

D V E A

NATURE'S NEWSLETTER

ONLINE EDITION

Volume 12, Issue 1

www.dveaglealliance.org



page 2



page 4



page 19



page 17



page 13



page 10



page 7

WILDLIFE AND THE ENVIRONMENT

WE NEED YOUR HELP

to continue and expand “*Nature’s Newsletter*”

The Delaware Valley Eagle Alliance is a 501 (C)(3) not-for-profit organization working toward the conservation of our wildlife and natural environment. We believe that raising awareness and understanding will change attitudes toward conservation.

Our organization depends on individuals and organizations who share our concern for wildlife and the environment. “*Nature’s Newsletter*”, and our other publications, projects, and programs would not be possible without the generosity of our supporters and volunteers.

To make a tax deductible donation: please send your check, payable to the Delaware Valley Eagle Alliance to:
Delaware Valley Eagle Alliance
att: Yoke Bauer DiGiorgio
630 West Main St
Rockaway, NJ 07866

To make a credit card tax deductible donation, please email us at: yokedvea@gmail.com for more information.

Your help is so important. We thank you for your generosity and helping us spread the word!

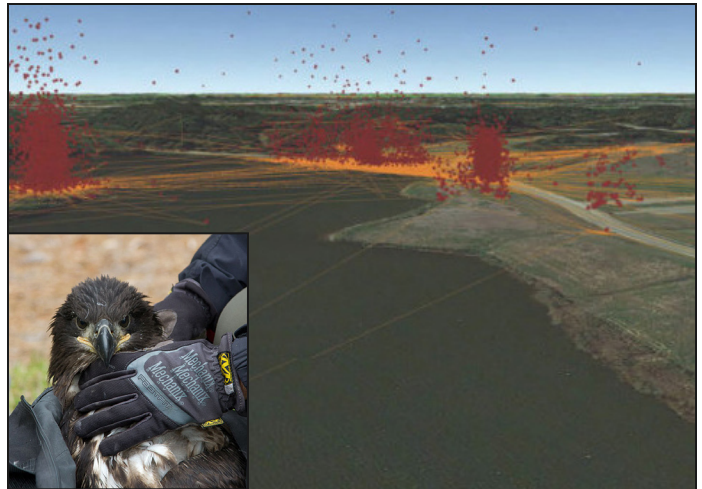
The Delaware Valley Eagle Alliance

INSIDE THIS ISSUE

- 2** **Tracking Bald Eagles in 3D** *by Bryan D. Watts*
- 4** **SANCTUARY Liberia Chimp Rescue**
 by Karen E. Lange
- 7** **The Lost Pets of Costa Rica** *by Karen Windsor*
- 10** **Caring For Owlets of the Poconos** *by Kathy Uhler*
- 11** **Owl Facts**
- 13** **AGAINST THE ODDS Treasures in Disguise**
 by Teresa Deckard
- 17** **BUZZ The Lovable Vulture**
 by Giselle Chazotte Smisko
- 18** **Facts and Stats: Turkey Vultures**
- 19** **Discovering Nature: Call of the Bullfrog**
 by Yoke Bauer DiGiorgio
- 19** **About the Delaware Valley Eagle Alliance**

FRONT COVER PHOTOGRAPHY

Left Top © Holly Smith, Photographer
Left Center © John A. DiGiorgio, Photographer
Left Bottom Left ... © John A. DiGiorgio, Photographer
Left Bottom Right .. Provided by Pocono Wildlife
 Rehabilitation and Education Center
Right Top Photo by Carol Guzy/For The HSUS
Right Center © John A. DiGiorgio, Photographer
Right Bottom © Matt Terry, Photographer



3D tracking pattern for a single bald eagle just off the north end of a military runway in Virginia. The columns of transmitter locations represent favored locations of the bird and frequency of altitudes for those sites. Data from CCB.
Insert - Young eaglelet in a transport bag that was lowered from a nest in coastal Virginia for processing. Photo by Holly Smith

TRACKING Bald Eagles in 3D

By Bryan D. Watts

**Director, Center for Conservation Biology
of the College of William and Mary and
the Virginia Commonwealth University**

Aviation safety depends on knowing the location of hazards within the airspace. A great deal of time and effort has been spent to carefully map and mark stationary hazards such as tall buildings, towers, and mountains to inform pilots about their location and height. But all hazards are not stationary. Birds are one of the most significant categories of non-stationary hazards within the airspace and represent a potential hazard to aviation. One of the most dramatic events in recent years that brought public attention to this problem was when flight 1549 ingested Canada geese in both engines just after takeoff on Jan. 15, 2009 and was forced to make an emergency landing on the Hudson River.

Globally, wildlife strikes have killed more than 262 people and destroyed over 247 aircraft since 1988. Factors that contribute to the increasing threat are the increasing populations of large birds and increased air traffic by quieter, turbo-powered aircraft. In the United States, strikes have increased nearly 7.5 fold since 1990, reaching 13,795 in 2015. During that year the estimated cost was nearly 70,000 hours of aircraft downtime and \$229 million in equipment and operational costs. Birds were involved in 98.5% of strikes and in terms of damage and risk, size matters. For every 100-gram increase in body mass there is a 1.3% increase in the likelihood of aircraft damage if a strike occurs. In eastern North America bald eagles, various species of geese and swans, and large gulls represent some of the greatest threats.

More than 70% of bird strikes occur below 500 feet and most

Continued on page 3

Continued from page 2

TRACKING Bald Eagles in 3D

happen around airports during takeoff or landing. As with the incident on the Hudson, because strike risk is highest during low-altitude flights around airports, understanding the spatial patterns of bird distribution and movement in the vicinity of runways is a high priority to improve aviation safety. Due to their large body size and the tremendous increase in their population within the Chesapeake Bay (Virginia bald eagle breeding population now exceeds 1,000pairs), bald eagles represent a growing concern to airport operators. Understanding their distribution and movement patterns around runways may help to inform pilots of potential hazards and contribute to flight planning.

During the spring of 2016, the Center for Conservation Biology (CCB) assisted the U.S. Department of Defense to deploy 12 transmitters on bald eagles near airports (and banded with PURPLE leg bands). The Microwave, Inc. transmitters used provide a very high data rate and were programmed to deliver altitude.

The accumulation of bird movements and positions over time has revealed areas that are consistently used by eagles, as well as the vertical distribution of activity associated with the sites. Mapping these bird hazard sites is similar to mapping fixed hazards like towers, with altitudes to avoid.

As part of the project, we have sent large amounts of the resulting tracking data to the military. They are assessing it for incorporation in their operating procedures. Our hope is that the tracking data will provide valuable information when planning flight operations around the airfields.

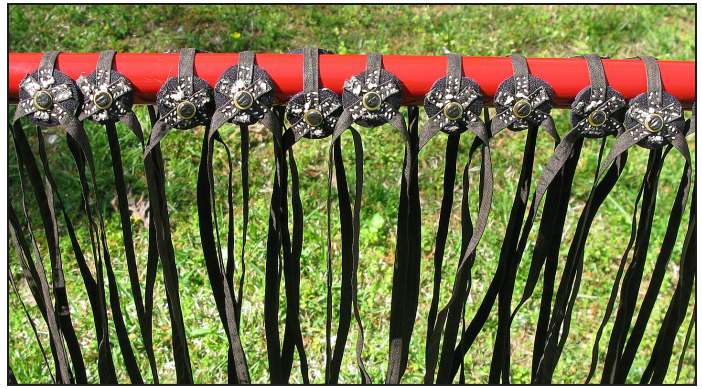
For more information about these juvenile bald eagles and their traveled locations, please visit our EagleTrak Blog:
<http://www.cccbirds.org/news-room/blogs/eagletrak-blog/>

About the Center for Conservation Biology (CCB)

We are a group of dedicated professional scientists, students, and citizens who focus energy, expertise, and experience on solving pressing environmental problems. Our work has global impact. It drives the conservation community forward on a daily basis. Our research is used to create or improve environmental policy, to inform management decisions, to locate the highest priority lands for protection, and to educate us all about the least destructive path ahead. With a record of bringing more than 500 research projects to successful conclusions, we are proud of how these projects continue to shape our world.

Although we are a research unit shared by the College of William and Mary and the Virginia Commonwealth University, all of our research and operating costs come from gifts, grant awards, and contracts.

For more information: <http://www.cccbirds.org>



TOP: Hand-sewn transmitter harnesses ready for use on bald eagles. Photo by Bryan Watts. **CENTER TOP:** Bryan Watts adjusts the harness used to attach a solar-powered transmitter to a bald eagle near a military facility in Virginia. Photo by Reese Lukei, Jr. **CENTER BOTTOM:** Reese Lukei records data as Bart Paxton holds and Bryan Watts measures and bands a young eagle near a military installation in coastal Virginia. Photo by Holly Smith. **BOTTOM:** Young eaglet with a transmitter stands on a dock in a residential area of Virginia Beach near a military installation. Photo by Holly Smith.



A mom and baby chimp eat together on the beach.

Photo by Carol Guzy/For The HSUS.

SANCTUARY: Liberia Chimp Rescue

by Karen E. Lange

The Humane Society of the United States (The HSUS)

They survived wars, invasive research and abandonment. This is their story

More than 60 chimpanzees live on six islands, near where a tangle of rivers meets the fierce waves of Liberia's Atlantic coast. Every day, they wait by the water as a boat carrying three men glides up to the islands' beaches, bringing provisions—coconuts and plantains, tubs of chopped papayas and cucumbers, bunches of potato greens. Lookout chimps hoot the arrival from treetops, calling others from the mangroves. Within minutes, groups of 10 to 12 assemble. Because their muscles are denser than humans', chimps generally do not swim. The island chimps, though, waded out to greet the boat like delegations.

Once the boat is anchored, two of the men step into the water. They wear scrubs the New York Blood Center provided to lab staff from 1974 to 2004, when the chimps were test subjects at a research center called VILAB II. As the chimps' infected blood made them unusable for certain tests, they were placed on these islands. At that time, the boat's arrival was a cause for fear: It could mean chimps would be darted for sedation and removed. Now the boat's appearance means only food, from the hands of familiar caregivers.

As the hungry chimps approach, one man delivers birth

control for females and placebos for males directly into the palms of individual hands. Then he tosses ears of corn and showers the beach with popcorn. The second man in the water guards the boat—the chimps could easily overpower a person. Onboard, Joseph Thomas, manager of animal care, takes a head count and watches that the men aren't outmaneuvered. It's a complicated relationship. These men were once the chimps' captors. The research center kept the chimps in cages. Again and again, VILAB staff darted chimps to sedate them, infected them with hepatitis and other diseases and performed blood draws and liver biopsies. Yet the staff also cared for the chimps and stayed with them during the long, painful years when Liberia fell apart.

"Samantha!" calls Thomas, who began working at VILAB in the 1970s. A chimp sitting on the beach, hair graying, her back toward him, stops collecting popcorn and turns to meet his eyes. Thomas smiles. "She knows me well." At 42, Samantha is the oldest of the former research chimps—a witness, with Thomas, to all that took place.

Together, the chimps and the team of Liberians who cared for them made it through civil wars, hunger and sickness. And they survived the weeks after March 5, 2015, when the New York Blood Center cut funding for food and supplies

Continued on page 5

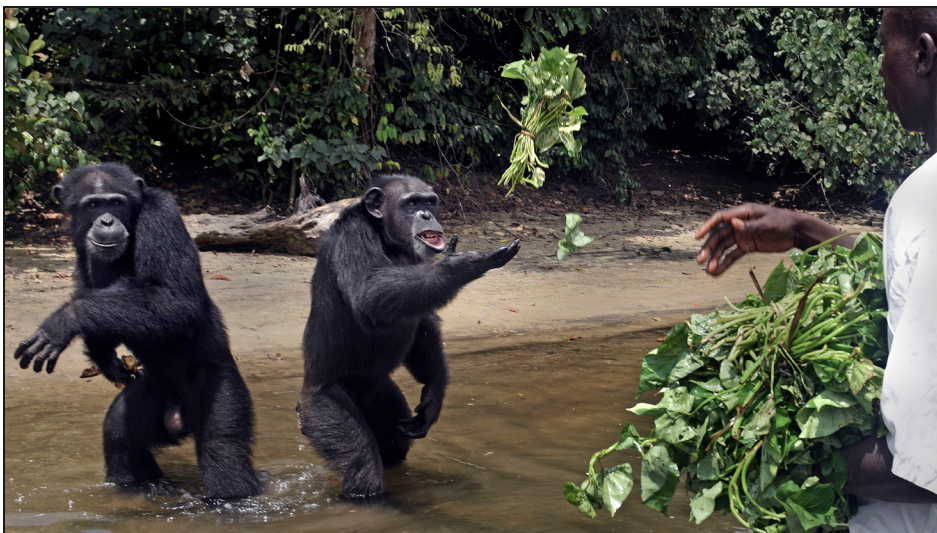


Photo by Carol Guzy/For The HSUS

Stuart (left) and Juno (right), former research chimps, being given daily deliveries of food from HSUS caretaker.

Continued from page 4

SANCTUARY: Liberia Chimp Rescue

and wages. The Humane Society of the United States (The HSUS), Humane Society International (HSI) and others rushed to help.

The very reason that the blood center sought out the chimps as test subjects—their similarity to humans—in the end saved them, says Jenny Desmond, director of the HSUS/HSI project to care for the chimps: Chimps, like humans, are survivors. “*Their resilience is amazing,*” she says. “*They won’t give up.*”

When word of the blood center’s decision reached him, Thomas could find only enough fruit to feed the chimps one more day. Three days passed, then he took all the money he had—\$25—and bought as much food as he could. Cakpa Fahn, the team’s mechanic, brought potato greens. Driver John Cooper donated bananas. Thomas headed to the dock with 10 gallons of water and what he feared would be the last food to reach the chimps. He knew what would happen next: They would die, waiting for a boat that never came. Thomas was upset, and he looked it. As it happens, the Liberian Institute for Biomedical Research (LIBR), which once housed VILAB, now hosts scientists developing an Ebola vaccine using human volunteers. One of those researchers saw him

and asked what was wrong. Her concern led to Dr. Brian Hare of Duke University, who reached out to Kathleen Conlee, HSUS Vice President of Animal Research Issues. Hare and Conlee developed an emergency response with a network of experts and advocates, and pressured the blood center to honor a promise of lifetime care. When the blood center refused, The HSUS set up a GoFundMe campaign.

This year, The HSUS and HSI are striving to partner with the Liberian government to establish a sanctuary for the former research chimps, as well as some chimps who were recently confiscated under Liberia’s new wildlife law.

In 2015, searching for people to oversee the long-term care of the abandoned chimps, Conlee contacted Desmond and her husband, veterinarian Jim Desmond, then in Kenya. The couple flew to Liberia. What they saw compelled them to accept the positions offered by The HSUS (Jim serves as medical and technical expert). The island chimps were thin, their hair patchy and dull. They met the boat with fear and belligerence, baring their teeth, sometimes throwing rocks or sticks.

“*I’ve never seen chimps so desperate,*” Jenny says. “*It was like seeing babies when they come in [to a sanctuary]—like 63 traumatized orphans.*” And so, with LIBR’s permission, the Desmonds set up a temporary headquarters in buildings formerly used by VILAB. The HSUS rehired 90 percent of the former VILAB staff: 33 people.

Back in the 1970s though, when a scientist named Dr. Alfred Prince wanted to develop a low-cost hepatitis B vaccine, the main concern he faced was where to get test subjects. Prince, working for the New York Blood Center, decided to establish a research lab in Liberia. The lab started to collect chimps, fueling a trade in orphaned infants from the wild. Samantha arrived at VILAB on Dec. 14, 1976, sold to the lab by a man in a nearby town. She was 1 1/2. The first arrivals were chained to a jungle gym, where Thomas and other caregivers would



Photo by Carol Guzy/For The HSUS.

Without daily deliveries of food from HSUS caretakers, these former research chimps would starve to death.

Continued on page 6

Continued from page 5

SANCTUARY: Liberia Chimp Rescue

sometimes play with them. Staff and visitors used to give them candy and ice cream and bottles of soda.

In 1979, there were riots in Liberia over the price of rice. The following year, there was a coup, and the president was killed. But at VILAB, research went on. The biggest change came for the orphan chimps. After several babies hung themselves while unsupervised on the jungle gym, Samantha and the others were moved into small, concrete cages. Thomas would bend his head close so Samantha could touch his scalp. When it was time for Samantha to be sedated, he would call her over to the side of the cage, and she would extend her legs to receive injections.

In 1989 outside VILAB, the military government rigged an election to stay in power. On Christmas Eve in 1989, rebel fighters invaded, and within six months had reached the area around VILAB. News footage shows the strain of life under the rebels: the lab's director, Betsy Brotman, giving a forced smile to a child soldier with an AK-47 at a waterside checkpoint. It was hard for staff to get food to chimps on the islands. Many chimps were dying, and if staff left the grounds to search for scarce provisions, they encountered fighters who would kill for food.

In late 1992, West African peacekeepers defending the capital of Monrovia bombed rebel territory. Brotman's husband, Brian Garnham, wrote a statement critical of the bombing that was leaked to the BBC.

On Jan. 31, 1993, as the peacekeepers and their Liberian allies advanced against the rebels, soldiers of the interim government arrived and began looting. One kicked in the front door of Garnham's house and shot him dead. Staff just downstairs heard the gunfire and Brotman screaming. The soldiers rounded up everyone and forced them to march to Monrovia. Left behind, Samantha and the other chimps were trapped

without food or water. Several were shot or stolen by soldiers. After two weeks or more, when the caregivers were finally allowed to return, about 50 chimps had died. The rest were lying unconscious, apparently surviving by licking moisture off the bars of their cages.

By 1997, with the main rebel leader, Charles Taylor, elected president, the war was over. Research resumed. Around this time, Samantha began to escape from her cage with her "husband." It always ended the same way: They were tranquilized and recaptured.

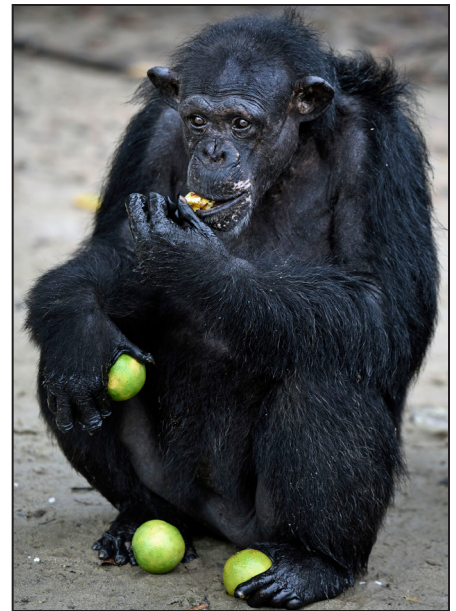
In 2007 Samantha was retired permanently to an island. She had been tranquilized 345 times and had undergone 49 liver biopsies. On the day she was set free, Samantha headed straight into the mangroves. She did not look back.

Today, thanks in part to the work of The HSUS/HSI, chimpanzees can no longer be used in experiments in the United States unless scientists can show it would benefit the conservation of the species.

Since the arrival of The HSUS, Samantha and the other former research chimps are getting better care than ever on the islands—food deliveries every day, a wider variety of fruits and vegetables. They are less stressed and healthier. Onshore, the Desmonds and long-time staff are looking after 10 orphaned chimps given up by owners or seized by the government. Each morning, as the orphan babies play, it all seems possible: to restore the chimps to full, free lives; to reach a future where animals are no longer taken from the wild; to bring, from all the suffering, hope.

Printed with permission from "All Animals" magazine---the membership magazine of The Humane Society of the United States.

To read the full version of this story:
www.humanesociety.org/hsuschimps



Photos by Carol Guzy/For The HSUS.

Top: Samantha is the oldest research survivor on the islands Bottom: Orphaned chimps, Rudy and Lucy, leap between Jenny and Jim Desmond near a row of abandoned cages that once housed research chimps.

TO HELP The Humane Society of the United States Liberia Chimpanzee Rescue create a permanent sanctuary for the island chimps and the orphans, please visit:
www.humanesociety.org/chimpsanctuary

ABOUT The HSUS

The Humane Society of the United States is the nation's most effective animal protection organization. Since 1954, The HSUS has been fighting for the protection of all animals through advocacy, education and hands-on programs, is rated the top animal organization by its peers, and receives high marks from charity evaluators. Together with its affiliates, The HSUS rescues and cares for tens of thousands of animals each year, but its primary mission is to prevent cruelty before it occurs. It is there for all animals, across America and around the world.
<http://www.humanesociety.org/>



Photograph provided by Foster Parrots Ltd.

THE LOST PETS OF COSTA RICA

by Karen Windsor
Executive Director, Foster Parrots, Ltd.

Habitat destruction and poaching continue to pose major threats to the success of wild macaws in Costa Rica. Two US non-profit organizations, Foster Parrots, Ltd. (Rhode Island) and Kerulos Center (Oregon), are collaborating with the “Hatched To Fly Free” (HTFF) organization on a program of rescue, release, and education effort for parrots in Costa Rica.

The “Hatched To Fly Free Nursery Rehabilitation Facility”, established near Corcovado National Park, is the first of its kind in the Southern Zone of Costa Rica to provide specialized care to rear and rehabilitate confiscated, rescue and injured native macaws and parrots for release back into the wild. The Facility also provides a refuge and lifetime quality care for retired breeders, former “pet” parrots who are not candidates for release, and disabled wild or elderly birds who need peace and permanence.

Each winter, Marc Johnson, Foster Parrots Ltd Founder and CEO, and I travel to Costa Rico for several weeks to work at the “Hatched To Fly Free Nursery Rehabilitation Facility”.

It had become a part of the daily routine and certainly an activity most highly anticipated by the dogs, that early morning walk down the dirt road bordering the Hatched To Fly Free property. The ambient temperature would give rise to sweltering humidity as soon as the sun ascended over the line of trees to the east, so the morning dog-walk was always prompt but short. As Marc approached the dirt driveway, two red-lored Amazons perched in the branches of the trees nearby caught his attention. Normally wild

parrots quickly retreat and avoid humans, but one of this pair remained low in the tree, signaling Marc with pinning eyes and fanning tail. Marc was intrigued. “Hey, Chico!” he called. “Do you know people? You do, don’t you!”

Marc held out his arm and beckoned the bird, who continued to trill and signal while holding his station in the tree. Giving up, Marc turned around and took a few steps. Suddenly there was a red-lored Amazon on his shoulder.

Chico accompanied Marc to the house where he hung



Photograph provided by Foster Parrots Ltd.

Continued on page 8

Continued from page 7

THE LOST PETS OF COSTA RICA

around for a couple days, visiting with the guests and unabashedly accepting food treats. Then on the second day Chico's mate flew by, reprimanding him and calling him to her. Chico took to the air after her and did not return again to the house, although here and there over the next year many of our guests would notice an Amazon parrot perched low in the trees along the road, paying much more attention to them than a wild Amazon should.

While we can't know the details of Chico's story, we can presume he had been poached from a nest as a baby and raised by a human family. Whether he was an escaped pet or had been willingly released is anyone's guess, but Chico had found his way back to the wild and to the life he was always meant to live, albeit with a lingering affection for humans.

It is illegal to keep native parrots as pets in Costa Rica, but this is a practice deeply ingrained in the culture and nest poaching is an activity that persists throughout the country. Costa Rica's two indigenous macaw species, the scarlet macaw (*Ara macao*) and the great green macaw (*Ara ambiguus*) have experienced alarming declines in population over the last several decades. Having lost ground throughout South and Central America, great green macaws are classified as an endangered species. They number only in the hundreds in northern Costa Rica and struggle against shrinking natural habitat in Nicaragua, Honduras, Panama, Columbia and Ecuador. Scarlet macaws, with a wider range that stretches from south eastern Mexico, down through Central America and well into South America, have fared better, but in Costa Rica where a relatively healthy population persists on the Osa peninsula, only fragmented pockets hang on throughout the rest of the country. Other native Costa Rican parrot

Continued on page 9

ABOUT Hatched To Fly Free (HTFF)

Founded in 2014 to establish a collaboration within the local community to protect the magnificent Macaw species and educate people about their conservation.

A "Conservation with Heart" initiative dedicated to the rescue and protection of Costa Rica's avifauna species and to the repopulation of her embattled macaws. Through breeding and release methods that embrace each bird as an intrinsically valuable, vital individual, HTFF is working to increase numbers and expand last strongholds of scarlet and great green macaws in all of Central America. Their rescue and rehabilitation efforts return injured, captured or confiscated parrots to the wild.

Chris Castles, HTFF Founder and Director, originally from New Zealand, specializes in captive wild animal management and is responsible for the raising and release of more than 150 macaws over 11 years working in Costa Rica with a success rate of over 90%.

For more information: www.hatched2flyfree.com/partners/



Chris Castles "Hatched To Fly Free" (HTFF) in the field in Costa Rica.....
Top: Chris adjusting release aviary containing red lored Amazons released in summer of 2016; Photograph provided by Foster Parrots Ltd.

Center: Chris with scarlet macaws, Zeus (front) and Geoffrey (back); Photograph provided by Matt Terry.

Bottom: Chris releasing Lou in Jan.2017, the first wild scarlet macaw rehabilitated and released by HTFF; Photograph provided by Foster Parrots Ltd.

Continued from page 8

THE LOST PETS OF COSTA RICA

species like the red-lored Amazon (*Amazona autumnalis*), the mealy Amazon (*Amazona farinosa*), and smaller species including the crimson fronted conure (*Psittacara finschi*) and the diminutive orange chinned parakeet (*Brotogeris jugularis*) are prolific throughout their ranges, but are nonetheless subject to poaching.

Illegally held parrots are confiscated by the authorities when they are discovered in Costa Rica. Organizations like Hatched To Fly Free on the Osa peninsula are set up to care for birds like this and guide their transition back into the wild. However, human socialization, whether in a positive or negative context, leaves a fingerprint on every single bird who has been lifted from a nest and raised in a cage.

In the summer of 2016, Hatched To Fly Free received 14 parrots for rehabilitation from Parque San Francisco in Dominical, and all were successfully released. Several canary winged parakeets and one crimson fronted conure quickly assimilated into local flocks. One white headed pionus disappears for days at a time but returns periodically for an easy meal at the house or at the feeding station that has been established to support released parrots before they achieve independence. In 2016 seven red-lored Amazons in all were released by HTFF, and all are now indistinguishable from the hundreds of Amazons that frequent the trees around the compound... except for the two who continue to be challenged by the imprint of their prior human relationships.

Jimmy is a stunning young red-lored male with sleek, green, iridescent feathers and a confident posture. One of 5 Amazons rehabilitated and released by HTFF toward the end of the summer, Jimmy is strong and assertive and would be a great candidate for assimilation into the wild flocks on the Osa... if it wasn't for his uncompromising enmity toward human men, and his belief that he might actually be able to kill one if he remains committed to the task. It's hard to predict when Jimmy might strike, but early mornings and late afternoons are perilous times for human targets without the sun and intense mid-day heat to signal siesta time for parrots.

By Jimmy's side, always, is his chosen mate, Pirate, an old girl who had spent many years in captivity as a pet, and who, presumably, had been lovingly cared for, which is evident in her affectionate nature. Pirate has done surprisingly well in the wild and the fact that she has taken a mate of her own species fills us all with hope and pride. But the sound of Pirate flying near signals the inevitable violence of Jimmy. The men all take cover.

A similar issue of aggression surrounded a toucan we met at Sanctuario de Lapas El Manatí, a large wildlife and bird refuge located near Punta Arenas in the north Pacific region of Costa Rica. When we visited the sanctuary in



Pirate (right) and Jimmy (left) Photograph provided by Foster Parrots Ltd.

2014, it was impossible to ignore the beautiful toucan as he paced the ground in his aviary, following human visitors and periodically slapping his impressive beak against the aviary wire. He was intent on engaging visitors, but it was not out of friendliness. "He had been raised as a pet," explained Rodolfo Vargas, the sanctuary Director. "We attempted to rehabilitate and release him, but he repeatedly sought out and attacked children. He is not eligible for release. He must live his life here now."

The sweetness of Pirate and the fearless aggression of Jimmy are polar opposite characteristics that render both birds equally vulnerable as they struggle to cut the ties that continue to bind them to humans. To some degree the relatively remote location of HTFF provides a level of security, but either bird may seek out interaction with a human, either out of love or hate, and the result could be disastrous.

The questions we must ask are: when parrots like Pirate and Jimmy are unable to entirely transcend their human relationships, does this render them un-releasable? Does our desire to keep them safe justify a life-long sentence in captivity?

What are we to do with the lost pets of Costa Rica?

Foster Parrots, Ltd. is a 501(c)3 non-profit organization dedicated to the rescue and protection of unwanted and abused companion parrots and other displaced captive exotic animals. A staunch advocate for parrots as wild animals, Foster Parrots' conservation work in Central and South America helps keep parrots and other animals safe in their natural habitat, and also embodies our ultimate message: *Parrots are worth more in the trees than in cages; parrots and all wild animals should be free!*

For more information: www.fosterparrots.com;
www.fosterparrots.com/hatched-to-fly-free/



Flame (left), a Red-phase Screech owl, education ambassador and foster mother. Not sure she is happy with the one who decided to bathe before the group photo....

© Photograph provided by Pocono Wildlife Rehabilitation and Education Center

CARING FOR OWLETS OF THE POCONOS

by Kathy Uhler

Director of Pocono Wildlife Rehabilitation and Education Center

Springtime is baby season in the Northeast, and many baby owls, called owlets, hatch in March and April. These are some of nature's earliest babies of the year. Owls are some of the less common yet more fascinating birds admitted to Pocono Wildlife Rehabilitation and Education Center, a non-profit, all-volunteer organization caring for wildlife in northeastern PA. Although seven species of owls live in our region, only three, the Screech owl, Barred owl and Great-horned owl are regularly found orphaned, injured or displaced as nestlings and are delivered for care to the facility.

The smallest common owl in the Pocono region is the Eastern Screech owl. At a mere eight inches tall, these birds live in forests and backyards in tree cavities. These diminutive nocturnal hunters come in two color phases; red and gray, with in-between shades of brown. Screech owls are beneficial in controlling rodents in residential and forest areas, but they need dead trees for the cavities they provide for nesting. Young screech owls become injured, orphaned or displaced when dead and damaged trees in which they are nesting are

cut down.

The Pocono Wildlife Rehabilitation Center admits an average of six of these tiny balls of fuzz, no bigger than a tennis ball with big yellow eyes, annually. Each is given a full examination. Ears, eyes, wings, legs and feet are checked. Weights are recorded, warmth provided and rehydrating fluids administered. Owlets of the same size are housed together to prevent imprinting on people. When stable and hydrated, they are fed tiny pieces of mice with a pair of forceps. Each fuzzy screech owl can eat up to three mice a day! Imagine what wild Screech owl parents must do to catch that many mice for up to three growing youngsters.

Our volunteers are always excited to see the little balls of fuzz, but cuddling is not allowed. Rather, adult non-releasable resident Screech owls foster the tiny owlets. When stable and eating well, each young owl is introduced to the foster Screech owl who will feed and provide appropriate modeling of behaviors and vocalizations for the growing owlets. The owls returning to the wild are better prepared than they would

be had we hand-raised them. Once the owlets are fully feathered, they begin to hunt for themselves. When they have achieved competence in catching food, each is released back into the wild where they belong. If you'd like to encourage nesting of Eastern Screech owls, simply allow for several dead trees on your property of sufficient size for woodpeckers to create the cavities they nest in, or construct and erect a Screech owl box.

Barred owls are our second largest owl nesting in the Northeast. They stand about 20 inches high with large deep brown eyes and no feather tufts on their heads. They inhabit primarily wetlands, swamps and lowland forests, nesting in dense cover. They rarely nest in neighborhoods, but occasionally, one or two of the most endearing fuzzy softball-sized owlets are presented for care. They prefer to nest in hollow trees and occasionally tall tree stumps. Babies hatch in March, and if they fall from the nest, they can freeze to death. Owliver, the resident education ambassador Barred owl and a retired older Barred owl raise the nestlings guiding them

Continued on page 11

Continued from page 10

CARING FOR OWLETS OF THE POCONOS



© Photograph provided by Pocono Wildlife Rehabilitation and Education Ctr
Great-horned owllet that had fallen from its nest high in a tree at a park in Allentown, PA.

Owl Facts

Owls are birds (about 200 species) found in all regions of the Earth except Antarctica and some remote islands.

Many owl species have asymmetrical ears. When located at different heights on the owl's head, their ears are able to pinpoint the location of sounds in multiple dimensions.

The eyes are not true "eyeballs." Their tube-shaped eyes are completely immobile, providing binocular vision which fully focuses on their prey and boosts depth perception.

Owls can rotate their necks 270 degrees. A blood-pooling system collects blood to power their brains and eyes when neck movement cuts off circulation.

A group of owls is called a parliament.

Owls are great hunters. Owls also hunt other owls. Great Horned Owls are the top predator of the smaller Barred Owl.

The tiniest owl in the world is the Elf Owl (5 - 6 in. tall); the largest North American owl, in appearance, is the Great Gray Owl (up to 32 in. tall).

The Northern Hawk Owl can detect—primarily by sight—a vole to eat up to a half a mile away.

Barn Owls swallow their prey whole—skin, bones, and all—and they eat up to 1,000 mice each year.

Northern Saw-whet Owls can travel long distances over large bodies of water. One showed up 70 miles from shore near Montauk, New York.

<http://www.audubon.org/news/11-fun-facts-about-owls>



© Photographs provided by Pocono Wildlife Rehabilitation and Education Ctr
Top: Gray-phase Screech Owl just getting adult flight feathers. Still very fuzzy!
Bottom: Barred owls always seem to look forlorn. It must be the big brown eyes.

Continued on page 12



Eric Uhler gives this now-grown male Great-horned owl a last inspection before it gets its release and freedom in the wild.

© Photograph provided by Pocono Wildlife Rehabilitation and Education Center

Continued from page 11

CARING FOR OWLETS OF THE POCONOS

to becoming experts in rodent control and successfully return to the wild. These larger owls can eat three to four mice each per day as nestlings, but devour double that as they grow!

Our largest nocturnal raptor, the Great-horned owl, can be nearly two feet high and has a five foot wingspan. It is the quintessential "hoot owl". Although normally in mature forests and upland areas, nests are also found in cemeteries and parks. Great-horned owls tend to remodel crow or hawk nests high up in mature trees and nest in the dead of winter. Unlike Screech owls, the trees are usually safe, but the owlets tumble to the ground.

If uninjured, with help from utility equipment or tree-climbers, many Great-horned owlets can be returned to their nest, even in an artificial nest placed in the tree! If it's not possible, or an owlet is injured, care is available at Pocono Wildlife Rehabilitation and Education Center. Up to six of these large grapefruit-sized fuzz balls can be fostered here annually, where Maxima, our education ambassador Great-horned provides care and acts as a role model for the future "Tigers of the Air". Great-horned owls are provided mice and graduate to larger food items as they grow. Each of these growing birds can eat an entire rat each day. It is indeed a lucky thing to have a family of these birds living nearby. Not only are they excellent at controlling rodents, they are one of the few regular predators of skunks.

The Pocono Wildlife Rehabilitation and Education Center cares for more than 2000 injured, orphaned and displaced animals of all species native to PA annually. The state and federally licensed organization receives no government

funding and relies completely on donations from the public to house, feed, provide medical care and release back to nature the wildlife entrusted to our care.

For more information: www.poconowildlife.org



© Yoke Bauer DiGiorgio, Photographer

About the Pocono Wildlife Rehabilitation and Education Center (The Center):

Wildlife rehabilitation is the treatment and care of sick, injured or orphaned wild animals with the goal of releasing them back to the wild. Human contact is kept to a minimum, and animals are held in captivity only until they are able to live independently in the wild. It is an all-consuming undertaking and requires a 24 hour 7 day commitment.

The Pocono Wildlife Rehabilitation and Education Center, a nonprofit organization founded by Kathy and Eric Uhler, is funded entirely by community donations. Serving six counties in northeastern PA, the Center takes in more than 2,000 animals (primarily mammals and birds) annually. The Center also provides diverse and extensive educational programs/demonstrations to the public.

To view a 5-minute documentary about the Center:
<https://vimeo.com/178634126>



Black-Crowned Night Heron adult pair preparing their nest.

© John A. DiGiorgio, Photographer

AGAINST THE ODDS Treasures in Disguise

by **Teresa Deckard**

Director of Bird Refuge of York County in York, PA

In the early 1990's a red-tailed hawk set up residence at Central Park along posh Fifth Avenue in the Big Apple. It was a decidedly uncommon location for this common raptor. In a short matter of time this internationally famous bird, dubbed Pale Male, captivated the hearts of viewers across the nation as he persevered against all odds in raising a family which has now become a "dynasty." Pale Male, an urban rarity, has been portrayed as imbuing the American spirit of adaptability, entering into a fertile land and winning against the odds in the land of hope and opportunity.

Meanwhile, around the same time period another story somewhat paralleling the saga of Pale Male, began to unfold right in the heart of York, PA. In 1937, six feet deep Kiwanis Lake was created at the 13 acre Farquhar Park in the city and became inhabited by common birds. However, a pair of an uncommon species of bird in PA was spotted by

local residents around 1992 at this unlikely location. This was around the period when they had reached their peak of 345 at the secluded Wade Island rookery along the Susquehanna River. (The three acre island, located 20 mi. away in Harrisburg, is threatened by shoreline erosion and establishment of double-crested cormorants (DCCO) that compete for the limited 3 acre space.) Amidst busy traffic, strolling park goers, wandering dogs and surrounding houses, this pair raised young and against the odds, the population increased.

The lusty caterwauling of "Kwacks" and barking increasingly filled the air in the spring and summer and then would "mysteriously" disappear at the end of August. The young, streaky brown and white young were referred to as "tree chickens." Children playing in the park would fancy they heard monkeys in the park. Curious neighbors in the community began calling Bird Refuge to ask who these

noisy inhabitants were. Who indeed!!

These were treasures in disguise—the black-crowned night heron (BCNH), a state endangered bird. It is hard to believe these diamonds in the rough, maturing over a three year time span, would develop into such dapper adults.

The next surprise came in 2000 when the nests of a great egret (GREG) and a yellow-crowned night heron (YCNH) were discovered. Facing extinction (from the feathered hats craze), up until 1917 it was doubtful the great egret could recover. PA's first documented nesting record did not occur until 1957 but they remain endangered in this state. They deserted a significant rookery near Washington Boro in the 1980's. Up until 2000, Wade Island was the great egret's only breeding rookery, averaging 150 nests yearly. Kiwanis Lake became the first known PA colony where the three endangered species were found together. But

Continued on page 14

AGAINST THE ODDS Treasures in Disguise



Left and Right: Injured Black-Crowned Night Heron chicks being cared for by Teresa and Mark Deckard at Bird Refuge. © Photographs provided by Bird Refuge of York County

becoming established does not come easily. In 2009, we admitted our first yellow-crowned night heron pre-fledgling from Harrisburg, uniquely different from the black-crowned night heron. (For example their diet being heavier in crayfish versus a consumption of mostly fish). The next highlight, in addition to rehabbing other yellow-crowned night herons, was to raise a hatchling clutch and release them to Wade Island. (Most hatchlings don't survive tree falls.) In earlier years, the largest known colony was located on a small Susquehanna River island offshore of the Governor's Residence that dispersed due to disturbance. Recently, the tiny yellow-crowned night heron colony (11 nests) scattered to urban Harrisburg from a long established colony in mature trees scattered across residences of an older, stately neighborhood (threatened by disturbances such as fox and other domestic mammals).

Each spring, dozens of these endangered migrant wading birds return to nest in mature conifers surrounding the lake at Kiwanis Lake. They have chosen this unique site, designated in 2004 by Audubon as Important Bird Area #82, for their nursery to raise their young. With the decline of other night heron rookeries, this grew to be the largest black-crown colony in PA. It is certainly the most accessible and visible to those visiting this treasure trove. The reward is the opportunity to openly observe their intriguing courtship behavior and rearing of raucous young. Within a few years, however, the Kiwanis Lake rookery also began a decline just as a new colony began to establish in Ephrata (E) crammed into a median strip at a parking lot. The multi-leader pines were jam packed with nests near Conodoguinet Creek (104 mi. tributary of the Susquehanna).

While located around numerous bodies of water such as Willis Run, Codorus Creek and Mill Creek and confluences of the Susquehanna River, Kiwanis Lake has been anything but a serene location from the colony's beginning. As the years have passed, the birds have attempted to adapt to an increasing level of intrusion which includes vehicular traffic, park pedestrians who walk directly beneath their nests, summer fest activities, firework displays and noise from the nearby stadium, colored night lights over the lake, dogs off leash, lawn mowing, vandalism and construction. This is in addition to natural threats such as great horned owl attacks and other forms of predation. Living among the rookery, great horned owls find easy pickings and an abundant food source. (The diligent guarding of parent birds is no match for the powerful "tiger of the air" who can take on prey as large as great blue heron.)

As the egrets fought for "prime real estate," the herons were forced to relocate to smaller conifers and even into deciduous trees on outer perimeters of the lake, increasing their vulnerability to predators. Older trees are dying and dead trees have been cut down. Litter, fishing line and tackle pose a danger for birds that ingest the trash or become entangled in the line resulting in serious injuries. Birds have been harassed by people who scream, throw sticks and stones, or chase after them on foot or bike. To increase visibility in the park as a crime deterrent, lower branches were cut from the trees. Shrubbery was removed to detract the population of ducks and geese. One season, the lake was drained during nesting season for clean-up.

At the time these intrusive measures were taken, it was not known just how special these guests were and just

Continued on page 15

AGAINST THE ODDS Treasures in Disguise



Left and Right: Injured Black-Crowned Night Heron chicks being cared for by Teresa and Mark Deckard at Bird Refuge.

how important this rookery would become to an already state declining population. Within a couple of weeks after hatching, these semi-precocials begin to clamber around the nest and out to other branches. As they mature, they wander further out, using their powerful beaks and feet to pull themselves along if they slip. They are very aggressive in their feeding activity, grasping their parent's beak in a scissor grasp which elicits a feeding response. Siblings can be observed grabbing one another in forceful holds which can result in falls. (Aggression can lead to Cain/Abel syndrome or to cannibalism in which a new hatch sibling may become a meal for an older, hungry chick.) Branches help to break their falls, often enabling them to clamber back up. As they age, they become more active in preparation for fledgling. An amusing sight is to view the vigorous wing-flapping in which they appear to be suspended from a bungee cord. New fledglings, not able to fly great heights, have little cover to hide in and cannot get back up into the trees since the lower branches were removed. These "puddle-hoppers" now become very vulnerable to two-legged and four-legged predators as

well as the continued stealthy winged attacks of owls.

While Bird Refuge has been responding to emergency calls and providing education since the colony first became established, increased measures to ensure a more rapid response were set in place several years ago. Volunteers walk through the nesting areas two to three times daily once chicks begin to hatch in mid-May. Any unflighted heron/egret found on the ground is too young to survive and is admitted to Bird Refuge. This protocol is followed until the last birds fledge in August. This provides rapid emergency response to fallen chicks, vital to their chances for survival after sustaining severe impact injuries. Birds that have died at impact are collected, weighed, measured for age and examined to determine extent of injuries and cause of fall. (Ex. Nest invasions result in severe beak lacerations over the skull, face and neck.

Asynchronous in hatch, emaciated chicks are often less developed and not able to compete for food with older siblings. Record-keeping, journaling and nest counts have provided insights into changes at the rookery

that help us to better understand how to provide care for birds undergoing rehab care.)

Falls (resulting from nest disruptions or tornadoes) from such heights always result in massive combined injuries such as head and spinal trauma, intracerebral and/or internal hemorrhaging, eye injuries, lacerations, and fractures. Combined with emaciation, fishing tackle ingestion, fishing line entanglement, maggot infestation, trauma from human attacks (throwing sticks/stones), and/or car collisions we face the challenges of providing intensive care to these hapless victims.

Well over 500 egrets and herons alone, have been admitted for care. Typically, most of the intensive care is provided directly at Bird Refuge, routinely providing triage consisting of rehydration therapy for dehydrated and emaciated birds, wound management, medications, fracture repair, etc. Birds requiring surgical repair are treated by supporting area veterinarians and returned immediately back to rehab for post-op care. As the birds stabilize, they may progress to gastric lavage of

Continued on page 16

AGAINST THE ODDS

Treasures in Disguise

fish slurry and then advance to whole fish. One defense mechanism which offers a challenge is regurgitation reflux when the bird is stressed—not conducive to an already compromised victim. Another is territorial hostility that erupts when a new bird enters into a claimed area of the flight aviary. Fighting and loud caterwauling may ensue. When the birds reach fledge at six weeks, they are provided live minnows to learn how to forage. Once they have mastered this skill and have recovered from injuries, they are ready for release.

We find that the herons released under our care weigh significantly more than other fledglings which help them get off to a good start. We continue to keep a close watch on all of the fledglings at the rookery. Over the years we have developed a good eye to determine which fledglings may be in trouble. During periods of drought, they may become emaciated due to low fish supplies. A more recent problem among the Kiwanis Lake egret has been a higher incidence of a type of parasitism (eustrongylides) that is usually fatal to chicks 4 weeks and under.

These birds come with an attitude. Even at one week of age, they threaten, strike, defecate and regurgitate on us. Scrubbing out their “nest units” is like trying to scrape up concrete. Like our home “rookery”, we smell like fish during the nesting season. They can get into dangerous territorial brawls that sound like cats so must be carefully monitored. They are the most expensive and endangered bird we rehab, yet they rarely bring in greatly needed donations due to their location. Yet, we find we are privileged to work with them. Our goal is return as many healthy herons back to the wild as possible to protect the threatened rookeries as they continue to face rising obstacles.

Disturbances at once healthy rookeries in PA have resulted in disruption. (Sadly, by 2010, only a single yellow-crowned night heron at Kiwanis Lake and Ephrata has been sighted.) By 2010, predatory attacks were so constant at Ephrata that the black-crowned night heron were forced to abandon Lot 1 strip and began using the smaller strip at “lot 2”. Remarkably, the population grew just as the Kiwanis Lake population declined, and exceeded Kiwanis Lake. However, each season the death toll is high from great horned owl attacks. And so in 2016, Ephrata also took another decline, in spite of attempts to nest in neighboring deciduous trees. While these birds have continually adapted to the many changes through the years, there is no doubt that the populations are dismally declining to a critical low. Even so, Bird Refuge volunteers will continue to be on the scene providing care for birds in distress. With public awareness and education, measures to provide greater stewardship are being put in place by other organizations who are also concerned.



© John A. DiGiorgio, Photographer

But will it be too little, too late for this treasure in disguise? Will there be a final limit that will push them beyond what they can tolerate as they battle against the odds?

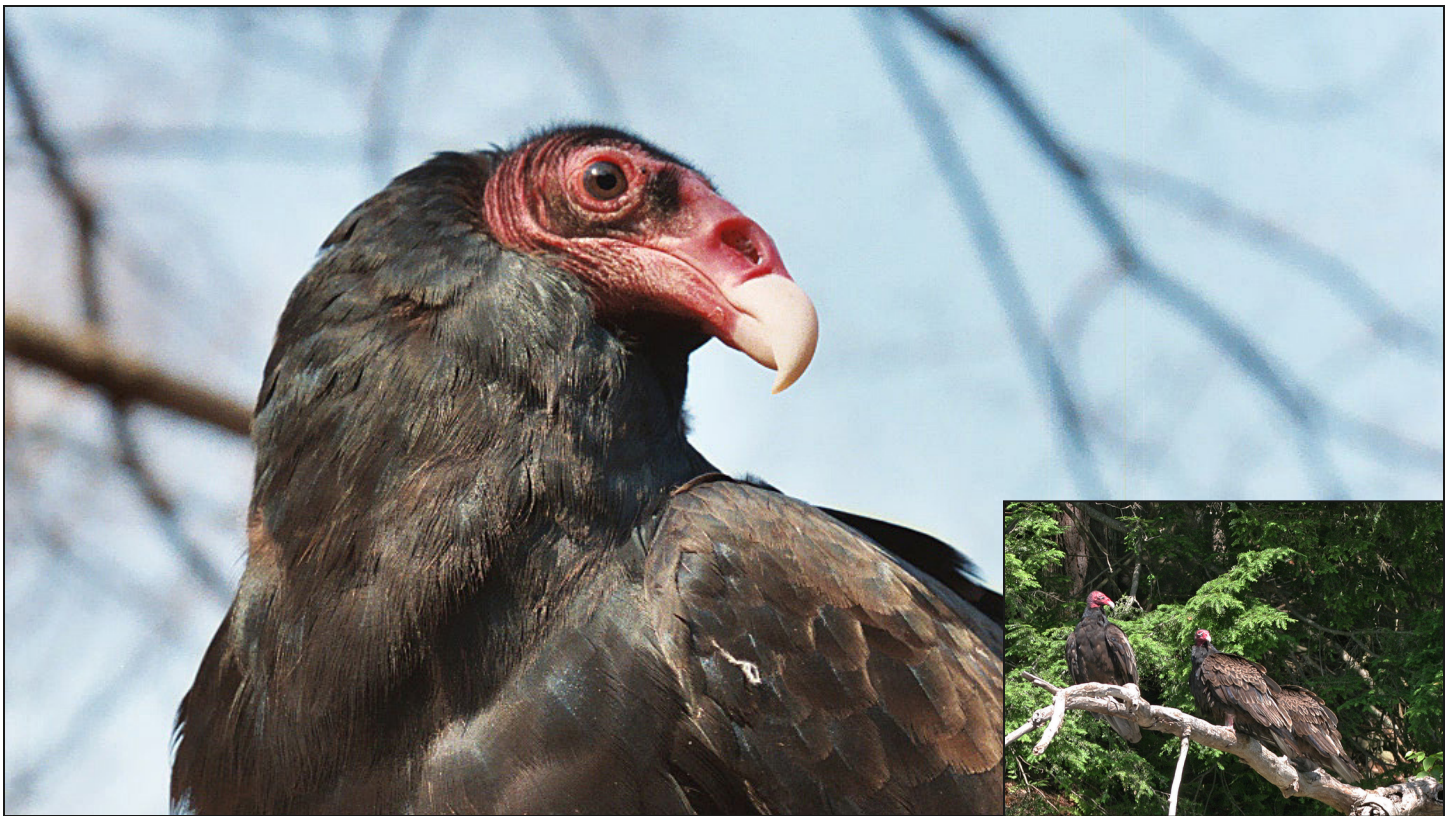
What a horrendous loss that would be!

About Bird Refuge of York County:

Bird Refuge is a volunteer, non-profit, charitable, 501(c) (3) organization that operates in York County, PA under state, federal, endangered species and educational permits issued by the PA Game Commission and US Fish and Wildlife Service. It depends solely upon the donations of individuals. Throughout its 30 plus years of operation, the Bird Refuge has cared for and released thousands of PA's “jewels on wings” ranging from tiny hummingbirds to the great blue heron” treated more than 13,000+ from PA's 375 native songbirds and other non-raptors; admitted well over 500+ herons and egrets (including GRBH, green herons, state endangered BCNH, GREG, YCNH and bitterns); conducted annual monitoring and nest counts at the KL, and Ephrata rookeries; provided educational resources and presentations to the community; and trained volunteers/interns to assist in the operations of the facility and care of the birds.

In 2015, the Bird Refuge began its final phase which now focuses primarily on continued efforts with the state-endangered PA non-raptor species - herons, egrets, and bitterns.

For more information: www.birdrefuge.org



© Photograph provided by Avian Wildlife Center; © (Insert) Photograph by John A. DiGiorgio
Above: BUZZ at the Avian Wildlife Center; Insert: Wild turkey vultures sunning themselves on a branch.

B U Z Z, The Lovable Vulture

by Giselle Chazotte Smisko

Co-Director, Avian Wildlife Center, Naturalist, Photographer and Master Bird Bander

Love and beauty are not the words normally associated with turkey vultures. Yet, I have heard both uttered when people were introduced to our resident "TV," Buzz. What possesses a stranger to become enamored of a bareheaded bird that feeds on carcasses and has other habits that even gross out a ten-year-old boy? Personality.

First, let me explain how Buzz became one of the Avian Wildlife Center's resident lecture birds. Our Center works to restore injured wildlife and return them to the wild. This vulture was found with a mangled wing and no chance of recovery. The injuries had occurred weeks earlier, and the bones had healed improperly, mending at odd angles, encasing blood vessels and twisting tendons. Surgery to correct was impossible. Knowing the bird had a strong will to survive despite the injuries, we

delayed euthanasia. It could rest in a secure enclosure with easy meals for a few days. In that short period of time, this bird seemed to grasp his predicament and readily adapt to captivity. Instead of showing fear, he appeared curious. Despite his injuries, he was healthy. He had the vivid red color to his head that characterizes adult turkey vultures. His eyes were bright and focusing on us. His gaze seemed thoughtful. And I believe he was just that. When it comes to survival, we have much to learn from birds. Buzz earned his second chance at life.

We made the decision to train him for use in our educational programs and applied to the government to add him to our permits. Training began, adapting natural behaviors to an indoor situation. First we got him used to perching on a carpeted stand—not too difficult. The next

step was more challenging. Normally we attach large birds to the stands by jesses, soft leather straps around their feet. Vultures have a habit of excreting on their feet, coloring their red skin white. This is thought to cool the birds when temperatures rise. Jesses could not be left on the feet.

Another characteristic of vultures is their tendency to regurgitate at will. It

DID YOU KNOW? There is an important purpose to the Turkey Vulture's bald head. When eating carrion, it must often stick its head inside the carcass to reach the meat. A feathery head would capture unwanted pieces of the meal, and the bacteria it hosts. After mealtime, the Turkey Vulture perches in the heat of the sun and whatever has managed to cling to their head will be baked off.

Continued on page 18

BUZZ, The Lovable Vulture



© Photograph provided by Avian Wildlife Center
BUZZ perched on a carpeted stand and extending his good wing at the Center.

is a survival technique that allows these birds that gorge on a large meal to quickly “lighten their load” when they need to make a fast escape. Buzz ably demonstrated this adaptation many times in his early appearances, much to the displeasure of the audience. As he became accustomed to more people, he relaxed, would eat what he had thrown up, and settle down to show off. Not charming, but a practical action that wild vultures will also do.

Buzz did begin to enjoy the attention. He would extend his good wing out 2 ½ feet to impress all with his size. He stood 20 inches tall with a foot-long tail and would turn showing off his plumage. From the distance vulture feathers appear black, but up close they range from a midnight-blue iridescence to shades of brown on the wing feathers with white edges. Under the wing is the “silver lining” of the flight feathers.

Although forever grounded, I observed in Buzz behaviors that could connect him with his flighted brethren. Buzz was not only curious, but playful. He would seek attention from his caretakers by calling in soft, guttural tones then running up to untie shoelaces. Watching vultures in flight I have observed similar playful behavior. Soaring individuals will swing through the sky, crossing their paths, suddenly rush forward, dive on each other, then soar upwards again. Life in the wild can be harsh, but vultures, including Buzz, do relish living.

About the Avian Wildlife Center:

a wildlife rehabilitation center that treats all species of injured and orphaned wild birds with the goal of returning them healthy to the wild. The Center offers educational programs, provides an information resource, works on conservation projects and field research to better protect our native species.

The Center, a 501(c)(3) tax-exempt organization, is located in northwestern New Jersey and is funded through private donations. www.avianwildlifecenter.org



© John A. DiGiorgio, Photographer

FACTS AND STATS: Turkey Vultures

Size: 25 to 32 inches long, weighing about 6 lbs with a wingspan around 6 feet.

Voice: Have very few vocalization capabilities. Like most other vultures, they can only hiss (when threatened) and grunt (young when hungry; and adults in courtship).

Diet/Feeding: Includes both meat and plants. Unaggressive and non-confrontational, the Turkey Vulture will not feed on live prey (as opposed to the black vulture). With its excellent eyesight and highly developed sense of smell, they soar above the ground, searching for food.

Flight: Turkey Vultures fly with their wings in a dihedral (Vshape). They can soar for hours at high altitudes without ever flapping their wings and migrate across the continents with minimal energy output. Reaching the top of the thermal, they dive across the sky at speeds near 60 mph, losing altitude until they reach another thermal.

Nests: Scratching out an indentation in the soil, nests are on the ground and in caves. Nests are often found in abandoned barns and sheds, which provide safe hiding places.

Breeding: One brood a year, consisting of 1 to 3 blotchy-looking eggs. Both parents share the responsibilities of incubating (38 to 41 days) and caring for the brood. Young are covered in pure white down, and have dark grey faces.

Life Cycle: Young fledge 70 to 80 days after hatching. Immature fledglings still have darker heads, and can be confused with the black vulture, from a distance.

Why does the Turkey Vulture vomit?

Having few natural predators, the Turkey Vulture's primary form of defense is vomiting. They do not “projectile vomit,” but cough up a lump of semi-digested meat. This foul smelling substance deters most creatures. It will also sting if it gets into the offending animal's face or eyes.

Why does the Turkey Vulture urinate on its legs?

Directing its urine right onto its legs serves two very important purposes. In the summer, wetting the legs cools the vulture, as the urine evaporates (The vulture cannot sweat like us). Urine contains strong acids from the vulture's digestive system, which kill any bacteria that may remain on the bird's legs from stepping in its meal.

DISCOVERING NATURE



© John A. DiGiorgio, Photographer

CALL OF THE BULLFROG

by Yoke Bauer DiGiorgio
Director, Delaware Valley Eagle Alliance,
Naturalist, Filmmaker and Author

During a trip last year to northern Maine to photograph moose calves, my husband, John and I came upon a large pond while hiking in the forest. It was late in the day and the miserable, painful black flies so typical for June were not out. So we decided to stop. Not long and the quiet was broken by a deep-pitched "jug-o-rum" bellow. The sound so deep it reminded me of the mooing of a cow. Except, we were in the forest in Maine and there were no cows in the area. We followed the continuing deep call coming from the pond and finally saw it - a bullfrog.

Able to live up to 25 - 30 years and measuring 3 1/2 to 8", the Bullfrog (*Rana catesbeiana*) is the largest frog in North American. Nocturnal, solitary, preferring ponds, lakes and slow-moving streams, their range includes eastern and central United States (also New Brunswick and parts of Nova Scotia). Although their diet includes insects, crayfish, other frogs and minnows, they have been known to catch and swallow small birds and young snakes. Eggs are attached to submerged vegetation. Tadpoles are large, measuring 4 to 6 3/4", and make take up to two years to transform.

Soon more calls, and the air filled with the chorusing of bullfrogs. Breeding season, and the males were performing their mating calls, butting and wrestling one another in hopes of attracting a female.

Taking it all in, we sat side by side, until dark and time to head back. **Amazing!**

THE DELAWARE VALLEY EAGLE ALLIANCE

*working towards the conservation of
our wildlife and natural resources*

ABOUT US

The Delaware Valley Eagle Alliance is a 501 (C)(3) not-for-profit organization; our mission: to increase awareness, understanding and promote conservation of our wildlife and the natural environment.

We believe that raising awareness and understanding will change attitudes toward conservation and our natural resources. We are committed to this because we believe that it essential to enabling all life to exist and prosper on Earth.

We are dedicated in our focus to bring awareness through our publications, projects and programs.

John A. DiGiorgio, Chairman and President
Richard Crandall, Director and Vice President
Yoke B. DiGiorgio, Director and Treasurer
Debra Reimer, Secretary

THE NATURE'S NEWSLETTER

facilitating the free access and exchange of information of critical issues in the world today; to educate, inspire and empower all to take part and take action to enable all life to exist and prosper on Earth.

PROJECTS, PROGRAMS AND EVENTS

We are available to work closely with biologists and conservation groups to document ecological and wildlife research on rare, sensitive and endangered wildlife and environmental issues. We collaborate with communities and other organizations to develop and organize wildlife and environmental educational and entertaining programs/events.

SUPPORT

The Delaware Valley Eagle Alliance grew out of a grassroots effort of individuals who want to help protect our wildlife and habitat. Our organization depends on individuals and organizations who share our concern for wildlife and the environment. Our publications, projects and programs would not be possible without the generosity of our supporters and volunteers.

For more information and/or to make a tax deductible donation please contact:

**Yoke Bauer DiGiorgio at yokedvea@gmail.com
or call 201-841-5168.**

Editor-in-chief: Yoke Bauer DiGiorgio
Design: Yoke Bauer DiGiorgio / Nature's Art Productions LLC
www.naturesartproductions.com

The Delaware Valley Eagle Alliance assumes no liability for opinions and information expressed by individual authors.

© Delaware Valley Eagle Alliance Publication