THE BROLGA BUGLE

Editor: Scott Freeman; Assistant Editor: Joan Fordham

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INDEX

THE CAPTIVE SIBERIANS

by
George Archibald, ICF Cofounder

NOW THERE ARE 28

When ICF hatched in 1973 there were 11 adult Siberian Cranes in captivity at eight different centers. There were 6 "Sibes" in Western Europe, 2 in China, 1 in Japan, 1 in the U. S., and 1 in India. Seven years later, only 5 of these birds survive in captivity at two centers. Three of the birds are at ICF and two are in China.

Concurrent with the decline in the captive stock, the 1970's marked a decrease in the western population of wild Siberian Cranes, which winters in India, from 77 to perhaps as few as 33 birds. The Soviets estimate the eastern population at as few as 200 birds, with 50 nests located in 1977, 13 in 1978, 10 in 1979, and 25 in 1980.

In 1976 ICF began a comprehensive effort to breed Siberian Cranes in captivity. That year a male was sent to ICF from Vogelpark Walsrode and a female from the Philadelphia Zoo. The next spring they laid 12 eggs, which were all infertile despite artificial insemination. The following winter the Philadelphia female died but she was replaced by a younger bird from Hirakawa Zoo, Japan. "Hirakawa" laid 6 eggs in 1978, 1 of which was fertile, though the chick died while attempting to hatch. In 1979 she laid 11 eggs, all of which were infertile. Our seventy-year-old male, Wolf, just could not produce what counted most. In the winter of 1980 a new male, Tilliman, was imported from Vogelpark Walsrode. Four of Hirakawa's 7 eggs were fertile this season, thanks to Tilliman's prowess. Unfortunately, all the embryos died during development.

In response to the growing need to establish a young and genetically diverse captive group of Siberian Cranes, the USSR's Ministry of Agriculture agreed to send Siberian Crane eggs to ICF in 1977 and 1978. ICF received a total of 11 eggs, of which 7 were fertile. All 7 hatched, and 3 magnificent males and 3 superlative females were reared at ICF, bringing our total population of Siberian Cranes to 9.

In 1979 the Soviets brought 4 Siberian Crane eggs to their Oka State Nature Reserve's new crane breeding center. All hatched but only 1 chick was reared due to dietary problems. Subsequently Vogelpark Walsrode provided the Soviets with the proper pelleted food for crane chicks. In 1980 12 eggs were brought to the Oka Reserve and 4 eggs were sent to Walsrode. A total of 14 chicks were fledged.

This spring a wild young Siberian Crane became lost on migration and ended up in Japan. The bird became quite tame so officials, fearing for its security, took it to Ube Zoo. ICF has proposed that this crane be sent to Baraboo for breeding purposes.

As of October 1, 1980, there are 28 Siberian Cranes in captivity at five centers: Oka State Nature Reserve (13), ICF (9), Walsrode (3), Peking Zoo (2) and Ube Zoo (1).

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OKA'S CRANES

Since Soviet ornithologist-conservationist Dr. Vladimir Flint's visit to ICF in May of 1978, our excellent friend and colleague has been instrumental in the hatch of a crane breeding center in the USSR.

Many ICF members will recall our efforts to establish a new Siberian Crane population in western USSR using the ubiquitous Common Crane as a surrogate parent – just as Sandhill Cranes have led a new group of Whooping Cranes into the skies over the Rocky Mountains. Since 1976 over 200 Common Cranes have been wing-tagged near protected wetlands in Iran, and these marked birds have subsequently been found nesting west of the Ural Mountains in the heart of Russia. But, these prospective foster parents nest in late April and hatch their eggs in late May. It is therefore impossible to substitute Siberian Crane eggs collected from the wild, since the wild Siberians nest in early June.

Captive Siberian Cranes at ICF, however, were induced to nest from late March through mid May by the use of early spring doses of artificial illumination (to simulate the land of the midnight sun). Eggs produced from our captive birds in Wisconsin can therefore be placed into Common Crane nests at their nesting time. And when the Soviets decided to construct their own crane breeding center (to Dr. Flint's exacting standards), they built it in the heart of the marked Common Crane flock's nesting range. The Soviets now have a crane-rearing facility from which captive-produced Siberian Crane eggs might be shunted "out the back door" into the nests of Common Crane foster parents.

The Oka State Nature Reserve is the home of the Soviet's crane breeding center. Since the arrival of their first birds in 1979, their captive population has jumped to 27 birds representing six species. 1980 was a "Red Star" year for the Reserve. The New York Zoological Society gave the Reserve a yearling pair of White-naped Cranes, the U.S. National Zoo provided a pair of breeding Florida Sandhills, and Vogelpark Walsrode has donated a young pair of Stanley Cranes, five electric incubators, and a regular supply of pelleted food. The real star of Oka's show, though, are 10 Siberian Crane chicks reared from 12 eggs collected in the wild by Dr. Flint last spring. In addition, the Reserve has two sub-adult male Siberian Cranes reared in 1978 and 1979 and respectively named Sauey and George, after ICF's cofounders.

The Oka State Nature Reserve is directed by well-known Soviet waterfowl biologist, Dr. Svet Priklonski. This spring Dr. Priklonski visited ICF for instruction in the sensitive points of artificial insemination. The captive breeding program at Oka is managed by Dr. Vladimir Panchenko, who hopes to study at ICF in the spring of 1981. A young and enthusiastic field biologist, Yuri Markin, is engrossed in field research on the Reserve's wild Common Cranes, and continues

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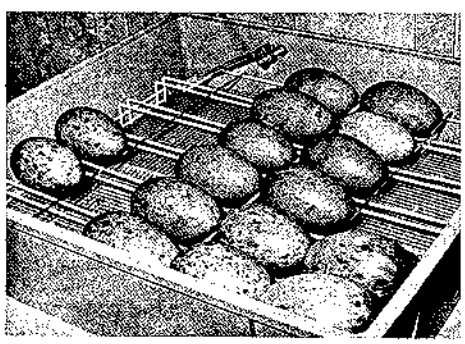

The Oka Reserve's class of '80 Siberian Cranes: from tundra to incubator to chick to fledglings. Bottom photo shows Vladimir Panchenko (right) inspecting his young charges while Dr. Vladimir Flint welcomes White-naped Cranes donated by NYZS.

Molting Study Underway

by Kyoko Matsumoto,
ICF Researcher and "Chick Mama"

As you know, crane chicks grow very fast. Even I, while watching them every day, can almost see them grow. One aspect of their growth particularly fascinated me when I raised crane chicks for the first time in 1979. I began to notice interesting changes in feather structure, and wrote down everything I observed in the daily log book. I couldn't use the data, however, because I lacked an organized record.

This spring two well-trained Japanese ornithologists, Kuni Momose and Yoshi Shigeta, studied at ICF. I was able to discuss with them how to best organize molt observations, since Kuni and Yoshi have done molting studies on several other species of birds. Following their recommendations, I organized a data sheet for recording the molts of crane chicks.

Generally, newly-hatched birds have natal down. It consists of numbers of fine filamentous barbs with little hookless barbules (Marshall, 1960). As the texts predicted, we found that newly-hatched Red-crowned (Grus japonensis) and Eastern Sarus (Grus antigone sharpii) Cranes are covered with this natal down. In a few days the natal down releases from its sheath and the chicks become very fluffy. The Stanley Crane (Anthropoides paradisea) chick has a different type of natal down. The barbs appear glued together, and they only become fluffy at the tips.

On two-week old chicks we observed a second down emerging—one which is not mentioned in the texts. We therefore had to distinguish between first down and second down (1st and 2nd D.—Figure 1). The two sets of down we observed on the Red-crowned and Eastern Sarus chicks are distinguished by coloration and the rigidity of the sheath. But on the Stanley Crane, the second down looks almost the same as the first down. In fact, we began to distinguish a third, similar, natal down on the Stanley chick.

Generally juvenile feathers emerge after the natal down. These feathers are of the contour type. The contour feathers of cranes are, however, definitely less rigid and the margins, especially, are less sharply defined than in other bird families. On the cranes that we observed, the tips of the contour feathers (CF) were usually the same color as the second down and the change from second down to contour feather, though visible, is quite gradual (Figure 1, h through l). On Red-crowned chicks the tips of the primaries, which are white on the adults, are black on all birds the first year and black on some birds the second year. Moreover, the molting pattern on each individual varies from place to place on its body: molting patterns on ear-coverts, neck, back, etc. are all different.

We've discovered many complicated, but interesting, facts about both chick and adult plumages. Research has just started, and I hope to expand our observations of both chicks and adults of various crane species in the future. I believe there is an important relationship between the coloration and molting of feathers and the environment and behavior of cranes.

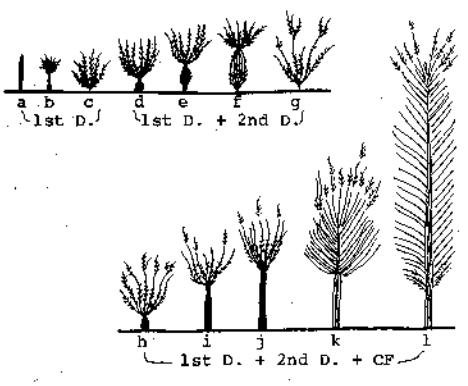

Figure 1: Generalized molting pattern of crane chicks. — drawing by K. Matsumoto

AVICULTURE WRAP-UP: 1980

by
Mike Putnam, Aviculturist

Since the last issue of the Brolga Bugle a number of exciting developments have occurred in ICF's captive propogation program.

This summer we hatched a Stanley Crane (Anthropoides paradisea), the national bird of South Africa, for the first time in our history. "Zulu," named for one of the major tribes of South Africa, hatched on July 14th and is the first offspring from Priscilla and the infamous Killer. For weeks we artificially inseminated Priscilla from Killer without any results. The pair became increasingly hostile to our efforts, so we gave up trying to artificially inseminate (AI) them in May. Much to our surprise, Priscilla laid her first egg of the season on June 14th. After 30 days of incubation we hatched our first Stanley Crane. Zulu has been growing steadily ever since and, after correction of a leg problem, is well on the way to adulthood. We hope Zulu will have a better disposition than its father.

One day after Zulu hatched, Gloria and Painless, our Eastern Sarus Cranes, laid an egg which produced our last chick of the season. On the morning of August 16th we found "Burma", the third Eastern Sarus raised at ICF, alertly awaiting us in the hatcher. Burma, named for a country where this rare subspecies formerly lived, has proved very adept at catching insects which have helped to fuel its steady growth.

Three days before Burma's birth, tragedy struck at ICF when Tony, our male Whooping Crane, was found dead at 3:00 p.m. The preliminary necropsy report indicates he died from an abdominal hemorrhage. Tony was hatched in 1957 at the Audubon Park Zoo in New Orleans by his famous parents Crip and Josephine. Tony was one of the first two Whooping Crane chicks ever produced and reared in captivity. Tony's mother, Josephine, was the last remaining full-blooded Whooper from a now-extinct sedentary population which lived in the marshes of Louisiana. During her life Josephine produced four chicks which were successfully fledged. Tony was the last survivor among her four offspring, and thus the last Whooping Crane which carried genes from the Louisiana population. His death writes the final chapter in the history of the Louisiana Whoopers.

We recently introduced a new twist to the already fascinating Siberian Crane story. Artificial incubation of crane eggs is a difficult operation, and one which is not always successful. Hatching Siberian Crane eggs has proved to be especially difficult, and this species has never been bred in captivity. In a new approach to breeding the Siberian Crane, we are going to try hatching their eggs under foster parents. ICF has obtained several pairs of Florida Sandhill Cranes, which nest at the same time as our Siberians, to serve as foster parents for the Siberian Crane eggs we produce in 1981. The Patuxent Wildlife Research Center in Laurel, Maryland, sent us two pairs of Florida Sandhills on August 19th. This is just one of many undertakings which illustrate ICF and Patuxent's cooperative efforts to save the world's cranes. We are expecting two additional pairs of Florida Sandhills from the National Zoo's Conservation and Research Center in Front Royal, Virginia.

As one breeding season winds down and egg production ceases, we are already gearing up for the next. This fall's preparations – forming new crane pairs, importing more birds, keeping the entire flock healthy – are vital for a successful breeding season next year. We look forward to a productive 1981.

THE WIRES AND WHEREFORES (of Crane Eggs)

by
John Riley, ICF Researcher

When a crane lays an egg at ICF our aviculturists quickly remove it from the nest, so that the parent will recycle and lay more eggs. We then place the egg in an incubator which maintains specific settings of temperature and humidity. Determining the correct environmental conditions for artificial incubation has traditionally been done by trial and error. Since proper incubation is critical for healthy chick development, however, it deserves a more scientific approach. So in the summer of 1980 I packed up my lab notebooks and headed for ICF to study egg temperatures and incubation behavior of captive cranes.

Artificial incubation should, I reasoned, attempt to duplicate the conditions underneath a parent crane. My method was therefore to insert a thermocouple into the air cell of an egg which was actually being incubated by a captive crane at ICF. A thermocouple is simply a wire with two different kinds of metal conductors. Where two dissimiliar metals are joined together an electric current is naturally generated. The strength of the current depends on the temperature at the site where the conductors are joined. I measured temperature with a galvanometer – a device which accurately measures low electric currents.

The wires I inserted into the egg were hair thin and extended into the air cell about 1/8 of an inch. I drilled a hole into the egg with an electric drill, inserted the wire, swabbed all surfaces with alcohol and an antibiotic and sealed the hole with epoxy. I put the egg back in the nest and ran the wire to an observation blind.

I then sat in my observation blind recording egg temperatures every 15 minutes, and noted the incubating parent's behavior at the nest. The reaction of the birds to wires in their eggs varied from passive acceptance (White-naped Cranes) to violent objection (Common Cranes). For the most part however, it was a successful technique and yielded good information.

I also attempted to measure egg humidity since it, too, is an important factor in development. The egg should lose a constant amount of water throughout the incubation period if the embryo is to develop normally. The incubating bird must maintain proper nest humidity for the egg to lose water at the proper rate.

I intended to measure egg humidity by placing an egg filled with silica gel in the nest of a White-naped Crane. I acted on the theory that the amount of water vapor absorbed by the silica gel in the egg would depend on the humidity in the nest. I spent two weeks carefully calibrating the silica filled egg in a known humidity environment. I set it on the nest one night and left with high expectations for my new device. When I returned the next morning the egg was smashed to tiny bits, with pieces scattered about the pen. Apparently I had gone a little too far.

I was, as I mentioned, more successful in gathering data on egg temperatures.

My results showed an average temperature of 37.5° C during the last five days of incubation for the Common Crane. The egg I was monitoring hatched out a healthy chick during the night of June 15. The average incubation temperature obtained from a White-naped Crane was 36.5° C. The data from the White-naped Crane were recorded using an infertile egg which I had emptied of its contents and filled with a saline solution. This technique is limited, since it doesn't record the amount of heat contributed by the developing embryo. I also gathered data on egg orientation, orientation of the incubating bird, nest attentiveness, solar radiation, wind speed and thermoregulatory behavior which has yet to be analysed.

I hope to apply these techniques in a study of incubation requirements of Siberian Crane eggs. This species is critically endangered, but attempts at hatching captive-produced eggs artificially have met with poor success. Fortunately, we have developed a synthetic wireless egg that will transmit different frequency pulses depending on its temperature. I hope to use this device in my proposed study. With luck, pluck, and continued careful research, ICF may soon be producing healthy flocks of magnificent Siberian Crane chicks.

Wendy Silberman, Steve Kohl and Dave Ferguson of the U.S. Fish and Wildlife Service's Office of International Affairs.

FWS/IA: CATALYSTS FOR COOPERATION

by Scott Freeman,
Education Coordinator

ICF has been extraordinarily successful at migrating across the boundaries of politically polarized countries to implement effective crane and wetland conservation programs. However, not even our audacious cofounders could do their version of shuttle diplomacy without the support of the several governments involved. We are fortunate to have had an especially long and productive association with the staff of the U. S. Fish and Wildlife Service's International Affairs Office (FWS/IA).

Our "main men" at FWS/IA are three dynamic young conservationists named Dave Ferguson, Steve Kohl, and Wendy Silberman. Steve and Wendy administer Fish and Wildlife's USSR/US program, and Dave heads the Special Foreign Currency Program, which sponsors projects in endangered species conservation in India, Pakistan, and Egypt. (Funds for the research, management and education programs Dave administers come from the sale of surplus U. S. – supplied foodstuffs in those countries).

The trio have diverse, but complimentary, backgrounds. Both Wendy and Steve are fluent in Russian, but whereas Wendy's expertise is in international affairs, Steve has experience in administering academic and cultural exchange programs. Steve also helped implement EPA's 1979 US-USSR Environmental Agreement. Dave is the field biologist in the group, having worked extensively in Iran and the northeast U. S. on water development projects and wildlife research programs. ICF is fortunate to work with such competent and dedicated conservationists.

ICF and FWS/IA have "teamed up" on a number of scientific exchanges, research efforts, and conservation projects. For example, the numerous exchange visits made by ICF staff and Soviet crane biologists have been coordinated by FWS/IA. George Archibald's 1979 visit to help set up the Oka Reserve's crane research and propagation center, Drs. Galushin and Flint's research at ICF in 1979, and Dr. Priklonski and Mr. Klepikov's study at ICF in 1980 were all coordinated and supported by FWS/IA. Our Washington colleagues were also vitally important in making the Siberian Crane egg transfers of 1977 and 1978 a reality, and will be sponsoring a group of Soviet aviculturists to study at ICF next spring.

FWS/IA has also sent ICF's Ron Sauey, George Archibald, and Steve Landfried to the far east to attend conferences and promote crane and wetland programs. ICF and FWS/IA plan to cooperate on several upcoming projects: the conference of ICBP's World Working Group on Cranes in India, a proposed aerial survey of Indian wetlands to search for Siberian Cranes, and next year's transfer of Black-necked Crane eggs from China to ICF.

FWS/IA cooperation and support has been of enormous importance to ICF's vital overseas programs. As the world's endangered cranes attempt to migrate through increasingly troubled skies, it is heartening to know that conservationists like Dave Ferguson, Steve Kohl, and Wendy Silberman are on the ground, working to keep the flyways clear.

The Black-necks of Ladakh

Editor's note: ICF cofounder George Archibald recently received the following letter from crane researcher Prakash Gole.

July 1

Yesterday I returned from Ladakh and thought that I should immediately give you the highlights of the 1980 expedition. I was successful in locating 14 Grus nigricollis (Black-necked Cranes) this time: six breeding pairs and two lone birds (I felt sorry for them). In 1976 and 1978 we had found only two pairs. The present number is considerably higher and is most encouraging. We found two nests with two eggs each. The other pairs were in various stages of courtship and nest construction. I am sure most of them must be incubating now. One of the clutches of eggs hatched when I was there. The two glorious orange-brown chicks came out of the nest and began swimming within four hours of hatching. Wherever possible, I have employed local people to keep a watch on other pairs and report to me of their progress. The Forest Department and the army commanders are co-operating and will keep me informed.

We have attempted an ecological survey of the breeding wetlands of the Black-necked Crane and have collected large numbers of botanical and entomological specimens. The botanist who accompanied me helped greatly in this. The data are being analyzed now.

The posters that we prepared from the pictures you sent (see "Publicized Cranes", Vol. 6:2) became extremely popular. Awareness of the cranes' importance among troops and other armed forces in the area, and official interest in its preservation, is increasing. I am of the opinion that it will not be intentionally shot in the future. Effective protection of its breeding habitat will be the main problem. I have discussed a series of measures in this direction with the authorities.

I look forward to seeing you at the forthcoming Crane Conference, and I shall also be keenly awaiting your advice and guidelines regarding further studies of G. nigricollis in India.

Yours sincerely,
Prakash Gole
Maharashtra, India

ICF Branches Out

by George Archibald,
ICF Cofounder

The preservation of endangered bird species in captivity rests on sound avicultural management at several breeding centers, since a catastrophic disease could destroy the entire captive population at any one center. Today, substantial numbers of rare cranes are established not only at ICF, but also at the New York Zoological Society's Bronx Zoo and St. Catherine Island Research Center, the Smithsonian Institution's Conservation Research Center, the Patuxent Wildlife Research Center, the Kushiro Crane Park, and Vogelpark Walsrode.

Mr. and Mrs. Wolf Brehm, the owners and directors of Vogelpark Walsrode, have been major supporters of ICF since 1976 when they issued Wolf, a 70 year old Siberian Crane, to ICF for breeding purposes. Subsequently, ICF has sent Brolga and rare Eastern Sarus Cranes to Walsrode. The Brehms have also contributed consistent and generous financial support to our Baraboo operation.

To further our work with captive cranes ICF recently incorporated as a non-profit organization in West Germany and established a branch headquarters at the Vogelpark. German contributers can now benefit a tax deduction for contributions to ICF, and German members will receive an auf Deutsch Brolga Bugle. ICF will continue to maintain birds within the superb avicultural facilities at Vogelpark Walsrode.

This summer the Soviet Union sent ICF - Germany four fertile Siberian Crane eggs and two prefledged chicks of the endangered Eastern White Stork. When Wolf Brehm arrived in Moscow on June 29th to collect the crane eggs and stork chicks, two of the cranes had already hatched in Dr. Vladimir Flint's apartment, where an incubator had been set up. Wolf carried the eggs and downy youngsters back to his Vogelpark, where the remaining two eggs hatched. Three of the four cranes were reared.

The two stork chicks Wolf transported to the Vogelpark offer new hope for an endangered species. The Eastern White Stork was once common in Japan, Korea, northern China, and southeastern Siberia. But due to increased marshland drainage and the advent of toxic pesticides the storks were extirpated from Japan by 1971 and reduced to a single survivor in South Korea. Their status in North Korea is unknown, and the Chinese report the bird as uncommon. Recent work by our Soviet colleagues indicates that perhaps 1500 storks remain along the China border, in the wetland complexes of the Amur and Usuri Rivers.

Vogelpark Walsrode has had outstanding success in the captive breeding of the Eastern White Stork's close cousins, the European White Stork and the Black Stork, so it was logical that the Vogelpark's Aviculturists should apply their unparalled skills to the endangered Eastern White Stork. The Soviets approved the program, hence the two chicks were delivered to Wolf Brehm in Moscow.

The younger stork unfortunately suffered a broken foot but professional and prompt care at Walsrode has produced a complete recovery, and today the two Eastern White Storks are in excellent condition. In 1981 the USSR plans to send ICF - Germany 10 more storks. Our hope is to breed the species in substantial numbers in captivity, and thereby establish a Species Bank from which storks will once again fledge into Japanese and Korean skies.

Eastern White Storks at Walsrode. The stork and crane egg transfer to ICF - Germany was coordinated by our colleagues at FWS/IA. —photo by George Archibald

ICF advisor Sir Peter Scott, ICF Cofounder Ron Sauey, Lady Scott, and ICF Director Owen Gromme tour ICF's friendly confines. Sir Peter is Chairman of World Wildlife Fund-International.
—photo by Steve Landfried

CALLING FOR THE CRANES

by

Steve Landfried, ICF Public Affairs Officer

Renowned for strong, loud voices that carry for miles, cranes have long used prodigious vocalizations to defend their territory against intruders. While unison calls and threat displays may deter other cranes, they have not stopped mankind from draining, filling, and developing the world's wetlands. Responding to the need for ICF to add the sights and sounds of modern media to the warning calls of the cranes, I began work as a part-time Public Affairs Officer in August, 1979.

From the beginning it was clear that ICF's message must be heard by very diverse groups: government officials, conservationists, educators, and the general public. ICF had three objectives for improving the crane and wetland consciousness of these groups: (1) establish better press contacts and increase ICF media exposure at the local, national, and international levels; (2) develop contacts with educators in hopes of introducing crane and wetland topics to school curricula; and (3) arrange field trips for members of the general public to view crane habitats first hand.

With respect to the first objective, events were particularly kind. Within a few weeks of my arrival on the ICF scene, "Lindsay", the first Brolga produced outside of Australia in nearly 60 years, hatched at ICF. Starved for good material over the Labor Day weekend, Madison, Wisconsin papers and television stations quickly picked up the story. Associated Press did, too, and ICF was soon in the pages of papers nation-wide. Needless to say, the story's success greatly facilitated our access to the local media.

ICF broke into the international news pages later in the year when Tilliman, ICF's second adult male Siberian Crane, arrived. This Christmas present from the Brehm family at Vogelpark, Walsrode could not have been better timed. He came, as did Lindsay, during a holiday lull in the news. On my way to a Christmas night dinner with friends, I dropped off the story at the Madison office of the Associated Press. Within hours the story hit teletype machines across the country. It made the international desks as well, for the International Herald Tribune ran the story in its world-wide edition.

All of these successes multiplied our contacts with the media, and when 1980 graced ICF with a number of interesting developments, more stories than ever hit the national and international presses: Yoshi Shigeta's unrequited courtship with "Tex", Sharon Lantis' long journey to Japan on behalf of the Japanese Crested Ibis, Zhurka's remarkable feat of having ICF's first chick of the season on two successive Mother's Days, the arrival of "Zulu" – our first Stanley Crane chick, and the hatching of ICF's first grandchildren (or is it "grandchicks"?). ICF was also featured on several national and regional television shows.

While the main thrust of the ICF Public Affairs Program has been in the area of press releases, we have also worked successfully with the educational community. During the course of the last year, ICF staff made presentations at meetings of three local teachers associations and two global education workshops. Then in June I represented the United States and ICF at an environmental education conference in southern India. After the conference I gave slide and film shows throughout India on ICF's Siberian Crane projects.

Tours to crane habitats have also begun. Last fall, through University of Wisconsin-Extension, crane enthusiasts saw between 8,000 and 12,000 Sandhill Cranes on their staging ground at the Jasper-Pulaski Wildlife Refuge in north-central Indiana . . . a truly breathtaking sight. A smaller group visited Wisconsin's Necedah Wildlife Area in August as part of another Extension course. And last Christmas ICF representatives toured Florida wildlife areas to scout proposed ICF tours in the southern part of that state.

In just over a year ICF's Public Affairs Program has made a number of solid accomplishments. What does the future hold in store? Only the promise that ICF will join the cranes in calling loud and clear whenever there is news.

* * *

Please help us learn where the ICF message is being heard. When you see an ICF-related article appear in print, we would appreciate your sending it to our headquarters in Baraboo. Thank you for helping us keep track of our tracks!

THE WISH LIST

ICF's staff gave delighted unison calls when several of last issues' wishes were fulfilled. Harold Bessac dug deep and gave our prairie project a shovel, Clara Sodke warmed our hearts with two new heat lamps, Elizabeth Conger donated the purchase price of a metric tape measure, Joyce O'Halloran and Jeffrey Polk cleared the way with a pair of brush clippers, and a certain anonymous gentleman laid a circular saw in our nest one moonless night. Many thanks, good friends.

Remember: Christmas is coming, so be sure to put ICF on your gift list. We still need:

3 water buckets at $6.00 each,
10 3x5 card file drawers at $10.00 each, and
1 case of semen extender at $50.00.

Thank you!

The International Crane Foundation is a registered, publicly-supported, non-profit organization which is dedicated to the study and conservation of cranes throughout the world. Saving cranes saves earth's vanishing wetlands.

The Bottom Line

by Alice D'Alessio
ICF Development Coordinator

Development coordinator – what does it mean? "Development" has become a common euphemism for fund-raising, partly because it doesn't sound so crass, but also because it better describes the job.

We develop new ideas, old ideas, tried and true ideas; add some creativity, and a measure of persuasion. It's all designed to broaden and increase the base of our support. We'd like to think we could save the cranes with love and dedication alone, but . . . it takes money to pay the bills.

I'll keep you up to date in future Bugles on ideas and projects we're developing to ensure a successful future for ICF. Many are in the works.

Two immediate ventures:

1) We'll be launching a membership drive after the first of the year, using names from conservation-oriented groups who will share their lists. If you have names of potential supporters, please pass them along!

2) We still have more than a hundred copies of Owen Gromme's "Salute to the Dawn." This magnificent signed and numbered print of Whooping Cranes is given by ICF to contributors of $1000 or more. Making a gift to the cranes now will ensure that you have your own "Salute to the Dawn" in time for the holidays.

Best wishes for the season!

Contributions

Grants and Awards

Wolf Brehm, Mary Burke, Samuel Johnson, Smithsonian Institution, World Wildlife Fund.

Life Members

John D. Constable, Herb Hilgendorf (from the estate of Katharine Green), Joe Metz, Tom Moore, Mrs. Charles Pain, Mr. & Mrs. Silas Peller, Doris Platt, Mr. & Mrs. John C. Stedman.

Supporters

NMC Projects Inc., Michael John Weisling, Dr. Margaret Winston.

Associate

Stuart & Abigail Avery, Mr. & Mrs. Robert Bolz, Catherine Cleary, Committee for the Preservation of Wildlife, Donn & Alice D'Alessio, Mr. & Mrs. Frederick Dohmen, Ralph Findley, James Kieffer (Industrial Coils), Mrs. John J. Louis, Mr. & Mrs. Ronald Mattox, Charles W. Miller, Ruth C. Noland, David W. Pearson, Robert & Ellen Rasch, Eleanor Zulauf.

Nonmonetary Contributions

Baraboo Police Department, Baraboo Public Schools, Melody Dierking, Jaime Enders, Mark & Judy Evan, Debbie Fordham, Judy Fordham, Gail Gilson, Eunice Hendrix, Marion Hill, Carey Jeffers, Dr. Donald Kindschi, Dianne & Phil Kingsley, Ed Klevens, Sharon Lantis, Barb Neilson, Liz Nevers, Portage Industries, Dr. Burton Russman, Nan & Larry Stocking, Lynn Stone, Lucille Thompson, Karen Voss, Kate & Frank Wenban, Yi-ching Ma.

NOW THERE ARE 28

(continued from page 1)

As the wild populations continue to decline, the captive group offers a fresh hope for saving this magnificent species. ICF looks forward to working with the other centers to accomplish intense production of Siberian Cranes in captivity. Captive-reared birds will be distributed to more breeding centers, or restocked into the wild.

OKA'S CRANES

(continued from page 1)

to identify prospective pairs of foster parents for Siberian chicks. We thank our colleagues in New York, Washington, and Walsrode for helping the Soviet crane facility fledge, and we congratulate our Soviet friends on their marvelous successes.