in Taiwan and hopes to build on the College of Veterinary Medicine's new partner initiatives with universities in Thailand and Africa, helping to build capacity in wildlife medicine and ecosystem health.

Moving beyond the individual to look at ecosystems and populations in a larger sense—how the health of raptors and other wildlife is intertwined with the health of the global environment—while discovering critical information from the day-to-day struggles of the individual bird is the next-generation TRC.

"The Raptor Center is becoming part of a larger whole at the University, looking at global issues having to do with organisms, habitat preservation, and the global environment," says Redig, who still marvels at how TRC's reputation has migrated across oceans, continents, and species.

Fran Howard is a Saint Paul-based freelance writer.



Interpretive naturalist Mike Billington introduces a peregrine falcon to a group of students at Rockford Middle School. The Raptor Center now offers a nine-month program about the human impact on the environment.

Winter turn, turn, turns to spring

By Lori Arent

As the sun's increasing warmth envelops pale, winter skin, and the light of day lingers longer, the lyrics of a well-known song come to mind: "To everything, turn, turn, turn, there is a season, turn, turn, turn, and a time to every purpose under heaven." Ironically, the song is by The Byrds. Seasonal changes either roar in like a lion or enter quietly like a lamb, and the clinic must be ready to adapt to whatever Mother Nature brings.

Last winter, TRC flight crews never really took a winter hiatus. Birds were exercised and released throughout the winter months as weather allowed. This winter was a different story. From the 15-inch snowfall in early December to the 10-inch snowfall in early March, most flight crews were "on vacation" as patients awaited adequate conditions to begin their final phase of rehabilitation. The eagle flight crews were the exception. TRC only releases eagles during the winter months, so dedicated volunteers often brave cold, windy, snowy conditions to prepare eagles for release. The clinic over-wintered approximately 60 patients, compared to 35 the previous winter.

In March, TRC experienced a rare occurrence, treating and housing nine species of owls concurrently. Species represented were the northern saw-whet owl, eastern screech owl, boreal owl, long-eared owl, short-eared owl, barred owl, great horned owl, great gray owl, and snowy owl.

As the winter days grew longer, clinic staff began thinking about the upcoming baby season and what it would bring. Traditionally, the earliest raptor nester in Minnesota is the great horned owl. Typically, these owls lay eggs at the end of January or beginning of February and incubate them during the harshest period of Minnesota's winter. This year, however, there were surprising reports of early nesting bald eagles. The Minnesota



This great gray owl landed on a customer's car in the drive-through of a Twin Cities Caribou Coffee in February. After a few weeks of treatment at The Raptor Center, he was released in northern Minnesota. Photo by Amber Burnette

Department of Natural Resources put a webcam on an eagle nest in the metro area and discovered that the female laid eggs during the first week of January.

Waking up at Caribou

Imagine having a few extra minutes before you need to get to work and deciding to stop at Caribou Coffee for a much-needed caffeinated beverage. While you're waiting in the drive-through, a large great gray owl swoops in and lands on your car. Maybe you no longer need that coffee to wake up.

This actually happened to a woman from Plymouth, Minnesota, in late February. By the time a TRC volunteer arrived at the scene, the owl was no longer resting on the car but was perched precariously on a nearby handicap parking sign—how appropriate.

A physical exam showed the male owl, TRC case 13-061, experienced some type of collision. He suffered from mild head trauma and was only able to fly low for short distances. He was also a little thin, no doubt finding hunting in Hennepin County a bit challenging. After a few weeks of supportive care and a brief reprieve from the harsh winter weather,

the owl was given a lift north, heading him in the direction of his summer home in the boreal, or taiga, forests of northern latitudes.

Lori Arent is the clinic manager at TRC and author of *Raptors in Captivity, Guidelines for Care and Management*, available at www.TheRaptorCenter.org.

2012 in review

Last year, 786 sick or injured wild birds were admitted to TRC's clinic. The top five species were:

Red-tailed hawk	166
Cooper's hawk	126
Bald eagle	119
Great horned owl	103
Broad-winged hawk	58

Nearly 50 birds were admitted with lead toxicity. Of the total number of bald eagles admitted, 36 percent had lead toxicity. By species, birds with lead toxicity were:

Bald eagle	43
Turkey vulture	3
Great horned owl	1
Red-tailed hawk	1

FUND DEVELOPMENT

New and creative ways to give

By Amber Burnette

The Raptor Center depends on gifts of time and money to continue its critical work. Here are just a few examples of how the community, volunteers, interns, and students have helped TRC over the past six months.



Give to the Max

Give to the Max Day, November 15, 2012, resulted in 380 donors and more than \$52,347 in donations to TRC. Rachel and Denny Hollstadt and the Sarah J. Andersen Fund of the Hugh J. Andersen Foundation provided a match of \$52,000, bringing TRC's total to more than \$100,000. TRC's online auction in December raised an additional \$3,500 in funds.

People who keep on giving Malcolm and Sally McRoberts

Deluxe Corporation employee Malcolm McRoberts and his wife, Sally, an education and clinic crew volunteer and former environmental education intern, came up with a very creative way to support TRC. They purchased two private programs, along with the adoption of a winged ambassador bird for each program, to offer at a Deluxe auction to benefit the United Way. Not only did they support the United Way and TRC's education department, but they also introduced Deluxe employees to the concept that raptors help people understand and care for a shared environment.

Miki Cook

Volunteerism has always been a part of Miki Cook's life. Recently, however, the Saturday clinic volunteer expanded the ways she gives.

"Both my parents were very active volunteering in the community," Cook says. "It's hard to believe I've been volunteering at The Raptor Center for almost 40 years. I had always wanted to support The Raptor Center financially but was never in a position to do so. Quite unexpectedly, I won a contest and received a small windfall. I knew this was my chance to make a gift to a place I truly love and which has become an important part my life and my legacy. Donating on Give to the Max day was a real honor and treat for me."

Brittany Schatz

A former TRC marketing intern and University of Minnesota alumna, Brittany Schatz recently donated to TRC, and shared her thoughts when the University of Minnesota Foundation reached out to thank her.

"I was so excited to be called by the foundation because I used to do that, too," says Schatz. "The Raptor Center left such a huge impression on me and on my college experience, and I know firsthand about all of the awesome work The Raptor Center does for the community. I feel like giving to The Raptor Center is kind of like giving to multiple organizations because of how many people it reaches." Gifts like

Shatz's often go to help fund programs for schools that would not be able to fund a program without aid.



Recycling for Raptors

Started in 2003, this volunteer-run program helps individuals and organizations recycle their inkjet printer cartridges while raising funds to support TRC. To help reduce postage expenses, TRC has published a map of public drop-off locations for used cartridges. Go to www.TheRaptorCenter.org > Support/Get Involved > Recycling for Raptors to find a convenient drop-off location. Or bring used cartridges to the Spring Raptor Release on May 4. Since September 2003, 143,000 cartridges have been recycled.

Amber Burnette is program associate for TRC.

A photograph of a raptor sitting on a nest of sticks, framed in a dark border.

Grow a legacy

You have deep roots at The Raptor Center. You can continue to nurture your area of interest at TRC far into the future with a planned gift:

- Bequest in a will or trust
- Naming The Raptor Center as a beneficiary of retirement assets or life insurance
- Gifts that provide an income to you or others

For more information, contact Bill Venne, chief development officer, at 612-625-8480 or venne025@umn.edu.

Educating the next generation

By Gail Buhl and Amber Burnette

Outreach and education are core elements of TRC's mission. Last year, TRC's education department presented 534 off-site programs, reaching 136,084 people. In addition, 19,989 people attended on-site programs at TRC's facility on the University of Minnesota Saint Paul Campus.



Darner, The Raptor Center's new ambassador, with an image of a green darner dragonfly, a common prey of American kestrels (inset).

A new ambassador

TRC has a new ambassador: Darner, a female American kestrel. Green darner dragonflies—a common prey of American kestrels—migrate from the Upper Midwest to Texas and Mexico, and kestrel migration corresponds to the movement of the dragonflies. Darner migration gives kestrels an opportunity for “fast food” while traveling along the migration route. Darner hatched in 2009. She was found near Austin, Minnesota, and is blind in

her right eye and cannot vocalize. These injuries prevent her from successfully living in the wild, and she has become an education ambassador.

Opportunities to help through Kestrel Watch

In Spring 2009, TRC launched a Web-based citizen-science project called Kestrel Watch to collect information on kestrel sightings through public input. The Kestrel Watch website offers identification tips, information on the species' natural history, and answers to commonly asked questions about kestrels. To report a sighting, look for the kestrel icon at www.TheRaptorCenter.org.

Training the next generation of environmentalists

TRC's new yearlong curriculum, originally piloted at Rockford Middle School, has expanded to two additional middle schools, Hidden Oaks and Twin Oaks, both in Prior Lake, Minnesota. The core of the new curriculum allows students to explore the real-world problem of lead poisoning in bald eagles. Students are asked to play the role of wildlife health biologists in charge of assessing TRC data on lead exposure in bald eagles for the fictional Minnesota Department of Environmental Health.

For the first half of the school year, students track and graph real-time lead levels in bald eagle blood samples. In the second half of the year, they analyze their charts and graphs, using them as evidence to explain whether there is exposure, if it is causing harm, and if the data suggest a possible cause. This real-world, real-time, inquiry-based curriculum is helping schools promote environmental literacy while providing opportunities for students to develop skills in critical thinking, problem solving, teamwork, and communication.

Tech-savvy generation of Youth Raptor Corps

TRC's youth service-learning club, Youth Raptor Corps, has had such an enthusiastic



Dr. Irene Bueno discusses raptor anatomy with a group of students from Rockford Middle School. The students are working with cadaver birds.

and devoted following that a new learning opportunity has been created. The past group of Youth Raptor Corps enthusiasts chose to demonstrate their learning by creating YouTube videos to teach others about raptors. In small groups, the students researched a particular raptor and chose several facts to highlight in riddle form. Then, using iPads, they recorded their facts and added background music. Go to TRC's YouTube Channel (www.TheRaptorCenter.org > Just for Fun > YouTube Channel) to access the videos.

Making ACES of them all

In partnership with Athletes Committed to Educating Students (ACES), TRC provides programming and learning opportunities for at-risk students who engage in service-learning projects that, in turn, help TRC. The mission of ACES is to close the academic achievement gap of at-risk urban students in grades four through eight. Past projects have included making raptor lunch boxes (props for teaching what raptors eat), puzzles for the children's area at TRC, and giant owl pellets, which are used in programs to demonstrate how owls eat their food whole and how the remains of their prey can be found within the pellets.

Gail Buhl is the education program manager at TRC. Amber Burnette is TRC's program associate.

BOOK REVIEWS

Returning to nature

The Nature Principle

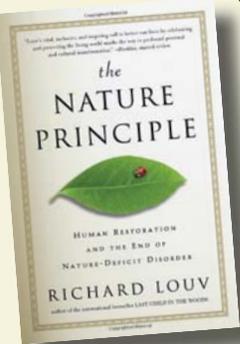
By Richard Louv
Algonquin Books, 2011, \$24.95

Sharing Nature with Children

By Joseph Cornell
Dawn Publications, 20th Anniversary Edition, 1998, \$9.95

By Sue McCarthy

This past winter, newspapers were replete with articles about the community's relationship with nature and its stewardship of the environment. One featured a resident risking a ticket by seeking to walk in a section of a park restricted to snowmobiles. Others reported on citizen concerns about the environmental impact of fracking, and another featured a movement to encourage parents to lobby local schools for more outdoor recess time for elementary-aged children. These articles relate closely to *The Nature Principle*, by Richard Louv, and *Sharing Nature with Children*, by Joseph Cornell. Both books detail how present and future generations can gain a sense of belonging to the natural world and respond as stewards of the environment.



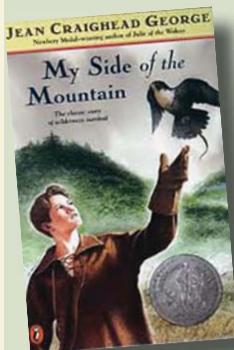
In *The Nature Principle*, Louv offers suggestions on how adults benefit from a closer relationship with nature and the environment, cites examples of the restorative power of nature, and proposes actions that support the theory that a “reconnection to the natural world is fundamental to human health, well-being, spirit, and survival.” In a previous book, Louv coined the phrase “nature-deficit disorder” to describe children’s growing isolation from the natural world. Louv continues in that tradition in *The Nature Principle* by coining new terms, including “vitamin N” to explain nature therapy for disease prevention and treatment and “re-naturing” to refer to living and working in a natural environment to promote physical

My Side of the Mountain

By Jean Craighead George
Dutton Children’s Books, 1959, \$6.99

By Sue McCarthy

Sam Gribley packed a penknife, a ball of cord, an ax, some flint and steel, and \$40 and left New York City by train, heading to the Catskill Mountains. He was running away.



Sam narrates his story about living on “his side of the mountain.” He arrives in the Catskills and realizes he is on his own—no food, no shelter, no friends or adults to help him—but he is a good problem solver. Sam also knows how to research and finds answers to his questions at the library. (This book was published in 1959, before computers and the Internet.) Sam describes his first night: “I don’t think I slept fifteen minutes, and I was so scared and tired that my throat was dry... So I sat tight, and shivered and shook—and now I am able to say—I cried a little tiny bit.”

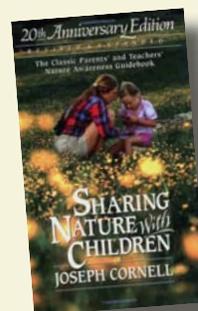
and mental well-being. The author proposes a “three-ring theory” as a way to achieve his ideas for cultural change, which involves organizations, volunteers and docents, and a social network of associations, individuals, and families reaching out to others to arrange family nature clubs, gardening clubs, and button parks (small neighborhood spaces that have been re-natured).

Sharing Nature with Children is a compact guide filled with many ideas for nature interpreters—parents, grandparents, caregivers, day-care leaders, teachers, camp counselors, and others. Joseph Cornell begins with a few suggestions for good teaching, but this quote seems to say

My Side of the Mountain, by Jean Craighead George, a Newbery Honor Book, is considered a classic. At first, George had trouble getting her editor to publish a story about a boy running away to live in the woods, but after some reflection, the editor agreed that a story about a boy running to the woods was better than one about a child running to the city.

Sam shares his inner thoughts about his frustrations, fears, joys, mistakes, and achievements as he solves the problems of everyday life in the woods. He introduces the reader to Baron the weasel, Jesse C. James the raccoon, Barometer the nuthatch, and most important, Frightful the peregrine falcon.

An elementary to middle-school reader with an interest in falconry or the natural world will delight in reading about how Sam trains Frightful, and how she becomes his constant companion. Sam also shares what he learns about catching fish, tanning leather, starting fires, picking mushrooms, making salt, finding natural foods, and living close to nature. After 54 years, Sam’s story still hasn’t lost its appeal.



it all: “Children seldom forget a direct experience.” Two wonderful activities Cornell describes are “Sounds and Colors” and “The Unnatural Trail.” The first promotes the use of senses, and the second introduces the concept of camouflage. Both can be done with preschoolers and older children and are easy to set up. But most important, these activities help promote what Cornell calls a teacher’s most important asset—a sense of joy.

Sue McCarthy is a TRC education volunteer.

Next-generation research

By Dr. Julia Ponder and Amber Burnette

Decades ago, conservation researchers would collect (or kill) birds as a way to study them and help preserve a species. This primitive form of conservation research has been replaced with high-tech observation and intervention methods that help conservationists better understand a species' behavior and restore native ecosystems.

Nest cameras are among the new generation of information-gathering technologies that allow researchers to learn more about the natural histories of raptor species. In the past, field personnel would spend hundreds of hours recording food drops and identifying prey items raptor parents brought in to the chicks. Today, these same researchers just need a laptop and Internet access. Information about how often a parent turns the eggs and interactions among raptor siblings are now easily seen with a nest cam.

In addition to the detailed information researchers can gather from nest cams to build a more robust understanding of raptor biology, schools can design a curriculum around what happens at the nest. For example, the curriculum could include ecology (how prey items relate to the environment) and elements of phenology (timing of nesting, breeding, and rearing life cycles).

While the use of nest cams to educate the public about raptors is a wonderful new research tool, nest cams must be placed in such a way as to not interfere with the activities of the birds, and researchers must abide by ethical and legal guidelines. Increasing awareness through the use of nest cams will, no doubt, engender emotional attachments to the individuals and families on display. Starvation or an injury to the chicks or parents can be difficult to watch. It is important to remember, though, that there are legal



Dr. Julia Ponder's work with Galapagos hawks is also benefitting other species. On the Island of Rábida, members of the monitoring team recently documented the presence of two species—a land snail and a gecko—previously thought to be extinct.



implications for intervention, as well as the possibility of causing injury or extreme stress to the rest of the raptor family. Wild raptors face survival challenges throughout their lives.

Another next-generation conservation method that TRC was recently involved with took place on the island of Pinzón in the Galápagos Islands last December. The Galápagos Islands are globally recognized for their unique and abundant biodiversity. Invasive species, including rats introduced by humans 150 years ago, are the greatest threat to that biodiversity. The introduced rats have wreaked havoc on the native ecosystem and prevented the Pinzón giant tortoise from reproducing in its natural environment for more than 150 years. The restoration project involved removing invasive rodents from Pinzón, which is expected to provide a significant benefit to the Pinzón ecosystem, including restoring the natural recruitment (successful reproduction) of the tortoises.

TRC led the effort to trap resident Galápagos hawks on Pinzón and temporarily manage them in captivity, protecting them from being exposed to

rodenticide while hunting the rats. Dr. Julia Ponder, executive director, and Gail Buhl, education manager, successfully managed 60 individuals (estimated to be 12 percent of the known population of the species) in captivity. Blood for future genetics tests was taken, and before release, individuals were banded and/or outfitted with transmitters to allow post-release monitoring. Continued monitoring will be conducted to learn more about the impact of these efforts.

In 2010, Ponder and Lori Arent, clinic manager, were part of similar efforts on Rábida Island. Follow-up work has been done on Rábida, and the reports are encouraging. In addition to confirming that the rodents are gone, members of the monitoring team documented the presence of two species—a land snail and a gecko—that were previously thought to be extinct. Presumably their populations are growing, thanks to the elimination of the threat of rodent predation. 🦅

Dr. Julia Ponder is TRC's executive director, and Amber Burnette is program associate.

AROUND THE RAPTOR CENTER

Staff news

Dr. Carol Ewbank completed her internship and returned to Brazil to further her studies in conservation medicine.

Dr. Ling-Min Wang, from Taiwan, joined TRC as a clinical intern in March. Wang isn't entirely new to TRC: She attended TRC's Avian Orthopedic and Basic Raptor Rehabilitation workshops in 2011. She then arranged for **Dr. Julia Ponder** and **Dr. Michelle Willette** to give presentations at the Avian Clinical Techniques Workshop hosted by the Endemic Species Research Institute and South East Asian Zoos Association in Taiwan in 2012.

Research

The College of Veterinary Medicine's Summer Scholars Program gives first- and second-year veterinary students an opportunity to participate in research projects related to veterinary, animal, and human health initiatives. This summer, TRC will direct several Summer Scholars projects, including establishing normal coagulation parameters in red-tailed hawks in preparation for continued research on rodenticide studies (anticoagulant toxicity); establishing baseline metrics for immune function in raptors as pilot work for studying impacts of contaminants on the immune system; continuing last summer's work with **Dr. Patrick Redig** studying Newcastle virus in wild birds and eggs; and a clinical wildlife health project looking at what kinds of information can be gleaned from wild animals presented for rehabilitation.

Redig was recently instrumental in drafting and introducing language for consideration by the Committee on Environmental Issues of the American



Dr. Pat Redig

Veterinary Medical Association. The language would put the organization of some 80,000 veterinarians on record as recognizing the hazards of spent lead ammunition and fishing tackle and recommend changing

to alternatives. The Association of Avian Veterinarians and The Wildlife Society have adopted similar policies.

In January, Redig and **Dr. Irene Bueno** attended the annual planning meeting of the Minnesota Department of Natural Resources nongame program staff to discuss several strategies that could be implemented at the state level in 2013 to encourage use of alternative ammunition.

In February and March, Bueno spent five weeks on a research project at EcoHealth Alliance. She was received a scholarship from EcoHealthNet, of which the University of Minnesota is a part. Her focus is on the implications and risks that wildlife trade—specifically rodents imported to the United States—might have on public health.

On the road

Dr. Julia Ponder represented TRC at a workshop at The Peregrine Fund in Boise, Idaho, to explore research opportunities for a new initiative called the American Kestrel Partnership. Created in response to long-term population declines of the species in North America, the project involves unifying the data-generating capacity of citizen scientists with the research expertise of professional scientists to advance conservation of the American kestrel.



Dr. Michelle Willette

November, she presented "Trauma and Critical Care at The Raptor Center" at the American Association for Laboratory Animal Science conference in Minneapolis.

Events and workshops

The **Fall Raptor Release** was held September 24 at Carpenter St. Croix

Valley Nature Center, in Hastings, Minnesota. **Sandy Rosso** released a Cooper's hawk; **Tucker Reeck** and **Winkie Coyne** released broad-winged hawks; **Paul Keel** and **Paula Buchner** released bald eagles; and **Tracy Elftmann** released a peregrine falcon.

Nineteen participants took part in the four-day workshop, **Care and Management of Captive Raptors**, in October. The workshop introduced both novice and expert bird managers to the finer points of caring for and maintaining captive raptors for educational purposes.

Dr. Pat Redig gave a presentation on TRC's research on bald eagles and lead poisoning at the annual Minnesota Ornithologists' Union paper session at the Bell Museum of Natural History in December. He and others from TRC taught two spring semester courses through the College of Veterinary Medicine: Avian Medicine and Surgery and Nontraditional Pets. In April, the companion bird rotation helped veterinary students develop proficiency in basic avian clinical techniques; improve their knowledge of important avian issues, including conservation status; and become familiar with the companion bird industry, the birds, and the people who buy, sell, trade, breed, fly, and otherwise keep them.

Mike Billington presented "A Microscopic Look at Contour Feathers from a Bald Eagle, Barn Owl, Peregrine Falcon, and Blue and Yellow Macaw" at the annual International Association of Avian Trainers and Educators conference in Tampa, Florida, in February.

At the **Duke Lecture** on October 10, Dr. Scott Lanyon, head of the Department of Ecology, Evolution, and Behavior, led the audience on an exploration of how scientists study the evolutionary relationships of life on Earth. The Duke Lecture Series was started in 2006 by Dr. William H. and Mary E. Holleman and pays tribute to Dr. Gary Duke's work and legacy at TRC and the University of Minnesota. 🦅

MARK YOUR CALENDAR/CONTACT US

Upcoming events

Spring Raptor Release

TRC's Spring Raptor Release will be held Saturday, May 4, from 11 a.m. to 2 p.m. at Hyland Lake Park Reserve in Bloomington, Minnesota. The program starts at noon. Watch rehabilitated raptors being released back into the wild and meet some of TRC's winged ambassadors. Bring used ink-jet printer cartridges to support Recycling for Raptors. No pets please. This is a zero-waste event. For more information, call 612-624-4745.

Digital Bridge to Nature

TRC is partnering with the Minnesota Department of Natural Resources on Digital Photography Bridge to Nature workshops. The goal is to use digital camera technology to encourage children to get outside in nature. Each four-hour workshop is designed to train 12-24 teachers how to use and apply digital camera kits to school curriculum. Completion of the workshop allows a teacher to check out a camera kit and helps earn four continuing education units. Workshops are May 11, June 1, and June 15. Call 612-624-2756 for more information.

Summer camps

TRC offers fun learning adventures through its summer camps, which integrate hands-on learning activities with a science-based curriculum. TRC's winged ambassadors make great teachers! For more information and to register, visit <http://recsports.umn.edu/youth/kidsu.html>.

- **Grossology:** ages 8-9 and 10-11, July 29-August 2
- **Wizarding World of Wildlife:** ages 8-9, August 5-9; ages 10-11 and 12-15, June 10-14
- **Raptor Vet:** ages 9-11 and 12-15, July 8-12
- **Crazy About Owls:** ages 6-7, July 22-26
- **Enraptured with Raptors:** ages 6-7 and 8-9, July 15-19

Camps in partnership with Richardson Nature Center

Eagles, Owls, and Other Birds of Prey will be offered July 15-19 for children ages 8-11, and Advanced Birds of Prey will be held August 12-15. The camps include three days at Richardson Nature Center meeting live raptors, spending time in the birds' habitats to observe behaviors, mimicking their hunting behaviors with a predator/prey game, and learning some of the responsibilities of caring for and maintaining injured birds. On two days, campers will be bussed to TRC to gain exposure to some of the veterinary techniques used to help injured birds, dissect owl pellets, and meet a variety of Minnesota birds of prey. This is a great opportunity for children to get experience with professional staff in the veterinary and natural sciences fields. For more information and to register, go to www.threeriversparks.org/events/Groups/summer-camps.aspx, and download the 2013 Summer Camps Guide.

Public programs

TRC naturalists and winged ambassadors will be at —

- National Get Outdoors Day, Lake Maria State Park, Monticello, Minn., June 8
- Buffalo Days, Buffalo, Minn., June 15
- Murray County Fair, Slayton, Minn., August 14

For more events at libraries, county fairs, and community centers, visit the public events calendar at <http://tinyurl.com/TheRaptorCenterCalendar>.

The Raptor Center directory

Donations

Endowment gifts, estate gifts, and grants:

Bill Venne, 612-625-8480 or venne025@umn.edu

Gifts and Adopt-a-Raptor program:

Amber Burnette, 612-624-3391 or burne018@umn.edu

Educational programs

Field trips, outreach programs, and events

612-624-2756
raptored@umn.edu

E-communications

Want to receive e-communications? Go to www.TheRaptorCenter.org and click Connect with Us.

E-mail

raptor@umn.edu

Events calendar

TRC public events calendar
<http://tinyurl.com/TheRaptorCenterCalendar>

Fax

612-624-8740

Front desk

Injured raptors; general information
612-624-4745

Gift shop

TRC's online online gift shop offers raptor-themed items such as clothing, books, toys, and jewelry. Go to www.TheRaptorCenter.org and click Shop.

Mailing address

1920 Fitch Ave.
St. Paul, MN 55108

Recycling for Raptors

To learn about drop-off locations, e-mail trcink@umn.edu.

Social media

Facebook: www.facebook.com/TheRaptorCenter
Blog: www.TheRaptorCenterNews.blogspot.com

Volunteer opportunities

Volunteer positions and upcoming training sessions
Nancie Klebba, nklebba@umn.edu, 612-624-3928, or trcvol@umn.edu

Website

www.TheRaptorCenter.org

Raptor Release The Raptor Center

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The Raptor Release

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Celebrating more than three decades of dedication to raptors

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