CONSERVATION & RESEARCH UPDATES FROM THE NATIONAL AVIARY

flightpaths

FALL 2025

National Aviary Announces First of Its Kind Conservation Center

by Kurt Hundgen, Senior Director of Animal Care and Conservation Programs

Earlier this year, conservationist S. Kent Rockwell announced that the **SK Rockwell Conservancy** plans to purchase the Shady Side Academy Middle School on Benedum Road in Fox Chapel, with the intention of donating the property to the National Aviary. The partnership will create the **National Aviary S Kent Rockwell Conservation Center**, a pioneering, world-class epicenter that we hope will revolutionize the future of avian veterinary care and the conservation of Threatened and Endangered bird species in the United States as well as globally. In addition to the property donation, the SK Rockwell Conservancy plans to donate an additional $10 million to ensure support of future programs at the site.

Rendering of future National Aviary S Kent Rockwell Conservation Center

This announcement builds on S. Kent Rockwell's long-standing commitment to both his community and avian conservation. In October 2022, Rockwell, a Shady Side Academy alumnus, along with his partner, Patricia Babyak, made the largest donation in Shady Side's history in support of a capital project to fund the construction of the new Rockwell Middle School on the main campus in Fox Chapel. With the school's master plan calling for the sale of the current middle school property, the vision for the site's next chapter has now taken shape.

Rockwell's passion for wildlife and environmental protection, paired with his dedication to the communities of Pittsburgh as well as Shady Side Academy, underscores the deep significance of this partnership with the National Aviary. "In my opinion, the National Aviary has been an under-recognized asset of our community and our nation. Providing this capital infusion should assist the Aviary in gaining the global recognition it deserves as a magnificent investment for our country to enjoy. We look forward to seeing this development further the research and education it will provide to the global avian community," says S. Kent Rockwell.

Cheryl Tracy, Executive Director of the National Aviary, shares my great excitement about the potential of the project. "While hundreds of thousands of annual visitors and online followers recognize the National Aviary as a cultural gem, few realize our global leadership in avian conservation through ecological research, husbandry, education, and groundbreaking healthcare advancements. Avian medicine is underrepresented in the veterinary field, and our new facility will further equip students, wildlife rehabilitators, and researchers with cutting-edge tools to address the most pressing challenges facing birds worldwide."

Tracy continued, "As part of our Association of Zoos and Aquariums accreditation, we work to maintain and strengthen the populations of at-risk bird species at home and in the wild. We will now be able to grow these conservation programs, focusing on species deemed at greatest risk for extinction. This project will further elevate Pittsburgh, the Fox Chapel community, and the National Aviary to international status as an avian conservation and healthcare leader."

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National Aviary Announces First of Its Kind Conservation Center *Continued*

The at-risk species mentioned above include Extinct-in-the-Wild Guam Kingfishers. The Rockwell Center will hopefully be able to significantly expand the number of bird pairs we can manage. For a species that numbers fewer than 200 in population, this increase could give the small species a huge boost in population. (read more about these efforts on *page 11*).

The National Aviary S Kent Rockwell Conservation Center will focus on four core areas:

1. ***A state-of-the-art veterinary teaching hospital*** dedicated to advancing avian healthcare,
2. ***An avian preservation center*** with the primary goal of hatching birds (like the Guam Kingfisher) with the International Union for the Conservation of Nature status of Threatened, Endangered, Critically Endangered, or Extinct-in-the-Wild to potentially participate in reintroduction programs,
3. ***An interactive educational center*** offering scheduled programming opportunities, field trips, and resources for local schools and the broader community, and
4. ***A conduit for critical field research*** leading to the development of key conservation field training programs and ground-breaking research.

Pending finalization of the purchase, the National Aviary S Kent Rockwell Conservancy is expected to take possession of the property in early 2026, with a site open date in 2027. While a haven for endangered species, the Rockwell Center also will offer a wide variety of schedulededucational programs on site; however, the center will not be open to the public on a daily basis.

This project is part of a broader, ambitious master plan for the National Aviary, which includes the renovations of both the veterinary hospital at the Aviary's North Side location as well as modifications to the donated Fox Chapel property.

The future **National Aviary S Kent Rockwell Conservation Center** represents an extraordinary opportunity to build a lasting impact on the future of avian conservation, education, and the practice of avian veterinary care around the world. ■

Dillon the Martial Eagle getting a check-up from our veterinary staff and a visiting Rescate veterinarian

Rockwell Center to Bolster Continued Excellence in Veterinary Training

The development of the new National Aviary S Kent Rockwell Conservation Center comes at a time when the Aviary's veterinary team is furthering their efforts in developing innovative, preventative treatments to safeguard the health of birds as well as providing avian surgical services specifically developed to meet birds' needs. Importantly, the team, led by Dr. Pilar Fish, works with international wildlife programs to share our best practices for the benefit of avian species everywhere.

The Aviary's veterinary educational programs provide essential training for veterinarians and wildlife professionals from around the world who are directly responsible for helping Endangered species survive. We offer specialized education in cutting-edge medical techniques and preventative medicine practices that increase the success of birds recovering from common conditions

As an example, the National Aviary's Teaching Hospital continued to build on our relationship with Rescate Wildlife Center in Costa Rica as we welcomed a wildlife veterinarian for specialized avian medicine training in March of this year. Dr. Sofia Astorga learned preventative healthcare practices, beak repair techniques, and diagnostic tests customized for birds. The Aviary's veterinarians shared treatment protocols with Dr. Astorga that can help birds recover in a wildlife rescue hospital. Dr. Astorga treats endangered species, such as Scarlet Macaws, Great Green Macaws, and Yellow-naped Amazon Parrots.

Additionally, twelve interns made up of eight pre-veterinary students, a veterinary technician, and three veterinary students were trained in the Aviary's Teaching Hospital during the Spring and Summer semesters.

NATIONAL AVIARY
PITTSBURGH, PA

The National Aviary inspires respect for nature through an appreciation of birds.

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AZA = Association of Zoos & Aquariums
SAFE = Saving Animals From Extinction®
SSP = Species Survival Plan®
IUCN = International Union for Conservation of Nature

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Your donations support the National Aviary's work to save birds and protect their habitats.

FROM THE EDITOR

We kick-off this issue of *FlightPaths* by celebrating our recent announcement of the **National Aviary S Kent Rockwell Conservation Center**! The Rockwell Center promises to be a pioneering, world-class institution which aims to further the conservation of threatened and endangered bird species globally. Located just outside of Pittsburgh in the borough of Fox Chapel, the future Rockwell Center is made possible through the generosity of the facility's namesake, renowned philanthropist S. Kent Rockwell and his long-standing commitment to wildlife, conservation, and the Fox Chapel community. The new center will help the National Aviary maintain our position as a leader in avian conservation through husbandry, ecological research, avian healthcare advancements, and community education.

In this 2025 *FlightPaths* edition, we highlight just the sort of local, national, and international conservation programs we will continue to expand through the Rockwell Center. The National Aviary will significantly expand our ability to breed Extinct-in-the-Wild and Endangered species for reintroduction into native habitats, just as we have done with the Guam Rail, and more recently the Guam Kingfisher. Read more about Senior Aviculturist Brianna Crane's recent success in hand-raising Guam Kingfisher (known locally in Guam as sihek) chicks inside of the Aviary's current Breeding Center on ***page 11***. These precious birds will hopefully partner with other sihek, eventually helping to grow the population that will join past Aviary hatchlings Sindålu, Mames, and Långet on the island of Palmyra Atoll in the next few years.

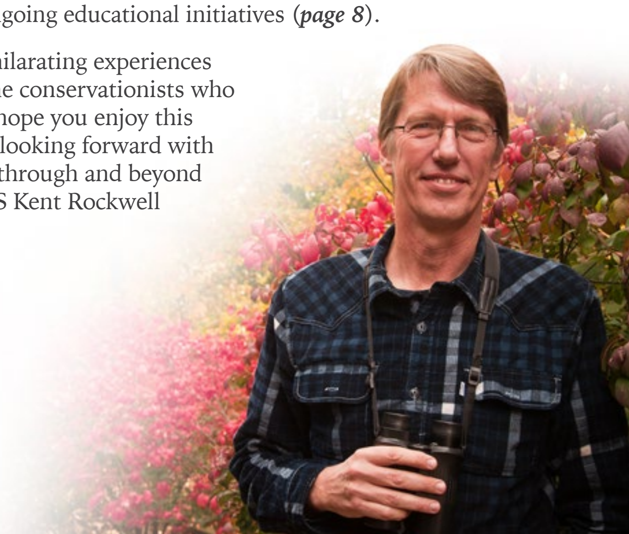
The upcoming National Aviary S Kent Rockwell Conservation Center will also build upon our field research programs in North America, such as our search for nests of the iconic, elusive Ivory-billed Woodpecker in Louisiana (***page 13***) and evidence for breeding of the Eastern Loggerhead Shrike in Pennsylvania (***page 14***). We also highlight our research into emerging problems in avian science, many of which are indicative of a broader problem for wildlife and even human health. This includes observations on the existence of microplastics within food chains encountered through our studies of the Louisiana Waterthrush (***page 16***).

Internationally, the National Aviary continues to support our Ecuador-based sister zoo, Bioparque Amaru through collaborative conservation programs. We are excited to share that with recent funding secured through a grant provided by the International Union for Conservation of Nature (IUCN)'s Land Acquisition Fund, we now intend to purchase two plots of land to expand the Selva Eterna Reserve in the Amazon Rainforest that will help ensure its continued protection from manmade threats (***page 9***). Our conservation and care teams have also provided indirect and direct support in Amaru's ongoing efforts of tagging wild Andean Condors with satellite transmitters (***page 9***). This project allows for the collection of critical data on the movements, nesting, and other behaviors of this Endangered species to help protect their future not only in the wild but in human care.

The National Aviary also remains committed to finding opportunities to share critical knowledge with partners in avian conservation here and abroad. Although the Rockwell Center will significantly expand these instances, Senior Director of Zoological Advancement & Avian Medicine, Dr. Pilar Fish, and her team continue to develop and implement innovative techniques in veterinary medicine to share with our partners, students, and colleagues. Learn more about Dr. Fish's training sessions, including a recent visit to our Teaching Hospital from Dr. Sofia Astorga of the Rescate Wildlife Rescue Center in Costa Rica on ***page 1***.

Our global efforts to save African Penguins continue to make immense strides which is illustrated through: a detailed recap of the Masterplan Meeting for the Association of Zoos and Aquariums (AZA) African Penguin Species Survival Plan® (SSP) Program hosted in our event space this summer (***page 4***), the additional deployment of artificial nest burrows by members of our conservation team in Namibia this fall (***page 6***), and Curator of Education, Katie Manion's contributions in helping raising awareness about the plight of African Penguins through ongoing educational initiatives (***page 8***).

We are thrilled to be able to highlight these exhilarating experiences and more directly from the brilliant minds of the conservationists who are helping to shape a better world for us all. I hope you enjoy this issue of *FlightPaths* and that you will join me in looking forward with enthusiasm as we continue life-changing work through and beyond the development of the future National Aviary S Kent Rockwell Conservation Center.



Steven Latta, Ph.D.
Director, Conservation and Field Research

African Penguin Oswald swimming in Penguin Point

Saving Penguins Together: National Aviary Hosts Leaders from Nearly 20 AZA-accredited Institutions in Multi-day Masterplan Meeting

by Chris Gaus, Assistant Manager of Animal Care

The National Aviary's ever-growing African Penguin colony—including the newest juveniles Nora and Oswald (read more on ***page 5***)—represent success in the ongoing plight to save this Critically Endangered species in the wild. Every African Penguin at the Aviary is a part of the Association of Zoos and Aquariums (AZA) Species Survival Plan® (SSP) Program, which is co-led by me (Chris!), and works to keep African Penguin populations in human care healthy and diverse.

This summer, the Aviary and I were honored to host fellow African Penguin SSP Program leaders from nearly 20 AZA-accredited institutions, not limited to the Maryland Zoo in Baltimore, Tulsa Zoo, and the Monterey Bay Aquarium, for a multi-day Masterplan Meeting held in our premium event space, the Garden Room.

This fall will mark a year since African Penguins in the wild were uplisted by the International Union for the Conservation of Nature (IUCN) from Endangered to Critically Endangered: the need for human care support for these plummeting populations has never been greater; that's where we come in! Over the course of two days, our group came together to brainstorm and discuss recommendations for the future of the Program. Additional attendees from a dozen more SSP Program facilities participated in discussions via Zoom.

As mentioned previously, the SSP Program not only allows African Penguin populations in expert care to continue to thrive but directly supports larger efforts towards conserving the African Penguin species in the wild. Guests love watching our penguins as they waddle and splash around Penguin Point, but what some may not know is that the counterparts for this adorable species are drastically declining in South Africa.

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Aviary SSP Masterplan Meeting group photo in The Garden Room Lobby

Saving Penguins Together: National Aviary Hosts Leaders from Nearly 20 AZA-accredited Institutions in Multi-day Masterplan Meeting *Continued*

SSP Masterplan Meeting session in The Garden Room

The data and other information that we observe from the penguins living in our care help us work with our fellow Masterplan meeting attendees and other colleagues around the world to address the many challenges that wild African Penguins are facing!

Topics discussed in the meeting included assessing the current SSP Program population's genetic diversity, determining the number of viable breeding pairs available throughout the SSP Program, and mapping out recommendations for the reallocation of SSP Program colony members throughout all participating institutions for the next 3 years—until the next meeting takes place. This recent SSP Program Masterplan meeting was an incredibly special one because it also signified 30 years since the very first African Penguin SSP Program meeting took place back in 1995. The Aviary and I are truly proud to have opened our doors to our esteemed colleagues from all four corners of the country to tackle the plight of the African Penguin.

Also in attendance was my fellow esteemed colleague, the National Aviary's Senior Conservation Scientist, Dr. Patty McGill, who manages the Aviary's involvement and leadership of the Saving Animals From Extinction (SAFE) Program for African Penguins abroad. Dr. McGill bridges the gap between the work being done at the Aviary and other AZA-accredited zoos through the SSP Program as she helps to directly apply it in the wild via SAFE efforts. See more information on the latest SAFE African Penguin developments including exclusive details on a recent conservation trip to Namibia including myself and National Aviary Senior Director of Animal Care and Conservation Programs, Kurt Hundgen, on ***page 6***! ■

New African Penguin Juveniles, Named by National Aviary Staff and Their Relatives, Join the Colony at Penguin Point!

African Penguin Oswald with new habitat mate in Penguin Point

This past summer the Aviary was also excited to share that our two youngest African Penguins, a male and a female chick who hatched in February, not only officially joined the colony at Penguin Point but received special monikers courtesy of the families of two Aviary *flock* members through our **Name-A-Bird program**. Thanks to the family of Aviary manager Kevin Fonner, hatchling one is now affectionately known as Oswald. According to daughter Mackenzie, the naming inspiration hails from the beloved 1992 film *Batman Returns* (starring Pittsburgh native Michael Keaton). Oswald Cobblepot is the 'real' name of The Penguin; the movie's main antagonist (played by Danny DeVito). Mackenzie's mom, Karla, has also always wanted the chance to name a bird at the National Aviary— and finally had her wish fulfilled. Hatchling two is called Nora in honor of senior director Gina Grone's daughter, who shares a name with the adorable new addition, to commemorate the beginnings of a new professional chapter. The National Aviary remains incredibly grateful for the generous contributions of the Fonner and Grone families!

Oswald and Nora's continuous presence in the habitat marks another incredible step towards saving their Critically Endangered species from the brink of extinction. For more information on the National Aviary's conservation efforts and to plan a visit to see the colony at Penguin—including its newest members—visit **aviary.org**.

Interested in YOUR chance to name a bird at the National Aviary?

Click here to learn more

Wild African Penguins in Namibia with artificial nest burrows; Photo courtesy of Dr. Patty McGill

Bridging the Gap: Working to Save African Penguins in the Wild with the National Aviary

by Dr. Patricia McGill, Senior Conservation Scientist

This past July, I was privileged to participate in the triennial Masterplan meeting of the Association of Zoos and Aquariums (AZA): African Penguin Species Survival Plan® (SSP) Program, hosted by the National Aviary (read more on ***page 4***) as Program Leader for the AZA: Saving Animals From Extinction (SAFE) African Penguin (AP) Program. Whereas the AP SSP Program expertly manages the population in human care, the SAFE AP Program including the Jeniam Foundation, work hard to identify, and address critical threats facing the species in South Africa and Namibia and to lead and/or fund key conservation solutions.

The SAFE Program, which is about a decade old, is a way for participating zoos and aquariums to work together to be very strategic, collaborative, and outcome-oriented to achieve something incredibly important on behalf of African Penguin conservation and I am honored to be at the helm.

During my visit I was happy to give important updates on the SAFE AP Program to Masterplan meeting attendees, in addition to giving a special expert talk to National Aviary Members. Both presentations included status updates on SAFE's ongoing initiatives, such as facilitating the continued disaster preparedness education for local staffers on the ground in South Africa and the implementation of artificial nest burrows throughout Namibia, in which I played a direct role just last year!

African Penguins in the wild typically use layers of dried seabird guano to make their burrow nests, but due to unsustainable harvesting, penguins now often nest on the surface and success rates have plummeted. The SAFE AP Program's working group on nests and habitat has identified a strong potential solution to this problem with the creation of a secure, weather-moderating artificial nest burrow now used widely in South Africa.

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Bridging the Gap: Working to Save African Penguins in the Wild with the National Aviary *Continued*

Bette caring for (then chick) Pierogi inside of an artificial nest burrow as Sidney keeps watch

Recent funding from the National Aviary has allowed us to deploy these nest burrows in Namibia—dedicated Aviary supporters may notice one such burrow in Penguin Point.

In October of 2024, Aviary senior director Kurt Hundgen, and I assisted local Namibian conservation groups including members of the Namibian Foundation for the Conservation of Seabirds (NAMCOB) in deploying 25 artificial nest burrows for declining penguin colonies living on Possession Island in Namibia. Several readers may be asking themselves, what does it take to complete a project like this and the answer is quite a lot! After the artificial nest burrow was identified as a strong potential solution, design and testing began right away and took years to perfect. Before our recent adventure could begin, the Aviary funded and ordered the nests to be created in a small factory in South Africa.

Upon their completion, the nests were shipped by truck to a town in Namibia called Lüderitz, where they were off-loaded into temporary storage and remained until our arrival.

Dr. McGill (right) and Kurt Hundgen (left) transferring artificial nest burrows from dock to ship; Photo courtesy of Kevin Graham

When our team finally arrived, the ball began to roll rather quickly. We started off by holding a logistical training session on how to read the terrain on the islands, selected the best locations to place the nests, and even practiced assembling a couple out in nearby parking lots. Then the big day came; it was now time to go out in the field.

That morning, we loaded all the nest parts) plus tools and equipment into the pickup truck, drove to the dock, met the research vessel, and then transferred the materials to the boat. But there was still much to be done! We traveled an additional 3 hours to the island where the nests were being deployed and carried all the materials up the dock, across vast rock piles, to a little hand-drawn wagon before placing the materials at the edge of the chosen penguin colony area. Lastly, we assembled all the nests and carried them out to the specific sites, making sure to avoid installing them near swales (low or hollow places typically found in marshy areas) that would collect water during the rain. The positioning of the opening of nests also needed to be placed properly to ensure airflow and prevent overheating for future inhabitants. We “sealed the deal” by collecting rocks—not too big or small—to place on the flat edges of the nests to prevent them from potentially being blow away or displaced.

With great teamwork among local rangers, nest creators, and members of the Aviary, SAFE AP, and NAMCOB, all the nests destined for Possession were deployed in one trip: solidifying our

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Bridging the Gap: Working to Save African Penguins in the Wild with the National Aviary *Continued*

larger-than-life expedition into the avian conservation books. And good news —recent reports from the field contain multiple sightings of these artificial nest burrows being used by colony members, which gives us a lot to be hopeful for!

Nearly a year later, Kurt Hundgen journeyed to the island of Halifax alongside Chris Gaus, the Vice Chair of the African Penguin SSP® Program and the National Aviary's Assistant Manager of Animal Care—who experienced the life-changing trip for the first time. With the now realized goal of deploying another batch of 35 artificial nest burrows, in which Kurt reports the Penguins have already been spotted using!

"The day after we deployed the nests onto Halifax we briefly returned and were pleasantly surprised to witness several members of the colony were immediately settling into their new homes," says Kurt Hundgen. "Seeing that made the entire experience even more rewarding."

By the spring of 2026, through on the ground and financial support, the National Aviary will have contributed to the deployment of 300 nest burrows across four Namibian Islands with plans for 200 more to be deployed by the end of 2027!

I've always been a glass half-full type of person, but with the groundbreaking and amazing collaborative efforts of the SAFE African Penguin and African Penguin SSP® Programs, including the recent strides in the artificial nest burrow project, I believe there's significant hope for the future of the species. ■

Help support the building of an artificial nesting burrow.

Give Now

Top: *Wild African Penguin inhabiting an artificial nest burrow on the island of Halifax*

Bottom: *Chris Gaus and Kurt Hundgen near wild African Penguin colony on Halifax Island*

Educating the Public on the Plight of the African Penguin through SAFE

by Katie Manion, Curator of Education

The Public Engagement Initiative is a foundational, collaborative component of the African Penguin SAFE program. Our team's core mission is to raise public awareness regarding the Critically Endangered status of the African Penguin and to inspire conservation action among the vast audience that visits Associations of Zoos and Aquariums (AZA)-accredited facilities annually.

To achieve this, we have successfully developed and implemented several strategic public outreach tools:

- Educational Resource Development: We have created and disseminated comprehensive educational materials for use by formal and informal educators, specifically designed to support penguin awareness days and other penguin-related programming.
- Action-Oriented Programming: The team successfully piloted the "Penguin Heroes" program, a direct-action initiative designed to empower visitors to take tangible steps in support of African Penguin survival. This project is currently under revision, and an updated version will be launched in 2026.
- Direct support and organization within AZA for the "Not on Our Watch 'Waddle,'" a key annual event that mobilizes public action for African Penguin conservation.

As Vice Program Leader, I am committed to integrating our Public Engagement goals with our in-situ conservation work. This approach will maximize our ability to engage the public with the vital research and conservation initiatives required to stop the decline of the African Penguin.

Male Andean Condor Chavín in the Condor Court habitat

National Aviary Works to Save Andean Condors Here and Abroad

by Kurt Hundgen, Senior Director of Animal Care and Conservation Programs

The National Aviary continues to lead the way in avian care and conservation for a plethora of species that are currently at risk of extinction including the Andean Condor. Andean Condors are listed as Vulnerable throughout their range in South America, and Critically Endangered in Ecuador. In 2025 our efforts to protect the future of the species made immense strides in Pittsburgh and on the ground in Ecuador.

The Aviary participates in the Association of Zoos and Aquariums (AZA)-led Species Survival Plan® (SSP) Program for Andean Condors which works to preserve them within expert care through accredited breeding programs.

In April we welcomed male Andean Condor, Chavín (*chuh-veen*), to our flock in Condor Court from the AZA-accredited Brandywine Zoo in Delaware, as a potential new mate to resident adult female Lianni. Lianni and Chavín's relationship remain in the developmental phase as the two continue to get acclimated with one another. Their potential breeding marks another spark of hope for their species not only in Pittsburgh but across the globe.

In conjunction with the SSP Program, the Aviary partners with our Ecuadorian-based sister zoo, Bioparque Amaru, in addition to the Fundación Cóndor Andino (Andean Condor Foundation) and the Nacional de Trabajo del Cóndor (The National Condor Working Group), to provide critical veterinary training, on-the-ground support, research assistance, habitat preservation, and community education for the sake of the species' dwindling wild population.

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National Aviary Works to Save Andean Condors Here and Abroad *Continued*

***Left:** Andean Condor Valentino taking flight in the wild; Photo courtesy of INHAUS MEDIA*
***Right:** Andean Condor Valentino before being released*

These global conservation efforts "took flight" in Ecuador on February 14, when a male Andean Condor, affectionately named Valentino, was found by Amaru researchers. He was severely injured from a traumatic hunting incident. This majestic bird could not fly. While his situation was dire, the health planning of his quickly assembled care team was strong. After more than two months of rehabilitation and countless treatments—many of which were learned through trainings from the Aviary's innovative veterinary and animal conservation teams led by myself and Senior Director of Zoological Advancement & Avian Medicine, Dr. Pilar Fish, DVM—Valentino flew in the wild once more on April 22 just in time for Earth Day.

Valentino was successfully released in an area carefully selected to promote his survival and adaptation in Cajas National Park. With this release, Valentino is one of only nine previously injured condors to have been returned to their natural habitat in the last 46 years! He is also one of three Andean Condors in Ecuador to be tagged with a satellite tracker provided by the National Aviary, with the others being two juvenile females, Avi and Tamya, tagged in November 2024 and April 2025, respectively. The satellite tracker or "telemetry device" shares previously uncollected data from a southern section of Ecuador where the Condors were discovered, directly with researchers. This data includes Avi, Valentino, and Tamya's movements, resting areas, feeding, and eventual nesting, providing critical information for the continued safeguarding of all birds of their kind.

To sustain the accomplishments being made on behalf of the species in Ecuador, this year, the National Aviary and Bioparque Amaru, and the Fundación Cóndor Andino also developed an extensive initiative to provide educational programming to local institutions there to help inspire future conservationists.

The National Aviary continues to be a proud partner and supporter of Amaru, Fundación Cóndor Andino, and Nacional de Trabajo del Cóndor and we are incredibly grateful to have contributed to these aforementioned efforts in Andean Condor conservation.

Support the development of a satellite transmitter

National Aviary & Bioparque Amaru to Expand Protected Land in the Amazon Rainforest

The National Aviary in collaboration with Ecuadorian-based sister zoo, Bioparque Amaru is thrilled to share recently acquired funding obtained through a grant provided by the International Union for Conservation of Nature (IUCN)'s Land Acquisition Fund, will allow for a substantial expansion of the Selva Eterna Reserve in the Amazon Rainforest! The soon to be purchased two plots of land, totaling almost 155 hectares (nearly 400 acres!), will support the continued preservation of the Amazon Rainforest from human impact. In this area alone, there are a documented 406 bird species that we will be helping to protect! The grant also includes funding that will be used to strengthen educational programs on the ground in southern Ecuador.

Alongside our partners at Amaru, we are beyond proud to have a strong presence in the Amazon Rainforest for research and conservation work, while further promoting an essential bio-corridor of connectivity between Peru and Ecuador and expanding protections over one of the most biodiverse areas in the world.

Stay tuned to our social media channels and subscribe to our email list for updates on our work to help protect the Amazon Rainforest and the species that reside there.

Second Guam Kingfisher chick hatched at the National Aviary

Restoring the Guam Kingfisher Population One Hatching at a Time

by Brianna Crane, Senior Aviculturist

Guam Kingfishers (locally known as sihek) have been Extinct in the Wild for four decades and were decimated to the brink of total extinction in Guam by the arrival of an invasive species, the Brown Tree Snake. However, last year the National Aviary made international headlines when we played a pivotal role in reintroducing nine Gaum Kingfisher hatchlings (including three that hatched at the Aviary) onto the island of Palmyra Atoll—establishing them as the first wild population since their decimation. Since that pivotal moment we have been thrilled to share monumental reports from our Sihek Recovery Program partners on the ground of laid eggs by the newly wild sihek including the Aviary's very own Långet (*lan-get*) and Mames (*ma-mays*).

All four female and five male birds on the island continue to explore their new home, learning how to forage and hunt new prey within the tropical forest. Plus, in addition to Långet and Mames, six other birds on the Island have established territories, built nests, and laid eggs! It is important to note, that with the mated pairs being less than a year old and experiencing incubating and caring for eggs on their own for the first time, it's likely it will take a few more rounds of egg-laying

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Restoring the Guam Kingfisher Population One Hatching at a Time *Continued*

for the birds to hone their skills and for chicks to hatch. Nonetheless, these eggs demonstrate both the tremendous resilience of these remarkable birds and the power of conservation to create a second chance for species on the brink of extinction.

It has been over twelve months since I personally transported Långet and Mames to the Sedgwick County Zoo where they remained in quarantine until their eventual additional transport and release into the wild. To witness them being the first of their kind to have bred in the wild in four decades is truly extraordinary. We remain hopeful that their wild population will keep growing, and those efforts continue right here at the National Aviary's Canary's Call presented by Dollar Bank.

We were ecstatic to recently announce Långet and Mames's parents who reside in the public-facing habitat, have hatched two additional Guam Kingfishers chicks and we are thrilled to share the oldest hatchling is a GIRL (be sure to stay tuned for the gender reveal of the youngest sibling)! The adorable duo, being hand-raised by myself with the help of our esteemed veterinary team in the Aviary's breeding center behind-the-scenes, will potentially be integrated into the population of fellow Association of Zoos and Aquariums (AZA) within the Species Survival Plan® (SSP) Program for the species.

Dedicated *FlightPaths* readers will recall that the Aviary actively works within the SSP Program and the Sihek Recovery Program (the global collaboration of conservationists that is dedicated to rewilding these magnificent, colorful birds) to conquer one goal: the now-once completed reintroduction of the species into the wild. The newly hatched chicks at the Aviary will hopefully contribute to an uptick of breeding pairs within expert care to produce more offspring to be reintroduced into the wild during the Program's next trials in 2026. And I am happy to share that when that special time comes, I will be embarking on another adventure to play an even larger role in making that goal come true once again, as Program Coordinator at the Sedgwick County Zoo!

The National Aviary remains grateful to the following fellow Sihek Recovery Program partners and institutions who either contributed eggs to be hatched or staff to assist with their care: Brookfield Zoo Chicago, Cincinnati Zoo & Botanical Garden, Disney's Animal Kingdom, Sedgwick County Zoo, Smithsonian's National Zoo and Conservation Biology Institute, Tracy Aviary, ZSL's London, and Whipsnade Zoos. ■

Stay tuned to our social media channels and subscribe to our email list for updates on the sihek in the wild and my personal future sihek adventures!

Give today and support the adventures of our future sihek

Below: *Eggs produced by newly wild sihek pair Hinanao and Tutuhan; Photo Credit: TNC-ZSL*

Guam Kingfisher hatchling number one

Your donations support the National Aviary's work to save birds and protect their habitats.

National Aviary Continues Search for Iconic Ivory-billed Woodpecker

by Steven Latta, PhD, Director of Conservation and Field Research

The Ivory-billed Woodpecker (*Campephilus principalis*) is perhaps our nation's most iconic species. Listed as Critically Endangered, the woodpecker is often considered extinct, with the last widely accepted record of the bird occurring in 1944. In fact, in 2021, the U.S. Fish and Wildlife Service proposed the delisting of the woodpecker as extinct but would later go on to delay that decision in 2023 due to the existence of prominent findings such as ours.

The Ivory-billed Woodpecker historically inhabited mature bottomland hardwood forests associated with river basins and older upland pine forests throughout the southeastern United States. The species was severely impacted by the cutting of bottomland forests and vast expanses of virgin pine forests, especially in the early 1900's. A small, separate population existed in Cuba and may still be extant in remote mountain areas. The Cuban population is currently treated as a subspecies, but some have noted substantial genetic variation and have suggested raising the Cuban birds to a distinct species.

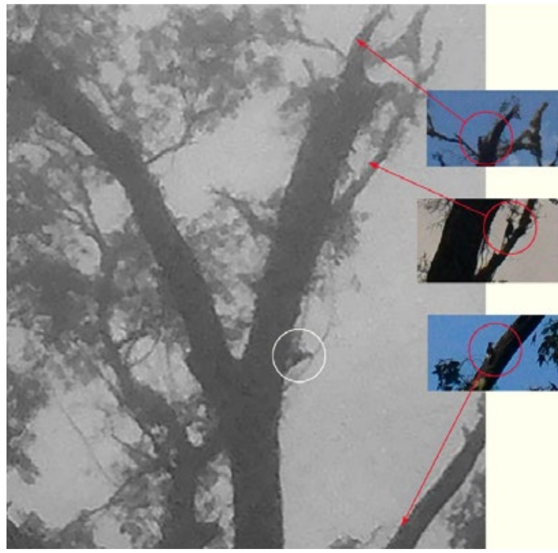
Since 2019, our Field Conservation team at the National Aviary collaborated with independent researchers in an intensive search for the Ivory-billed Woodpecker in undisclosed areas of Louisiana. In May 2023, we published a peer-reviewed paper in the scientific journal *Ecology and Evolution* presenting personal accounts, audio recordings, trail camera photographs, and drone videos supporting the persistence of Ivory-billed Woodpeckers in Louisiana. In October 2023, the U. S. Fish and Wildlife Service announced that they were delaying a decision on the delisting of the species in order to consider additional evidence.

While we believe that our peer-reviewed paper has changed the discussion around the survival of the Ivory-billed Woodpecker, there is still more work to be done. We believe that in order to prove its existence without all reasonable doubt, we must find an active nest or roosting cavity where multiple, repeatable photographs can be obtained. This will also allow us to begin to study many aspects of the behavior and nesting ecology of the species that are still not well known and will contribute to the conservation of the species.

Thus, our objectives now are to: **1)** use standard field techniques to locate a nest or roosting cavity of an Ivory-billed Woodpecker; **2)** obtain high-quality photographs of the bird(s) to further solidify the survival of the species, and potentially prevent the delisting of the species from the Endangered Species List; **3)** obtain environmental DNA (eDNA) of the woodpecker; and **4)** contribute the first data in more than 80 years on the nesting ecology, behavior, and habitat use of this species.

In 2025, we progressed significantly on these fronts. With the National Aviary's leadership and a small cadre of part-time, very dedicated and skilled volunteers, we have had a year-round presence at the site, with intensive studies completed during February through June, the species' presumed nesting season. We continue to learn the complexities of our 90 km^2 study site, as well as how to travel and live in one of the most challenging habitats on the continent. We also located many examples of a rarely seen foraging method unique to the Ivorybill which involves extensive stripping of the bark from live trees to uncover the beetle larvae living underneath. These larvae are a primary food of the woodpecker.

As an avian conservation organization, the National Aviary is committed to advancing the global conservation of birds and their habitats. In North America, the iconic Ivory-billed Woodpecker is a beacon of hope that has encouraged countless people to become involved in avian conservation efforts as a whole. Our team feels a deep personal responsibility to ourselves, our professional community, and to society to do everything we can to ensure that we conserve this remarkable bird and its habitat. ■



***Top:** Dr. Steven Latta at a research site*

***Middle:** A figure used in the Project Principalis research study to show the existence of the Ivory-billed Woodpecker*

***Bottom:** eDNA sample being collected from a tree at research site*

Help us on our search for the Ivory-billed Woodpecker!

An Eastern Loggerhead Shrike flying out of its temporary habitat into the wild, 2022

Aviary Surveys Potential Habitat of Endangered Loggerhead Shrike

by Steven Latta, PhD Director of Conservation and Field Research

The conservation of Endangered species requires diverse strategies. Here at the National Aviary, we have joined efforts to recover the Eastern subspecies of the Loggerhead Shrike by breeding and introducing these birds into the population of fellow Association of Zoos and Aquariums (AZA)-accredited facilities for the potential releasing of their offspring into their former range in the wild. In a new, complementary effort, the National Aviary recently completed an intensive search for nesting shrikes in the Commonwealth of Pennsylvania to better understand their current distribution, and to identify habitat for the future potential reintroduction of birds currently in human care.

The Eastern population of the Loggerhead Shrike is considered Endangered in Pennsylvania and a species of Conservation Concern by the U.S. Fish and Wildlife Service. The Pennsylvania Game Commission and local birders found nesting shrikes in consecutive years in Adams County (1992–1999), and in Franklin County (1993–1996), both in southcentral Pennsylvania. Habitat improvement measures were then undertaken at selected sites in these counties in the hope of securing the population. But the last known nesting attempt was recorded in 2004 in southern Franklin County near the Maryland border.

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Aviary Surveys Potential Habitat of Endangered Loggerhead Shrike

Continued

An Eastern Loggerhead Shrike Juvenile

In order to ascertain whether the Loggerhead Shrike is extant in Pennsylvania as a breeding bird, National Aviary ornithologist Bob Mulvihill coordinated an intensive field survey in 2025 for the species. Funded by a grant from Pennsylvania's Department of Conservation and Natural Resources, we also sought to determine if there might be an opportunity for shrike population supplementation in Pennsylvania similar to conservation efforts occurring with the species in southern Ontario, in which we played a significant role in the reintroduction of a chick brood to the open grasslands of Ontario back in 2022.

In order to identify potential shrike nest sites, Bob interviewed shrike experts studying the species in West Virginia to get advice on key characteristics on the species' natural habitat. He then identified where in the Commonwealth two key features of breeding habitat for the species overlapped: short grass pastures and karst (limestone) geological formations. Using this information, plus precise coordinates of past shrike occurrences, Bob identified counties in southcentral and northwestern Pennsylvania as potential habitats and then established roadside survey routes in these areas.

Surveys were conducted in May, June, and July 2025 in three prescribed areas of Adams, Franklin, and Erie counties. Surveyors compiled *eBird* checklists at each stop or survey trip. Point counts were completed both with and without audio playback of shrike vocalizations, and at different times of day. In addition, protracted area searches were done in areas judged to have the most promising habitat conditions for the species.

During this study, no Loggerhead Shrikes were observed. However, one bird was reported on *eBird* in northern Maryland just seven miles from one of our survey points. During follow-up visits to all three of our search areas, we concluded that there is hope for the reappearance of shrikes within Pennsylvania if the correct landscapes could be created (or recreated) and maintained. In general Loggerhead Shrikes prefer expansive (> 50 hectares) open, short grass fields sparsely dotted with tall trees and other high perches such as overhead lines and utility poles. They also require scattered, densely branched, low trees and shrubs for nesting, and barbed wire or thorny trees and shrubs to use as impaling sites for their prey.

As a result of this National Aviary survey, we are hopeful that a combination of habitat management, use of playback and decoys to attract dispersing birds, and potential reintroduction of birds from the Aviary and fellow AZA-accredited institutions, could lead to reestablishment of a small but viable population of Loggerhead Shrikes in the Commonwealth in the future. ■

Above: *Eastern Loggerhead Shrike Chicks at the National Aviary*

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Louisiana Waterthrush in its natural habitat

Birds Warn Us of the Presence of Microplastics

by Steven Latta, PhD, Director of Conservation and Field Research

Some of the most important birds are those that can warn us of harm that humans are inflicting on our shared environment.

For more than two decades, ornithologists at the National Aviary have studied the Louisiana Waterthrush and established this unique warbler as an important indicator of the ecological integrity of forested riparian ecosystems. The waterthrush breeds along small, shaded streams in eastern North America, where it feeds on the aquatic larvae of mayflies, stoneflies, and caddisflies. In a recent study, we have shown that because of its position at the top of the riparian food chain, the waterthrush responds negatively to the contamination of the stream water, whether that is from changes in land use, sedimentation, acid rain or acid mine drainage, or hydraulic fracturing.

In 2025, with generous support from the Pennsylvania Department of Conservation and Natural Resources, we began a new study to assess the presence of microplastics in the Louisiana Waterthrush and their aquatic environments.

Plastics are ubiquitous with more than one-third of the production dedicated to packaging and disposable items. Many plastic articles, such as throwaway cups, utensils, and plastic bags, have a noticeably short useful life span measured in timescales of only seconds, minutes, or hours.

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Birds Warn Us of the Presence of Microplastics

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Upon release into the environment, these products are known to persist and pollute for decades, centuries, or even millennia, as none of the commonly used plastics are biodegradable. Since toxic chemicals associated with microplastics, such as PCBs and phthalates, enter cells of organisms, it is important to better understand microplastic presence and their impacts on individual animals, food webs, and the overall health of ecosystems and humans.

In this study, we began an investigation of the presence of microplastics in the Louisiana Waterthrush in both urban and rural stream habitats. We hypothesized that the larval insects present in these streams ingest microplastics occurring in the water. Louisiana Waterthrush adults then ingest the insects and their microplastics, which they then feed to their nestlings via food deliveries at the nest.

Throughout the 2025 breeding season, we sampled microplastics in 14 streams in Allegheny and Westmoreland County. We collected water samples and stream insects from all streams, and fecal samples from 46 adult birds, and 41 nestlings. Laboratory analysis of these samples for microplastics is underway.

Our project also served as a training opportunity for students, and in community outreach. Recent graduates of the University of Pittsburgh, Chatham University, and Duquesne University were key members of our field team. In addition, the staff of the Powdermill Avian Research Center (Carnegie Museum of Natural History), and notably members of the Three Rivers Bird Club, assisted in identifying potential stream sites and locating nests. Dr. Brady Porter at Duquesne University assisted us in the complex task of identifying the best methods of collecting samples in a manner that ensured we were not adding microplastics of our own to the sample. Lastly, a member of our field sampling team has committed to analyzing our samples for the presence of microplastics as the basis of their master's thesis at Duquesne University.

Results from our study will help us better understand the scale of microplastic pollution in riparian habitats and will suggest the importance of addressing this form of contamination. ■

Foraging Louisiana Waterthrush seeing its reflection

Researchers searching for Louisiana Waterthrush
Photo by O. Jankosky

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Adult female Peregrine Falcon Carla taking flight near nest box

Peregrine Falcon Chicks Banded by the PA Game Commission for Two Years in a Row!

Each spring and summer, the National Aviary hosts a live stream of the Peregrine Falcons residing high up on the southeast side of the Cathedral of Learning on the main campus of the University of Pittsburgh: the *National Aviary Peregrine FalconCam*.

2025 marked one of the most exciting seasons the livestream has had to date! Peregrine pair Carla and Ecco successfully hatched chicks in the Cathedral of Learning nest box for the second year in a row. The mates laid a clutch of eggs in April, with the first two chicks hatching on April 24—just in time for National Take Your Kid to Work Day, followed by the third on April 27.

The three hatchlings carefully grew under the watchful eyes of Mom, Dad, and dedicated livestream viewers and could often be seen napping on camera, which is vital for their development. As part of an ongoing statewide effort to monitor the Peregrine Falcon population, Pennsylvania Game Commission (PGC) biologist Patricia Barber, with assistance from the Aviary's friend and supporter Kate St. John, completed health exams before banding the chicks in late May. The health exams included noting their weight and measurements of leg thickness, which led Barber to suspect at the time of the banding that the two larger juveniles are female, and the smallest is male.

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Adult female Peregrine Falcon Carla with two eggs

Peregrine Falcon Chicks Banded by the PA Game Commission for Two Years in a Row! *Continued*

The bird banding process involves placing a small, lightweight band marked with an identifying number on a bird's leg. Using the numbers on the bands, scientists can study the behaviors of Peregrine Falcons while also determining the current status of their populations. Being able to access this type of data is critical for the species, formerly endangered in Pennsylvania due to the use of agricultural pesticide DDT.

Second Peregrine Falcon chick at PA Game Commission banding

Representatives of the PGC and the National Aviary alike are enthusiastic about what this additional banding means not only for the future of the Peregrine Falcon but avian conservation in its entirety:

Right: *Peregrine Falcon female juveniles fledging the nest; Photo Credit: Kate St. John*

"The Peregrine Falcon was removed from our state's threatened and endangered species list in 2021 after more than 40 years," said PGC Endangered Bird Biologist Patricia Barber, "and yet we continue banding at the Cathedral of Learning nest for the immense educational value it provides. This is a species' Oakland residents can see soar overhead; a species that has also grown a large digital following thanks to the National Aviary's FalconCam. The more information we can track and share, the more invested in the well-being of all birds these audiences become."

"This year's banding was another crucial step towards conserving the future of the Peregrine Falcon in the wild," says National Aviary Ornithologist Robert Mulvihill. "We [at the National Aviary] were greatly moved by the opportunity to orchestrate the banding of THREE additional Peregrine Falcon chicks. Banding is so vital to the continued plight of the species and the data we received from this banding allows us to continue to track the bird's movements, survival rate, mating history, and other aspects of biology that make our job that much easier. After two successful seasons, I am personally so excited to see what the next year of the National Aviary Peregrine FalconCam brings!"

A few weeks after the banding, the chicks officially fledged the nest but continued to stay nearby until June where one of the females (recognizable through her yellow band) was last spotted on camera briefly perched on the nest box. Since then, after acquiring the flying and hunting skills necessary for independent survival, the three have taken off on their next chapter and thanks to this year's banding we have a slight estimation of where they will each decide to call home. Peregrine females usually fly father distances than males—and may even "set up shop" as far away as Ontario, while males tend to stick closer to the nest region but only time and eventually more data will tell!

The National Aviary remains grateful to the University of Pittsburgh and Aviary supporter Kate St. John for their continued support of this season's live FalconCam. We look forward to the 2026 *National Aviary Peregrine FalconCam* season and are hopeful Carla and Ecco will return for a third thrilling chapter! ■