

THE ICF BUGLE

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World Center for the Study and Preservation of Cranes

A "Species Bank" for Red-crowned Cranes

by Claire Mirande,
Curator of Birds

At ICF we have bred more Red-crowned than any other of the endangered cranes. Just ten years ago, each and every hatch was important conservation news. "Zhurka," the champion egg-layer, symbolizes the progress we have made since then. She has played a key role in establishing ICF's species bank for Red-crowned Cranes.

Zhurka, a female Red-crowned Crane, was hatched and reared at a zoo in China sometime during or before the early 1950's. In 1956, the Chinese presented her to the Moscow Zoo as a gesture of friendship with the Soviet Union. Twenty years later ICF Director George Archibald met Zhurka at the Moscow Zoo, where she lived in a small enclosure that she shared with geese.

At that time she was the only member of her species in captivity in the U.S.S.R. ICF had the only pair of Red-crowned Cranes in the United States, but the female, "Lulu," was arthritic and aged, and the male, "Phil," had a broken wing that dangled at his side. ICF needed better Red-crowned Cranes and lonely Zhurka was a prime candidate. When George stroked her back to test her response for the artificial insemination procedure, she started to purr with wings stiffly extended. Zhurka wanted to breed.

As George left the bird house that cold morning in March, Zhurka was dancing

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"Zhurka" has probably laid more eggs than any other Red-crowned Crane alive. Our breeding program will never be the same. Photo by George Archibald.

ily complex, and managers must often balance conflicting strategies.

Preliminary analysis of the Red-crowned Crane population shows that we need to increase the current U.S. population of 37 birds, while at the same time achieving a balanced representation of different genetic lines. At ICF, we have decided to curtail or stop breeding some pairs such as Zhurka and Ueno because the captive gene pool is saturated with offspring from these prolific parents.

On the other hand, we do need to make sure that each pair produces several young that in turn reproduce. Each parent has two sets of genes, and each offspring gets just one-half of the genes of each parent. Consequently, if only one offspring ever breeds, a high proportion of the genetic material from each parent will be lost.

ICF will not be discarding our strategies for maximizing reproduction of each pair. These techniques will be reserved for special research projects. And for reintroduction programs, we will want large numbers of chicks for release into the wild.

New challenges for aviculture

The next few years will bring an important transition, as ICF measures its breeding success not by the number of eggs produced, but by the number of genes preserved. We should be able to reach our goals for preserving genetic diversity with a captive population of 125-150 birds.

At present, we estimate that there is space in the United States for a total of 600 breeding cranes of all species. With minimum viable population sizes of 125-150 birds, we will be able to maintain four or five species within these current limitations. Management of all cranes in the United States must be integrated, so that the limited space can be carefully allocated.

Zoos have shown a growing interest in helping to preserve the Red-crowned Crane. The captive population is critically important, as it represents about ten percent of the world population for this spectacular crane (see the related research note on page 8). Fortunately, the future for our species bank — a self-sustaining captive population — appears excellent.

Zhurka and Ueno are still alive and well. They are now in semi-retirement on exhibit at the Johnson Exhibit Pod. Zhurka achieved new acclaim this spring by laying an egg while a group of visitors was watching. She made their day, just as she made history for her threatened kind that numbers perhaps few more than a thousand individuals in the wild.



ICF Director George Archibald presents two young Red-crowned Cranes, offspring of Zhurka, to the Moscow Zoo.

A Species Bank

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and calling. George proposed that the Soviets send her to ICF on breeding loan. The Russians agreed that Zhurka should emigrate but two years were to pass before the paper work had been processed.

In the meanwhile, Lulu and Phil parented "Tsuru," the first chick produced at ICF. Phil died shortly after, leaving Lulu and her offspring as the only Red-crowned Cranes in North America.

Our colleagues at Tokyo's Ueno Zoo came to the rescue by loaning another one-winged male, "Ueno," to ICF. It was love at first sight. As soon as Ueno gracefully stepped from his plywood shipping crate, he unison called with Lulu. We reared four chicks from the pair in 1976, and seven chicks in 1977. Unfortunately Lulu's arthritis worsened, and she succumbed during the winter of 1977-78.

Zhurka arrived shortly after Lulu departed. The international community of crane watchers had been amazed by Lulu's productivity of eight eggs per year. We were not prepared for Zhurka's contribution of 16 eggs in 1978. Zhurka's offspring have been distributed to zoos in Japan, Europe, the U.S.S.R., and the United States.

Captive management evolves

There are currently 131 Red-crowned Cranes registered in captivity worldwide, plus additional unregistered birds mainly in Asia. Each of these birds is expensive to keep, and may live and breed for decades. In the near future, there will be little space left for additional Red-crowns in captivity — a remarkable contrast to the species' scarcity only ten years ago.

Careful planning is essential if our species bank is to remain genetically diverse. Dr. Shigeharu Asakura at the Ueno Zoo in Japan performed a major service for population management when he compiled an international studbook for the Red-crowned Crane. The studbook contains a listing of all Red-crowned Cranes and information such as where they hatched and who their parents are.

By analyzing the studbook data, Claire Mirande and Scott Swengel of ICF's aviculture staff are developing a detailed management program for this species. For the effort to succeed, participating institutions will need to commit themselves to the best management for the population as a whole, not just for the birds in their collections.

The zoo community has set a goal for managing small captive populations: to preserve 90% of the genetic diversity for 200 years. Breeding institutions are just now developing the necessary techniques. The data for each species are extraordinary.

Volunteers Conserve Cranes

by Marion Hill,
Education Coordinator

"We couldn't have done it without you," should be the motto at ICF. We have over one hundred birds to feed, thousands of tours to lead, two dozen chicks to raise each spring, school curriculum packets to write, prairies and wetlands to manage, funds to find — and only thirteen full time staff. No, we are not Supermen or Wonderwomen. So how are all these tasks accomplished? With the help of hundreds of volunteers, many of them giving their services year after year.

Each spring brings a series of "blessed events" — usually about twenty-five hatches of fluff balls that develop quickly into little cranes. Since we remove the eggs from their nests to encourage more egg-laying, we must provide foster parents for the chicks. Here's where the volunteers come upon the scene. Human chick mamas and papas feed, water, exercise, clean, weigh, and otherwise care for the youngsters. Some of our chick parents have been with us for years, like Virginia Murray from Baraboo and Paula Smith from Portage. Paula was on duty in 1981 when the famous Siberian chick "Dushenka" hatched. Dushenka was the very first Siberian Crane ever hatched from captive

parents, so chick parents took great pains in giving him the best of care. Dushenka soon grew fat and lazy, so lazy that Paula remembers lifting him to his feet and prodding him to exercise, as our delighted visitors watched. This year there are eighteen volunteer chick parents, and we are grateful to them all.

Another rite of spring at the Crane Foundation is the mass influx of school children on field trips. Each April we train interested people from the area as tour guides who not only lead the school field trips, but also adult tours throughout the summer. Our tour guides give most visitors their primary contact with ICF, and must be ready to answer any of a thousand questions.

Gail Hempfling from Baraboo has been guiding for three summers; many a visitor has taken out an ICF membership after one of Gail's tours. She loves chatting with people from all over the world. One day last summer, Gail assumed that three of the visitors were together, since they all had very British accents. After the tour, to her surprise, she discovered one was from Australia, one from South Africa, and one from England!

Helen Simon is a Baraboo High School biology teacher; Bob Kaschel is a sixth grade teacher at East Elementary in Baraboo. Both of these talented people have given many hours to help us create school curriculum materials that ICF makes available to classrooms and schools throughout the country. Helen spent an entire summer developing our prairie curriculum packet for high schools. Bob

gave us fresh ideas to replace stale ones when we were producing our elementary school packets. Not only that — after the Christmas holidays each year, Bob Kaschel and his students collect used Christmas trees for us to put along the fences in the crane pens as visual barriers. Thank you, Helen and Bob.

While counting our blessings, we must mention our Sandhill Crane counters and coordinators. Each April the state of Wisconsin is mobilized for 2½ hours on a Saturday morning to count our resident cranes in their wetlands. County coordinators begin recruiting participants in early March and usually do not finish their huge task until all the data sheets are back around the end of May — and many county coordinators have been helping with this project for five or six years. Our hats off to the coordinators and counters of Sandhill Cranes.

There are countless ways to help at ICF. Take the story of "Zha Long," a young Red-crowned Crane that became ill last year. An X-ray revealed that she had swallowed fifteen metal grommets that she had dug out of the ground while foraging in her pen. Fortunately, she recovered after surgery. Now the Metal Detectors Club of Madison donates their time and skills to check our pens periodically for surfacing metal objects.

It really isn't necessary to live close to Baraboo to contribute to our energetic organization. Bay Shore Lab of Milwaukee, for example, volunteers time and donates supplies to assist in health testing of the birds. Chuck Ritzenthaler, a teacher at Germantown High School, not only sponsors "Crane Dances" and recycling in his school for ICF, but also brings his students out to assist in our prairie plantings, seedings, and trail work. Gompers Elementary School in Madison, under the tutelage of Marge Reek and Florence Overgard, undertakes yearly popcorn sales and recycling projects to benefit the Foundation. This year, the children raised nearly \$200 by selling popcorn during just two lunch periods!

Organizations elsewhere in the world can benefit from volunteer programs. At ICF, we believe conservation education should include involving the public in wildlife efforts. Offering volunteer opportunities makes it easy for people to take action!

From the first years of ICF's beginnings, when everyone was a volunteer, until now, much of our success has been due to the friends who have given so freely of their time and abilities. What are your interests in life? We can probably put you to work, too!



Our chick mama (Jeanne Chickering, kneeling) and tour guide (Jim Shriver, standing to Jeanne's left), introduce visitors to one of ICF's youngest cranes.

Sture's Cranes

Sture Karlsson is one of Sweden's foremost photographers, and his favorite subjects are cranes. Someone once said that there isn't a thing the cranes do that isn't graceful. Sture's photographs are the testimony.

Sture, employed by the government and living in the town of Göteborg, has only a short drive to Lake Hornborga. Here, on wide potato fields near the lake, several thousand Common Cranes and many more people congregate in early spring. The cranes have just returned from Iberia and seek potato tubers before occupying their breeding grounds on Swedish wetlands at last thawing from the winter. Some of Sture's greatest work has been at Hornborga.

But Sture and his school-teaching wife, Britt, have traveled to the far reaches of the world after cranes. The Karlssons have photographed all but one species in the wild: the Black-necked Cranes of Tibet have eluded them. The fruits of their labor are beautifully presented in two color books: *Den Stora Tranresan* and *Tranor*.

Since 1983, Sture and Britt have joined ICF efforts in China. The past two winters, Sture has almost met his match at Poyang Lake, where the shy Siberian Cranes feed on vast mudflats far from any cover. Sture has stalked the cranes — by boat, by buffalo-drawn cart, and in his own rubber boots. He tried three blinds. Sture's dedication and tenacity culminated one night last January, when he spent the long, dark hours in a tiny blind far out in the soft mud. By midnight, wind and rain had demolished his shelter, and poor Sture waited in the wet and cold until dawn, when lifting mists revealed the birds.

Sture is as much a conservationist as a photographer. Selections of his pictures have just been sent to Poyang Lake and Yancheng Nature Reserves in China, a precious resource for education efforts. Visitors to ICF have seen Sture's photos in the two-projector show at the Cudahy Visitor Center. And on Sture's behalf, ICF is now sending his slides to members of the Working Group on European Cranes for education in a dozen countries.

Sture and Britt are planning an expedition after the Black-necked Cranes. Look for their work in future issues of the *ICF Bugle*.





Top left and right: several thousand Common Cranes gather at Lake Hornborga in Sweden each spring. The Swedish government feeds them potatoes and barley. Bottom left: sunset at Lake Hornborga. Bottom right: Wintering cranes stand among cork oaks in Badajoz, Spain. Photos by Sture Karlsson.

Airlines Aid Genetic Management

by Lisa Hartman, Aviculturist

The words "genetic management" often dominate talk about captive propagation of endangered species. To the male Siberian Crane chick darting around the ICF exercise yard, this doesn't mean much now. But you can bet he'll never breed with that cute little female Siberian chick paddling in the pool. They happen to be siblings.

Breeding of closely related individuals reduces fertility and survivability of their young. Therefore a primary goal for aviculture is to preserve as much genetic variability as possible within a species. Already scientists are supplementing wild crane populations with birds bred in captivity. We need to keep producing cranes genetically fit for the wild.

This goal can be difficult because of the rarity of endangered cranes in captivity. Genetic management often involves transferring birds to other crane centers to allow pairing with unrelated cranes.

Airlines have become important supporters of crane management. Lufthansa Airlines, for example, recently donated flights for ICF's Siberian Crane eggs to the U.S.S.R., and for a pair of Hooded Cranes from Oka State Nature Reserve in the U.S.S.R. to ICF. Japan Airlines (JAL) — its planes, like Lufthansa's, wear a crane symbol — provided the flight for "Hirakawa" from the Hirakawa Zoo in 1977; this famous Siberian Crane has mothered



Each Lufthansa plane carries a crane logo on its tail. Lufthansa has also carried live cranes, a donation to ICF's conservation efforts. Photo courtesy of Lufthansa Airlines.

several important chicks. JAL also took our three Red-crowned Cranes to Ueno Zoo in Japan in 1984. United, Eastern, and Scandinavian Airlines have similarly carried cranes free of charge.

Shipment of cranes is not easy. We first arrange an airline schedule that will take a crane as directly as possible to its destination. Layovers and transfers increase the stress of travel for a crane, particularly since it does not have the luxury of meals served on the plane.

A crane travels standing up in a crate. The crate is small enough that the crane cannot spread its wings or thrash around, but large enough to allow it to stand to almost full height and have good ventilation.

We must provide the airline with the crate dimensions in advance. Imagine our dismay when we arrived at O'Hare Airport once, with a pair of White-naped Cranes bound for Denver Zoo — the crate wouldn't fit through the hatch! Brookfield Zoo kindly housed the cranes until we could find a "fitting" flight.

Portage Industries in Wisconsin has generously loaned us their van for transporting crated cranes to and from the airport. Indeed, Bob Chapman, our liaison with Portage Industries, has learned what we are up against with crane travel. Many times we have reserved the van only to cancel later. The reasons have been many... illness, weather, or unexpected egg-laying!

The flight itself can be long and expensive. A recent shipment of two Siberian Cranes, "Samar" and "Gole," to Japan took twenty hours and cost over \$900. Support of the airlines has therefore been a major boost for the crane cause.

Our favorite part of a crane transfer, aside from the anticipated breeding, is the telegram announcing a crane's safe arrival at its destination. I remember well the telegram from Thailand about the three pairs of Eastern Sarus Cranes we sent for reintroduction. It read, "Cranes arrived safe and dancing." We hope, with everyone's continued cooperation for genetic management, that cranes will be safe and dancing in their wild homes all over the world.

The ICF BUGLE is the quarterly newsletter for members of the International Crane Foundation (ICF). Address: E - 11376 Shady Lane Road, Baraboo, Wisconsin 53913, U.S.A. Telephone: (608) 356-9462. Articles review ICF programs as well as crane research around the world.

**Co-Founders: George Archibald
Ron Sauey**

Editor: Jim Harris

ICF offers memberships at the following annual rates:

Individual	\$15	Foreign	\$20
Family	\$25	Sponsor	\$500
Associate	\$100	Patron	\$1,000



Contributions

ANNOUNCING:

Received April — June, 1986

The 12th Annual Meeting of the International Crane Foundation

Saturday, September 27, 1986

Grants and Awards: Dorothy Carpenter; Chapman Foundation; Victoria Cohen; John Henry Dick; Thomas E. Donnelley Foundation; Eugenie Mayer Bolz Family Foundation; Giddings & Lewis Foundation; Institute of Museum Services; Johnson Co., Ltd.; Oscar & Elsa Mayer Charitable Trust; Seebe Charitable Trust; J.R. Short Milling Co.; and Johnson Wax Fund.

ICF members and their guests are invited to attend the annual meeting and dinner. Reservations are required; please use the form provided below. Be sure to respond by September 17th, as reservations are limited.

Patrons: American Friends Service Committee; Lady Dorothy Bouchier; Deforest High School; and David Tack.

Sponsors: Doug and Meg Haag; Ives Waldo; and Donald Wiens.

Associates: Ed & Dorothy Alexander; Hope Anderson; Armand G. Erpf Fund; T. Stanton Armour; Mr. & Mrs. S.S. Auchincloss; Susan Avery; Mary David Baird; Carter Bales; Len Bennett; Manny Bhuta; David Blair; Charles & Nina Bradley; Joyce Bunk; John & Barbara Canfield; Central Ohio A & H Club; Ernst Conrath; Louise Coumbe; David Dengler; Mrs. James R. Donelley; June Eastham; Theodore Eliot, Jr.; Mrs. Bradlee Emmons; Ostrom Enders; Line Farr; Kenneth Findley; Robert Fisher; Dean Fitzgerald; Janet Fletcher; Harriet Gleaton; Gompers Elementary School; James Goodwin; Laurentine Greene; Mrs. H.B. Griswold; Jack & Grace Harkness; Sharon Hegbloom; Hattie Higa; Hoy Nature Club; Dr. Robert Jackson; Dr. and Mrs. Henry Johnsen; Dennis Johnson; H. Fisk Johnson; James F. Keickhefer; Joyce & Lynn Knutson; Mr. & Mrs. Bob Kohls; Beverly Kumershek; Robert Laux; Dorothy Lofdahl; Henry & Joan Longnecker; Marathon Box Foundation, Inc.; William Messinger; Thelma Moss; Charlotte Oglesby; Charles & Lucille Peskin; Christine Plochman; Charles Potter, Jr.; Ellen Powers; William Preston; Robert Rasmus; Ronald & Sally Roessler; Sidney Rosen; Robert Sabin; Christina Savit; Bruce & Mary Seibel; Mr. & Mrs. David Seifert; Mr. & Mrs. A.A. Silverman; Wharton Sinkler III; L.R. Sjoblom; C. Smith Tamblin; David & Vivian Tannor; Alice Thorngate; Douglas Tibbitts; Dr. John Twomey; Ruth Weeden; Marianne Weinstock; George & Sally Wells; and John Wilson.

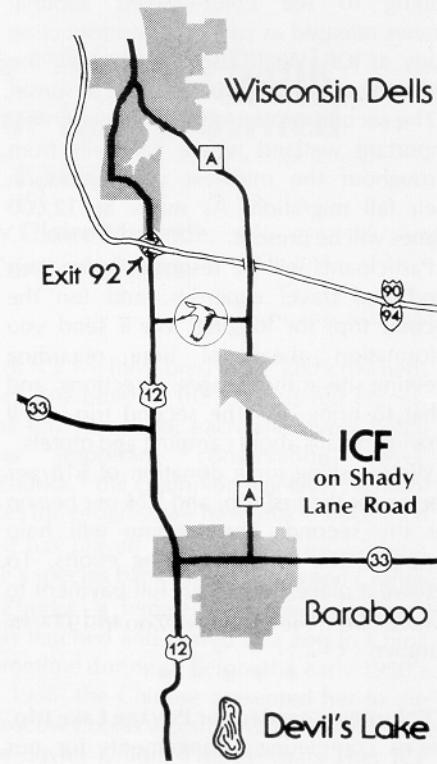
Schedule

4:00 p.m. **TOURS** for members and guests at ICF's new site.

5:30 p.m. **COCKTAILS** (cash bar) at Jimmie's Del-Bar, Wisconsin Dells.

6:30 p.m. **DINNER** at Jimmie's Del-Bar.

7:30 p.m. **ANNUAL MEETING PROGRAM** by George Archibald on current ICF projects in Asia, Africa, and Baraboo, Wisconsin.



Please clip or copy, and mail to ICF, E-11376 Shady Lane Road, Baraboo, Wisconsin 53913
Reservations deadline — September 17

_____ Please make dinner program reservations. My check is enclosed.

_____ people at \$16 per person (prime rib)

_____ people at \$13 per person (chicken)

_____ I cannot attend the meeting, but please send me a copy of the Annual Report.

Name: _____

Address: _____

Field Trips and Crane Surveys

ICF members and guests are invited to join two field trips. The trips are part of our training program for foreign conservationists visiting ICF. We'll be discussing cranes and other wildlife, wetlands, and wildlife management.

Sat., Oct. 4 — Necedah National Wildlife Refuge and Sandhill Wildlife Area in central Wisconsin.

Sat. - Sun., Oct. 18-19 — Jasper-Pulaski Wildlife Area in northwestern Indiana.

The first trip features some of Wisconsin's most important areas for cranes. We're hoping to see color-marked Sandhill Cranes released as part of a reintroduction study at ICF. We'll also be watching the gathering of hundreds of Sandhills at sunset.

The second trip introduces an extremely important wetland where Sandhills from throughout the midwest congregate on their fall migration. As many as 12,000 cranes will be present.

Participants will be responsible for their food and travel expenses, and (on the second trip) for lodging. We'll send you information ahead of time regarding meeting site at the refuges, directions, and what to bring. For the second trip, we'll provide details about camping and motels.

We're asking for a donation of \$18 per person for the first trip, and \$24 per person for the second. The income will help support ICF's foreign training efforts. To reserve a place, send your full payment to ICF. Include name(s), address, and phone number.

* * * * *

Volunteers needed for Poyang Lake trip. We're completing arrangements for our



Sture Karlsson rides a farmer's cart at Poyang Lake, so that he can approach the wary Siberian Cranes. Sture has participated in ICF expeditions to Poyang Lake the last two winters. ICF's team for 1987 will use Sture's pictures for teaching about cranes in the villages. A selection of his Common Crane pictures appears on pages 4-5 of this issue. Photo by Jim Harris.

18-day expedition in January to Jiangxi Province, China. The ICF team will continue surveys of four crane species. ICF members need no scientific background to participate, only a willingness to work and learn. We have special needs for photographers and persons interested in visiting villages and schools to talk about cranes.

All costs are tax-deductible. Contact Joan Fordham or Jim Harris at ICF if you wish to receive more information.

* * * * *

Three nations survey Red-crowns. During the spring of 1984, scientists counted the nests and numbers of wild Red-crowns in China, Japan, and the U.S.S.R. This crucial effort was one of the significant outcomes of the 1983 International Crane Workshop held in India,

where the researchers initially planned their venture.

The following numbers were reported:

Area	Nests	Birds
Hokkaido, Japan	89	209
Amur region, USSR	30	143
Ussuri Region, USSR	16	60
Heilongjiang-jilin, China	89	483
Totals	224	895

Since aerial surveys do not identify all the birds present, these estimates are likely to be somewhat low. In addition, about 40 cranes summer in Liaoning Province in China, and unknown numbers are in the Khabarovsk region of the U.S.S.R., and perhaps elsewhere. Nevertheless, the species probably numbers not many more than 1,000 birds in the wild.



International Crane Foundation

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Address Correction Requested

Annual Meeting
See p. 7

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