



The interesting design in this wetland didn't just happen. It is the foraging path of this Whooping Crane pair.



Photographing from a great distance at the Salt Plain using a tripod with 1120 mm lens.

I heard the Wood Buffalo National Park director (at that time), Rob Kent, speak about the Whooping Cranes in his park. I was captivated by his descriptions and the imagery he presented. I knew I wanted to go there to photograph them, despite the warnings of the outrageous swarms of mosquitos I might encounter.

I have been photographing cranes and their landscapes for the International Crane Foundation (ICF) for many years as a creative outlet to my day job as a photojournalist and sports photographer. With a stipend from ICF and a gracious invitation from the park, I packed my mosquito suit (locals there wear them to mow their lawns!) and camera gear, and was off to the Northwest Territories. Actually, it took a lot of planning to even figure out how to get there – and I am a seasoned traveler! I flew into Edmonton, Alberta and then drove 16 hours north through towns like Little Smokey, Peace River, and Paddle Prairie. When I arrived at the park, I was treated to a meal of elk steaks at the home of Richard Zaidan, the Visitor Experience Manager and my contact at the park.

During dinner, Richard mentioned a recent unusual sighting of Whooping Cranes at the Salt Plains, outside their usual territories. After dinner, I went there to see for myself. Sure enough, I saw two Whooping Cranes just as the sun was setting. My heart skipped a beat – there are people who live in the area their whole lives and never see a Whooping Crane! You can't imagine the feeling when I saw one fly. Confirmed later by the nesting survey, it was the first pair ever to nest in the Salt Plains. Perhaps this expansion means that it was a good year for reproduction? To reach the nesting pair at a safe distance, yet in range to photograph, required about a mile and a half hike along the Salt River (in bug suit and with bear spray) where I could set up in tall grass. I was not disappointed. They were very active flying, foraging, and chasing Sandhill Cranes from their territory.

The breeding area for the Whooping Crane is so remote that it wasn't until the 1950s that it was even discovered. Park biologists conduct helicopter nest surveys twice a year and I was lucky enough to go along on this one. The enormity of the landscape is difficult to comprehend, but from the air, it all comes into focus. While the park biologist took notes and GPS readings of nests, I wrestled with my camera gear in the tight space – switching between a 500mm lens and a short lens to capture the amazing landscape and boreal diatom ponds. Diatom (algae) ponds are a rare wetland associated with nesting Whooping Cranes. As seen from the air, they have a distinctive yellow color caused by the benthic algae community that lives in the water. It is not a stretch to say that as I gazed down from the helicopter at a nesting pair, the ponds were teeming with life. I took hundreds of photos, and I fully understood what a rare opportunity it was. I even saw a family with a chick. For me, this alone made the trip.

Later in the week, I flew in a fixed-wing aircraft to the southern end of the park to photograph the Sweet Grass area, where large herds of buffalo graze on seemingly endless grasslands. It felt like I had gone back in time as we flew across this surreal landscape dotted with wild buffalo and ancient birds. It probably looked the same thousands of years ago.

My visit to Wood Buffalo National Park was a wonderful experience, and I am thankful for the opportunity to share these photographs of the park and the elusive nesting grounds of our beloved Whooping Cranes.

Visit savingcranes.org to see more photos.

Incubating on the nest.

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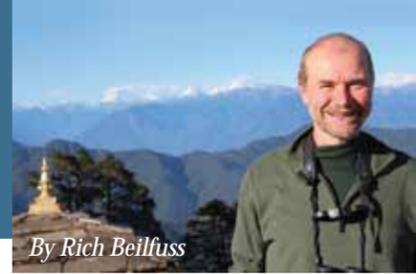
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Notes from the President

New Hope for Wattled Cranes and Conservation Leadership in Zambia



By Rich Beilfuss

Great news from Zambia! In April we conducted 29 hours of intensive aerial surveys over the Kafue Flats and our estimate of more than 2,500 Wattled Cranes makes it the largest population in the world and the highest count anywhere since the 1980s. More than 80% of the world's endangered Wattled Cranes are found on the large floodplains in southern Africa, and the species' future is linked to the health of these dynamic ecosystems.

Changes in floodplain water cycles from dams, the introduction of invasive species that choke out natural wetlands and displace native plants and animals, and human

development all upset the delicate balance needed by Wattled Cranes and other wildlife. Fortunately, the results of our aerial survey give us hope that it is not too late to protect these last strongholds for Wattled Cranes.

Our survey was a partnership between the International Crane Foundation, the Zambia Wildlife Authority, and WWF-Zambia, and featured a strong team of Zambian wildlife managers, including our Zambia Program Manager Griffin Shanungu. I served as cockpit navigator, data recorder, and spotter during all the flights. Packed tightly into our tiny Cessna 208 for five days, we flew 81 transects back and forth across the plains at 100 mph, about 300 feet above the ground. This was the first time I have done aerial surveys of the flats, but I never tire of flying across the life-teeming floodplains.

We counted and mapped all large mammals and waterbirds on the flats, and recorded all evidence of human activity in the park, including settlements, mining camps, incidents of burning or logging, and livestock. Our biggest news was the Wattled Cranes. The Kafue Flats is home to the highest counts ever recorded for the species (more than 3,000 in the 1970s), but there was strong evidence of decline in recent decades until our latest count. We observed one huge flock of

more than 400 birds, and hundreds of breeding pairs across the floodplain.

Kafue Flats is renowned as a bird paradise, and we counted more than 40 species of wetland birds.

The flats are also the only place in the world where the Kafue lechwe occurs, a wetland-dependent antelope that grazes on vast areas of floodplain grasses as annual floodwaters recede, creating

excellent foraging habitat for Wattled Cranes. Although we counted many thousands of lechwe, this rare species is in decline due to loss of floodplain habitat and poaching – a critical management concern. Other

important mammals observed included African buffalo, zebra, hippo, wildebeest, and the deep marsh-dwelling antelope, sitatunga.

Wattled Cranes are challenging to study on these immense floodplains. We are still learning why the species is increasing in some places, and decreasing elsewhere. As human populations grow across Africa and smaller wetlands are drained, converted to agriculture, or disturbed by people and livestock, I suspect that large floodplain systems like the Kafue Flats are increasingly vital to Wattled Crane survival.

This means that our efforts to protect these floodplains have never been more important. In July, we hosted 7 young Zambian ecologists at our headquarters. Each one is responsible for monitoring one of the major floodplains on which Wattled Cranes, endangered Grey Crowned Cranes, and many other species depend. Through a cooperative training program between the International Crane Foundation and Louisiana State University, they are also receiving advanced training in crane and wetland ecology and monitoring, and gaining the professional skills to become the next generation of conservation leaders in Zambia. Together, they give me great hope for Wattled Cranes and all who depend on these amazing floodplains.





Liz Smith and Cathy Wakefield
(Texas Program)



Group Activities at Mirror Lake State Park



WHAT IT TAKES TO RAISE A *Whooping Crane Chick*

A lot goes into preparing a chick for release into the wild and (spoiler alert) the key is you!



During routine health checks, veterinary staff wear gray costumes so that more positive experiences are associated with the white costume that the caretakers wear. Photo © Joel Sartore, www.joelsartore.com

With just over 400 in the wild, our painstaking work to raise and reintroduce Whooping Cranes to their natural environment is critical and urgent. But we'll be the first to tell you that it isn't easy.

As you might expect, walking a species back from the brink of extinction is a lot more complicated than hatching chicks. Once hatched, what comes next takes intensive, specialized attention for which there is no instruction booklet...other than the one we continue to create every single day.

Here's a snapshot of what it takes to prepare a chick – from hatch to release – to be a member of the wild flock:

- 113** Pounds of specialized crane food *per chick* to meet the unique dietary requirements of a bird that can grow close to an inch a day!
- 12** Number of custom-made crane costumes used to make sure that the chicks never imprint on people and are ready to be successful members of a wild flock.
- 389** Number of hydrating drinks consumed by staff – costumed from head to toe – a day working with chicks in the heat of long summer days.
- 3,400** Gallons of water used in the on-site swimming pool to aid the chicks' healthy development and build strength.
- 6,500** Hours invested in chick rearing by staff and interns. For 15 hours a day, 7 days a week staff and interns are feeding chicks, keeping chicks warm, cleaning enclosures, encouraging exercise, evaluating growth, teaching good social skills and predator awareness, providing swimming opportunities, confirming well-being, and recording data.
- 56** Combined years of experience among the International Crane Foundation staff caring for chicks. Twenty-eight of those are the years Marianne Wellington has led the Chick Rearing program. You may (or, more likely, may not!) recognize her as the lady in the costume.
- 35** Visits by the veterinary staff to each chick during their first four months, to keep them healthy and strong.
- 606** Database entries *per chick* tracking food eaten, weight gain, behaviors, treatments, and health status.

When it comes down to it, none of these activities would be possible without one key component – you!

In fact, none of the steps that come next – tracking, building public awareness, limiting threats along the way, and more – would be possible without you either. You are the key and we couldn't be more grateful for your support.



We envision a future where our captive rearing programs are no longer needed, where Whooping Cranes are thriving in the wild on their own. That future is possible. And with each breeding season that passes, we are one step closer. But for now, with wild Whooping Crane numbers still dangerously low, this work must continue. One chick at a time.

Please consider making a donation to the International Crane Foundation to support our work. Your donation ensures that we have the resources needed to continue to protect this incredible species from the threat of extinction. Thank you!

Ways to Give

Call: (608)356-9462

Donate at: savingcranes.org

Or, use the envelope in this issue!

Global Retreat

By Julie Langenberg, Vice President for Conservation Science

On any regular June day our staff is busy around the world – flying a Wattled Crane survey over vast Lake Chrissiesmeer in South Africa, talking to villagers about climate change effects on their farms in Northeast China, creating detailed maps that show wetland changes from development pressures in northern India, and defining the breeding habitat of Sarus Cranes in northern Cambodia. But this June was different. For the first time in our history, most of our global staff came together for 2 weeks of team building and learning at our headquarters in Baraboo. The Retreat included 13 “migrants” from all of our major program areas in Africa, East Asia, South/Southeast Asia, and Texas. For some, it was their first visit not only to Baraboo, but to the United States.

Many days were spent in a flurry of orientation sessions – getting up-to-date information on our finance, development, communications, and IT processes, and workshops where we learned together about important conservation strategies, such as the use of social marketing tools to change behavior, the latest techniques for counting and assessing trends in crane populations, and how to share our conservation stories with others.

But we also had time for field trips to see the

Whooping Cranes and other Wisconsin wetlands species at Necedah National Wildlife Refuge, to bicycle and experience the mighty Mississippi River at Perrot State Park, and to hike and paddle amongst the cliffs of state parks right in the Baraboo area. The visiting international staff also gave presentations at the Board of Directors meeting, and met many supporters at the annual *Evening with the Cranes*. But maybe the most fun was had when we shared meals cooked by each regional group. South African ox-tail stew and Indian biryani were enjoyed as much as North American barbecued chicken!

Though much was learned and exciting planning was done for collaborative projects, the real goal of the Retreat was team building and fostering a shared commitment to our exciting vision for the next decade. As expressed by Tanya Smith, South African Program Manager, “I feel very much a part of ICF now. I think this has really been the catalyst for full integration of off-site and on-site staff, projects, and programs.” With the help of supporters, we hope to come together every 2-3 years for a similar global experience...and maybe next time we can address Tanya's main suggestion for improving the event, “more opportunity to try out American sports!”



Photos by Christina Beam, Swati Kittur, Betsy Didrickson, Lizzie Condon, Diane Asam, and Sara Moore

Swati Kittur prepares food for "India Night." (at left)



Tanya Smith (South Africa) adds cabbage to Oxtail Potjie, a traditional stew that cooks slowly in a cast iron pot over an open fire.



Learning to ride a unicycle is a great way to build teamwork!



Griffin Shanungu (Zambia) and Jinde Shu (China) hiking at Devil's Lake State Park

Osiman Mabhachi (Zimbabwe), Community Projects Coordinator



Using Technology to Unlock the Mysteries of Crane Incubation

Aviculturists from the International Crane Foundation collaborate on a crane incubation study using telemetry eggs.

By Cynthia Gitter, Senior Aviculturist and Incubation Manager

When you think about it, the fact that an egg contains everything necessary for an embryo to grow and develop is pretty miraculous. What is arguably even *more* amazing is the natural ability of birds to provide the perfect incubation environment that contributes to the development of the embryo, eventually resulting in the hatching of a healthy chick. Imitating that precise incubation environment has eluded aviculturists for years and continues to challenge us today, especially for endangered Whooping Cranes. Although natural incubation is the best incubation method, reintroducing Whooping cranes require us to hatch as many chicks as possible in captivity. When we have more eggs than natural crane incubators, we must use other methods to achieve a healthy hatch. The more we know about these methods, the better our success rate.

Temperature, humidity and rotation are the three main factors needed for successful incubation of avian eggs. Through many years of experience, aviculturists at the International Crane Foundation have determined incubation parameters that work well for artificially incubating crane eggs. However, when we are working to reintroduce an endangered species such as Whooping Cranes, each egg is incredibly

valuable to the population. To increase our chances of a successful hatch, we have teamed up with the Calgary Zoological Society and USGS Patuxent Wildlife Research Center to conduct an incubation study to focus on the incubation parameters of Whooping and Sandhill Crane eggs incubated under cranes as well as artificial incubators.

For this study, special telemetry eggs were developed by Advanced Telemetry Systems, Inc.

to mimic the size and weight of actual Whooping crane eggs. Sensors installed in the eggs record a variety of parameters including temperature, humidity, egg position, and light. Each telemetry egg is paired with a real crane egg and subjected to different scenarios. For example, a Whooping Crane egg may be paired with a telemetry egg and placed under a pair of surrogate incubators such as Sandhill Cranes. This allows us to “see” what temperature, humidity, and rotation that egg is being subjected to under Sandhill Cranes. If that Whooping Crane egg successfully hatches we will know more about the specific environment that is necessary for hatching healthy chicks. This study will especially provide beneficial insights for artificially incubating crane eggs.

Our aviculturists are constantly looking for ways to improve the care, management and propagation of the endangered Whooping Crane. Collaborating with Whooping Crane recovery partner institutions on this incubation study provides us with insights into the world of crane incubation and “smart eggs” contribute to our success in securing Whooping Crane populations for generations to come.



Telemetry egg (left) next to a Whooping Crane egg. Photo by Cynthia Gitter



Safe Travels for Siberian Cranes

By Claire Mirande, Senior Director of Conservation Networking

Siberian Crane chicks hatch on the tundra and grow to full size in 3 months. Winter comes early and quickly. Chicks must start their migration within days after taking their first flights. Along their 3,000 mile migration route they face many challenges.

Thanks to support from the Disney Conservation Fund, in June I had the opportunity to gather with Russian and Chinese scientists to explore strategies for discovering the places these Critically Endangered birds need to rest and forage along their journeys. We are trying to understand the threats they face such as loss of habitat at important stopover sites, and poisoning by eating agricultural seeds treated as protection against rodents or other pests.

To enable us to track their migrations, our twyway team brainstormed on how to develop safe and reliable capture techniques. In the past, researchers used helicopters to catch the birds in the remote tundra



of Russia. I once had the adventure of riding in a helicopter and watching chicks hunker down under the wind from the propellers and catching my breath as my agile

colleagues jumped out to safely catch the young birds. Unfortunately helicopters are extremely expensive and rarely available, so they are not a viable option. To solve this problem we hope to purchase a Canadian tundra vehicle with tires soft enough to carry us to remote nests without damaging fragile tundra plants. Combined with a small motorboat, this vehicle will enable researchers to capture chicks and attach cell phone transmitters and track their migration. In the meantime, Chinese counterparts will be testing other capture methods on the staging sites in northeast China. We have embarked on a truly twyway effort.

Photos by Zheng Zhongjie and Rob Belterman

Navigate to Our New Website!

You will find exciting changes the next time you visit www.savingcranes.org. But don't worry! You will still find all of the same great content that you love – and more! You will meet the people leading critical crane conservation work across the world; explore the 15 species of cranes (do you know which crane is the tallest?); and learn how our conservation strategies guide our work throughout the world. You will also discover a vibrant new home page with streamlined navigation, fresh colors and design, and a focus on our latest news and social media posts. You may browse our site from home or on the go, as it is designed for viewing on PCs, tablets, and mobile phones. The beautiful new design and site development were completed by Greenleaf Media and Webstix, Inc., and we would like to give special thanks to the Arthur J. Donald Foundation for their generous support of the project.



Best of all, the launch of our new look coincides with the completion of a 3-year project to create an online Digital Asset Management

System (DAMS) of our extensive crane collections. “DAMS” is technical speak for an all-inclusive database containing thousands of digital files relating to cranes. We named our new management system, the **Crane Media Collective**. It contains images, documents, artwork, video clips, and sound files. Hundreds of documents such as annual reports, scientific papers, and full issues of the last 40 years of the *ICF Bugle* are accessible in the Crane Media Collective. The online database is a work in progress and will continue to grow over time. From the researcher in Zambia looking for scientific papers on cranes – to the fourth grade student in Alaska interested in photos of the Sandhill Cranes migrating overhead – everyone will benefit from the enhanced accessibility to our unique collections (we call them treasures!). The **Crane Media Collective** project was made possible through a grant from the Institute of Museum and Library Services.



We think you will love this new online crane experience as much as we do! Visit our new website soon, and let us know what you think.

Travel to Mongolia in 2016

Imagine a land uncrossed by power lines, or fences. Imagine a sky decorated only with clouds by day and countless stars by night. Stop imagining and join Dr. George Archibald in June of 2016 on an expedition to Mongolia. Your journey will take you by four-wheel



drive vehicle across the steppes to traditional ger camps and tented camp sites, while providing opportunities to view the natural beauty of Mongolia. Nyambayar Batbayar, Director of the Wildlife

Science and Conservation Center of Mongolia will join the group, lending expert interpretation on the natural and cultural significance of the areas visited. If you would like to join this adventure, please contact Kari Stauer by email travel@savingcranes.org, or by phone (608)356-9462, ext. 115.

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