

The ICF

Bugle

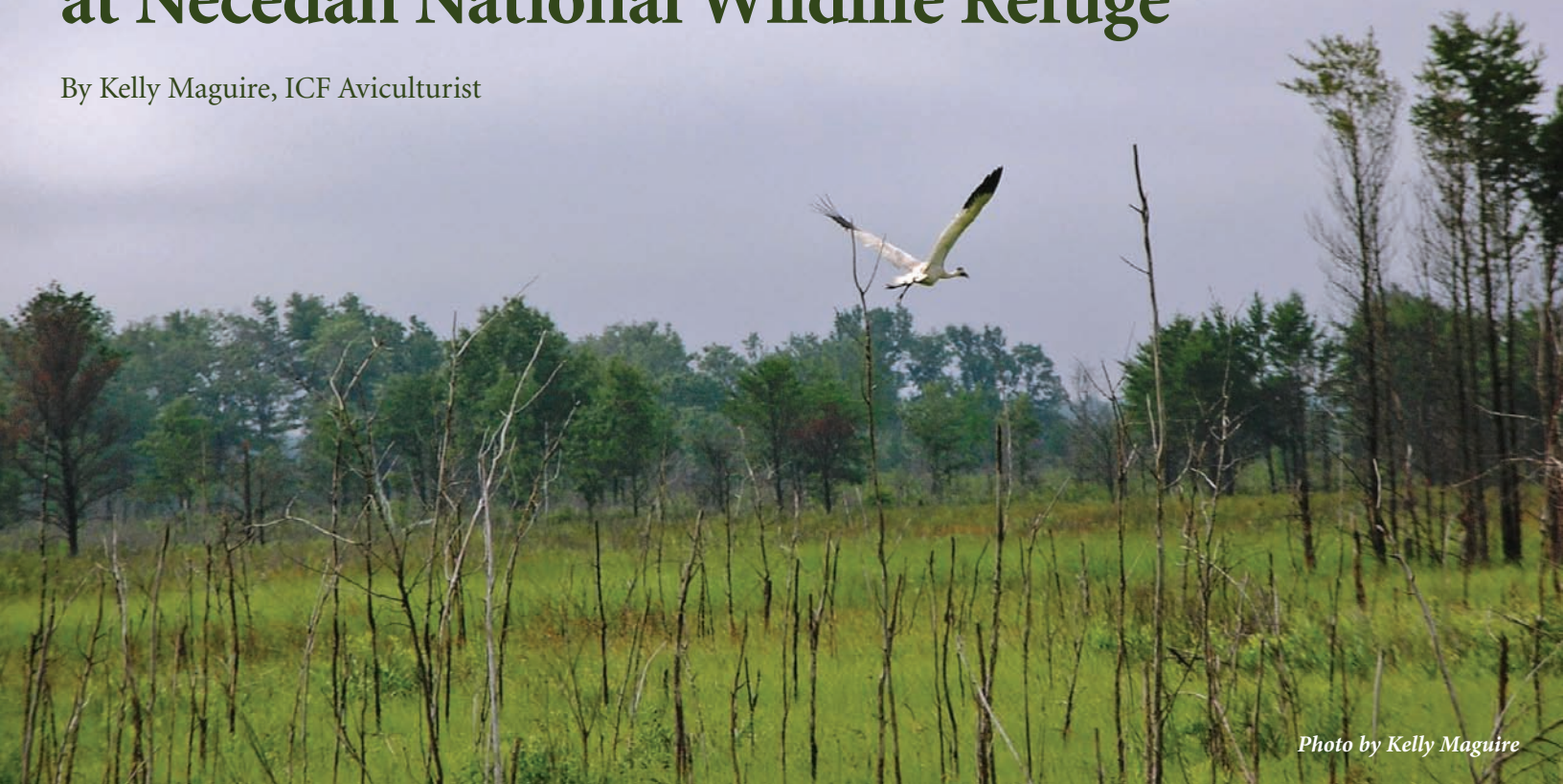
*Celebrating ICF's**35th**Anniversary**Inspiring a Global Community*

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How Whooping Cranes Select Habitat at Necedah National Wildlife Refuge

By Kelly Maguire, ICF Aviculturist

*Photo by Kelly Maguire*

As an aviculturist at the International Crane Foundation (ICF) for the last 14 years, I have had amazing learning experiences working with our captive cranes. In 2004, with the encouragement of ICF and the Crane Conservation Department, I began graduate school at the University of Wisconsin-Madison, to earn a Master's degree in Wildlife Ecology. It was important to me that my research would enhance our understanding of cranes in the wild. After discussions with ICF and Dr. Stanley Temple, my advisor, we decided that my thesis work would focus on habitat selection of the reintroduced Whooping Cranes while they were on their breeding grounds in Wisconsin.

Continued on page 2

A big thank you to 35 years of volunteers working with ICF to save cranes and the landscapes on which we all depend!

This issue is dedicated to Fred Ott (1921-2008), Darrell Leidigh (1929-2008), and Betsy Getz (1913-2008), great friends to ICF and the cranes of the world.

Research on habitat selection often pertains to the type of habitat a species is using, how they are using it and how much of the habitat is available to the animal. Although this is an important aspect of estimating the carrying capacity of an area, I chose to look at a different aspect relating to habitat selection; that is, what actually influences a species to select a certain habitat.

Because the Whooping Cranes released by the Whooping Crane Eastern Partnership (WCEP) are so closely monitored, there was a unique opportunity to analyze the mechanisms that influence their habitat selection. Some of the mechanisms I studied are:

- habitat imprinting, a learned action where an animal selects the same habitat in which it was reared;
- philopatry, the propensity for an animal to return to the area where it was reared;
- site tenacity, an animal returning to its previous home range;
- environmental stochasticity, the influence of an environmental change on an animals' actions.

By beginning to understand the mechanisms that influence habitat selection by cranes, we have the opportunity to modify reintroduction techniques to reinforce their natural tendencies and obtain outcomes beneficial to population establishment.

For two summer seasons, I worked with WCEP's Monitoring Team to collect data on locations, habitat and the behavior of the reintroduced Whooping Cranes at the Necedah National Wildlife Refuge (NWR) in central Wisconsin. I analyzed this information along with data the Monitoring Team collected since the beginning of the reintroduction, and mapped home ranges for all of the Whooping Cranes through the years. I used these home ranges to study the possible effects of habitat imprinting, philopatry and site tenacity on the birds. In order to learn if another mechanism, such as environmental stochasticity, affected habitat selection, I developed and

reviewed the life history of each bird. I looked for factors such as storms or geographic barriers – the Great Lakes, for example – that might explain any oddities in areas or habitat chosen by some of the reintroduced cranes.

I found that several mechanisms came into play in habitat selection by the eastern migratory Whooping Cranes. Habitat imprinting and philopatry play strong roles. All of the cranes selected habitat similar to their rearing site, which consisted primarily of open fields, emergent wetland vegetation and open water. Eighty-seven percent of the juvenile cranes, returning northward for the first time came within 7.2 km of their rearing



Photo by Al Perry

area before later dispersing. Site tenacity becomes more important to the cranes as they become older or find a mate, and environmental influences such as storms can push birds off course during migration. This mechanism can override the philopatry mechanism if the bird cannot get back on course to return to the area where it was released.

The strength of the mechanisms I studied was highlighted in 2004 when eight birds were blown off course during their first northward migration and ended up in Michigan. After several weeks three of the eight cranes found their way back to Wisconsin while the other five set up their initial home ranges in Michigan. These five birds remained in Michigan the entire summer, primarily choosing habitat similar to the rearing area. Two of these

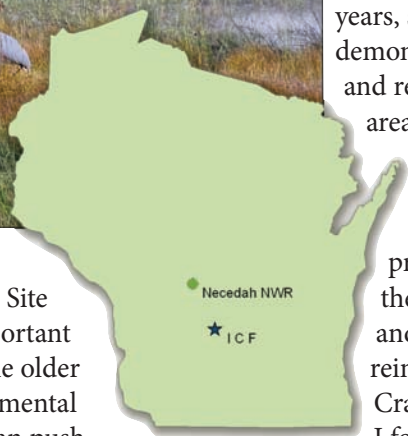
birds died over the winter. The following breeding season the three remaining cranes, (1-03, 9-03, and 18-03) had an extensive wandering period that took them through New York State and Canada. Crane 9-03 remained in New York while 1-03 and 18-03 returned to Michigan. The two Michigan birds were captured by managers and returned to Necedah NWR where they remained that season. The following breeding season these two birds again returned to Michigan, but 1-03 found her way back to the release area in Wisconsin with a mate (11-03). Crane 18-03 remained in Michigan, established a home range, and continued to return to Michigan in subsequent years despite

being repeatedly captured and returned to the Refuge.

Crane 9-03 initially visited New York during her second breeding season, but continued to move around and was captured and returned to Wisconsin. For the next several years, she continued to demonstrate strong site tenacity and returned to the New York area in the spring despite repeated transports back to Wisconsin.

This study has provided a glimpse into the complex interactions and influences that reintroduced Whooping Cranes use to select habitat. I found that our current

rearing methods do result in most of the released birds returning to the area designated for them. As our knowledge of Whooping Crane behavior grows, we can determine which mechanisms most strongly influence the reintroduced cranes and in turn, use this information to enhance the efforts to establish a self-sustaining population of Whooping Cranes in the Midwest. Since the completion of my graduate study, cranes 9-03 and 18-03 have returned to the rearing area at Necedah NWR on their own and with mates. Both pairs have set up territories, built nests, and are incubating at this time.



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The ICF Bugle is the quarterly newsletter for members of the International Crane Foundation. ICF was founded in 1973 by Ronald Sauey, Ph.D (1948 - 1987) and George Archibald, Ph.D. Bugle comments or questions? Please write Betsy at Bugle@savingcranes.org or P.O. Box 447, Baraboo, WI. 53913

Editor: Betsy Didrickson
Memberships are vital to ICF. Please join or give a membership to a friend at the following annual rates:

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Notes from ICF President Jim Hook . . .

Spring Update

As the last five members of the Ultralight Class of 2007 Whooping Cranes departed Chassahowitzka National Wildlife Refuge on April 1, 2008, we want to recognize a great effort by the Winter Management and Tracking Teams led by ICF Aviculturist Sara Zimorski and our U.S. Fish & Wildlife Service colleague, Richard Urbanek. Both team efforts were well supported by our Crew Chief Anna Fasoli and Tracking Interns Eva Szyzkoski and Colleen Wisinski. Of special note is the fact that once the initial health checks were completed, the young cranes did not spend a single night inside the flight-netted pen. A great effort!

The current eastern migratory Whooping Crane population is now at 74 birds and, at the time of this writing, over fifty are confirmed back in Wisconsin. Significantly, we can report that ten Whooping Crane pairs are incubating on nests at the Necedah National Wildlife Refuge, our best start yet. We are hopeful that other pairs we believe to be in the core reintroduction area may also be on nests. After a disappointing 2007,

when all the incubating pairs abandoned their nests, we are hopeful for wild chicks in 2008. Thank you to so many of you for supporting this historic recovery effort over the years.

Here on the Baraboo campus, a hard working team of ICF Staff and Board Members has completed the schematic design phase for our exciting new African Crane Exhibits, that we plan to open to the public in June of 2009. The new exhibits promise enhanced views of our Wattle, Blue, Grey Crowned and Black Crowned Cranes in natural environments, that include working wetlands. They will be complemented by an exciting interpretive story carefully woven together by our Conservation Education

Department. We are thrilled about this new, state-of-the-art exhibit and hope to have a model for visitors to review this summer. We are very grateful to all of you who contributed so generously to this effort through our Africa campaign, that also supports ICF's field conservation efforts – we surpassed our goal of \$2.1 million, reaching nearly \$2.3 million! Our heartfelt thanks to the Dohmen Family Foundation, Bobolink Foundation, Makray Family Foundation, Pleasant Rowland Foundation, Stackner Family Foundation, Jack and Patti McKeithan, Phil and Joan Pines and over 700 other donors who supported these exhibits and our global programs to protect wild cranes and their habitats.

In addition, we want to recognize the Felburn Foundation and the Reinhardt H. & Shirley R. Jahn Foundation Trust for their continued strong support to maintain Crane City – ICF's on-site captive breeding facility. We are thrilled to announce a new 1:1 challenge grant from the Felburn Foundation of \$100,000 to support the continuation of this work in the coming year. Please see the center spread of this issue for details.

Unfortunately, since I last wrote, the ICF family and cranes everywhere lost three very important friends, Darrell Leidigh, Betsy Getz and Fred Ott. Darrell was a longtime crane champion who, along with his wife Bettye, was instrumental in helping ICF build its new chick rearing facility. Betsy Getz was a crane enthusiast who helped ICF create exhibits in our family education center. Fred Ott was a legendary conservationist who served on ICF's board since day one. We profiled Fred's fascinating life and his commitment to causes he cherished in our last issue of *The Bugle*. We are grateful to have known these amazing people and are a stronger organization today because of their dedication and passion.



Whooping Crane nest at Necedah NWR. Photo by Richard Urbanek, USF&WS.

SWEAT EQUITY

Behind the Scenes at ICF

The ICF Site Maintenance Team is constantly working behind the scenes to improve our site for visitors, staff and the cranes that live here. The projects and tasks performed during the year are as diverse as the collage of photos below. Many major improvements were made going in to our anniversary year – but many more are still to come. The list is sometimes daunting for Site Manager Dave Chesky, “You check one job off the top of list as three more are being added to the bottom,” but with humor and the esprit de corps for which ICF is famous – the job gets done!

Crane City Renovations

The three R's are usually associated with Reduce, Reuse, Recycle – but in the case of the ICF captive breeding facility affectionately known as “Crane City” – the 3 R's are more aptly applied to Repair, Refurbish, Renew! The Site Maintenance Crew, and the contractors who work with them, have been working miracles in Crane City with the generous help of member donations and the Felburn, Antonia and Jahn Foundations. The renovations include a variety of projects including: removing obsolete light poles, installing new water hydrants, repairing fascia and soffits on crane houses, painting, installing new flight netting, as well as a major project funded by the Antonia Foundation, involving over 1800 feet of trenching to install fiber optic cable to stream live crane video for avicultural and educational purposes.

Yet, there is still much left to accomplish. Projects such as road improvements, electrical upgrades, additional flight netting, gate and fencing replacements, relocation of the video station, and reinforcing aging predator deterrents remain. So, it is with great pleasure that ICF announces the **Crane City/Felburn Challenge Grant** – a \$100,000 challenge from the Felburn Foundation. This generous offer provides a 100% match for your gift to continue needed improvements at ICF's Crane City, home to the majority of our resident cranes and essential to our Whooping Crane and other captive breeding efforts. Please use the enclosed envelope to double your gift today!

Power washing and painting at the Johnson Exhibit Pod

Professional arborists trim unruly trees in visitor areas.

New Eco-Spun carpet for the library courtesy of the Jahn Foundation. All of the old carpet was re-used or recycled.

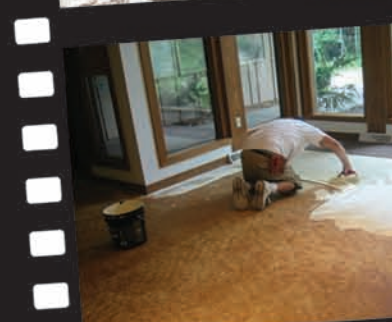
Eco-friendly Office Construction by Reliable Renovations: Shaw Green Edge carpet, low VOC wood finishes, black cherry wood milled from deadfall on the ICF site, low impact wheat board for the walls, and occupancy sensor lighting.

Trenching for fiber optic cable installation made possible by the Antonia Foundation.

New water hydrants courtesy of Reinhardt H. & Shirley R. Jahn Foundation Trust.

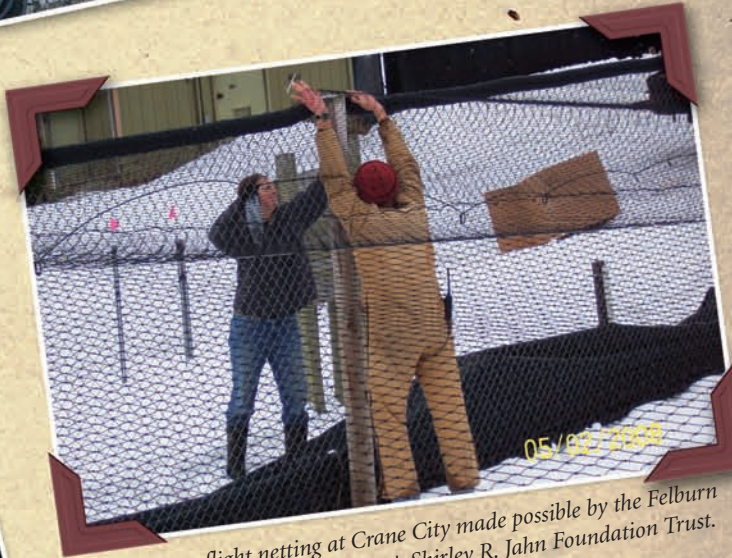
Installing new flight netting at Crane City made possible by the Felburn Foundation and the Reinhardt H. & Shirley R. Jahn Foundation Trust.

Photos by Dave Chesky and Nat Warning



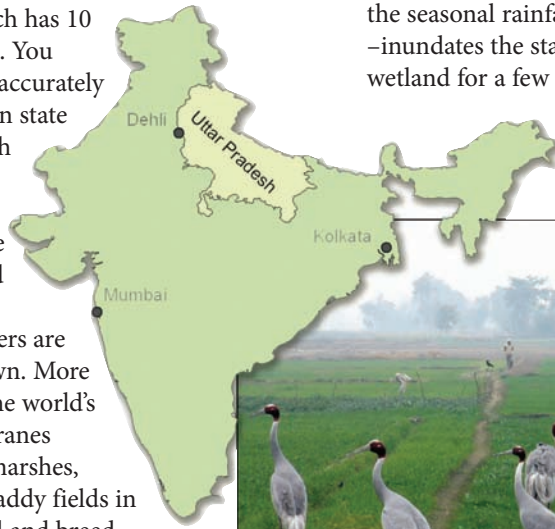
Major information technology improvements were made courtesy of the Foley Family Foundation. Upgrades included a new Voice-over IP telephone system, new back-up and terminal servers, upgraded network switches and a T1 internet connection. Above, Automation Arts of Madison, WI installs a new server rack and organizes a spaghetti mass of cables serving the many buildings at ICF.

Electrical upgrades



Imagine a flat floodplain with rivers and fertile alluvial soils, 8,000 years of rice cultivation, 4,000 years of documented history, and most of its native habitats converted to agriculture. Then add to it 166 million people, 6 million cattle, buffaloes, goats and pigs along with 1.2 million poultry and domestic ducks. Now imagine squeezing all this into an area the size of Michigan (which has 10 million people). You have imagined accurately the north Indian state of Uttar Pradesh as it is today.

These statistics are the ones often cited to describe the state, while others are much less known. More than 6,000 of the world's 15,000 Sarus Cranes utilize ponds, marshes, even flooded paddy fields in the state to feed and breed. Numbers of these cranes in some areas have remained largely unchanged for at least 150 years. Initial surveys have shown that at least 350 other species of birds, some flying over the lofty Himalayas to make this their winter home, also thrive in this landscape. Some species, like the Sarus Crane, are globally threatened and declining elsewhere, but appear to be at least stable and in impressive numbers in Uttar Pradesh. The



list of birds includes storks, ibises, spoonbills which like the Sarus Crane are large, and require plentiful space and food to survive.

How is it that this landscape with so many people, animals and cultivation is able to retain so much diversity, even so many large birds like cranes? Is it because Hinduism – an ancient religion that purports all life to be sacred – is a dominant belief? Or is it because the seasonal rainfall – the monsoon – inundates the state turning it into one large wetland for a few months? Maybe it is the traditional practice by farmers of retaining wetlands and flooded



Photo by K.S. Gopi Sundar, Map by Mike Engels.

grasslands alongside agriculture, especially in areas dominated by rice, which fosters this rare and special coexistence. Uttar Pradesh is one area among many in the world that has been modified almost entirely for cultivation: why is it that it is able to retain so many birds?

As part of my PhD at the University of Minnesota supported by the International Crane Foundation, I will begin exploring the landscape of Uttar Pradesh in July 2008 to seek answers to these questions. This project is very exciting for several reasons. To begin with, even the numbers of bird species and their distributions are inadequately documented here. The study will document these and show how important such human-dominated areas can be for wildlife. It will allow us to understand how many species will benefit from conservation activities that focus on Sarus Cranes. This information, combined with details of what parts of the landscape are needed most for birds, is a prerequisite to prepare meaningful conservation plans. Finally, and perhaps the most exciting and important part, is the social dimension: uncovering the traditional, culturally motivated practices that allows this happy existence.

Imagine now if we could learn how to have humans everywhere live without losing the natural heritage around them. Maybe Uttar Pradesh holds the key to that learning. Maybe the Sarus can show the way.

There will undoubtedly be many tales of birds, beasts, and of people as I wander the fields of Uttar Pradesh in the coming months –exploring what makes this ancient landscape work so well. Share my experiences as I report them on the ICF website and in future issues of the ICF Bugle.

A Tribute to African Cranes, Wetlands and Communities

ICF's co-founder George Archibald's interest in African cranes was ignited while he watched captive crowned cranes engage in their unique dance of head-bobbing, foot-stomping and booming vocalizations. As ICF celebrated its 10th Anniversary in 1983, George stated that although much of ICF's work to date had taken place in Asia, it was committed to breaking ground for crane conservation in Africa. True to his word, several months later, George seized the opportunity to create the Working Group on African Cranes (WGAC) during the ICF-organized International Crane Workshop. The WGAC eventually included 107 members representing 29 African nations. Over the intervening years, ICF's field programs in Africa grew exponentially under the

insightful leadership of Rich Beilfuss, and today these innovative programs continue to flourish under the mentorship of Kerry Morrison.

We invite you to experience some of Africa's colorful sights, folklore, and inspirational stories about the conservation heroes working to secure a future for Grey and Black Crowned Cranes, Blue and Wattled Cranes by visiting the African Cranes, Wetlands and Communities exhibit. The exhibit will be on display in ICF's Donnelley Family Education Center from June 7 – October 31, 2008. An opening reception will be held on Saturday, June 7 from 2:00 – 4:00 PM. The opening will include an introduction by George Archibald and Kerry Morrison, the reading of African folk tales, and light refreshments. The opening will also be the first opportunity to hear more about ICF's plan to enhance our headquarters with new, naturalistic exhibits for our African cranes! The reception is free and open to the public.

Every winter ICF's Crane Conservation Department (CCD) has the challenging job of trying to socialize two individual birds to become one pair of cranes. The socialization process is complex. It progresses in several stages. It may even take several attempts for a given socialization to be successful. Potential mates are selected based largely on their genetics, as well as their age and behavior.

This winter CCD staff and interns spent countless hours socializing three new pairs. A video camera, provided via a grant from the Institute for Museum and Library Services, was mounted in each of their yards, allowing for remote viewing to minimize human disturbance. Using the cameras, we are able to follow the birds as they move around the yard. The cameras also zoom in to help distinguish between birds and identify subtle social behaviors like crown expansions. Being able to observe these behaviors helps us determine how well the socialization is going and if the pair is ready to proceed to the next stage.

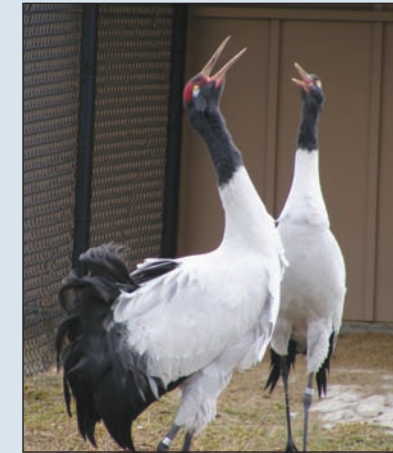
Black-necked Cranes, Crusty and Glacier, were one of the pairs socialized this winter. We have been trying for nearly three seasons to pair these birds. Last year, they were together for several months, but later split up when the male became aggressive. This year, we had an earlier start on the socialization process, and the pair looked strong going into the breeding season, but recently split again.

Our second socialization was a pair of Wattled Cranes, Knight and Nandi. This

socialization progressed quickly as the two appeared to enjoy each other's company. With each additional socialization session, the birds became more difficult to separate. Eventually we were comfortable leaving these two together unchaperoned. These two Wattled Cranes are now a united pair.

Perhaps the most successful socialization this winter was the pairing of Whooping Cranes Achilles and Aransas. Both birds are from under-represented family lines and Aransas (male) is the last potential founder in the captive flock, with no family members or offspring in the population. Genetically, he is a very important bird. ICF made several attempts to pair these two over the last few years. However, the socializations advanced very slowly and were cut short due to overlap with ICF's breeding season when we minimize disturbances in Crane City, our captive breeding center. This year the pair seems more compatible and moved from their socialization pen to a full size pen with a pond.

Monitoring socializations is not always the most exciting job. Much of the time we watch the birds sleep or preen, which is normal behavior for them, but somewhat tedious for the observer. When the birds finally do interact and I see them dance or call together, it is very rewarding! Even now, when the birds have been together for several weeks, it is still exciting to see them react and behave like a pair. We are eager to see what this breeding season will bring for these new pairs.



Photos by Kim Kehoe
Crusty and Glacier unison calling. Unison calls help reinforce the pair bond and may also serve as a warning to intruders.



Male Whooping Crane Aransas, in the foreground, pulls up some grass from the recently thawed ground while Achilles stands nearby and watches. Aransas came to ICF from USGS Patuxent Wildlife Research Center in 1989. Achilles hatched at ICF in 1996.



Bhutan: The Cloud Kingdom

Travels With George

George Archibald plans to lead travel adventures to Bhutan (November 6-20, 2008) and to South Africa and Botswana (February 5-19, 2009). This will be George's final trip to Bhutan with a group for several years. Highlights in Bhutan will be the Black-necked Cranes and the Crane Festival, birding in a wide range of altitudes, outstanding scenery and the remarkable Buddhist culture. Highlights in South Africa include seabirds and great white sharks off the Cape of Good Hope, wine country, Blue Cranes, Wattled Cranes and the Big Five on the Okavango Delta. For information contact George's assistant, Julie Zajicek at Julie@savingcranes.org or 608-356-9462 ext. 156.



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Aquatic birds depend on open water. When the surface freezes, the birds must move to other areas where open water remains.

In recent years the climate has been warmer, and some cranes have wintered far north of traditional wintering sites. But this past winter was unusually cold across the northern continents.

Critically endangered Siberian Cranes are the most water-dependent of cranes. With their unusually long beaks they probe in the mud of shallow water to find nutritious roots, tubers and small animals. When reports arrived that lakes along the Yangtze River were frozen early in 2008, we were concerned that feeding areas at Poyang Lake, where the majority of the world's Siberian Cranes winter, might be locked under ice. Fortunately, large numbers of these white cranes have been seen on their migration north in March.

To understand better the status and threats to the eastern population of Siberian Cranes, ICF has long supported Russian-Chinese cooperation along the flyway. In October 2007, a delegation of Russians worked with staff of Momoge Nature Reserve in northeast China. Sergei Slepsov photographed these Siberian Cranes walking atop thin ice, as well as feeding where open water remained.



Walking on Thin Ice

By George Archibald, Co-Founder

Save the Date: ICF Annual Meeting – September 27, 2008



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