

World Center for the Study and Preservation of Cranes

Waterbirds and Wetlands of Northern Cambodia

Volume 27, Number 4

By Jeb Barzen, Field Ecology Director

If the been searching for breeding and non-breeding wetlands of Sarus Cranes and other large water-back in Southeast Asia for 11 years. By this summer, I could account for less than ten confirmed crane nests and relatively few locations for other species of interest. With a likely population of 700-1,000 Eastern Sarus Cranes in southeast Asia, our best guess was that 200-300 nests were scattered among the remaining open forests of Cambodia, southern Lao PDR and southwestern Vietnam. But where?

As peace unfolds across this region with its turbulent past, decisions about land use are occurring at a rapidly increasing pace. Reminiscent of the rapid demise of the Midwest's vast oak savanna of 100 years ago, the open dipterocarp forests of southeast Asia may be forever changed within the next decade. The question is "How?" rather than if. Development is occurring especially quickly in northern Cambodia, where the bulk of this open forest ecosystem remains.

If conservationists are going to participate in Cambodian (or southeast Asian) decisions about land use, or be players in this future, we need to bring something to the table. Our first (though not only) ante, must be data. Several excellent ground surveys have already been conducted in northern Cambodia, giving us an idea of the great biological diversity that still exists



within this ecosystem. But intensive surveys done on foot, no matter how well done, cannot efficiently estimate the abundance or distribution of species – such as cranes, storks or ibises – that move widely and are relatively rare. It would take years of ground surveys to search enough of the scattered wetlands to describe where and how many large waterbirds occur in the open forest, years that we do not have.

Though we have not found many nests over the last decade, we have developed a method to gather this information for the future. Most of the nest and large waterbird locations that we do have are in scattered wetlands in the open forest. These wetlands can be found on maps. Why not rapidly search just the wetlands through aerial surveys?

The logistics of accomplishing this task are daunting. We proposed searching over 5 million hectares of open forest with 42 hours of flight time. That's all the time we could afford. Within this region there are

about 12,000 wetlands of various sizes. We would be searching an area about 1/3 the size of Wisconsin with wetlands that are so small that they can only be located on detailed maps that each cover only 1.5% of the total area. Because it is not



The small, scattered wetlands among a sea of forest are key to conserving Cambodia's waterbirds,

THAILAND

OSiem Reap

Eastern sarus crane

Woolly-necked stork

Lesser adjutant

1-150

> 600

150 - 350

350 - 600

Elevation

possible to work in a small airplane with 30 maps in your lap, we had to find a way to transfer crucial wetland information to maps that could be used.

Before stepping into an airplane, we needed the expert help of Dorn Moore,

our GIS specialist, and hundreds of hours of tedious map digitizing (transferring details from one map to another) provided by ICF crane researchers Kristin Lucas and Tammy Miller. Five days were needed to simply plot the proposed flight plans for all nine surveys.

But this preparation paid off - what we found from the air was stunning: 82 crane nesting territories, 381 Lesser Adjutants, 21 Greater Adjutants, 19 Giant Ibis, 180 Woolly-

necked Storks, 30 Black-necked Storks, one White-shouldered Ibis, 1,262 Openbilled Storks, 143 Painted Storks, two Milky Storks and many other species. More importantly, we confirmed that these species were spread across most of northern Cambodia (see map).

Some survey areas held concentrations of several species. Here the typical approach to conservation might work well: identify boundaries for a reserve and limit development. Yet given the

> expansive distribution of these large waterbirds, this "protected area approach" would leave out significant numbers of birds that still exist in this threatened region. Clearly, in addition to

protected areas, we need to develop ways that people and native ecosystems can coexist. Though the need is evident, how to accomplish this objective is not.

Another surprising result from this survey is the concentration of large water-

establishing CAMBODIA

VIETNAM

Map by Dorn Moore

Locations of the three most abundant water bird species found during the present survey.

bird flocks at Ang Trapeang Thmaw Wildlife Reserve (ATT) during the rainy season. ATT was established through the efforts of Sam Veasna of the Cambodia . Department of Forestry, Fisheries and Wildlife (DFW) and Eleanor Briggs of ICF. It was first identified as being an

important wetland for Eastern Sarus Cranes and many other waterbirds during the non-breeding season that coincides with the dry season. Even so, we found large flocks of waterbirds at ATT during the rainy season. Perhaps birds that breed in colonies on the Tonle Sap spend their non-breeding season at ATT as well. ATT thus provides non-breeding habitat for large waterbirds during both the dry and wet seasons, making it unique in southeast Asia.

We now have important data to contribute to land use discussions. Our future task is to expand these efforts beyond the current frontiers of conservation. How do we work over such a large area? With whom do we work? How can we pragmatically merge social and biological sciences? Though predicting the results of our actions may be difficult, predicting the results of inaction is easy. Perhaps the best opportunity to save the last great expanse of open dipterocarp forests and wetlands

> in southeast Asia now lies before us. What will we make of it?

The only way to solve a myriad of problems is to engage a team! ICF collaborated with conservationists from the Convention for Migratory Species (CMS); the Wildlife Conservation Society (WCS); the Cambodia Department of Forestry, Fisheries, and Wildlife (DFW); the

Cambodia Ministry of the Environment (MOE); Mission Aviation Fellowship (MAF); and World Wildlife Fund (WWF) to conduct these surveys last September.

For details on our survey results, visit our website: www.savingcranes.org under "What's New."

Report from the Annual Meeting After September 11

By Jim Harris, President

It was 7 a.m. on a Tuesday when ICF's Jeb Barzen called my home from Siem Reap, a small city near the Tonle Sap in northwest Cambodia. I was giving breakfast to my son Steven. Jeb sounded tired but happy after completing nine days of aerial

surveys over the wetlands and forests of Cambodia. A few minutes after we spoke, he went for dinner at a small restaurant. Before the meal was done, he had been called to the next room where he watched a plane hit the South Tower of the World Trade Center.

ICF's hydrologist Rich Beilfuss was watching the same CNN coverage from a hotel room in Lusaka, Zambia with a room full of Zambians who

could not believe what they were seeing.

None of us at ICF will ever forget the September 11 attacks. In that, we are just like hundreds of millions of people all around the world, still sorting out the changes rippling and spreading from that Tuesday morning, still trying to adjust.

Within 24 hours, ICF had to decide whether or not to cancel our Board of Directors and Annual Meeting, scheduled for September 14-15. On that grim Wednesday we decided that our positive mission and hopes for global conservation should go on, it was a time for affirming what we believe.

We did cancel committee meetings of the Board, planned for Friday morning. Instead, we gathered in the library to share our reactions to the events and how ICF might need to change. We began with several staff and just three directors present, but gradually other directors arrived one by one as the day passed.

By next morning, 15 of our 25 directors were present. Absent were those who had planned to fly to Wisconsin. Discussions were as good as any I remember for our Board meetings. Perhaps each of us thought harder and spoke with care and caring because we spoke through shock and grief.

Our Saturday afternoon for members – an open house on the flowered prairie

Photo by Elena Smirenski

One of my favorite slides from the annual meeting talk. The ICF-organized team of American teachers and high school students rides a Russian bus to Muraviovka Park in July 2001. Hove the hope, confidence, and commitment on these faces. The future for cranes depends on the vision of conservationists young and old.

and our oak studded headquarters – had a mellow autumn sky and soft September sunlight. Members along the trails, at the lectures, and on the Crane City tour, brought a sense of community and gratitude to ICF that strengthened into the evening.

I dreaded and yet welcomed the opportunity to speak. I had prepared my talk before September 11 and decided not to change a single slide. My report to members began with a map of the world, highlighting the 22 countries where ICF is directly engaged and another 51 countries where we encourage the work of our colleagues. Our programs on behalf of the cranes are safeguarding great crane

places on five continents, ranging from the tundra breeding grounds of the Siberian Crane, and the open dipterocarp forests Jeb had just flown over in Cambodia, to the vast Zambezi floodplains that have entranced Rich. An hour up the road from ICF is another such world class wetland, Necedah National Wildlife Refuge where we are starting a new flock of Whooping Cranes. ICF headquarters itself, as the focus and hub of our efforts, is also one of these special places.

Looking out over the banquet hall, the room was full of friends to the cranes, including a Chinese delegation who had just flown in one of the first planes from

New York. On the morning of the 11th, they had been late leaving their hotel en route to sightseeing at the World Trade Center when they saw clouds of smoke rising in the distance.

Far in the back of the hall, tables stood empty, places for people who could not attend: Sergei Smirenski, who could not fly in from Moscow as planned; Rajendra Suwal of Nepal, who had flown to Washington, D.C., in the middle of a visit to

ICF (he had watched smoke rise from the Pentagon and could not get back to ICF for over a week); and five ICF directors who could not fly to Wisconsin to attend the Board meeting.

ICF's community is worldwide; this newsletter goes directly to conservationists in 86 countries. As I highlighted in my talk that night, ICF is no longer simply our Baraboo staff traveling around the globe. We employ or directly fund conservationists stationed in Senegal, Mozambique, Zambia, Zimbabwe, Russia, Nepal, Pakistan, Cambodia, Vietnam, and Malaysia. Over the past several years, project by project, ICF has spread beyond its Baraboo home

The Birds of Heaven: Travels With Cranes

By Peter Matthiessen Paintings and Drawings by Robert Bateman

Editor's Note: Publication of *The Birds* of *Heaven*, combining the talents of a remarkable writer and an equally remarkable artist, is a major event in the crane world. We are grateful for their help to the cranes.

Beginning in 1992, writer-naturalist Peter Matthiessen undertook a series of travels with the cranes. Over the years, Peter has studied all 15 of the world's cranes in their wild homes – his expeditions often in company with ICF staff or colleagues. George Archibald and Jim Harris spent many hours sharing experiences with Peter and, in the process, learning much from Peter's astute questions and curiosity. ICF has also been privileged to work with Robert Bateman, a wildlife artist who has helped

cranes and many other animals with his inspiring work.

In 1992, Peter Matthiessen joined Jim Harris, Go Fujita of Japan, and three Mongolian conservationists to investigate the White-naped Crane (or tsen toguru) on the Daurian steppe in northeast Mongolia, near the borders of Russia and China. The team sought to capture and band chicks during the mid summer period before the young cranes could fly. The following excerpt highlights that expedition.

Excerpt from Chapter 2 On the Daurian Steppe Pages 91 - 92

Toward six that evening, in a broad valley of shallow lakes, twenty-six tsen toguru come in sight at once, the largest group observed on the whole journey. We can no longer doubt that this western region of the Daurian steppe, in the upper valleys of the Uldz and Khurkh, is the heartland of the Daurian crane and the probable source of the large winter flock at the Poyana lakes.

Inspired, Tseveen goes to the nearest ger, and within a few minutes, he is galloping with a young arat across the two or three miles of steppe to where a fawn-colored chick, too big to hide, has set off on a wild flapping run across the marshes, through a reed bed, and out onto the plain. Jouncing and swerving to keep up, the car cuts off its escape and we jump out to surround it.

In the end it is Jim Harris who grasps it by



the neck and struggles to subdue it without harming the young bird; he is nicked by the sharp toenails in the process. At this size, so nearly fledged, it is guite dangerous, for its dagger hill has hardened. When Go Fujita bands and releases it, the young crane makes no attempt to flee but turns to confront him. crossly shuffling its new pin feathers, spreading its wings and dancing upward, long claws spread to rake him. Only when Go has hastily retreated does it turn and stalk away across the plain in no great hurry, shaking the bright green ring around its leg.

The arats of Targalant Lakes ("Lucky Guy Lakes," Chuka assures me) set out a warm mutton-and-noodle soup before permitting us to continue on our way. Very low on fuel, we camp that night on an open plain and set out early next morning for the upper Kerulen. Marmots, which have been scarce, are reappearing, and with them the small golden ground squirrel of the plains. At midday, we visit a ger owned by a bent widow in gold head scarf whose son labors on the mines but whose grandchildren have come for the summer to help with the animals. She offers fermented mare's milk, cheese, pressed sour-milk curd. and fresh yogurt, and the yogurt is sprinkled

with a few small dark wild berries, the only fruit we have tasted on the expedition.

The upper Kerulen, in flood after the rains. is a swift torrent between hills, but to the west, the old low mountains are marred by mine scars, coal smog, and the industrial mine stacks at Baga Nuur. Here at last we acquire diesel fuel from a passing truck. On a high hill flowered by sky-blue scabia and night-blue delphiniums, we make a light meal of the last taimen and chapattis, then continue south and west across the continental divide into the valley of the Trul.

One hundred demoiselles in the hills west of the Kerulen are the last cranes recorded. In

late August, they will dance up from the steppes and rise in the blue skies, circling higher and higher on the thermals before heading south in flocks of thousands on the long journey across central Asia and Tibet and the Himalaya, setting tired wings at last for the long gliding descent into the Indian subcontinent. Many will trace the silver thread of the deepest gorge on earth where the Kali Gandaki River parts the snow peaks of Dhaulagiri and Annapurna before bursting forth in the sun of the Ganges Plain.

Matthiessen, P., 2001. The birds of heaven: travels with cranes. 1st ed. New York: North Point Press

Peter Matthiessen will be giving public lectures on his book, The Birds of Heaven: Travels With Cranes in February 2002. Please call the hosting institutions listed below for ticket information.

Thursday, February 7, 2002 - 6 pm Milwaukee Public Museum, Milwaukee, W1 414-278-2728

Saturday, February 9, 2002 - 3 pm The Field Museum, Chicago, IL 312-665-7400

Tuesday, February 19, 2002 - 6 pm Smithsonian Institution Washington DC 202-357-3030

Wednesday, February 20, 2002 - 7 pm American Museum of Natural History, New York, NY 212-769-5200

Lectures in late March in Denver, Walla Walla, Othello, San Francisco and Portland are listed on our website, www.savingcranes.org or call ICF at 608-356-9462.

Order your copies before Christmas! See order form on page 7.



It's Leo, and Ter!

By Matt Hayes, Field Ecology Dept.

At the end of the story entitled "It's Leo" (ICF Bugle Vol. 16, No. 4), the future was uncertain for two special sandhill cranes. Leo and Ter were hatched and raised in 1982 by Kyoko Archibald. Kyoko unintentionally scared their parents off the nest and was forced to raise the chicks herself through puppet rearing. She released both chicks on their parents' territory after fledging. This story is the first documented case of releasing puppet-reared chicks into the wild.

Leo and his mate set up a territory about two miles from his natal area. In 1990, they fledged one chick. In 1991, they produced a chick, but it did not fledge. In 1992, no chicks were produced. In 1993, Jeb Barzen and Su Liying of the International Crane Foundation captured Leo and his mate, banding her for the first time.

However, two days after the pair was released, only Leo showed up on their territory. The day after, Leo began dancing and unison calling (both signs of a pair bond forming) with an unbanded female on Leo's territory. His banded mate was not seen throughout the rest of 1993.

During the spring of 1994 however, Leo was back with his original mate. The pair fledged one chick and safely eluded ICF's attempts to capture their chick. ICF succeeded in capturing Leo's chicks in 1995 (2), 1996 (1), 1997 (2, but only 1 fledged), and 1999 (2). Leo and his original mate are still on territory together. Ter, on the other hand, was last seen August 30, 1982. Those who knew of Kyoko's efforts believed the bird simply did not survive the migration back. Little did anyone know almost two decades would pass before Ter's story would unfold.

ICF received a message on July 19, 2001 from Marge Gibson, who runs a rehabilitation center in Antigo, WI., about a sandhill crane at her facility that had been hit by a car near Wausau. Marge's message noted that the crane had a red plastic band on the right leg and a U.S. Fish and Wildlife aluminum band with the number 608-55602 on the left leg. Our records of 250 banded sandhill cranes did not match these bands, so I sent off the message to other researchers who might know who banded this bird. Five days later, I received a reply stating it was "a bird banded by Archibald at Baraboo, Wisconsin on 8-12-82."

It took a little bit for the information to sink in. I opened the file containing Leo's capture information. Leo's U. S. Fish and Wildlife band number was 608-55601, one number off from the mystery bird in Antigo. Ter had reappeared after

nineteen years!

When I called Marge Gibson, I got goose bumps listening to her describe the scene. Ter was hit near a construction site on the east end of Wausau before it becomes more residential. The person that hit her sped through the construction site and did not slow down in time to avoid hitting her. When the construction crew checked on the bird, they were "greeted" by Ter's mate, a large male who was not about to let anyone or anything near her without a fight. He held the crew at bay for over an hour until the rehabilitators arrived and retrieved the female. Marge stated that she had never before seen such mate fidelity. Unfortunately, she informed me that Ter had died due to her injuries.

Kyoko was very excited to learn that her female sandhill chick had grown up and lived so long in the wild on her own. Finding Ter allowed closure in this chapter of her life. She asked many questions, including whether or not she had chicks with her.

Unfortunately we don't know whether Ter successfully reproduced in the wild or not. She did not have any chicks survive this year. Ter's longevity and her establishment of a territory ninety-seven miles from her natal area add to our knowledge of crane reintroduction and dispersal.

Leo will be two decades old next spring, the oldest free-living greater sandhill crane that ICF has on record. He and his mate continue to visit a small farm where the owner, Dick Mael, feeds them. We hope they will teach their chicks in the future to survive in the wild.

One thing I've learned from the story of Leo and Ter is how adaptable and intelligent cranes are, especially crane chicks. For me, the lesson learned is not to give up on things that are important to you. There is no telling when, or how, they will reappear in your life.



Leo and his family in 1995. The pair successfully raised two chicks this year.

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July 2001 - September 2001

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Lufthansa



Thanks for making our wishes come true!

- The Education Department has a digital camera thanks to Carol and Tom Zimorski.
- The Guest House has a new microwave thanks to Dr. Gary Kuehn.
- Eagle Optics donated five pairs of binoculars that will be used for fieldwork when ICF educators travel to Cuba and Russia.

Tram Chim National Park staff working on a used computer donated by ICF member David LeClair. This computer upgrade will allow Tram Chim staff to access e-mail and develop park databases.

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 or call me at kate@savingcranes.org or P.O. Box 447, Baraboo, WI, 53913 1-608-356-9462, ext. 147.

Editor: Kate Fitzwilliams

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

Student or Senior Citizen \$20	Family	Sponsor \$500
Individual \$25	Associate\$100	Patron\$1,000
Foreign\$30	Sustaining\$250	Benefactor\$2,000

Ride For Rare Birds II

Thanks to the support and planning of
Doris and Woodie Adkins, Janet and Jim
McKenna, and Patti and Jack
McKeithan RIDE FOR RARE BIRDS
II (Charitable Harley Ride) was
attempted late in August to support ICF's
crane programs. While the rain cancelled
the actual event, the support poured in!
Thank you to all who donated this year.

Please clip and send to the International Crane Foundation, P.O. Box 447, Baraboo, WI 53913.

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By Bob Hallam, Development Coordinator

ICF's annual Bird-a-thon raised a record \$31,000 for the Ron Sauey Conservation Fund and ICF operations. Income from the Sauey Fund supports the Ron Sauey Library for Bird Conservation. Over \$261,000 has been raised since 1988. We wish to thank all who participated this year.

First place and grand prize went to Judy Bautch and Emily Campbell. Judy and Emily won a framed print by Owen Gromme entitled "Ruffed Grouse - Budding." Second place went to Bill Sullivan, with Donna Carmichael taking third. All top three finishers received a framed print by Owen Gromme, "Nature's Palette – Blue Jay."

The other top-scoring teams were Cathryn Steuer (4th), Viola White (5th), Jeff and Becky Kingery (6th), Michael Mehr (7th), Carla and Dale Oestreich (8th), Steve Brick (9th), and Michael John Jaeger (10th). Each team has received an unframed print by Owen Gromme, "Natures Palette – Blue Jay." All who watched birds and raised money received *The Sibley Guide to Birds* by David Allen Sibley.

We wish to thank Chuck Brei of Meuer Art of Madison, Wisconsin for donating and framing the Blue Jay prints.

Experience Ancient Cranes and Culture

Japan and Tibet February 28 - March 14, 2002



Join Dr. George Archibald on this fabulous tour featuring cranes, landscapes, and people.

Since times untold the people of Japan and Tibet have admired cranes. Cranes are woven into the art, folklore and religion of these ancient cultures. During the first two weeks of March 2002, ICF members



In early March as late winter merges into early spring, the cranes perform their spectacular courtship dances.

have an opportunity to join ICF's co-founder, George Archibald, to experience the majestic Red-crowned Cranes in Hokkaido, Japan and the mysterious Black-necked Cranes of the southern valleys of Tibet. The tour group size is limited to twelve. There is limited walking and altitudes in Tibet averaging 12,000 feet.

For more information contact: Julie Zajicek, 608-356-9462. ext. 156 or zajicek@savingcranes.org. Report continued from page 3

because indigenous staff living close to the great crane places can have the greatest long-term impact.

Yet this geographic spread blossoming leaves ICF, with its mission for cranes highly vulnerable to security threats and international conflicts. Given the severity of risks to cranes and their habitats, and the need for coordinated international action, the magnificent cranes – at this moment undertaking their long migrations through places as remote as Afghanistan and Nepal (another country torn by terrorism) – are heavily threatened by recent events. These birds, that inspire dreams of peace, rely on human abilities to find common cause, goodwill, and mutual purpose.

Events of this autumn remind us all that the positives we value most need our continual action and support. In closing the banquet talk, I turned from the great crane places, with their limitless beauty, to the network of peoples scattered all around the world who are working for the cranes, for what we love. The strength of ICF and its mission is the caring and inspiration awakened in people who work together. During these difficult times, the cranes need us more than ever. And the cranes in turn can help guide us toward what we believe and want the world to have.

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