

THE ICF BUGLE

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International Crane Foundation Quarterly Newsletter

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10th ANNIVERSARY ISSUE

ICF's First Decade: Some Personal Recollections

by Ron Sauey, Co-founder

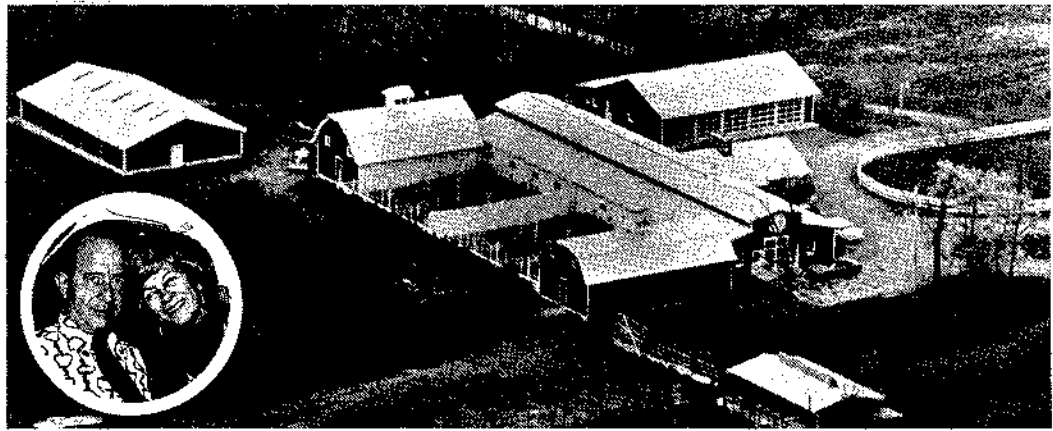
How does one go about distilling ten years of an organization's existence into a few lines of print? It's a formidable task, and one that I'm not sure is doable satisfactorily, even for a relatively small organization like ICF. When *Bugle* editor Scott Freeman first loaded this special responsibility on my shoulders, I decided that the logical way to proceed was to outline, year by year, the major events of ICF's history and then string them together in some rational and, I hoped, readable fashion. But the events and dates, accomplishments and setbacks kept turning into faces and feathers, triumphs and tragedies, and I eventually abandoned the dry historical approach for that of the anecdote and the reminiscence. ICF, after all, was founded on dreams and aspirations of a very personal nature, and perhaps the most appropriate way to look back is with the heart and not the mind.

SNOW

Wisconsin has a lot of snow some years, and it occasionally provides body and spirit with sufficient challenge to etch lasting memories.

I remember walking on cross-country skis to the top of my parents' farm one bright December day in 1971. The view, though always lovely, was one I had seen countless times in the 10 years that my family had lived on this bluff overlooking the city of Baraboo to the south and the Wisconsin River to the north. But that day I was with George Archibald and we were surveying the farm, its 65 acres, and its well-kept collection of horse barns, garages, and other buildings, all of which had just become our own personal domain through the extraordinary trust and generosity of my parents. The world that day seemed warm and alive with prospects, though the snow crunched with cold beneath our skis.

I remember another snowy day six years later when numerous crane pens were scattered throughout the same farm and a late winter storm was in progress, blowing tons of snow about the landscape and threatening to raise the floor of certain enclosures so high that the birds were certain to escape. The entire ICF staff, from secretary to handy man, lumbered about in the driving gale trying to move birds to safer quarters. I still see vividly Milly Zantow and Elaine Gasser, a most unhappy crane under each of their arms, struggling through six foot drifts. Milly could and did do everything while she was administrator of ICF, but Elaine was our receptionist and had never caught a crane before—let alone two in a blizzard. "I've handled plenty of chickens in my day," she said calmly but in her gruffest voice, "and I can handle these oversized poultry now." Such is the mettle of ICF staff!



Mr. and Mrs. Norman Sauey (insert) and their Nodoroma Horse Farm, where ICF began ten years ago. Mr. and Mrs. Sauey donated the use of the farm to ICF for ten years, and supported the construction of ICF's first crane pens there—two acts of generosity that gave life to an idea.

SURPRISES

Naturally, we've had our share of unexpected happenings at ICF, some pleasant and welcome, but certainly not all. In the former category, I place opening a Russian suitcase to find a wet but healthy Siberian Crane chick who had just hatched on my lap while the two of us travelled on an airliner at 35,000 feet. Another joyful surprise firmly implanted in my memory was discovering a check for \$3,000 in a membership envelope one morning, at a time when we were thankful to have \$500 in our combined checking and savings accounts.

On the reverse side of the coin were those occasions when we found cranes dead, usually from disease or accident, and invariably, or so it seems, when we were in the company of a large tour group or important delegation. My cousin Frank Femali, who spent four summers at ICF as a volunteer, one day found his name-sake, a hopelessly lame Sandhill chick, dead in its water bucket with only the poor bird's legs emergent. Unfortunately he discovered the accident while leading a large and immensely interested group of elderly ladies through the Foundation. "I had to think fast," he later recalled, "so I proclaimed the bird to be bathing and not to be disturbed and hurried them to the next pen!"

A similar experience occurred to me during the first crane workshop in September of 1975, when over 60 crane researchers travelled to Baraboo from all over the U.S. and Canada, and from as far away as Japan. George and I scheduled a tour of ICF one afternoon, and he took half of the group and I took the other. The trouble began at the pen of Big Joe, a Sarus Crane from India and by far the biggest and worst-tempered inhabitant of ICF. As I began to tell a few pertinent facts about Joe, one member of the party, who had fallen behind, ran up to me and in a loud, excited voice proclaimed that he had found a dead crane. "No,

you must be mistaken," said I, but I fear with less than complete confidence. But sure enough, surrounded by 30 imminent crane biologists, I found the mortal remains of a Demoiselle Crane who had been foolish enough to jump its confines for a fatal tryst with Big Joe.

SICK CHICKS

Crane chicks are normally hardy creatures, and given proper care and feeding are not difficult to raise. There are exceptions, of course. And it is here that George Archibald displays his special genius and dedication. In the mind of the public, I'm sure George will forever be known for dancing with Tex. But in my mind's eye, I see him most vividly bent over and nursing a weak chick—at any time of the day or night. Many of our famous birds are alive because of his care.

A CAST OF HUNDREDS (MAYBE THOUSANDS)

A few days ago, George and I were musing about the multitude of personalities, both human and bird, that have passed through ICF's portals over the years, and by far the lion's share were welcome spectators. Some George could remember better than I, and some remained more firmly in my memory. Yet we agreed that knowing each one was a beneficial experience; many left ICF but remained as close and lasting friends. Perhaps that has been ICF's greatest personal legacy to the two of us.

Editor's Note: due to lack of space in this special issue, we are unable to list names of volunteers in the cast of hundreds Ron Sauey mentions in the above article. The spring issue of the *Bugle* will carry a special feature on these Very Important People, along with a list of institutions who provided cranes for ICF's breeding program.

CAPTIVE BREEDING

by Shirley Russman,
Supervisor of Aviculture

Cranes have always been considered difficult birds to breed in captivity. Prior to ICF's hatch in 1973, however, the Patuxent Wildlife Research Center in Maryland had done several years of comprehensive research on the captive management of Sandhill and Whooping Cranes. Patuxent's Dr. George Gee had succeeded in developing a technique for using artificial insemination with cranes. But elsewhere, zoos in Canada, Japan, and the USA had only bred cranes infrequently.

While a graduate student at Cornell University, George Archibald had an opportunity to study the crane management program at Patuxent. Then in 1971 he succeeded in rearing five White-naped Cranes at Cornell's Laboratory of Ornithology. Encouraged by these results, he and Ron Sauey decided to make captive breeding one of ICF's major goals. After all, many of the cranes had never been bred consistently, and two of the endangered species—Hooded and Siberian Cranes—had never bred at all in captivity.

Since 1973 ICF has successfully bred 13 of the world's crane species, including Hooded and Siberian Cranes, and built up a captive flock of over 130 birds. But getting from there to here required work, imagination, and patience. First, and foremost, we needed to acquire cranes.

Most of our birds have come to us on breeding loans from zoos. A few, the Brolgas for example, were captured in the wild. We soon discovered, however, that there was a great amount of stress involved in transporting adult cranes, so we came up with another means to acquire them: collecting crane eggs in the wild and shipping them to ICF.

The first intercontinental crane egg transport occurred in the spring of 1974 when ICF imported six Common Crane eggs from Sweden. These eggs were shipped in a special box equipped with a critical piece of equipment—a hot water bottle. In July, 1977 the next egg transfer took place. This time a plywood box carrying four Siberian Crane eggs was flown from the tundras of Yakutia to Madison, Wisconsin. The two fertile eggs hatched successfully. A similar intercontinental transport resulted in four additional Siberian Crane chicks in 1978.

But cranes alone do not guarantee successful propagation. First, the birds have to mate. Their eggs then have to be incubated. And finally, the chicks have to be reared to fledging.

To encourage the cranes to breed, ICF's aviculture crew developed several different techniques. The successful approach was usually to simulate, as much as possible, the natural breeding environment of each species.

In 1979 ICF hatched a Brolga—the first reared in North America. Brolgas breed in northern Australia during the monsoon season. To recreate the rainy season Kate Lindsay, a University of Wisconsin-Madison graduate student, placed hoses over a Brolga pair's pen and watered the birds twice daily. The result: a Brolga chick named Lindsay.

To get the Hooded Cranes to breed we used a similar technique. The wild Hoodies breed in the northern latitudes of the Soviet Union, in the land of the midnight sun. To recreate the long daylengths the aviculture staff set up floodlights atop the pens and turned them on at night. In June of 1976 we produced a Hooded Crane chick—the first in captivity.

We also used this technique to induce the Siberian Cranes to breed. In 1981 Dushenka became the first Siberian chick bred in captivity.

Simulating the Siberian Cranes' habitat would never have worked, however, without the help of another technique: artificial insemination (AI). AI is imperative for Siberian Cranes because they are ex-



Two highlights from ICF's captive breeding effort: Dushenka (above), the first Siberian Crane bred in captivity, fledges. Photo by R. J. Brayer

George Archibald dances with Tex, the Whooping Crane who was imprinted on humans (right). photo by Kyoko Archibald

tremely aggressive in captivity—males must be separated from females.

Over the years we've come to rely on AI for many reasons. It allows us to produce offspring from unpaired birds, and has made fathers of males who cannot breed naturally because of injured or missing wings.

Artificial incubation, as well as artificial insemination, is an important part of the propagation process. We've learned about incubation both through field studies and experiments at ICF. For example, we now cool eggs twice a day to simulate the nest exchange that occurs in the wild between the two parents. We've also discovered that White-naped Crane eggs require a lower humidity for incubation than do Red-crowned eggs.

But for some of the crane eggs artificial incubation didn't work, no matter how much we varied the temperature and humidity. Siberian Crane eggs, for example, consistently died during incubation. Then in 1981 we received several pairs of Sandhill Cranes from the National Zoo and Patuxent Wildlife Research Center. When these Sandhills began incubating we replaced their eggs with Siberian Crane eggs, and began hatching Siberian chicks.

Through rains, flood lamps, artificial insemination, artificial incubation, proper nutrition, and, of course, care and persistence, we have succeeded in breeding all species except the Wattled Crane (an embryo died just before hatching in 1982) and the Black-necked Crane (which we hope to receive from China in 1983).

We didn't achieve so much, though, without a few setbacks.

In March of 1978 a previously unknown microbe struck a lethal blow to 20 birds at ICF. Researchers at the U.S. Fish and Wildlife Service Wildlife Health Laboratory determined that a Herpes virus caused the deaths. Despite extensive research, we still do not know where the virus came from or how it was transmitted. Fortunately, we have had no outbreaks of herpes since that fateful month.

Setbacks have also resulted from injured birds. We've experienced several broken legs and beaks at ICF and are constantly experimenting with new medications, treatments for injuries, and therapies for broken limbs.

Despite these problems, ICF has come a long way. We did so because of support from countless individuals



and organizations, who graciously donated money, birds, or advice.

The World Wildlife Fund-U.S., for example, has been responsible for supporting the care and propagation of our Siberian Cranes from 1970 to the present. The Johnson Wax Foundation and Johnson-Japan have supported our Red-crowned Crane propagation program since 1980.

We also owe much to Mr. and Mrs. Wolf Brehm, the directors of the Vogelpark Walsrode in West Germany. The Brehms have provided both birds and financial support to the aviculture department.

Closer to home, the Patuxent Wildlife Research Center in Laurel, Maryland loaned the female, Tex, and donated the semen that allowed us to breed Whooping Cranes.

Interns, volunteers, members, and all others: thank you for making ICF's success in captive breeding possible. With your help we've made great strides in building up our species bank—a captive flock of cranes for study, propagation, and restocking. Fourteen of the world's crane species now reside at ICF. In the near future we hope to receive a pair of Black-necked Cranes from China, and may at last have all 15.

Over the next two years we'll be moving our "bank" to a new location. Here we'll continue the propagation program, and work toward the day when these species will be breeding in large numbers . . . in the wild.

International Programs

by George Archibald, Director

In 1954 an accidental discovery marked a great advance in the effort to save Whooping Cranes from extinction. A bush pilot on forest fire survey spotted a nesting pair of Whooping Cranes in Wood Buffalo National Park, and the long sought-after breeding grounds were revealed. Ernie Kuyt of the Canadian Wildlife Service began to do research on the flock, and eventually began collecting surplus Whooping Crane eggs. The U.S. Fish and Wildlife Service used the eggs to establish both a captive flock at the Patuxent Wildlife Research Center and an experimental wild flock foster-parented by Sandhill Cranes in Idaho. The casual observation in 1954 had launched a series of inspired programs to save a rare bird.

Over the past decade, ICF witnessed this same phenomenon all across Asia. Time and time again, a "simple" discovery led to a dramatic chain of events that helped to save endangered cranes.

May 21, 1972 was a landmark day for Professor Hiroyuki Masatomi, Dr. Tamaka Kitagawa, and me. That morning we wedged ourselves in a small fixed-wing aircraft and flew over the marshlands of Hokkaido, Japan in search of nesting Red-crowned Cranes. Popular belief held that most of the 270 cranes I studied at Hokkaido's artificial feeding stations migrated to breeding grounds somewhere in the Siberian wilderness. But in just a few short hours of low-altitude surveys we located 53 probable nesting pairs dotted around Hokkaido. Most, however, were nesting on wetlands destined for development. The alarming news swept across Japan through the popular press. In the decade since then, conservationists in Japan have made gallant efforts to protect the breeding grounds of these treasured birds.

Two years later, as frigid dry winds blew in from China, I huddled inside a bunker on the Korean Demilitarized Zone (DMZ). When the weather allowed, I stepped out to a guardpost and surveyed the heavily-guarded Han River Estuary. The mudflats and salt-marshes beside the Han had been left undeveloped because they offer a direct attack route between Seoul and North Korea. Ironically, 1500 White-naped Cranes were wading in a wetland just 30 kilometers from a city of eight million people, in a country that had otherwise lost its cranes and marshes to rampant development. But when I discovered the importance of this habitat to both migrating and wintering cranes, I learned that it, too, was being developed for agriculture. But thanks to an effective media campaign and the subsequent efforts of ornithologists Dr. Kim Hon Kyu and Dr. Won Pyong-oh, the Han River Estuary was rescued and become a Natural Monument.

While I was graciously hosted by the Korean Army on the DMZ, Ron Sauey was in India forming a close friendship with Colonel Sawai Brijendra Singh, the former Maharaja of Bharatpur. Colonel Singh's grandfather had built a series of shallow water impoundments near Bharatpur to attract migratory waterfowl. The former hunting preserve was now the Keoladeo Ghana Bird Sanctuary—a government wildlife area and haven for an amazing assemblage of tropical and migratory species. It was also the only known wintering ground of the Siberian Crane. For two winters Ron studied the tiny flock of 50-60 cranes, and concluded that winter habitat was a serious limiting factor for the species.

In the spring of 1977 Ron watched his 57 Siberian Cranes leave India and head to the north and west, bound for nesting grounds somewhere in the western tundras of the Soviet Union. Two weeks later Ron and an entourage of scientists and diplomats journeyed to a broad saline lake called Ab-i-Estada in south central Afghanistan. As they climbed out of their jeeps they noticed a group of tall, white birds probing in the shallows. Ron quickly mounted his telescope, and counted 56 Siberian Cranes. The birds he had been studying in India all winter were again in front of him,



grounds of the eastern Siberian Crane flock on the map. They found 140 Siberians at Lake Poyang, which borders the Yangtze River in central China. The Chinese Ministry of Forestry is now proposing that the marshes be protected as a Natural Reserve.

It has truly been a decade of discovery. From this history, two themes are important to recognize. The first is that when ICF acted, it never acted alone. The World Wildlife Fund-U.S., the Wildlife Preservation Trust International, the China Ministry of Forestry, the Iran Department of the Environment, the U.S. Fish and Wildlife Service, the USSR Ministry of Agriculture, and the New York Zoological Society have all played crucial roles in the important events. The second theme is that ICF's role has changed from actually making discoveries to serving as a catalyst for the important strides in conservation. We can accomplish much more by helping our colleagues than we could ever do by acting ourselves.

The major "finds" of rare cranes have now been made. The task ahead of us is to continue the research and conservation programs which began with discoveries, and see them to fruition in the decade to come.



Key figures in ICF's international programs: India's Prime Minister Indira Gandhi (above) has taken a personal interest in the fate of the Siberian Crane. Soviet biologists (left) pick up a Siberian Crane egg in Yakutia for shipment to ICF.

resting and feeding before continuing their migration north. Another piece in the puzzle of Siberian Crane conservation fell into place, and efforts began to protect the cranes from hunting in Afghanistan and Pakistan.

Ron and I had the honor of personally taking part in these historic discoveries during ICF's early years. But recently our colleagues in China, Iran, and the USSR have taken the lead in discovering rare cranes.

In 1978 Mr. Ali Ashtiani was in northeast Iran conducting a routine count of wintering waterfowl in the Caspian lowlands. He found 12 Siberian Cranes—a species that was not on his list. Experts believed that Siberian Cranes had been extinct in Iran since the turn of the century. But here were a dozen of them, feeding and roosting in the middle of a duck trapping complex maintained by local farmers. The Siberians had remained undiscovered for decades because the villagers chased strangers, like ornithologists, away from their traps. At last count the tiny flock of Siberians was intact, and had in fact increased to 16.

One of ICF's closest overseas friends is Dr. Vladimir Flint of the USSR's All-Union Research Institute of Nature Conservation and Reserves. Vladimir is a seasoned Siberian Crane researcher whose most recent challenge was to find the breeding grounds of the western Siberian Crane flock. In 1980, a group of tourists reported picking up a lanky young bird on the Ob River. They had given the chick to some local villagers, so Vladimir sent his right hand man, Dr. Sasha Sorokin, north to retrieve it. It was a Siberian Crane, and the following spring Sasha returned to census incubating pairs and confirm the discovery of the breeding grounds.

In the past few years, China has also come into the forefront of crane discovery. After two winters of unproductive searching Drs. Zhou and Ting, of the Institute of Zoology in Beijing, put the wintering

THANK YOU ! ...

ICF would like to extend sincere thanks to the following people; all of whom have made outstanding contributions of time and expertise:

Current members of Board of Directors: George Archibald, Stuart Avery, John Day, John Henry Dick, Owen Gromme, Huey Johnson, James Kuehn, Frank Larkin, Charles Nelson, Fred Ott, Dorothy Pain, George A. Ranney, Sr., Norman Sauey, Sr., Ronald Sauey, Jeffrey Short, Jr., Willis Sullivan, John Wickhem, Mary Wickhem.

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Head of Overseas Branches: Clarence Lee (Korea), Wolf Brehm (West Germany).

ICF's Second Decade

by George Archibald, Director

On an occasion like this tenth anniversary ICF can afford to glance behind for a moment. When we do, we see growth, accomplishments, maturation. But what can we see if we look ahead, to a new decade for cranes and ICF?

First, we have to examine trouble spots. Crane habitats will continue to shrink as human populations continue to increase. Perhaps hardest hit by human encroachment will be the breeding habitats of the White-naped and Red-crowned Cranes in eastern Mongolia, northern Japan and China, and southeastern Siberia. Troubled too are the African haunts of the Wattled Crane and the Tibetan wetlands where Black-necked Cranes rear their young. Winter habitats in south and east Asia will probably also constrict.

Problems will grow, but so will ICF and the global conservation effort.

Whooping Cranes, for example, should continue to increase. There may be 100 birds in the traditional flock by 1993, and I predict that the experimental flock in Idaho will eventually be a success. Perhaps a third, non-migratory group can be set up in the southeastern USA—again using Sandhill Cranes as foster parents for Whooper eggs.

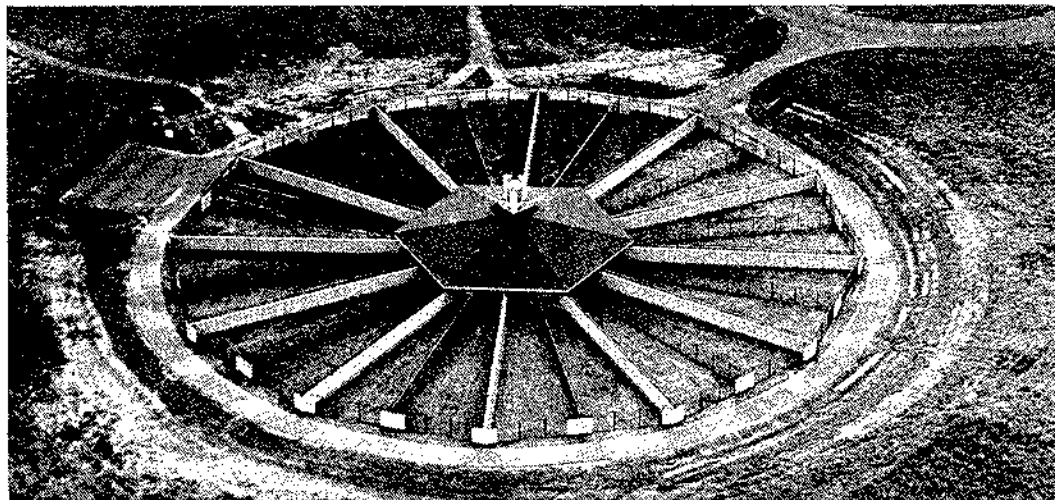
Close cooperation between Canada and the USA has been a vital ingredient in saving the Whoopers, and the same kind of cooperation must occur in Asia for the welfare of the other endangered migratory birds. One proposal already in motion may see Afghanistan, China, India, Iran, Pakistan, and the USSR sign an agreement to work together in saving the Siberian Crane. Likewise, ICF will be working to make the Red-crowned Crane a contemporary symbol of good fortune by bringing China, the two Koreas, Japan, and the USSR together in a cooperative plan for the recovery of these treasured birds.

Much of ICF's work to date has taken place in Asia, where most of the endangered cranes breed, migrate, or winter. And our Asian commitments are sure to increase in coming years as we help our Soviet colleagues establish new flocks of Siberian Cranes, and our Chinese and Indian friends develop captive breeding centers.

But in the next decade ICF will also try to break ground for crane conservation programs in Africa. Africa's natural areas are in decline, and the next decade will undoubtedly witness ICF action in Morocco where a relict flock of Demoiselle Cranes breeds, and in the high Ethiopian plateaus where Wattled Cranes may still survive.

The hallmarks of the next decades' work, then, may be restocking cranes (particularly Siberians) from captive-bred young; establishing major captive breeding centers in China and India, negotiating official crane conservation agreements among Asian nations, and designing new programs in Africa.

Cranes have danced on our planet for millions of years. With a little help from friends, they will dance for generations to come.



The Johnson Exhibit Pod at ICF's new site, completed and waiting for its new occupants.

photo by Kyoko Archibald

And what will ICF be doing back home in Baraboo?

Through the generosity of Mr. and Mrs. Norman Sauey, ICF was planted in Baraboo, and grew and matured. Now, based on a decade of experiences at the Sauey farm, we are ready to move to a new site with the best facilities possible for both captive propagation and public education. The historic move is possible because of the support of Mr. and Mrs. Wolf Brehm and Mr. and Mrs. Owen Gromme in purchasing the land, and the major contributions of the Anna and Richard Cudahy Foundation, Mr. and Mrs. Gaylord Donnelly, The Krause Foundation, and Mr. and Mrs. Samuel Johnson toward construction.

By 1993 our "species bank" of captive cranes at the new site may number 300. And although there is a ceiling to the number of cranes we will house at ICF, we envision boundless growth in our education programs.

Thanks to substantial support from the Anna and Richard Cudahy Foundation and the Kohler Foundation, ICF's education program has grown to include tours, lectures, school curriculum programs, a volunteer crane count, and publicity in newspapers and magazines and on radio and television. By 1993, 50,000 visitors may tour ICF annually, while the mass media will continue to reach tens of millions more worldwide.

From the increased income we expect from tours, sales, and memberships, in addition to a growing endowment, ICF hopes to eventually become financially self-supporting. Meeting that goal is a priority for the decade to come. Once our operational funding is secure we hope to give direct support to our colleagues' programs in remote areas of the globe.

ICF is committed to continuing, improving, and expanding efforts to study and protect cranes and wetlands through research, education, habitat conservation,

captive breeding, and restocking. I would like to personally thank our many colleagues, Directors, Advisors, and members for their important roles in ICF's first decade. Ever greater challenges now face us. The accelerating attrition of earth's natural environments must fill us with resolve to press onward, and make our small planet a better place for cranes and people.

Major Contributions

ICF has taken root and grown over the last ten years because of you. Only with help from our many members and foundations and institutions throughout the world have we been able to grow from a grand idea operating on a shoestring to a sophisticated organization operating on a respectable budget. We've been able to hire staff (although generally underpaid), buy equipment (often used), and do our job more efficiently thanks to your support. We would like to thank you all by name, but are unable to do so here. Therefore we have decided to list those supporters who have contributed \$2,000 or more over the last ten years, as a special thank you.

Stuart and Abigail Avery, Badger Meter Foundation, James and Janet Balding, Ira Baldwin, Mrs. Adolph C. Bolz, John A. Bolz, Wolf Brehm, Mary Burke, John and Barbara Canfield, Mrs. Cecil B. Carpenter, Chicago Metallic Corporation, Willard and Elizabeth Clark, Catherine Cleary, Patrick and Anna M. Cudahy Fund, Robert Deaf, Mr. and Mrs. Gaylord Donnelly, Alma Doten Fund, Cyrus Eaton Foundation, Evjue Foundation, Exxon Corporation, Findley Adhesives, Frank Freese, Grede Foundation, Griggs-Burke Foundation, Owen and Anne Gromme, Helfaer Foundation, Hubbard Foundation, R. H. Jahn, John A. Johnson Foundation, Mr. and Mrs. Samuel Johnson, Johnson Wax Fund, Johnson Wax-Japan, Dr. Donald Kindschi, Kohler Foundation, Kopmeier Fund, Krause Foundation, James H. Kuehn, Jay T. Last, Marshall & Ilsley Bank Foundation, Oscar Mayer Charitable Trust, McCormick Foundation, Charles W. Miller, Moebius Printing, R. R. Moser, Gerda Mueller, National Audubon Society, Charles Nelson, NMC Projects, Inc., Edward John Noble Foundation, Fred Ott, Mrs. Walter Ott, Mrs. Charles E. Pain, Mrs. Lucile Palmaro, Doris H. Platt, John A. Puelicher, Rexnord Foundation, St. Regis Paper Company, Donald Sauey, Norman and Claire Sauey, Walter Schroeder Foundation, Short Milling Company, Mrs. William Simmons, Mrs. Justin Southwick, Stackner Family Foundation, Mrs. John C. Stedman, Mrs. Harry Steenbock, Stiemke Foundation, Lila Acheson Wallace Fund, Washington High School (Germantown, WI), Webcrafters-Frautschi Foundation, Michael John Weisling, Wildlife Preservation Trust International, World Wildlife Fund-U.S.

