

THE ICF BUGLE

Volume 13, Number 4 November, 1987

World Center for the Study and Preservation of Cranes



Southeast Asians Conserve Eastern Sarus Cranes

by Jim Harris
Education Director

Ten years ago, Southeast Asia's last Eastern Sarus Cranes apparently had vanished. Years of war in the region, accompanied by social upheavals and hunger, had claimed another victim.

Conservationists have so many sad stories to tell, it is a wonder any optimists remain. But even optimists would not have predicted one highlight of the 1987 International Crane Workshop held in Qiqihar, China: extraordinary progress in conserving Asia's Eastern Sarus Cranes.

The Eastern Sarus people met several times in Qiqihar. We represented seven nations: four in Asia where the Eastern Sarus survives or may survive (Thailand, Vietnam, China, and the Philippines); Australia, the only country where sizable flocks remain; and the United States and West Germany, where all but six of the world's captive Eastern Sarus are now held.

Vietnam establishes crane reserve

The most exciting news came from Vietnam, where a small flock of 10 to 20 birds had been discovered in 1985 (see *ICF Bugle* Volume 13, No. 1). But at the China meetings, Dr. Le Dien Duc of the University of Hanoi told us that early in 1987 he had found about 100 Eastern Sarus, including immature birds, in the same portion of Vietnam, Dong Thap Muoi in the delta of the Mekong River!

Crane breeding habitat at Dong Thap had been destroyed by American military activities in the Vietnam War and more recent agricultural developments. The Eastern Sarus appears to visit Dong Thap only in the winter, and to move across the nearby border into Kampuchea for breeding.

As a result of the crane discovery, a cooperative conservation plan was signed by representatives of Vietnam and Kampuchea early in 1986. Late in 1986, an expedition visited Piem Cho district in Pray Veng Province of Kampuchea to search for breeding areas. Dr. Duc was disappointed by drastic

changes in the landscape, with rice paddies and irrigation dams built to produce food for the local people. No places remained for the cranes. At present, the researchers assume the only breeding habitat for the cranes is at Great Lake (Tonle Sap). This area is closed for security reasons, so the nesting grounds remain a mystery.

On the Vietnamese side of the border, conservation action has been quick. The scientists' proposals for creating a crane sanctuary received a warm response from local authorities. Fortunately, Mr. Muoi Nhe,
continued on page 4



These Indian Sarus Cranes, tallest flying birds on earth, remain numerous in parts of northern India where the Hindus hold them sacred. But the closely related subspecies, the slightly smaller Eastern Sarus, has not enjoyed such religious protection. Photo by Sture Karlsson.



Sandhill Cranes nest at the Leopold Memorial Reserve. Here the female solicits for copulation.

Sandhill Cranes mate. Photos by Kyoko Archibald

The Advantages of a Baraboo Home

by George Archibald
ICF Director

Frequently I am asked why ICF is located in Baraboo, Wisconsin. One answer is obvious. When Ron Sauey and I were graduate students at Cornell University, we had a grand idea for a crane center but no money. ICF came into existence because of the wonderful generosity of Ron's parents. Norman and Claire Sauey had a farm in Baraboo, just vacated because their Arabian horses had been moved to Florida. The Saueys agreed to lease the land and its buildings to ICF for just \$1 a year! And so ICF began.

As we have grown through the years, we have discovered more and more advantages to our Baraboo location. The benefits range from the inspirational to the mundane.

Aldo Leopold's Legacy

Aldo Leopold (1887-1948), a Professor of Wildlife Ecology at the University of Wisconsin, spent many weekends with his wife and five children at what had once been a farm near the Wisconsin River, just five miles from where ICF now stands. The Leopolds planted trees and worked to restore the abused land to its former grandeur. Aldo Leopold advanced an ethic that man is not the owner of the land but just the temporary caretaker. The Leopold "shack," where the family lived on weekends, is now a National Historical Landmark. It is protected within the 1450-acre Leopold Memorial Reserve.

Leopold's writings have been translated into many languages and his values are applauded worldwide, values which were

nurtured in the sand country of central Wisconsin. His philosophy is beautifully recorded in a series of essays in *A Sand County Almanac*. His "Marshland Elegy" essay may be the most beautiful statement about cranes and wetlands ever written.

"When we hear his call, we hear no mere bird. He is the trumpet in the orchestra of evolution. He is the symbol of our untamable past, of that incredible sweep of millenia which underlies and conditions the daily affairs of birds and men. . . . The sadness discernable in some marshes arises, perhaps, from their once having harbored cranes. Now they stand humbled, adrift in history."

Throughout his youth, ICF co-founder Ron Sauey frequently visited the Reserve to relax and watch birds, particularly Sandhill Cranes. In Leopold's day the cranes had been reduced to perhaps 50 birds in Wisconsin, and could only be found in the most remote wilderness. The marsh near the Leopold shack had been humbled. Leopold's values, however, af-

fecting Wisconsin: through protection of the cranes and their habitats, Sandhills now number into the thousands.

When Ron and I met at Cornell University, he told me about the Sandhill Crane in Wisconsin. Well aware of Leopold's writings, I felt envious that Ron had the privilege to live near the Leopold site. Little did I realize that ICF would purchase a farm so close to the famous shack.

Multiple benefits from Baraboo

ICF's location is fortunate in so many ways. The sandy soils, deposited long ago by the glaciers, provide excellent drainage and thus sanitation in the pens of the captive cranes. Cold winters followed by cool springs provide rest and then stimulation for the cold-climate cranes from North America and Asia. ICF is adjacent to the largest concentration of breeding Sandhill Cranes in the state, birds that are part of a living laboratory for research.

The quiet beauty of central Wisconsin's



The Leopold "shack," just five miles from ICF, is now an historic site. Aldo Leopold's conservation writings have had worldwide impact. Drawing by Jim McEvoy, reprinted courtesy of the Wisconsin Department of Natural Resources.

hills, wetlands, and prairies not only inspired Aldo Leopold. They were also the cradle for the thoughts of the founder of the Sierra Club, John Muir, and one of America's greatest architects, Frank Lloyd Wright.

ICF gains from its physical proximity to a multitude of natural and scientific areas. These wetlands and prairies allow ICF to educate foreign conservationists through demonstration and observation. Marshes, alive with "pumping" bitterns and "creaking" rails, arouse enthusiasm and interest in people of all lands.

Wisconsin's strong conservation tradition has bequeathed a varied network of research and education facilities. Field trips are easily arranged to places like the National Wildlife Health Research Center (the only institution of its kind in the country), the University of Wisconsin Arboretum (internationally known for its research on habitat restoration), and the Upper Mississippi River National Wildlife Refuge (one of the few wildlife reserves in the country that also serves an important commercial purpose, with its system of locks and dams for barge traffic).

When the glaciers melted some 12,000 years ago, the ponded waters found new channels to the east and cut through the soft layers of sandstone. Today the red cliffs along the Wisconsin river attract thousands of visitors for boat rides; the tourist town of Wisconsin Dells is just a few miles from ICF. Some of the sightseers also visit ICF and learn about cranes and wetlands. Many of the visitors are from the major metropolitan centers of Milwaukee and Chicago, folks who otherwise have little contact with endangered species, restored habitats, and Leopold ethics. Many are soon interested in the cranes, and become members of ICF, thus promoting our conservation efforts.

The nearby large cities are also crucial to ICF's welfare. ICF is governed by 23 directors, many of them business leaders in Milwaukee and Chicago. We depend on their direction and assistance in fund raising. The transport of cranes and crane people to and from the most remote areas on earth is possible due to our proximity to O'Hare International Airport, the world's busiest airport and just 3½ hours by car from ICF.

The Baraboo Hills provide the perfect location for ICF. When I first became friends with Ron, I did not dream that our paths would join then lead to the stomping grounds of Aldo Leopold. Now Leopold's dream is coming true as the conservation message spreads worldwide. Silenced and humbled wetlands regain new life as those trumpets in the orchestra of evolution return.



ICF hosted four Africans as foreign fellows this fall (from left to right): Bashir Garba and Ali Lawal of Nigeria; Marion Hill, ICF Education Coordinator; Paul Mafabi of Uganda; and Joseph Rugut of Kenya. Marion presents an International Education Packet to the Nigerians; a donation from ICF member Pamela Mather covered the cost of this packet. We invite other members to support specific conservation efforts at ICF through the envelope in this issue of the *ICF Bugle*.

Taboos on Black Crowned Cranes

by Bashir Garba

[Bashir Garba is a wildlife officer for the Ministry of Agriculture and Natural Resources in Kano, Nigeria.]

The Black Crowned Crane is the national bird in Nigeria, but in some northern parts of the country this crane is taboo. In Niger State, for example, Nupe-speaking people in the town of Bida feel it is unlucky for anybody to carry a Crowned Crane through their town. If a person catches a crane, he must go by the bush path and not through Bida.

In Jos Plateau State, some villages around the Panshin area have a different belief. For them, flocks of cranes flying over their town should not make any call. If the cranes call, then something bad is bound to happen. When cranes appear, people make loud noises so that the flock will leave quickly.

Opinions vary from one locality to another. Some people strongly believe that anyone who captures and eats a crane will soon be acting like an insane person.

In many parts of the world, cranes are good luck symbols, and accordingly receive protection from the people. Ironically, where cranes are taboo in Nigeria, they also seem to gain protection because people shun them. Nevertheless, Black Crowned Cranes have declined greatly in Nigeria. We must conserve the crane, or else our national bird will disappear.

China Bird Book Available Through ICF

Few books on Chinese birds are available in English. We are extremely pleased to announce the publication of *A Synopsis of the Avifauna of China* by Cheng Tso-hsin. This book, in English, is a revised and enlarged edition of Cheng's *A Distributional List of Chinese Birds*, which was published in Chinese in 1976. The past decade has seen a renaissance in Chinese ornithology, with many regions investigated for the first time. Dr. Cheng's book is packed with this new information.

The volume has 1224 pages, with 828 maps. Each species account contains brief information on: (1) nomenclature, including scientific names with synonyms whenever necessary, Chinese names, and English names; (2) breeding habitat; (3) range of distribution; and (4) status.

Dr. Cheng, the acknowledged dean of Chinese ornithology, visited ICF in 1980 and has long been a friend of the cranes. He is donating a limited number of copies of his book to ICF. Proceeds from their sale will support our conservation efforts.

To order a copy, send \$100 to ICF. Overseas orders must include \$10 additional for postage, and be submitted in US currency. We suggest you hurry to order your copy, as the book is available in this country only through ICF.



Eastern Sarus Cranes still appear each winter in Vietnam. The Vietnamese have established a 6,000-hectare reserve for the cranes, and last winter counted 100 of these very rare birds. Photo courtesy of the Brehm Fund for the International Conservation of Birds.

Continued from page 1

former provincial governor of Dong Thap, had been crusading for the cranes single-handedly long before Duc or the other scientists arrived. Working throughout the villages, Mr. Nhe even established strict penalties for harming the birds. A prominent man in the region, he has been a strong ally to Duc and others in forming the crane reserve. Here, as elsewhere in Asia, local support is critical if cranes are to survive.

The new "Trang Chim" crane reserve contains 6,000 hectares, and stands where formerly a Meleleuca forest provided shelter for large numbers of water birds. The forest groves had been cleared, and the water ditched for agriculture. But now efforts are underway to recreate and manage wetland habitat for the Eastern Sarus. When Charles Luthin, from the Brehm Fund for the International Conservation of Birds, visited the site in May of 1987, 41 Eastern Sarus remained, the first time the birds had lingered so late in the season. With proper management, the partially drained site may become a year-around home for the cranes and other water birds.

Thailand selects crane release site

Back in 1983, Thailand had been chosen as the first site for an attempt to reintroduce the Eastern Sarus Crane (see *ICF Bugle* Volume 11, Number 1). Since then, the Sarus Crane and Large Wading Birds Working Group (SCLW) has worked closely with the government's Royal Forest Department to guide crane efforts in this country, where the last confirmed wild crane sighting dates from 1968. A strong Thai contingent – 6 conservationists – attended the China meeting.

Their initial efforts in Thailand focused on the care and breeding of six young Eastern Sarus that ICF presented in 1984. These birds are now just reaching an age when breeding can be expected. But the intervening years have been well spent. Reintroduction cannot succeed unless the conditions causing the original loss of cranes are substantially altered. Through the reintroduction effort, SCLW has focused national attention on the plight of Thailand's wetlands and on wetland birds more generally.

In Thailand, as in many countries, protection of forest habitats has received highest priority among conservationists. The SCLW members have realized that the country's national parks and wildlife sanctuaries, where habitat protection is most strictly enforced, include very little crane habitat.

Bangpra Non-Hunting Area, where the captive flock of Eastern Sarus now lives, provides a good example of problems in protecting wetland birds. On a Non-Hunting Area, Royal Forest Department officials can prohibit hunting and harassment of wildlife. But local people are free to pursue other activities, even if wildlife are disturbed. Furthermore, wildlife managers do not control the habitat. Decisions by other agencies have caused the water levels in Bangpra reservoir to rise, flooding substantial areas of wetland. While Bangpra may still be used as a site for releasing captive cranes to the wild, the SCLW has been seeking another location for the crucial first release.

Phukhiew Sanctuary, in northeastern Thailand, has now been selected. I visited the site in March of 1986. A single road provides access, but a government helicopter lifted us

over the steep mountain walls that naturally protect the 156,000-hectare reserve. The mountains guard a forested plateau. We flew over several clearings with shallow wetlands suitable for cranes, then landed at Tung-kamang in the heart of the reserve, where the Thai have created several impoundments and are restoring wetlands for the birds.

The small village at Tung-kamang has been moved outside the reserve, so that the wetlands here are among the very few in Thailand where wildlife and habitat management need not be compromised by other priorities. Here I met Manop Chompoochan, who in turn visited ICF in September with his assistant Pakorn Kaikaew to plan for the crane effort at Phukhiew. Manop and Pakorn are now working to inform the people in the 60 villages surrounding the reserve about cranes and the release project.

The cranes will be placed in one-acre enclosures beside the wetlands at Tung-kamang. Plans call for the adults, with clipped wings, to remain within the enclosures, but their young will be allowed to fly free.

In the meantime the SCLW is inventorying wetlands suitable for cranes, investigating other rare wading birds, and attempting to confirm possible crane sightings near the border with Kampuchea. Difficulties with travel and public safety have made this area exceedingly challenging for field work.

Philippines prepares Sarus plan

Early in the 1980s, conservationists from the Philippines had shown an interest in an Eastern Sarus reintroduction. In 1986, they formed a Philippine Crane Working Group. Following the International Crane Workshop in China, I visited Luzon, the main island in the Philippines and the only island where Eastern Sarus occurred in the past. As in Thailand, there are no verified crane sightings from recent years. But local people have reported large, upright birds – appearing irregularly at night – in areas that seem suitable for cranes. If any cranes have survived the hunting, they must be wary and elusive indeed.

My visit was co-hosted by Mr. Antonio De Dios of Birds International, Inc. in Quezon City and by the Forest Research Institute in Los Banos. Mr. De Dios has made a major commitment to breeding rare birds in captivity, particularly parrots. His ample facilities could provide a site for a crane breeding project, or the effort could be located in Los Banos or at the Nino Aquino Parks and Wildlife Center in Quezon City. But as we discussed the crane project, it became clear that captive breeding should not be the first priority in the Philippines.

Cranes and other large wildlife suffer from uncontrolled hunting. While suitable habitat appears to remain on Luzon, none of it may be safe for the cranes. The Working Group has identified a field survey for cranes and an inventory of suitable wetlands as the top two priorities in the Philippines. If any cranes survive, they may be genetically distinct from mainland populations and deserve strict protection. If cranes have vanished, there is no point in discussing a crane reintroduction unless wetland reserves exist where cranes and other water birds are safe. Through support of INTERWADER, inventories have already begun of coastal wetlands. The Working Group will now extend the effort to freshwater sites.

As part of the field surveys, an education effort regarding cranes and wetlands — the third priority in the Philippines — will begin. The very rare Philippine Eagle has come to symbolize forest conservation here. The crane could fill a similar role for the wetlands.

The political situation makes conservation difficult on Luzon — some of the best crane sites are too dangerous to study — and the government is under strong pressure to promote short-term economic gains. But the nation's freshwater supply, including its wetlands, are critically important. The crane project will aim at teaching how crane conservation and human welfare are complementary not conflicting: people, like the cranes, depend on the long-term integrity of these wetland resources. Conservation plans for the Philippines must have this long-term

perspective.

Now is also the time to begin plans for the captive flock, so that this important work can begin in a few years, depending on results of the field surveys. The reintroduction effort could serve a major role in promoting public awareness of wetland values and wildlife conservation.

China seeks last Eastern Sarus

China has more crane species, and more endangered cranes, than any other country. But until recently, scientists feared that China had lost one of its eight cranes, the Eastern Sarus.

Mr. Yang Lan, of the Kunming Institute of Zoology, has been searching for Eastern Sarus in southern Yunnan Province, near the border with Burma. As in parts of Vietnam, all crane habitat appears to have been converted to farmland. Yang Lan has yet to see an Eastern Sarus in his surveys. But he has found a crane footprint. And local people speak convincingly of small groups of cranes that visit the rice paddies in winter only, again as in Vietnam.

I hope to visit southern Yunnan with Yang Lan this coming February to search for the cranes. If Eastern Sarus do survive, China's Ministry of Forestry is likely to take steps on their behalf. One possible effort bears remarkable similarity to the situation at Phukhieo in Thailand. The Chinese have established a large forest reserve, Xishuangbanna. The government has remov-

ed a village; the open, well protected site could be converted into wetlands, as at Tungka-mang in Thailand, for the sake of cranes and other birds.

Researchers plan future cooperation

As the Eastern Sarus researchers discussed their hopes and problems at the Crane Workshop in China, the importance of our collaboration was evident. Each country can learn from the others. Thailand's experiences in reintroduction can guide other nations, while Vietnam gains experience with managing a wild flock. Equally significant, as we sat and talked together, was the sense of community, a major inspiration for crane people who so often work in isolation.

Efforts at cooperation grow. At Mahidol University in Bangkok, a Southeast Asia Regional Information Center for Eastern Sarus Cranes and Other Large Wading Birds is now established through efforts of Pilai Poonswad and Bubphar Amget, with support of the Brehm Fund. The Center will ensure that information exchange continues among Southeast Asian researchers. Already Australia's Philip Du Guesclin has sent an extensive set of sight records of the Eastern Sarus from that nation, where the wild flocks provide important research opportunities. Rajendra Suwal, an intern from Nepal, is now mapping the data (ironically, Nepal is on the verge of losing its last Indian Sarus Cranes; Eastern Sarus conservation can provide a model for saving the Indian Sarus in Nepal).

The Eastern Sarus people also agreed that international exchanges and regional meetings must continue. Hector Miranda of the Philippines plans to visit Thailand in November of 1987, while Vietnamese researchers are invited to ICF in 1988. We are planning an Eastern Sarus workshop for 1989 or 1990, perhaps to be held at the Trang Chim crane reserve in Vietnam. As the work continues following the China workshop, all of us have great reason for optimism.

* * * * *

The Brehm Fund for the International Conservation of Birds, West Germany, has been instrumental in promoting crane and wetland conservation in Southeast Asia, with a pivotal role in Vietnam. The Fund sponsored Duc and two other researchers for a study tour to West Germany, and then supported the field work that led to the discovery of the 100 Eastern Sarus. The Brehm Fund is now providing major funding for development of the new crane reserve at Trang Chim. We applaud these efforts, which come at a critical time for wetland conservation in Southeast Asia.



Wetland inventories are critically important in Southeast Asia, so that prime crane habitats can be protected. In Thailand, Bubphar Amget and Prayuth Intarapanich, of the Sarus Crane and Large Wading Birds Working Group, evaluate wetland habitat for cranes and other birds. Photo by Jim Harris.

French Fanfare...or Watching Cranes in France

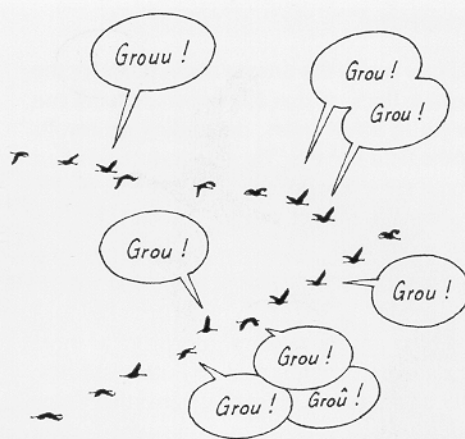
by Alain Salvi
Groupe Grues France

[Editor's note: In the last issue of the ICF Bugle, we featured an article about citizen crane counts around the world. We are now pleased to report a quite different, and highly innovative use of volunteer observers. ICF encourages other regions to follow France, and develop their own suitable approach to public involvement in crane preservation.]

During the autumn of 1986, each morning strange loud noises - the calls of Common Cranes - could be heard on the French national radio program, "France Culture." Sometimes there were mysterious messages announcing the departure of large flocks of big gray birds from the German Baltic coast. At the same time, it was possible to see from any point in France people watching the sky or pricking up their ears in the night.

This operation, called "Le temps d'une migration" (the time of migration), began with the previous publication of *La Hulotte*, a fine nature magazine for the children (and others). The last two issues dealt with crane life and migration, encouraging people to watch the magnificent birds as they traveled through France. *La Hulotte* readers were asked to send their sighting details to the French Group for the Study of Cranes (Groupe Grues France or GGF).

Throughout France people were alerted by



more than 50 newspapers and radio stations to keep their eyes and ears cocked skyward. No fewer than 23 national broadcasts were issued from the end of October to the end of November. On each broadcast, GGF members discussed different aspects of crane study and conservation, and also provided listeners with up-to-date news about the actual ongoing migration.

After leaving Sweden, thousands of Common Cranes congregate each autumn along the Baltic coast region of East Germany, mainly on the island of Rugen. From there, the cranes fly across Europe on the way to their wintering areas in southwest Spain and northwest Africa.

It was of course essential to know very quickly the time of departure of the cranes so that French observers could wait for the birds. Therefore, the problem extended beyond the small borders of France, and the aid of crane watchers from other European countries, particularly from East Germany, was indispensable to the operation.

Despite all this precious help, when the day came for the cranes to depart, they flew such an erratic and unusual path that even

seasoned "professional" crane watchers were completely surprised. Only with the vigilant help of the public could such an undertaking have been so successful.

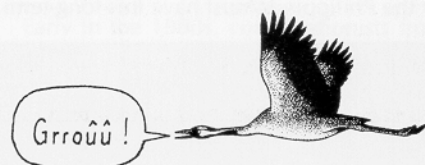
Even though the cranes passed over most of France by night, more than 2000 precise reports were received. This new data was then used to draft an accurate map of the migration route.

The results of this work are particularly important. First, the project generated valuable scientific information otherwise unavailable. We learned much about crane navigation during both day and night under different kinds of meteorological conditions.

Next the cranes themselves received extensive publicity. This feature had other beneficial effects, such as increasing public interest and awareness for bird study and protection in France.

Beyond the educational value, the international cooperation provided an example of what has to be done for optimal efficiency in our work for migrating animals like cranes. From Sweden, through East and West Germany and France, to Spain, each country contributed to the success of the operation.

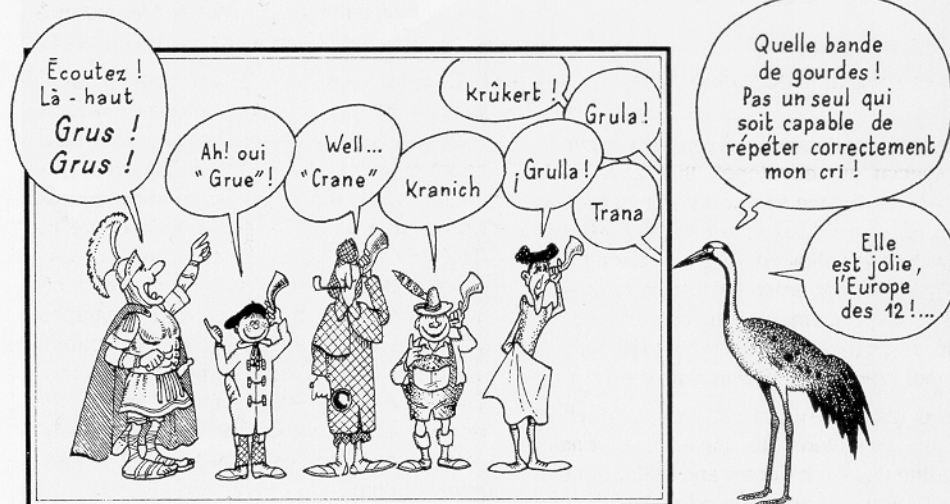
In the spring of 1987, school children began to watch cranes at various resting places in eastern France. The results were encouraging. Our hopes are to continue such profitable work in the future, and at the same time increase our educational efforts, especially in the public schools.



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

Asst. Editor: Erik Brynildson
ICF offers memberships at the following annual rates:
Individual \$15 Foreign \$20
Family \$25 Sponsor \$500
Associate \$100 Patron \$1,000



The crane watch in France began with two special issues of *La Hulotte*, a nature magazine for children. These drawings, from issue No. 57, show how many countries have named the crane after its voice. The magazines provided a wonderful mix of humor and information. Drawings reprinted courtesy of *La Hulotte*.

MAKE IT AN ICF CHRISTMAS!

Order T-shirts and Sweatshirts by Mail

ICF has developed additional T-shirt designs. For those of you who have not been to our gift shop this year, a brief description follows. Send full payment with your order (prices include shipping.)

*Siberian Cranes - T-shirt

4-color design on white shirt
Two Siberian Cranes in a marsh
Adult sizes: S, M, L, X-L \$10.50
Child sizes: S, M, L \$9.50

*Red-crowned Cranes - T-shirt

4 color design on yellow shirt
Two adults with chick on nest
Adult sizes: S, M, L, X-L \$10.50

*Whooping Crane - T-shirt

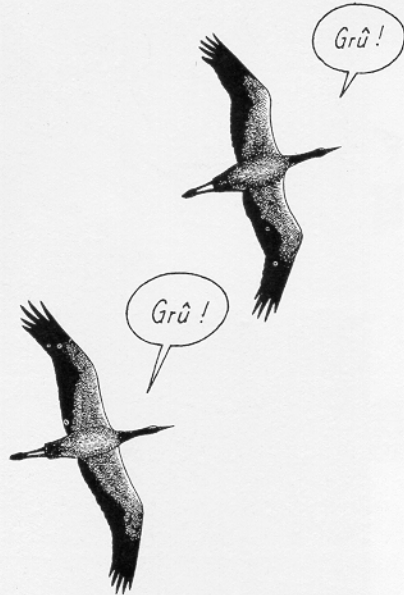
Navy blue design on light blue shirt
(listed on our membership envelope)
Whooping Crane flying over tamarack bog
Adult sizes: S, M, L, X-L \$7.00
Child sizes: S, M, L \$6.00

*Red-crowned Cranes - Sweatshirt

4-color design on white shirt
(same design as Red-crowned T-shirt)
Adult sizes: S, M, L, X-L \$20.00

*Whooping Crane - Sweatshirt

Navy blue design on white or blue shirt
(specify color)
(same design as Whooping Crane T-Shirt)
Adult sizes: S, M, L, X-L \$17.50
Child sizes: S, M, L \$16.00



Wetland Slides Wanted for Future Bugle

Next year we would like to feature color slides from our members on pages 4 and 5 of one issue of the *ICF Bugle*. We invite you to send us your favorite wetland slides: landscapes; wetland plants, birds, or other animals; and people using wetlands. Mail original slides (not duplicates) to Jim Harris at ICF by March 15, 1988. Please include your name and address; also identify what is in each slide, and where and when it was taken. All photographs will be returned.

crane centers. Additional funds went toward a software program for animal inventory records on a microcomputer and for the purchase of medical and surgical equipment.

Contributions received for "International Education" are helping prepare written materials and a slide show as part of a crane count project for the Wildlife Clubs of Kenya and Uganda. ICF is also supporting education programs at the crane release site in Thailand (see the article on page 1 of this *Bugle*). The remaining funds went toward the production of 8" by 10" color photographs of cranes which are being used for public education where cranes are endangered. Danny Weaver of Agri-Graphics, Limited produced the prints for just the cost of materials, and the prints are being distributed in Vietnam, Philippines, Kenya, and Uganda.

"Habitat Restoration" special gifts contributed toward buying a canoe, paddles, and life preservers for wetland field trips for ICF interns and foreign visitors. In addition, a

CONTRIBUTIONS

Received July-September 1987

Grants and Awards: Anonymous; George and Kyoko Archibald; Mary Griggs Burke; Mary Griggs Burke Foundation; DEC International, Albrecht Foundation; Bernice Roth Flaningam; George Gund Foundation; Robert Hallam; Helfaer Foundation; Hershey Foundation; Mrs. J.W. Hershey; Institute of Museum Services; Ronald Mattox; Mr. & Mrs. Oscar G. Mayer; MacArthur Foundation; James Mooney; Fred Ott; Ellen & Robert Rasch; Mr. & Mrs. Edward Ridders; Leonard Shelton; Tamblin Smith; Pat & Harvey Wilmeth.

Patron: Clack Corporation.

Sponsors: George P. Bent 2nd; Mr. & Mrs. James Stewart; Mrs. Howard Weiss; Don Wiens.

Associates: Ed & Dorothy Alexander; Virginia Bacher; Carter Bales; Virginia Banta; Rex & Reva Bates; Bill & Helen Birkmeier; Susan Bleeke; Arthur Blumenfeld; Louise Borchelt; Katharine Bradley; Linda Burton; Jane Taylor Coleman; Robert & Verene Crane; Judd Day; Marion Doherty; Mr. & Mrs. Frederick Dohmen; Kay Easton; Dorothy Ela; Dean Fitzgerald; G.W. & Jeanette Foster; Mr. & Mrs. John Geilfuss; Betsy Getz; Heidi Harkins; Mrs. Lincoln Harris; Teri Henry; Yvonne Henze; Hattie Higa; Bruce & Becky Hoffman; Mr. & Mrs. Wayne Hotson; Bill & Alice Hudson; Yoza Kawahito; Bob & Nan Kohls; Joan Kruse; Harold Kubly; Theodora Kubly; Mrs. C. Rowland Levering; Bert Lyons and Margaret Brandt; Miller, Brussell, Ebben & Glaecke; Patricia Mitchell; James Mooney; Sieglinde & Frank Myers; James & Ann Nelson; Robert & Ellen Rasch; Robert Rasmus; Campbell Read; Hans Ris; H. Jean Rowley; Beth Schuett; Richard & Joan Shropshire; Tamblin C. Smith; Cynthia Stewart; Richard Thompsen; Eric & Joanne Weber; Mr. & Mrs. Nash Williams; John Wiltsie; Tighe Zimmers.

dissecting scope was purchased for use in upgrading ICF's herbarium collection of wetland plant specimens and in identifying sedges and grasses.

Finally, the majority of the special gifts went for "General Support." This help pays for the heat, lights, and general overhead. Although general support is the least glamorous, it is critical. The staff wishes to thank all our members once again for their continued faithful support, and we hope you will renew your "special gift to the cranes."

The Bottom Line

by Bob Hallam,
Development Coordinator

Last year's fall issue of the *Bugle* contained a "special gift envelope" that gave each member a chance to donate to a particular ICF program of his or her personal interest. Your donation allowed ICF's staff greater flexibility in meeting unforeseen opportunities in 1987. The program was a success and we are repeating it this year. Again next fall we will explain how your support was used.

Your gifts to "Aviculture" provided support for an aviculturist to travel to Patuxent Wildlife Research Center and collaborate in developing a more detailed record system which other crane centers may be using in the near future. The record system will insure that key information is recorded, thus facilitating comparison of crane data among

The Cranes in Spain

by Rodrigo Munoz-Pulido
ICF Aviculture Intern

Two of the world's 15 species of cranes formerly lived in Spain. The Demoiselle Crane regularly occurred at migration times in southern Spain during the 19th century, but historical breeding data there are still confused. The Common or Gray Crane was depicted on the walls of ancient Spanish caves by Neolithic people. These birds bred in central Spain up until the late 1800s; one of the last Iberian breeding localities was the Guadalquivir River's marshes, that today are part of Donana National Park. It was in 1954 that the last pair raised young in Spain. The drainage of Laguna de la Ganda was the final door that closed on the cranes.

The cranes have, however, remained faithful to their Iberian wintering quarters. In late September, the Common Cranes begin to arrive. They come in over the Pyrenees and fly to Laguna de Gallocanta, a cereal farming area in northeast Spain that is a major European staging site. From here they move to ilex-oak habitats, because the acorn is the principal food in winter.

Surprisingly, until just several years ago, scientific knowledge about cranes in Spain was scarce. Then Carlos and Javier Alonso began to study the winter ecology of Common Cranes. The brothers discovered that the family breakup of this species happens in Spain, and the departure of the juveniles toward the breeding areas is after the adults. They also learned that a delay in the evening flight to roost sites is facilitated by the light of the moon, and mainly caused by food availability.

We now know that around 32,000 cranes winter in Spain. But we still know little about many important aspects of Spanish crane life,



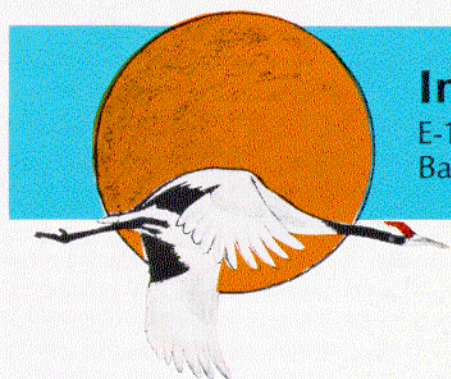
Rodrigo Munoz-Pulido, who came to ICF from Madrid, will be studying Common Cranes in Spain as part of an international research effort focused on this species throughout Europe in 1988. At ICF, Rodrigo studied methods for trapping, handling, and banding cranes. Training opportunities for foreign students and researchers continue as an important part of ICF's Wisconsin operations.

such as habitat conditions. Banding programs at staging and wintering areas should be carried out to determine population structures. Banding would also help in defining the various migratory units in western Eurasia.

My own work this year at ICF has been interesting and rewarding. I am happy to have learned methods for studying crane migration, for captive breeding, and reintroduction to the wild. In Spain, I am a student of the

wonderful Alonso brothers. We study wild Common Cranes. Now I can return home better able to help my country's cranes. Thanks to my friends at ICF, I can even launch a rocket net.

[ICF wishes to thank Richard Urbanek of the Ohio Cooperative Fish and Wildlife Research Unit and Steven Nesbitt of the Florida Game and Fresh Water Fish Commission for assistance with Rodrigo's training.]



International Crane Foundation

E-11376 Shady Lane Road
Baraboo, Wisconsin 53913

Address Correction Requested

Nonprofit
Organization
U.S. Postage
PAID
Permit No. 179
Baraboo, WI 53913

