

Magazine of
the North Carolina
Zoological Society
www.nczoo.org

ALIVE

WINTER
2011



*Special Holiday
Issue*

**Inspiring
Gifts** pp.6,7

**Re-Spotting
Our Ocelots** p.18

PLUS
**All the News about
the Birds** pp.2,10,20

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THE ISSUE...

is about things with wings.

Birds, bats and the conservation issues affecting them both. We added some stories about some wingless creatures, too, salamanders, Giraffes and Red Wolves.

The lead story explains some of the behind-the-scenes work that keepers and curators must undertake to keep the Zoo's avian collection viable and connected to national conservation programs. The article also features a section on the Golden White-eye, a small bird in the center of a giant rescue program that is underway in the Marianas Islands. The N.C. Zoo is the first zoo to successfully breed this rare species.

Other articles deal with two special in-kind gifts that have come to the Zoo from Randolph County and from Randolph Telephone Membership Corporation. The County's gift is a retired ambulance that the veterinary staff is reconditioning to transport Zoo animals. Randolph Telephone's gift provided equipment, special software, cam-

eras and high-speed Internet service to the Giraffe barn so that keepers, veterinarians and security could monitor Julie, a beloved Giraffe, at the end of her life. That gift, which provided staff with real-time views of Julie when she was in her stall, meant that someone would be alerted if Julie fell or became sick at

night. Because of the equipment, Julie lived out all of her days under the watchful eyes of the people who cared for her.

This issue also provides an updated identification chart for the birds living in the R.J. Reynolds Forest Aviary. This spread is worth saving and bringing with you whenever you visit the exhibit. We also detail the exclusive, environmentally responsible items you can purchase from the Zoo Society as you finish your last-minute holiday shopping.

As 2010 draws to an end, the Zoo Society's staff wishes all of its members, and the rest of the world, a New Year filled with peace, joy and wonder.



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The North Carolina Zoo is open every day of the year, except on Christmas Day. Winter hours begin November 1 and extend from 9 a.m. to 4 p.m. Summer hours begin on April 1 and extend from 9 a.m. to 5 p.m. Standard admission prices are \$10 for adults, \$8 for seniors and \$6 for children. Zoo Society members and registered North Carolina school groups are admitted free. The Zoo offers free parking, free tram and shuttle service, picnic areas, visitor rest areas, food service and gift shops.

For information, call 1-800-488-0444.

The Zoo is a program of the N.C. Department of Environment and Natural Resources. The North Carolina Zoological Society is the non-profit organization that supports the North Carolina Zoological Park and its programs. Society offices are open Monday – Friday, 8 a.m. to 5 p.m. For information, please call 336-879-7250 or logon to the Society's Web page at nczoo.com.



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Female Eclectus Parrot
by Diane Villa



VALERIE ABBOTT

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Some 328 birds, from 80 different species, live at the N.C. Zoo. Most of the birds are on exhibit, but a few of them reside in off-exhibit areas set up specifically for breeding purposes.

Flight Plans

Deciding which species to exhibit and which to breed, either on- or off-exhibit, is a Zoo family matter. Bird keepers, their supervisors and the Curator of Birds meet at least once a year to review the future of each individual bird, as well as its species. In these meetings, staff members write, or update a species Management Plan that details what we have in store for each bird, and its cohorts, during the coming year.

These plans answer questions about our breeding and exhibit goals for each species. We consider whether to expand or reduce the size of our collection. We look at the genetic diversity of our population and whether or not we should shore it up with new blood. We talk about the need to ship out maturing youngsters to prevent future inbreeding and to allow them breeding opportunities at other zoos.

From an exhibit perspective, we look at the visual and educational impact of a species in its current setting. Does the species fit with the exhibit's message? Do the birds fit with the plants and with other birds in the exhibit? Would more, or fewer, individuals make the exhibit more effective?

Finally, we look at each species with respect to its presence in other zoos that belong to the Association of Zoos and Aquariums. We want our collections to mesh with these other zoos, so that we can support these breeding programs and we can acquire offspring from them to display in our exhibits.

This process can be relatively straightforward for exhibits that contain only a few bird species. But, for the R.J. Reynolds Forest Aviary and the Zoo's two, off-exhibit breeding facilities—our Avian Propagation buildings—staff will meet over and over again to discuss, review and consider the complex needs of all the species and individual birds served by these areas.

Managing Our Flocks

Currently, the Aviary and the Avian Prop facilities house 48 species and 200 individual birds. The management plans for these birds carefully address the ways that the Zoo plans to maintain these species into the future. Particularly, the plans deal with each species' breeding potential and with the impact that each breeding program will have on the Zoo's collection, as well as on the collective population of a species as it exists in other responsible North America zoos.

Twenty-five of the Zoo's avian species are key species in the collections of many zoos across North America. To keep these populations viable, zoos across the continent cooperate by enrolling their birds in collective breeding plans that are managed by zoo professionals. These professionals volunteer to track individual birds within a managed species and arrange these indi-

Adult
Red-faced
Liocichla



VALERIE ABBOTT

viduals into pre-selected breeding pairs that are chosen to maximize the genetic diversity preserved in each succeeding generation. These nationwide plans look at species' total captive populations and recommend which individuals should breed in a given year. The recommendations often call on zoos to give up, or take in, individual birds in order

to create these pre-selected mating pairs. Among the species participating in these programs are the Bali Mynah, the Hooded Pitta and the Sunbittern.

Keeping track of all these comings and goings requires time, patience and an individual to act as each species' North American Population Manager. This manager oversees the species' breeding programs, maintaining a computer database on each individual bird enrolled in the plan. In that database, the manager records the genetic history, the place of origin, the location, the breeding history and other important information on each individual. These data allow managers to weigh these factors when formulating recommendations about which birds to pair. The goal is to match birds in ways that maximize the genetic diversity that is passed on to succeeding generations.

Smaller Management Plans

Several bird species at our Zoo do not require, or have, national management programs. Consequently, our staff relies on in-house management teams to oversee the genetic diversity of the Zoo's bird populations. These teams also assume responsibility for controlling the number of individual birds that we exhibit or care for at the Zoo.

For example, some species reproduce so readily in zoos, captive managers must find ways to keep them from becoming too numerous for the space available to them. Such is the case with the Scarlet Ibis. We control its population size by exhibiting only males.

Raising Healthy Chicks

When visitors ask if birds breed in the Aviary, we answer, "Yes, many of them do." The Aviary contains an ideal environment for breeding many species—lots of space, a variety of plants, diverse foods and an array of potential nesting sites and nesting materials. Some of the species that have successfully raised chicks in our Aviary are Pekin Robins, Golden-headed Manakins, Turquoise Tanagers, Blue-grey Tanagers, Fairy Bluebirds, Red-faced Liocichlas, Sunbitterns, African Pygmy Geese, Hottentot Teals, Victoria Crowned Pigeons, Roul Rouls, Hooded Pittas, Amethyst Starlings, Golden White-eyes and Nicobar Pigeons.

The Aviary's lush landscaping contributes to these breeding successes. It resembles their natural environments closely enough to provide parents with the resources they need to raise their families. Sometimes, though, the Aviary resembles nature too closely. Neighboring bird species, ponds, windows and the like, can expose newly-fledged Aviary chicks to some of the same dangers—predators, accidents, injuries—that wild chicks encounter when they leave their nests.

Our keeper staff implements a clever plan to shield our fledglings from these potential missteps. This plan relies on detailed record keeping and close monitoring of each breeding pair.

The monitoring starts at the beginning. As soon as a keeper notices a bird starting to build a nest, the record keeping starts. From then on, keepers track the entire breeding process: when the nest is completed, when the clutch is

laid and when a parent first starts to incubate the eggs. Everyone watches for the first sign that a chick is cracking out of its egg.

Once hatched, the chick's protection plan ratchets up even further. Staff watches the nest for a few days, usually four or five, while the parents establish a comfortable routine for feeding and caring for their offspring. After that, a plan is implemented to kidnap the whole lot of them and move them to a safer place.

The kidnapping proceeds

in stages. First, we nab the parents. On the morning of the move, we lure them into a trap cage that we pack with vegetation. The lush plants give the parents plenty of hiding places, so that they can feel secure, and

provide plenty of perching sites for the chicks to use once they fledge. Once we capture the parents, we move quickly to get the chicks into the enclosure.

Since many nests sit in the tops of our Aviary trees, we often have to call in the Zoo's

arbor staff to help us. These agile climbers use ropes and harnesses to safely ascend the branches, find the nest, cup it with their hands and tuck it and its contents into a box. Once secure, the box is gently lowered to the keepers waiting below.

The chicks handle the transfer well. At this young age, their instincts tell them to hunker down and freeze when their nest jostles—so they sit still during the transport. While the chicks wait patiently, the keepers attach their nest to a branch inside the parents' cage. Once the family is



Pygmy Goose
chick and nest



Pekin Robin

reunited, keepers set plenty of food in the cage and then leave everyone alone. Typically, the parents flutter to the waiting nest quickly and begin feeding their brood in an hour or so.

By sequestering the family this way, we ensure that the parents and the young have access to specific nutritious foods, which we sometimes even supplement with vitamins. In addition, when the chicks leave their nest, they will fledge in a contained space, far away from predators, competitors or risky situations.

Growing Families

After the chicks fledge and leave their nest, we wait three or four weeks before moving the whole family to the Avian Propagation Center. At the Center, we can give the youngsters and the family plenty of room to grow. We transfer everyone to a large indoor flight cage and give all of them access, as well, to an outdoor flight area.

As they grow and develop, the chicks eventually begin to eat on their own. Once they are feeding well, staff separates them from their parents, who may be reorganizing their lives to begin nesting again. This year, one of our Pekin Robin pairs started nesting in the Avian Propagation Center before we had moved their chicks. When this happens, we move the chicks to their own holding cage.

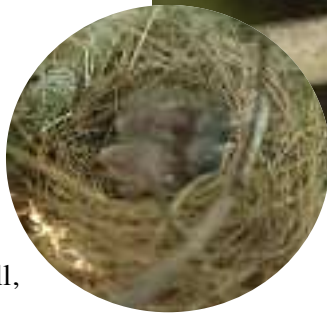
The move is can necessary because young chicks can be quite disruptive to their parents' renewed breeding plans. Occassionally, the young ones will pull new nests apart or even break any eggs their mother lays.

Even though we tuck these potential troublemakers into a new cage, we do not break up the family. We keep the chicks' cages near their parents so that family members can see and hear each other. We carefully monitor the chicks to make sure that they continue to eat on their own. If they stop, we shift them back with their parents, as the chicks are our first priority.

If the chicks keep eating independently, we make sure that they stay near their parents, where they can get a bird's-eye view of all the activities their parents undertake to court, mate, nest and rear their new brood. Only on very rare occasions do we pull chicks away from their families and try to hand rear them. Parent birds make much better caretakers than we do, so we do everything that we can to keep families together.

Aviary Prop's Population

The Avian Propagation facility sits off-exhibit, near the Zoo's veterinary hospital. The building houses 60 to 80 birds. Most of the birds are small songbirds (Passerines), small parrots or waterfowl. In addition to these breeding pairs, we also use the building to house birds that will eventually go on exhibit and birds that will eventually be sent to



Adult male
Manakin and nest
with hatchlings

bright orange markings on its face, tail, and wings. Native to China, Thailand and Vietnam, this species first arrived at the North Carolina Zoo in 1987.



Roul Roul chick

along well with the other birds in the Aviary.

The species' only drawback is the difficulty it has breeding in captivity. By 2007, this failure to breed caused the Red-Faced Liocichla's North American zoo population to



Hooded Pitta chick

other zoos. We hold birds with non-communicable medical problems here, also, to make it easier for the veterinary staff to tend to them.

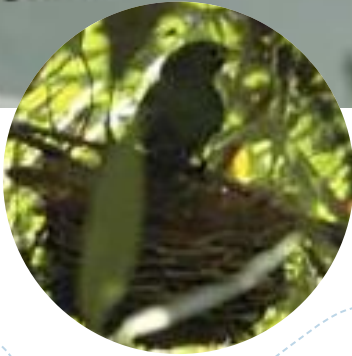
At the time of this writing, we have three breeding pairs of Blue-crowned Hanging Parrots in this facility. Two of these pairs have produced nine male offspring, all of which are now on exhibit in the Aviary.

One of the Zoo's most exciting breeding successes concerns the Red-faced Liocichla, a medium-sized, brown-feathered bird that carries

We like keeping this species because Liocichlas make good exhibit animals. They are colorful and active. They often forage in low- to mid-story vegetation, so they are fun to watch and easy for visitors to spot. Better still, Liocichlas' easy dispositions prepare them to get

drop below 12 individual birds.

That year, the N.C. Zoo stepped in to help by rounding up several single Liocichlas that were living in other zoos. We brought the loners here and matched them up as mates. From 2008 through 2010, these matches successfully hatched



Golden Headed
Manakin juvenile
chicks and
adult female
on nest

and fledged 10 Lio chicks. In 2009, we matched four of these offspring into two potential breeding pairs and sent each pair to a different zoo. We hope that these zoos will eventually breed their pairs and help this captive population grow.

Visiting the Aviary

Our avian breeding program succeeds because we have a knowledgeable, dedicated and passionate staff of keepers to care for our birds and manage our programs. These professionals do more than take remarkable care of our birds, though. They also enjoy sharing their knowledge and enthusiasm for birds with Zoo visitors.

We invite all Zoo visitors and all Society members to take advantage of our staff's eagerness to answer questions and talk about the Zoo's birds. Please, stop and talk to our keepers whenever you visit. They are happy to help and actually look forward to these encounters.

DEBBIE ZOMBECK, CURATOR OF BIRDS

A Feather in Our Cap



Golden White-eye:
First world hatch

Miraculously, a Golden White-eye flits from branch to leaf in the R.J. Reynolds Forest Aviary. It came here through a rescue program that began in the Marianas Islands in the 1990s.

Forty years before that, several Brown Tree Snakes had slipped onto one of these islands—Guam—and began spreading like wildfire. Within 30 years, they had eaten their way across the island and seemed to be causing the recent extinctions of all of Guam's native forest bird species.

When Guam finally realized the magnitude of these local extinctions, its government called on the Zoo's current Curator of Amphibians and Reptiles, John Groves (then Curator of Reptiles and Birds at the Philadelphia Zoo), to help determine if the snake was causing the birds' population declines and, if so, to suggest a plan to prevent further losses.

Mr. Groves confirmed the snake as the cause of the extinctions and set

out a plan with two objectives. The first was to collect birds from other Marianas Islands and place them in zoo-based captive breeding programs. A second objective was to interfere with the snakes' ability to stowaway on ships and airplanes destined for nearby islands.

Slowly, the snake was spreading across the archipelago, and Mr. Groves recommended capturing individuals from some vulnerable species living on snake-infested islands and relocating these groups to Marianas Islands that were free of people, ports and airports.

Mr. Groves worked with several AZA zoos to select five bird species for this captive breeding effort. The N.C. Zoo chose to work with the Golden White-eye.

Two pairs arrived here in 2008. By late 2009, the pair we placed in the Aviary successfully raised a chick, most likely the first Golden White-eye chick ever raised in captivity.

Our second pair of Golden White-eyes lives in the Zoo's off-exhibit Avian Propagation facility.

Next year, the Zoo will send Debbie Zombeck, Curator of Birds, to help with fieldwork on the Marianas Islands. She will assist in capturing and relocating birds to snake-free islands and, perhaps, sending some to zoo-based captive breeding programs. We are proud to be part of this national effort to protect Marianas' birds.

Watching Over Julie

In mid-September Julie, the Zoo's 33-year Giraffe died quickly in her stall from an aortic aneurism. Zoo staff knew that her time was coming. She was, after all, the second oldest Giraffe in captivity, and she had lived well beyond the average 25-year life span typical for a member of her species. Losing her was hard, but watching her grow old was not that easy, either.

Several years ago, she developed osteoarthritis. Our veterinarians treated her vigorously, both to manage the pain and to slow down the disease, but time marches on for Giraffes, as well as for people. As she grew older, other veterinary problems arose. And, while each one was treated, each one caused concerns about her failing health.

Veterinarians and animal division staff met regularly to discuss Julie—to ensure that she received the best care possible. Everyone wanted to do what was best for Julie: To keep her alive as long as possible but only as long as we could maintain her quality of life. Staff talked regularly about how to give Julie the best, and the longest, life possible.

As Julie continued to age, Society staff wondered if we could help Julie—and the Zoo staff—by reaching out to the Zoo's good friends at Randolph Telephone Corporation—a company that has given long and generously to Zoo causes. We wondered if Randolph Telephone Membership Corporation could devise a system to monitor Julie

throughout the night. That way, veterinarians and animal keepers could check in on her throughout the night.

Aaryn Slafky, Marketing and Communications Director for Randolph Telephone, listened to our requests and responded immediately. She assembled a crew of technicians to develop a way to allow Zoo veterinarians, keepers and security staff to keep their eyes on Julie when she was in her stall.

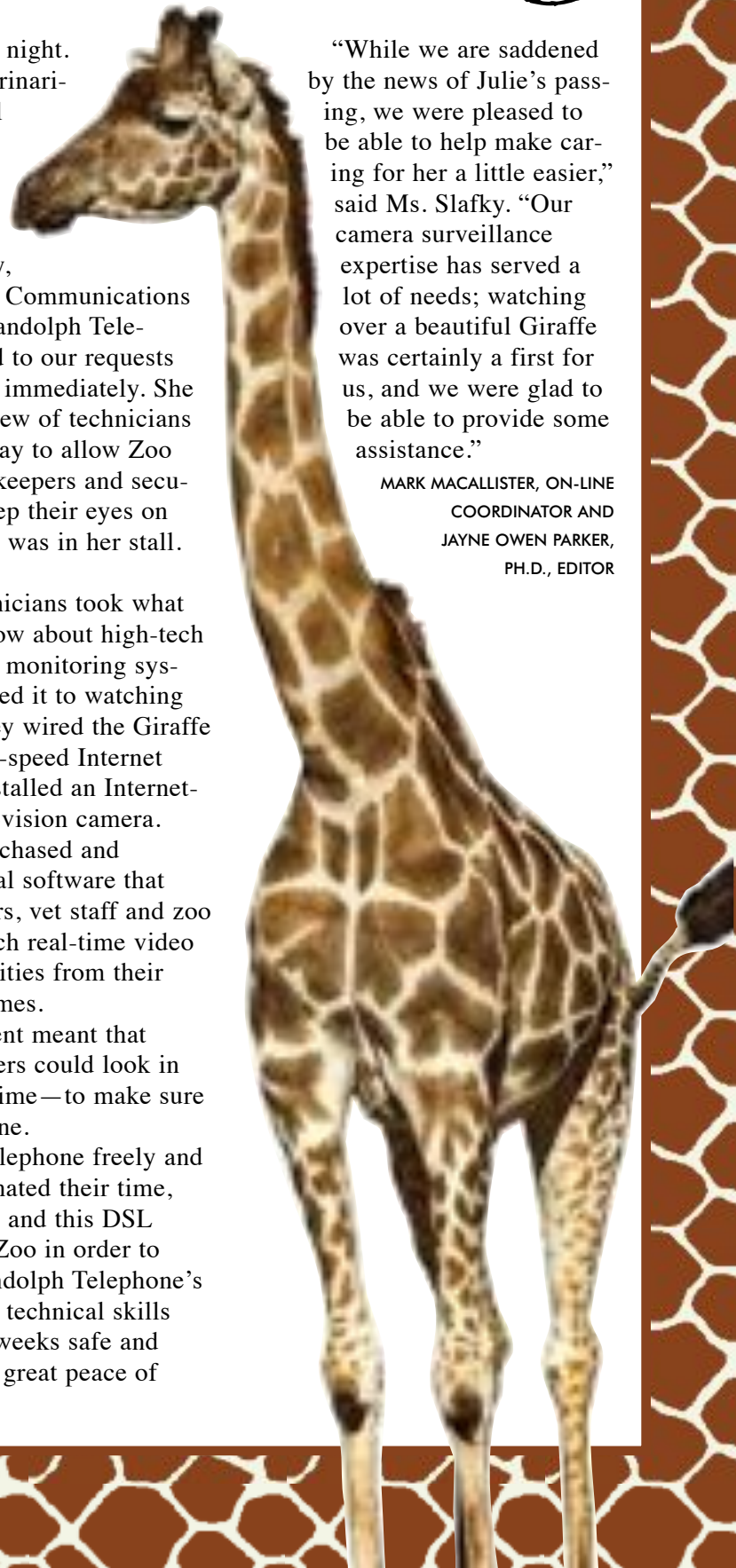
The technicians took what they know about high-tech security monitoring systems and applied it to watching over Julie. They wired the Giraffe barn with high-speed Internet service and installed an Internet-capable, night-vision camera. Then, they purchased and installed special software that allowed keepers, vet staff and zoo rangers to watch real-time video of Julie's activities from their offices and homes.

The equipment meant that Julie's caretakers could look in on her at any time—to make sure that she was fine.

Randolph Telephone freely and generously donated their time, this equipment and this DSL service to the Zoo in order to help Julie. Randolph Telephone's generosity and technical skills made her last weeks safe and gave Zoo staff great peace of mind.

“While we are saddened by the news of Julie's passing, we were pleased to be able to help make caring for her a little easier,” said Ms. Slafky. “Our camera surveillance expertise has served a lot of needs; watching over a beautiful Giraffe was certainly a first for us, and we were glad to be able to provide some assistance.”

MARK MACALLISTER, ON-LINE
COORDINATOR AND
JAYNE OWEN PARKER,
PH.D., EDITOR





County Ambulance Drives to the Zoo

The Zoo's Veterinary Medical Center staff regularly transports Zoo animals about—usually bringing them to the hospital for diagnostic procedures and taking them back when the tests are over. Most animals doze through the trip, lulled to sleep with a general anesthesia.

For years now, an aging 1992 Chevy van faithfully carried out these basic transport services. For years, too, veterinary staff dreamed of replacing the van with a real ambulance—a big, boxy vehicle with enough space to carry patients and veterinary equipment. But, that wish seemed unattainable until Chief Veterinarian Dr. Mike Loomis and Vet Tech Gisela Wiggins attended a mock-disaster training session a few years ago.

At that session, the pair worked through the simulated tragedy with staff from Randolph County's Emergency Medical Services. As they trained, someone mentioned how much the Zoo needed a real ambulance.

Emergency Medical Services Director Donovan Davis immediately understood the depth of this need and began a personal quest to find an ambulance for the Zoo. As he searched, he learned that Randolph County retired its old ambulances to serve other community institutions. Local fire departments, Randolph Community College and even Randolph Hospital had already benefited from this tradition.

Driving Force

So, Mr. Davis watched Randolph County's unit EMS-5 (the 2000 Ford F-350 pictured here) age. When its odometer hit 220,000 miles, he made his move, writing a proposal that asked the Randolph County Board of Commissioners to retire it into the service of the Zoo. The Commis-

ioners unanimously agreed, and the ambulance arrived at the Zoo in May.

Since then, zoo hospital staff has been transforming the ambulance to suit its new home. The Zoo's graphic designers are working to wrap it in a lively pattern—maybe Giraffe spots.

Veterinary technicians scoured the Zoo to find animal-sized gurneys that fit the vehicle perfectly. Anesthesia equipment, modified specifically for animals, was rounded up and stored in the ambulance. Facilities staff modified the hospital loading dock to accommodate its boxy rear-end.

What the Ambulance Brings

The vehicle's roomy transport area provides plenty of space for anesthetized animals. Arrays of storage areas, inside and outside, make room for all sorts of equipment and supplies, including a large oxygen tank and a permanently affixed anesthesia machine.

Working electrical outlets bring permanent power to operate monitors and other devices. Forced-air heating and cooling units make it possible to regulate the body temperatures of anesthetized patients. And, overhead lighting makes gauges, equipment readouts and patients' vital signs easy to see in daylight and during the nighttime.

Padded seats, seat belts and

handholds have added an extra measure of safety and comfort for our staff. The interior even includes an exhaust fan and a suction device.

Veterinary staff thinks that the ambulance will be ready to use by this fall. It should be up and running at about the same time that this issue of *Alive* goes to print.

Re-using and Recycling

This Randolph County veteran ambulance will significantly improve the care that the Zoo can give its animals. And, it will do so in a way that supports the Zoo's growing commitment to recycling and to following sustainable management practices. The Zoo recycled a resource and, at the same time, acquired much-needed equipment at no additional cost to taxpayers.

The Zoo's veterinary technicians, students and veterinarians want to express their sincere appreciation to all the individuals who made this donation possible. In particular, we want to thank the Randolph County Board of Commissioners and County EMS Director Donovan Davis.

Thank you all. DAVID HILL, VET TECH II





On a *Wing* and a *Prayer*

Around 1,100 species of bats inhabit the world. The United States lays claim to only 44 species, and only 16 of these species make their way around the Tarheel state. Three of these species are critically endangered—at very high risk of becoming extinct. But, their status is even more uncertain now that a new and pressing threat has placed bats in eminent danger.

The danger emerges from a devastating and mysterious disease that attacks and kills bats as they hibernate. The illness spreads with a ferocity and speed unmatched by any wildlife epidemic in the past century. In fewer than four years, the disease has killed more than one million bats. Once it infects a population, it kills 80 to 100 percent of the infected colony.

This new, relentless disease is called “White Nose Syndrome,” and it is sweeping toward the bats in our backyards!

Scientists first documented

White Nose Syndrome in 2006. It appeared in some of the New York caves that thousands of tourists visit every year. Some of these tourists may have inadvertently picked up and spread the malady. Since those initial infestations, White Nose Syndrome has spiraled outward, killing bat colonies in 14 states and two Canadian Provinces.

The syndrome got its name from the white, powdery looking fungus that grows on the noses, ears and wing membranes of infected bats. This fungus, *Geomyces destructans*, is common in many soils and flourishes when temperatures hover around 40 to 60 degrees — the ambient temperatures typical of the caves and the mines where bats hibernate.

All of North Carolina’s native bats are hibernators. They hunker down in caves for the winter because their food source, insects, disappears when the weather grows cold. Hibernation adapts bats to this seasonal famine. To make it through the food shortages, bats find a secure cave or mine, latch onto some good hanging spots, tamp down their metabolic rates and let their core body temperatures ease down to within a few degrees of the cave’s ambient temperature. This process reduces the calories they burn while waiting for warmer temperatures to bring a seasonal resurgence of

insects. By synchronizing their spring waking with warmer temperatures, healthy bats wake up only after ample food flutters around in the evening skies.

White Nose Syndrome disrupts this synchrony, causing infected bats to wake up more often and earlier than they should. Each awaking burns more calories, drawing from their fat reserves. Eventually, the wasting and hungry bats must leave their caves on desperate hunts for food. Without insects to prey upon, the bats quickly die of starvation or freeze to death.

Epidemics of any kind are particularly harmful to bat species that hibernate, because hibernators reproduce slowly. Typically, a female bears only one pup a year. So, once a population crashes, years will pass before it can recover, if it can recover at all.

Scientists have determined that White Nose fungus spreads in two ways. Most commonly, it hops from one bat to the next during social grooming

bouts. Social grooming is common in most bat colonies—some species spend 60 percent of their waking hours grooming themselves or their neighbors. This frequent bat-to-bat contact can send the fungus raging through a colony in just a few days.

People can spread the syndrome, too. Spelunkers and tourists pick up a spore or two during a cave visit and carry the fungus forward without even realizing it.

Sounding an alarm for the disease has proved difficult in American culture. Too many people have been taken in by spooky images and dishonest horror stories that portray bats as evil, fierce and dirty. These phony myths keep people from learning about the wonderful ways that bats contribute to healthy habitats.

Particularly, people fail to see the vital role bats play in controlling insect populations. These night flyers eat their body weight and more in insects every night. Collectively, colonies consume THOUSANDS OF TONS of insects nightly, keeping these insects, especially the mosquitos, from preying on people and other animals and from spreading disease. In tropical and subtropical areas, fruit- and nectar-



© ALAN C. HICKS, NEW YORK DEPARTMENT OF ENVIRONMENTAL CONSERVATION

eating bats provide different services, serving as key pollinators for many fruits, vegetables and other flowering plants.

Bats contribute to science and medicine as well. Research on these nocturnal creatures has led to new vaccines and blood-thinning medications and has advanced our understanding of how blood coagulates and how to keep sperm viable to use in artificial insemination.

Bat sonar, technically called “echolocation,” ranks as the best in the animal kingdom. The system performs so well that the United States military is trying to duplicate it. From their work, scientists hope to improve our capacity to detect landmines that litter countries no longer at war.

When bats drop out of an ecosystem, their absence can send disastrous ripples up and down the food chain. These reactions alone provide reason enough to protect bats as best we can. White Nose Syndrome has been detected at our doorstep. It has already been found in Virginia and Tennessee and is heading our way—and fast.

Staff at the N.C. Zoo contribute to bat conservation through education programs, including its Keeper in the Classroom Program: *Masters of the Night*, and its Overnight Zoo Snooze Program: *Creatures of the Night*. In addition, our staff continues to participate in the North Carolina Bat Working Group (ncbats.org).

You can support the Zoo's efforts to help bats by implementing good bat conservation practices in your own home and in your neighborhood. Here are some suggestions for you to consider:

1. Talk to your family and friends about the benefits of bats and warn them about the White Nose Syndrome that is harming bats.
2. Report any bats that you see flying about on a winter's day or any unexplained bat deaths that you encounter. Notify Gabrielle Greater at the N.C. Wildlife Resource Commission if you see anything suspicious. You can email her at gabrielle.greater@ncwildlife.org or call 1-828-273-9097.
3. Respect any state, federal and local cave/mine advisories and closures. When traveling from one cave to the next, clean and sanitize your gear, including your clothing.
4. Encourage your legislators to allocate funding toward research on White Nose Syndrome.
5. Donate your time or money to bat conservation organizations.

For more information about bats and White Nose Syndrome go to:

Bat Conservation International at www.batcon.org
 US Fish and Wildlife Service at
www.fws.gov/northeast/white-nose.html

WENDY GREEN FOLEY, SONORA DESERT KEEPER II

Native NC *Bat Species*

Rafinesque's big-eared bat

👂 **Townsend's big-eared bat**

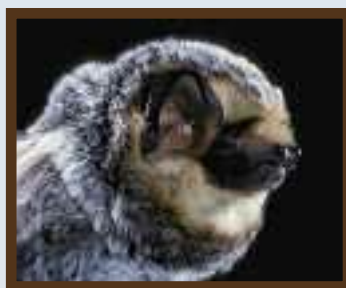


big brown bat

silver-haired bat



➡ **eastern red bat**



👂 **hoary bat**

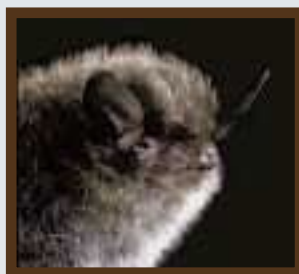
northern yellow bat



➡ **Seminole bat**

southeastern myotis

gray myotis



eastern small-footed myotis

👂 **little brown myotis**

Indiana myotis



➡ **evening bat**

tri-colored bat

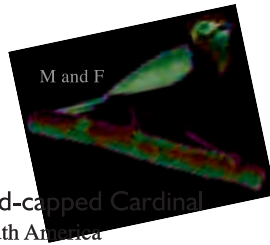
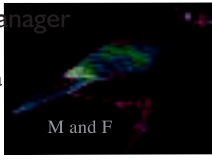
Mexican free-tailed bat

ALL PHOTOS © MERLIN D. TUTTLE, BAT CONSERVATION INTERNATIONAL, WWW.BATCON.ORG

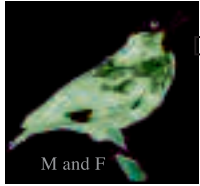
R.J. Reynolds Forest

PULL-OUT BIRD IDENT

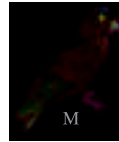
□ Blue-grey Tanager
Central and
South America
T
M



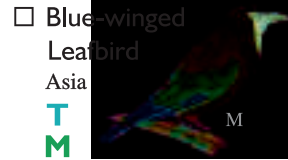
□ Red-capped Cardinal
South America
T
M



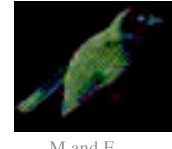
□ Golden-crested
Mynah
Asia
T
M



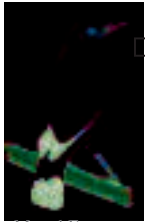
□ Blue-crowned
Hanging Parrot
Asia
T
M



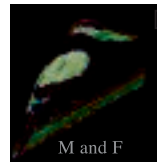
□ Blue-winged
Leafbird
Asia
T
M



□ Turquoise
Tanager
South America
T
M



□ Bali Mynah
Bali, Indonesia
CRITICALLY ENDANGERED
T
M

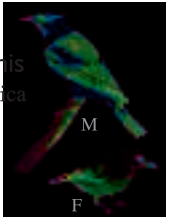


□ Blue-breasted
Kingfisher
Africa
T
M

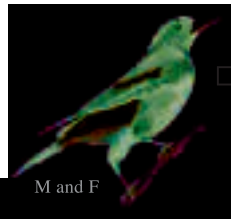


□ Green
Woodhoopoe
Africa
T
M

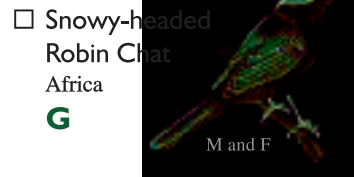
□ Blue Dacnis
South America
M



□ White-headed
Mousebird
Africa
T
M



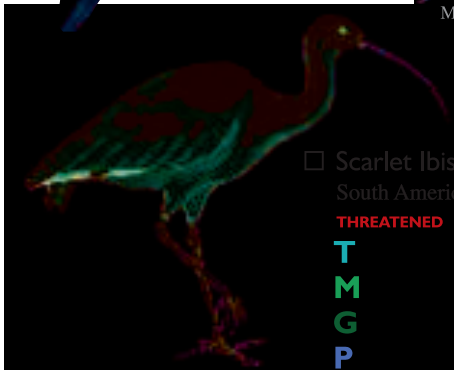
□ Yellow-rumped
Cacique
South America
T
M



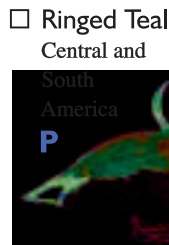
□ Snowy-headed
Robin Chat
Africa
G



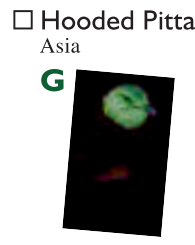
□ Golden Headed
Manakin
South America
M



□ Scarlet Ibis
South America
THREATENED
T
M
G
P



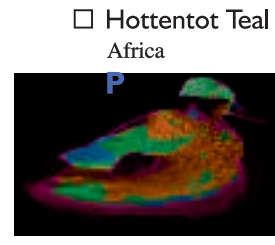
□ Ringed Teal
Central and
South America
P



□ Hooded Pitta
Asia
G



□ Roul Roul
Asia
G



□ Hottentot Teal
Africa
P

Escape to the tropics this winter!

Winter is the perfect time to visit the Zoo and bask in the tropical paradise of the R.J. Reynolds Forest Aviary. Bring binoculars and this guide to help you spot these colorful birds in the Zoo's lushly planted, free-flight Aviary. Or, you can download this guide (as well as the *Plants of the Aviary* guide) at nczoo.org/Animals/Aviary.

Bird-Watching Tips

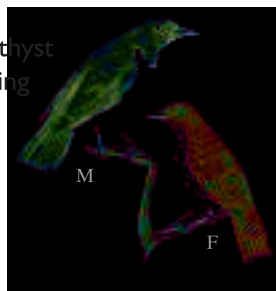
- ◆ Be an early bird yourself. Try to arrive when the Aviary first opens (daily at 9:30 a.m.).
- ◆ Be quiet, patient and *listen*. Follow the sounds of birdsong or rustling leaves.
- ◆ In the late afternoon, birds tend to come to the ground, so look under the bushes.

Aviary

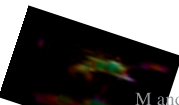
IDENTIFICATION GUIDE

Birds shown in relative size to each other.

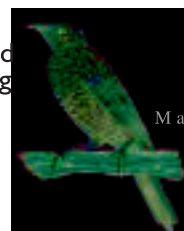
□ Amethyst Starling
Africa
T M



□ Green Honeycreeper
South America
F T M



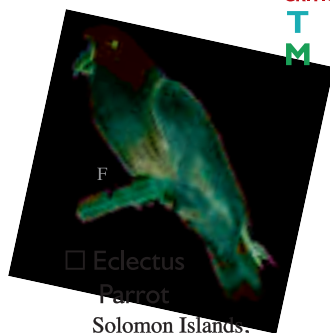
□ Emerald Starling
Africa
T



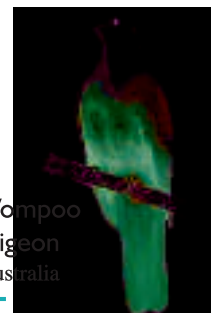
□ Fairy Bluebird
Southeast Asia
T M



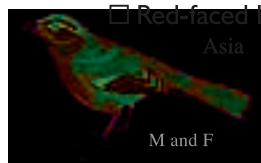
□ Golden White-eye
Micronesia
CRITICALLY ENDANGERED
T M



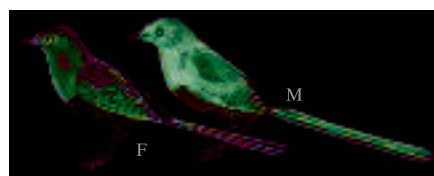
□ Wompoo Pigeon
Australia
T M



□ Red-faced Liocichla
Asia
M G

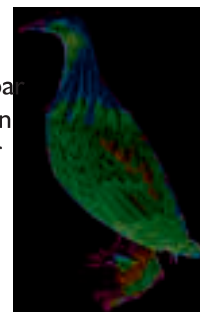


□ Eclectus Parrot
Solomon Islands, New Guinea, Australia
M



□ Common Shama Thrush
Asia
M G

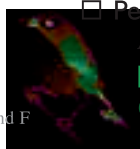
□ Nicobar Pigeon
Nicobar Island
T M G



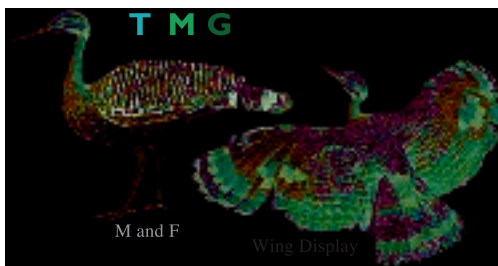
□ Eastern Rosella Parrot
Australia, Tasmania
T M



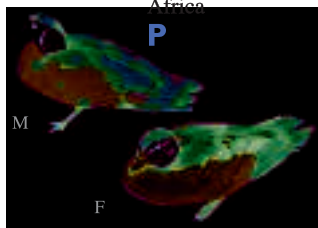
□ Pekin Robin
Asia
M G



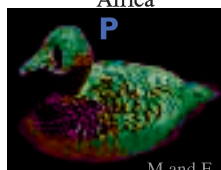
□ Sunbittern
Central and South America
T M G



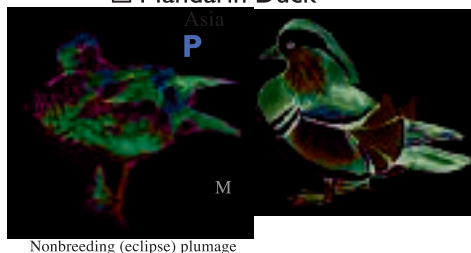
□ African Pygmy Goose
Africa
P



□ African White-backed Duck
Africa
P



□ Mandarin Duck
Asia
P



□ Victoria Crowned Pigeon
New Guinea
G



- ◆ Use the key to the right to find out where the birds usually stay in the Aviary.
- ◆ If you see a bird that's not in the guide, it may be a native bird that came from the N.C. Zoo's Schindler Wildlife Rehab Center. When a rescued native bird cannot be released back into the wild, the keepers may let it go into the Aviary.



Rockin' Snot Otters

The Design Department at Randolph Community College spent the summer creating and fabricating a new character to help the Zoo promote messages about Hellbender conservation. The character, currently dubbed "Snotty Otter," represents the world's Hellbenders—a species of giant salamander that inhabits a few of the cool, fast moving streams that flow through the Appalachian and Ozark mountains.

Saving Salamanders

For more than four years now, John Groves, the Zoo's Curator of Amphibians and Reptiles, has worked with the N.C. Wildlife Resources Commission to study the health of Hellbender populations in the state's waterways. Because these strange looking, but benign, creatures often suffer at the hands of sports fishermen, Doug Blatny, a ranger at New River State Park near Jefferson, began talking to John about finding ways to polish up the salamander's image and help people appreciate its place in nature.

Eventually, Mr. Blatny suggested holding a Hellbender Celebration Day to draw people into the state park and introduce them to the truth about Hellbenders. Eventually, this idea morphed into the notion of devising a friendly Hellbender mascot to enliven the celebration and speak for this species.

Designing Students

With that goal in mind, Zoo and Society staffs approached Susan Shaw, the head of Randolph Community College's Design Department. We explained our need to put a friendly face forward for Hellbenders, and she and her students jumped at the chance to devise an anatomically-accurate mascot that would capture and capitalize on the Hellbender's best attributes.

The students crawled all over the Internet, gathering facts on

Hellbenders. Along the way, they latched on to one of the Hellbender's more outlandish common names, "Snot Otter," as the inspiration for their emerging mascot and costume.

Their creation, now temporarily dubbed "Snotty Otty," made his/her debut at New River State Park on August 28. He/she soared to immediate stardom. Snotty posed for keepsake photographs and led an environmental parade organized by the Elkland Art Center. Already, other mountain parks want Snotty to brighten up festivals they are planning to celebrate Hellbenders next year. Snotty's friendly grin and happy attitude are opening people's minds and hearts to the plight of the world's Hellbenders.

Disappearing Hellbenders

Human activities seem to underlie the declines that research has found among some Hellbender populations. Carelessly managed construction sites, for example, clog streams with sediments that bury the rocks Hellbenders use for shelter. Carelessly applied herbicides and pesticides poison their (and our) waterways. Ill-informed fishermen kill Hellbenders, falsely believing them to be venomous or harmful to fish. Selfish people collect Hellbenders for profit, and human-induced changes to the atmosphere promote rising temperatures and lingering droughts. Since people cause most of these problems, people can fix them.

To help the Zoo find ways to motivate people to change some of these destructive behaviors,

design students from Randolph Community College have already begun working on a branding makeover for the Hellbender. They will help us spotlight the species' best attributes and advance the mascot's career as an ambassador for Hellbenders everywhere.

We are grateful for the interest, talent and enthusiasm our new friends at Randolph Community College have applied to helping Hellbenders.

JOHN D. GROVES, CURATOR, AMPHIBIANS & REPTILES



Red Wolves on the Edge

Lighter and more slender than Timber Wolves, Red Wolves are long-legged, medium-sized canines that weigh 40 to 80 pounds. The red fur that typically sprouts from the backs of their ears and hind legs gives the species its name.

Once, these wolves bounded over much of the eastern United States. They once claimed territories that stretched from New England down to northern Florida and across the Ohio River Valley into western Texas. But, Europeans hacked up this realm as they pushed across the continent.

Farms and towns gobbled up Red Wolf habitat. Poisons, traps and guns killed the wolves that did not flee.

By the 1970s, Red Wolves were extinct in all but two of the United States. The few that survived were making a last stand in a small patch of marginal habitat along the Texas-Louisiana border.

That population would have vanished, too, except for the timely passing of the Federal Endangered Species Act. That law set the U.S. Fish and Wildlife Service scrambling to save the Wolf by capturing every survivor and enlisting him and her in a managed captive breeding program.

Saving a Species

For two full years, Service personnel combed the Red Wolf's last territory, trapping every canine that resembled a Red Wolf. Eventually, 400 animals were taken, but only 14 made the grade as Red Wolves. The rest were hybrids: Half wolf and half coyote. Two of these 14 wolves proved

sterile. The remaining 12 were paired and their offspring, literally, saved the species.

Every Red Wolf alive today descended from this original dozen.

It took more than a decade of captive breeding to grow a population large enough for the Service to agree to allow a few individuals to be reintroduced to the wild. The Service set them free in Alligator River National Wildlife Refuge in eastern North Carolina. Today, approximately 130 Red Wolves call this refuge's 1.7 million acres home.

The Red Wolf in Recovery

The Zoo joined Red Wolf recovery efforts when it began building its North American exhibits in 1994. Since then, 65 wolves have graced our Park and four litters have been born here.

The Zoo and Aquarium Association's Red Wolf Species Survival Program sanctioned these births. This group oversees the management of captive Red Wolves, managing these individuals to protect the species' genetic diversity.

The Zoo contributes to this Survival Program by providing space for Red Wolves, both on exhibit and in an off-exhibit breeding and holding area. Built entirely with Zoo Society funds, this holding facility helped hatch a new way of getting captive born pups into the wild.



Fostering Adoptions

This story began in April, 2002, when a Zoo wolf delivered six puppies. These births opened up an exciting opportunity for the Red Wolf Species Survival Committee and the U.S. Fish and Wildlife Service to test a new method for introducing wolves (and their genes) into the wild. This experiment would determine if wild mothers might be coaxed to foster the captive-born pups of other females.

Nature arranged the perfect scenario for this test. Just two weeks before the Zoo's cubs were born, a heavy storm inundated Alligator River. Water flooded the den where an experienced wolf mother had sheltered her eight, newborn pups. Despite her best efforts, she could save only two of her brood.

Fooling a Mother

In early May, zookeepers pulled a male and a female pup from the Zoo's captive litter and set out for Alligator River. Working with a U.S. Wildlife Service officer, the keepers waited for the wild mother to emerge from her den to hunt. While she was gone, the team slipped the Zoo's two-week old cubs in with her litter. Then, everyone backed away, held their breath and waited.

The wild mother accepted the pups and raised them as her own. They grew up, wild and free, to become healthy members of the world's only remaining free-ranging group of Red Wolves.

Never before had anyone tried to place captive born pups in the care of a wild mother. Her willingness to foster unrelated pups opened up a new and better way to quickly introduce captive born animals and their genes into wild populations. The Lincoln Park Zoo in Chicago is the latest zoo to use this technique. It placed some young pups with a wild mother just this year.

CHRIS LASHER, ANIMAL MANAGEMENT SUPERVISOR



Travel to Faraway Horizons in 2011



Egypt

February 21-March 6

\$6,595 (Land only)

Join Zoo Director David Jones to explore Egypt's ancient and modern wonders. Travelers will visit temples and pyramids that have stood for thousands of years and will step into Cairo's mosques and bazaars. The itinerary includes a stop in Abu Simbel to visit the 60-ft. statues of Pharaoh Ramses II. From there, travelers will sail down the Nile aboard an intimate, luxurious vessel, stopping along the way to visit Aswan, Edfu and Luxor. We also offer an extension to visit the Sinai, the Red Sea, Petra and other sites in Jordan.

America's National Parks

June 13-28

\$4,317 (Includes airfare)



This 16-day tour unfolds from the comfort of a luxury motor coach as it visits some of America's best known national parks and cultural settings. Stops along the way include Yellowstone, Grand Teton, Arches, Monument Valley, Grand Canyon, Bryce Canyon, Zion, Salt Lake City and Las Vegas. The price covers 15-nights lodging, 26 meals, 19 sightseeing tours and cultural connections, airfare and taxes. (Airfare may fluctuate until payment is finalized.)

Tanzania

June 17-29

\$4,995 (Land only)

A trek through some of East Africa's most dramatic and significant wildlife settings—the Serengeti Plains, Olduvai Gorge, Ngorongoro Crater, the Tarangire River and the Maasai Mara. Along the way, nature will unfurl a kaleidoscope of wildlife, cultures and landscapes, including views of the most magnificent assemblage of animals on Earth—the great wildebeest and zebra migrations through the Serengeti and the Maasai Mara. We offer an optional extension to Tsavo & Amboseli, too.



Botswana, Zambia and Zimbabwe

August 11-26

\$12,995 (Land only)



SOLD OUT!

Join Zoo Director David Jones on a 2-week safari that begins with 6 days inside the Okovango Delta in Botswana to visit Victoria Falls and the remote, wildlife-rich shores of the Zambezi River. Superb, luxury accommodations; fast, light aircraft flights between camps; top guides and the best wildlife viewing in southern Africa. We offer an optional extension to Cape Town, Robben Island and the Cape of Good Hope, too.

For more information, email sgee@nczoo.com or call **336-879-7253**.

* PRICES BASED ON DOUBLE-OCCUPANCY

Gifts for

the Holidays!

Give an Adoption

Ring in the Holidays—Adopt LoLo, the Ring-tailed Lemur.

This cute, cuddly and enchanting gift will brighten up the holidays! Each \$45 adoption package arrives with a soft, plush lemur; an official Adoption Certificate, made out in the name of the adopting parent; and a photo of LoLo. We also include a special fact sheet on these endearing and endangered primates.



Give a Membership

Give a friend or a whole family a year of fun at the Zoo.

A plush Chimpanzee adds a special note of fun and festivity to this year's Gift Memberships. Like all Zoo Society memberships, gift memberships deliver 364 days of free admission to the North Carolina Zoo and free or discounted admission to more than 150 zoos and aquariums across North America. Members also receive a year's subscription to the *Alive* magazine and much more.

Gift memberships come in many different sizes to meet the needs of **Individuals** (\$47) or of **Families** or of **Grandparents** (\$66). For just a few dollars more, these membership levels can be boosted to a **"Plus"** level, which entitles a member to bring a guest in free during each visit. (Individual-Plus memberships are \$57, Family-Plus or Grandparent-Plus are \$76). Higher level members bring in more guests free: Zookeepers (\$185) add two guests, while Curators (\$310) get three and receive a decorative license plate. Lifetime Family Memberships are available, too, for \$1,510.

Zoo Memberships Make Great Gifts for Employees, Too! Share the Zoo where you work and replace traditional fruit baskets and canned nuts with a gift that lasts all year.

To give either or both items,

complete the order form below and return to:

**N.C. Zoo Society; 4403 Zoo Parkway;
Asheboro, NC 27205.**

For more details or to order on-line, click on
www.nczoo.com, or call the Membership
Department at **336-879-7250**.

Gift Memberships will be mailed on December 8, Adoptions on December 10, unless you request an alternate mailing date.

Holiday Membership prices are slightly higher than regular memberships to cover the costs associated with the plush. Standard shipping costs are included.

GIFTS ORDER FORM

Send gift package to: ☐ Recipient ☐ Me
Please indicate gift for: ☐ Christmas ☐ Hanukkah
☐ Other: _____
Message you want included _____
Buyer's Name _____
Address _____
City/State/Zip _____
Phone: (H) _____ (W) _____
E-mail _____

Lemur Adoption Info

Name of Adoption Recipient _____

Gift Membership Info

Name of Membership Recipient _____

Membership level you wish to buy _____

For Family or higher memberships only, what is the name of the second adult in the household? _____

Number of children under 18: _____ **OR** grandchildren under 18: _____

Recipient Address _____

City/State/Zip _____

Phone: (H) _____ (W) _____

E-mail _____

Payment type: ☐ Cash TOTAL \$ _____

☐ Check (Please make check payable to NC Zoo Society)

☐ Credit Card (Please check one)

☐ MC ☐ VISA ☐ Discover ☐ AMEX

Credit Card# _____ CVN# _____

Exp. Date _____ Signature _____

Zoo To Do 2010 THANK YOU!

The N.C. Zoo Society wishes to thank all of our donors and supporters for making Zoo To Do 2010 such a rousing success. Even rain couldn't dampen the fun and enthusiasm.

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Hohl and Sherry Caldwell-
Hohl
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Daniel Johnston Pottery
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Mike Ferree
Beverly Fox

Paul Frehe
Nick Fruin – STARworks NC
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Society
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Charlie Riggs Pottery
Joseph Sand Pottery
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Pottery – David Fernandez
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Paula Smith
Jim Spires
The Great White Oak Gallery
– Benjamin & Bonnie Burns
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 Nantahala Outdoor Center
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 Wet 'N Wild Emerald Pointe

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 Trees NC
 Amish Trading Post
 Art from the Heart
 Asheboro Nissan
 Ashley Fetner Photography
 Banner Place Nursery
 Blue Rhino
 Carousel Photography
 Martha Crotty
 Paul Curtis
 Lynn Donovan Photography
 Steve & Rhonda Eblin
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 Candace Hammond
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 High Point Furniture
 Mike Howell
 Bettina Hunter
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 Nancy Lou Kiessler
 NC Zoo Education Division
 NC Zoo Horticulture Division
 Denise Maynor
 Carole King
 Klausner Home Furnishings
 Kmart District 730
 Laura Kelly Designs
 Leopard Spot Gift Shop
 Lonesome Joe's Wood Shop
 Lucy Landon/ Celebrating
 HOME
 Kim Luther Designs
 Benita Macon
 Terrance Meadows
 The Gourd Tree
 Jennette Munn
 Pam Myers
 Naturescapes Imaging, LLC –
 Vinny Colucci & Melissa
 Southern
 NCR Photography
 Schneider Stone
 Southern States of Asheboro
 Susan O'Leary Pottery
 John Revell
 Rheem Heating & Cooling
 Schadt Woodcarving and
 Design
 Southern States of Asheboro
 Mike Shinn

State of the Art
 The Gourd Tree

POTTERY

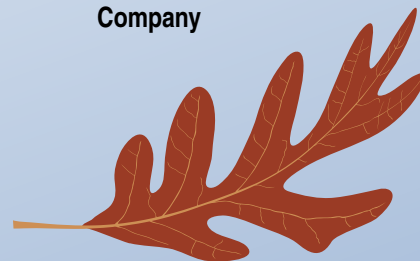
Anita's Pottery &
 Dogwood Gallery
 Buffalo Creek Pottery
 Cady Clay Works
 Cagle Road Pottery
 Callicutt Pottery
 Chrisco's Pottery
 Cross Creek Pottery
 Linda Dalton Pottery
 Dish'n Pottery
 Down to Earth Pottery
 Dragon Fired Clay
 Earthworks
 Steve & Rhonda Eblin
 David Edwards
 Fat Beagle Pottery
 Four Paw Pottery
 Beverly Fox
 Freeman Pottery
 From the Collection of Ann
 Lynch
 From the Ground Up
 George Gusler
 Gingerbread House Pottery
 Michele Hastings & Jeff
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Help Us Re-Spot Our Ocelots

The Zoo is itching to pull its Ocelots out of their existing exhibit inside the Sonora Desert and set them in a bright new spot outside.

This new spot—still in the planning stages—will give the Ocelots more room to do what cats love to do—lounging, stalk, leap and catnap—during the day. And, set under a Tarheel sky, the new spot will stir the Ocelots' instinctive memories with the songs of birds, the rustle of leaves, the warmth of the Sun, and the scent of rain and the changing seasons.

The new exhibit will benefit the Ocelot species, too, by smoothing the way for the Zoo to breed this endangered species. Last spring, the Ocelot Species Survival Plan sent two healthy young Ocelots—one male and one female—here with notice that, in the future, this pair will be selected to become Ocelot parents.

To prepare for this pending parenthood, the Zoo must provision the couple with space enough to care for a

growing family. In fact, the planned exhibit will accommodate as many as six Ocelots comfortably.

When these kittens arrive, each one will be precious in its own right. But

every one of them will be even more valuable to conservation experts across America who hope to pull this species back from the edge of extinction.

Only 100 wild Ocelots survive in North America. These few hunker down in the shrinking remnants of their former habitat. Even fewer — 86 — reside inside respectable North American zoos and are listed in the Ocelot Species Survival Plan that the Association of Zoos and Aquariums



Yes, I want to help Re-Spot the Zoo's Ocelots!

Please accept my donation of \$ _____ * to help build an outdoor Ocelot exhibit and make room for a family of these cats at the Zoo.

Name _____

Address _____

City _____ State _____ Zip _____

Phone _____ E-mail _____

Please make checks payable to the **N.C. Zoo Society**; or charge to:

☐ MasterCard ☐ AMEX ☐ Visa ☐ Discover

Account # _____ Security Code _____

Exp. Date _____ Signature _____

Mail to: **N.C. Zoo Society, 4403 Zoo Parkway, Asheboro, NC 27205**

* Donors giving \$1,000 or more will receive a behind-the-scenes-tour of the Sonora Desert.

manages for these cats. To keep this group viable, North America's zoos need to grow that population to 120.

Your Zoo wants to help but, first, it needs to prepare an Ocelot exhibit suitable for raising kittens.

That is where you come in. We need your help to build a roomy and sunny new exhibit where the Ocelots and their families can grow and play.

Please, join the Zoo as it re-spots its Ocelots into a larger, family-friendly exhibit near the Sonoran Desert. Make your donation, now, to give these cats a better life, to bring oodles of Ocelot kittens to the Zoo, and to help the N.C. Zoo do its part to ensure that Ocelots have a future in North America.



Passing the Buck

Audrey MacKay Stubbs was born in Landsdowne, Canada. Much of the rest of her life remains a mystery to us, including why she bequeathed such a generous gift to the Zoo Society.

We know she arranged for her Sun Life Financial annuity to come to us and that the will she wrote in 2005 referenced the gift, along with our tax-deferred IRS number (56-0990900).

We know, too, that she graduated from Newton Conover High School and the Charlotte Memorial School of Nursing. We see that she became the head pediatrics nurse at the former Charlotte Memorial Hospital. We know she worked as a laboratory assistant in the Genetics Dept. at N.C. State. She worked part time for the Mecklenburg County Board of Elections, was active in the Republican party and served as president of the Raleigh Jaycettes. We learned that her husband Louis deVaux "Pat" Stubbs predeceased her and that her daughter Barbara Ann Crump survives.

We wish we knew more, though, of her as a person. What was her favorite animal and exhibit? Did she have pets? If she had told us of her intent to support the Zoo in her will, we would have reached out to know her better.

If you want to help the Zoo by listing the Zoo Society in your will, please contact Russ Williams at rwilliams@nczoo.com or 336-879-7252. We want to get to know your wishes and make you part of *The Lion's Pride*, the community of people who have listed us in their estate plans.

RUSS WILLIAMS, EXECUTIVE DIRECTOR

RUSSling's

Gifts That Give Twice

Remember those handsome photos of Zoo To Do auction items in your Fall 2010 issue of *Alive*? Those gifts helped the Zoo at least twice.

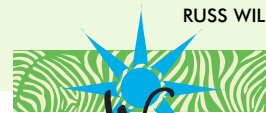
First, a donor creates, or otherwise provides, a gift to place in the Zoo Society's auction. Next, someone buys that item, turning the original auction piece into cash for the Zoo. Finally, the item travels to someone's home, where it continues to give the buyer pleasure over the coming weeks or years.

Auditors set up special rules to track the financial comings and goings that appear in the wake left by auction-destined, in-kind gifts made to non-profits. In keeping book of these transactions, the Zoo Society and other non-profits end up recording the gift twice as income and once as an expense.

If that sounds loopy, stick with me for minute. The donation—say a vase that an artist says is worth \$100—comes into the Zoo Society. To recognize the gift, the Society's books show it as income worth \$100. However, as we record the \$100 on the plus side of the ledger, we simultaneously enter a \$100 dollar expense on the expense side of the page. This debit is required because we know at the onset that the gift is predestined to leave our assets. Only when the gift is purchased at auction does the Society record the sale price as income that we can use for the Zoo.

Our thanks go out to the artists and other donors and the buyers who set these transactions in motion in order to help the Zoo.

RUSS WILLIAMS, EXECUTIVE DIRECTOR



Leave a Wild Legacy

Put some
LEMURS
in your
tree!

N.C. Zoo Society's
**2010
Collector's
Christmas
Ornament**

North Carolina artist Chris Gabriel has created this year's exclusive Christmas Tree ornament, depicting Ring-tailed Lemurs to commemorate the opening of the Zoo's new Lemur exhibit on Cato Island.

A true collector's piece, each ornament is handcrafted, signed and numbered by the artist. The \$20.99 price includes our Zoo Society member's discount and shipping costs. Order by mailing in this form, by calling the Zoo Society at 336-879-7250 or by visiting us online at www.nczoo.com.

**ORDER
FORM**

Name _____

Address _____

City/State/Zip _____

Phone: (H) _____ (W) _____

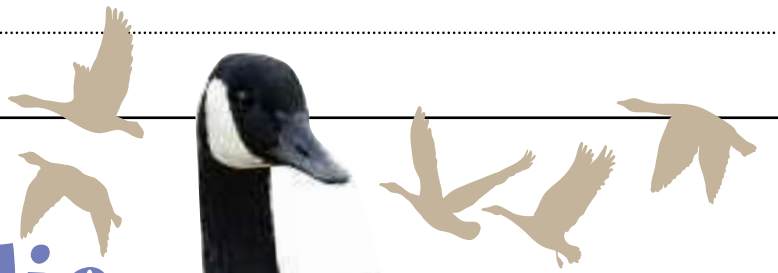
E-mail _____

☐ Check (Make check payable to NC Zoo Society) -TOTAL \$ _____

☐ Credit Card (Please check one) ☐ MC ☐ VISA ☐ Discover ☐ AMEX

Credit Card# _____ CVN Code _____

Exp. Date _____ Signature _____



Bye, Bye, Birdie

Why did the Canada Goose cross the globe?

To get to the winter feed.

When winter migrations start, food, not warmth, launches most of the flights.

Migratory birds generally take off in pursuit of nectar, insects and other fair-weather food.

Since cold snaps affect people more than dipping nectar reserves, folks often jump to the wrong conclusion that birds migrate to stay warm. In reality, though, food inspires most winter migrations. Birds that can stay put and stay fed, usually do. Only the hungry risk the dangers, the exhaustion and the energy drains of a winter migration.

Who Winters Elsewhere?

About 40 percent of North America's bird species migrate south for the winter. Among these frequent flyers are some of the country's best loved and best known backyard birds, including the Ruby-throated Hummingbird and the Baltimore Oriole.

Most of North Carolina's long distance avian migrants spend their winters in Central or South America or in the Caribbean. Ruby-throated Hummingbirds, for example, fly non-stop across the Gulf of Mexico to feed on nectar dripping from flowers across Mexico and into northern Panama.

Who's Here Now?

Every winter, North American bird-lovers flock outdoors in December and to their windows in February to identify and count bird species. These people report what they see to help scientists identify changes in the ranges or the population sizes of native birds.



Joining these counts takes skill. Counters must quickly and accurately name every bird that flies into view. Developing these skills takes a little bit of practice, but pays off with a great deal of fun. If you cannot tell a flicker from a hawk but would like to learn the names of your flighty neighbors, the Internet can help you.

The best advice, though, for true beginners, is to focus on a bird's shape and behavior, not its colors or markings, to start the identification process. Its shape will hint at its family, and once you know its family, it is easier to find the bird's picture in a field guide.

To learn if you might make a good citizen scientist for birds, test your skills on the silhouettes to the right. If you enjoy the process, hop on the Internet to learn more. We recommend you begin at the Cornell University Web site: (www.birds.cornell.edu/AllAboutBirds/birding123/identify/index_html). The tweets you get from it really will be from the birds.

Learn more about joining the 2011 Backyard Bird Count this February by visiting the Audubon Web site at www.audubon.com.

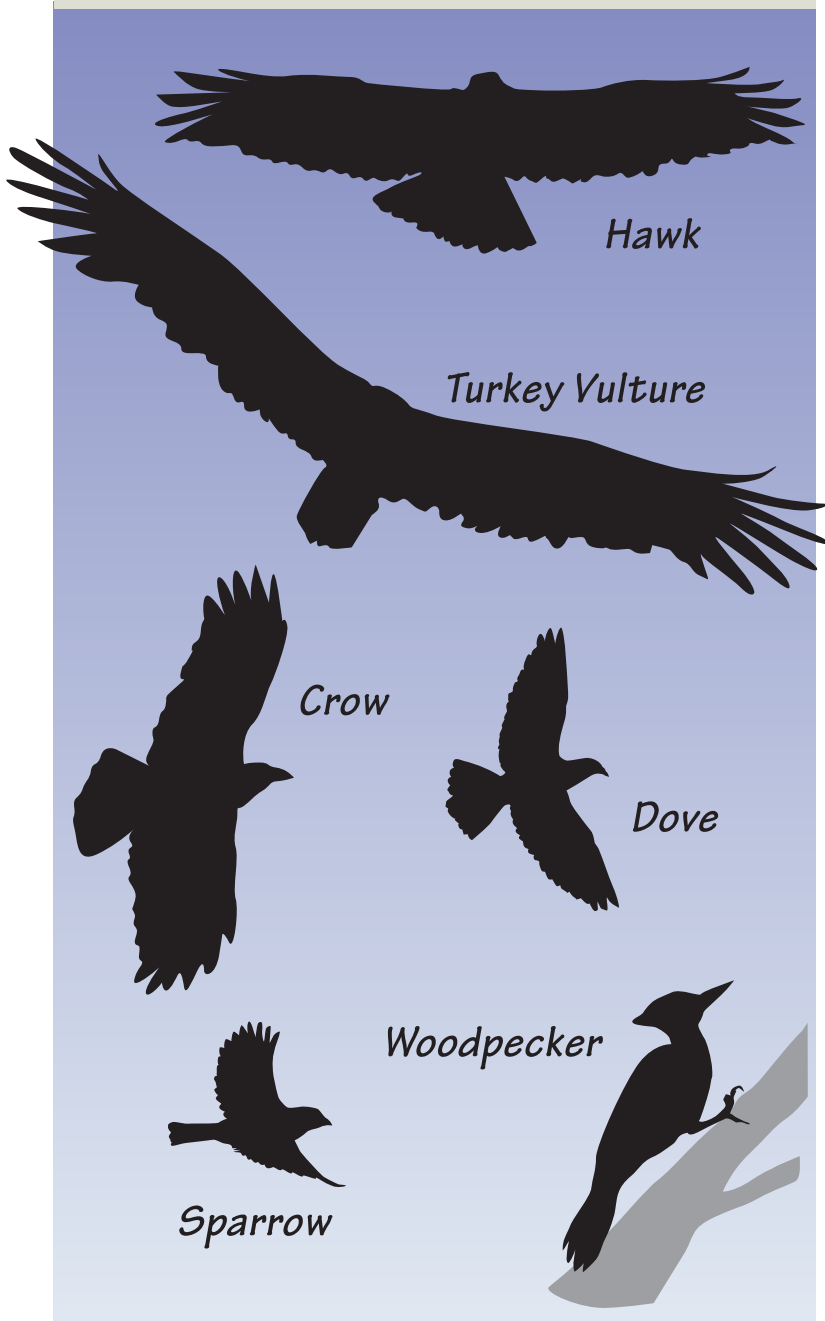
JAYNE OWEN PARKER, PH.D., DIRECTOR OF CONSERVATION

1-2-3...

More than 400 different kinds of birds live in North Carolina and learning to tell one kind from another can seem like a daunting task. There is an easy way to get started, though.

Begin by looking at its silhouette. Use its shape to identify its family.

Here are some shapes and names to get you started. Now, go outside, look up and around to see how many birds you can identify from their shapes.



Thank Yous...

go out to the very generous donors who provided gifts of \$1,000 or more to the Society, May 29 through September 9, 2010.

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a Piece of
the World for
its Wildlife

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The Zoo Society urges you to do business with businesses that support your Zoo.



Enjoy Feeding the Birds in Winter?

...then consider making a donation to help the Zoo care for the wild birds and other animals served by the Valerie H. Schindler Wildlife Rehabilitation Center. The Center provides free veterinary care to injured and orphaned native animals and depends on donations from people like you to help feed and shelter these creatures.

Please send your donation to the N.C. Zoo Society: **Community of Caring Fund** at 4403 Zoo Parkway; Asheboro, NC 27205.

Consider making your donation as way to honor someone you care about this Holiday Season.

