

THE BROLGA BUGLE

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INTERNATIONAL CRANE
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Three Arrivals In White

Last fall, like harbingers of the later snowy 1977-78 winter, three white cranes arrived at ICF headquarters in Baraboo — a Whooper, a Siberian, and a Japanese Crane. The birds are on breeding loan from zoos on the three continents. The Whooper, Angus, is a male from the Audubon Park Zoo in New Orleans. The Siberian, Hirakawa, was loaned by the Hirakawa Zoo in Kagoshima, Japan. And to make matters confusing, the Japanese Crane, Zhurka, is the property of the Moscow Zoo in the U.S.S.R.

Angus, our new Whooper, joins his brother, Tony, who arrived from New Orleans in the fall of 1976. Both birds were hatched in 1957 at the

Audubon Park Zoo by their famous parents, Josephine and Crip. Josephine, who died in 1965, was the last Whooper from the non-migratory White Lake population in Louisiana which totally disappeared during the 1940's. Angus and Tony are therefore the last living Whoopers with genes from extinct Louisiana cranes.

Unlike Tony who sports a broken beak and crooked toes, Angus is a flawless specimen of *Grus americana*. He is also even-tempered and not given to Tony's sudden switches from aggressive



Zhurka, a female Japanese Crane from the Moscow Zoo.

and Tony will be important contributors to the new gene pool. Through them, the sad fate of Josephine and her fellow "Bajou" whoopers may yet be partially redeemed.

Hirakawa, our new Siberian Crane female from the Hirakawa Zoo in Kagoshima, Japan, has almost as unusual a history as Angus. She was first spotted in November, 1969, by a high school student in Okinawa, Japan. Although this species is seen on rare occasions in Japan (where it is known as the "Black-sleeved Crane" due to its black primary feathers), this was the first Siberian Crane seen so far south. The crane had a brown head and neck indicating she was a juvenile and so exhausted that the student was able to approach and capture her. Undoubtedly, Hirakawa had lost her parents somewhere between her birthplace in Siberia and her species' traditional wintering grounds in China and had become disoriented, eventually flying out over the China Sea to Okinawa. After the bird's capture, she was sent

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Hirakawa, ICF's new Siberian Crane, colling with her next-door-neighbor, Wolfe.

to timid behavior. All these splendid attributes probably won't win Angus a mate, however, since our only female Whooper, Tex, is human-imprinted and her affection is strictly reserved for George Archibald, a member of ICF's staff. But Angus will still have his chance for a spring romance — by proxy. We will use him as sperm donor to artificially inseminate Tex.

Someday, if Whoopers are reintroduced to their former haunts in southern Louisiana, Angus



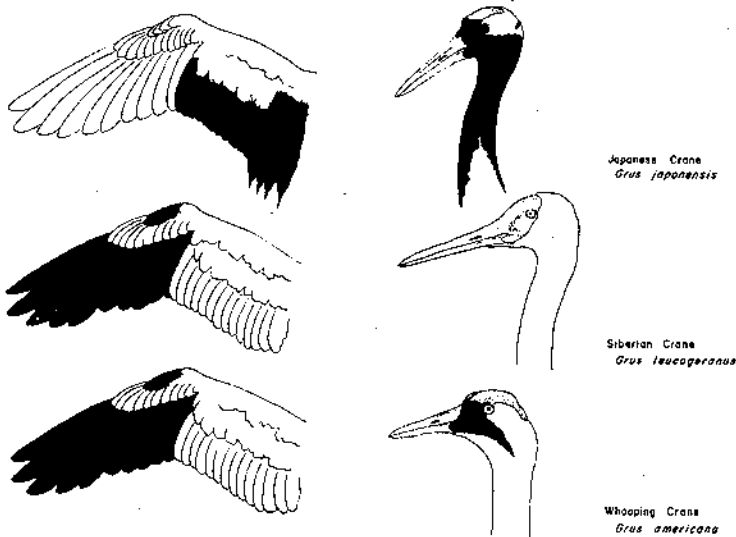
Angus on a stroll through his new home at ICF.

WHITE - A HERALD OF RARITY

Just as in medieval Europe when the color white had important symbolic significance, white plumage in cranes has come to signify a special status—great rarity and an uncertain future. Only three of the 15 crane species are predominantly white and these three are by far the most endangered members of this small and declining family. The white Whoopers, Siberian, and Japanese Cranes each number less than 400 individuals while other endangered (but principally gray or black) species such as the White-naped and Hooded Cranes number in the thousands.

The diagram on the left shows the heads and wings of the three white crane species. Notice that while the wings are similar in pattern (with the colors in the Japanese reversed from that in the Siberian and Whoopers) the heads of each are very different.

— diagram by John Wessinger





The newly-discovered flock of Japanese Cranes in the Chorwon Basin between North and South Korea. Also in the flock are two Whitenaped and one Common Crane.

feature . . .

Feathered Treasures in the Iron Triangle

Editor's Note: ICF co-director George Archibald just recently returned from a winter along the DMZ in Korea. Here is his report on his activities in the Korean "No-Man's-Land," including the discovery of a "new" population of Japanese Cranes. George's study was supported by grants from the World Wildlife Fund and the Jersey Wild Animal Preservation Trust.

by George W. Archibald

In late November, 1977, nature enthusiast and U. S. Army topographic surveyor, Victor Franco, and his survey team were stationed just south of the Korean DMZ in the Chorwon Pass. Their assignment was to prepare topographic maps from which undeveloped lowlands immediately outside the southern border of the DMZ, formerly a buffer zone, might be developed into rice fields. But Victor met more than subzero weather on the windswept plateau between the rugged mountains which stretch north and south; he also encountered enormous black and white birds of such grandeur and presence that he was motivated to visit the library at Yungsan Base when he returned to home base in Seoul. "*Craus japonensis*. Uncommon winter visitor occurring in the DMZ near Panmunjom and on the Kimpo peninsula but numbers are very low, with no more than 16 birds reported," stated a book, *Birds of Korea*, by Gore and Won. But Victor had seen more than 100 cranes and they were unmistakably Japanese Cranes. Could there be an unknown population hidden deep in the no-man's-land, an area that ornithologists had not visited since the Korean war?

The cranes continued to haunt Victor's mind during the ensuing days. On December 3, 1977, he and his team surveyed the lowlands near Panmunjom about 85 miles west of the Chorwon Pass. Panmunjom is famous as a meeting place for the two divided Koreas and is also the site of a feeding station for Japanese Cranes that the UN Command has maintained since 1974. Victor located 11 more Japanese Cranes there, as well as two chicken-sized pink birds with long curved beaks which were wading in the shallow rice fields near South Korea's model village, Tae Song Dong.

That very same day, I happened to visit a guard post where I was asking soldiers about the location of Japanese Cranes and Crested Ibises. Victor was there and he exploded with information like a trapped-on booby trap. Not only did he know about the numbers of Japanese Cranes near Panmunjom, but he told me about the previously unknown population of cranes in the Chorwon Pass. He was also able to confirm that one of the world's rarest birds, the Crested Ibis, was still visiting the DMZ; these were the two pink birds he had just seen a few hours earlier. This pair is the last known on mainland Asia. My mission in Korea was to search for new populations of cranes and ibises in the as yet unexplored regions of the DMZ. Victor's information made my first day in the field truly memorable.

On December 18, in the company of Lt. Col. Kim Su Whoan of the 6th Korean Army Division, Mr. Koo Tae Hoe of the Hyung Hee University's Institute of Ornithology, and Mr. Kim Hae-Un of the Hankook Ilbo Newspaper, I jeoped north from the small town of Chorwon about 10 miles up the Chorwon Pass to the southern boundary of the DMZ. No cranes, only gray skies and biting cold winds met us as we bounced along rutted roads in our open vehicle. Earlier that morning, Lt. Col. Lee Chum Shik assured us there were cranes in the valley. Victor had apparently been correct. By noon we hadn't seen a bird so we moved to a

vantage point on a low mountain where we could look into the 4 km wide DMZ.

The Chorwon Valley leads from deep in North Korea to Seoul, the capital of South Korea. Before the division of the peninsula, the valley contained one of the main highways and railways through central Korea. The mountainous nature of the Korean peninsula also made the Chorwon Valley of great strategic importance. The DMZ crosses the valley at the 38th parallel where, 28 years ago, the valley was the stage for some of the fiercest battles of the war. Far out in the center of the valley, about 2 km south of the DMZ, stands a lone, cone-shaped hill called Ice Cream Mountain. Ice Cream became a pivotal point in "holding" the pass and formed the apex of what became known as the Iron Triangle, a region bounded by Ice Cream, Blood Mountain, and the DMZ. From the eastern side of Blood Mountain, I was able to peer into the DMZ over the war-ravished plain into an area where war scars had healed into a wilderness paradise. The old highway was overgrown by willows, and the old railroad was only visible because of the rusted hull of the last train to try a run between the north and south.

We spotted four Japanese Cranes far out in the DMZ but were disappointed that there were not more. About to abandon Blood Mountain for another vantage point, I skimmed by telescope the lowlands just south of Ice Cream. WHITE DOTS. In fact, sixty-five white dots against the brown background of fallow rice fields. We were elated. They had to be Japanese Cranes and there must be more behind Ice Cream! We were soon off in the jeep to that gently sloping mountain on which 20,000 young men gave their lives during the war.

Climbing through the sapling and grass-filled trenches of Ice Cream, I was haunted by an awareness of the human agony that took place on this forsaken hill just a generation before. But my spirits rose when my count from the summit

(Continued on page 4)

Making Tracks . . .

New (Unfeathered) Faces At ICF

When ICF took its first few faltering steps back in 1972, we were extremely fortunate in having a small army of volunteers at hand who willingly performed all manner of helpful tasks, from cleaning pens to typing letters to exercising crane chicks. While we are still blessed with many such big-hearted, enthusiastic volunteers and encourage others to join their ranks, ICF has grown to such an extent that volunteer labor is no longer sufficient to keep up with the regular, day-to-day work load. Consequently, we have recently hired three people to take care of important responsibilities on a daily basis. We would like to introduce these new faces to our members and tell you a little about their backgrounds . . .



Elaine Gasser

Elaine Gasser and her 25 plus years experience handling obstinate and thick-headed bovines has proven particularly useful in dealing with ICF's staff. She also has a farmer's feeling for animals, be they domestic or exotic, and is not afraid to pitch in and handle the cranes when necessary.

Elaine has three children, two boys who are both university graduates, and a girl who will be getting a teaching degree from Appleton. Elaine also rings bells in a choir at the local Emmanuel United Methodist church which probably accounts for her cheery spirit.



John Taapken with Zhurka, a Japanese Crane worked a summer at the Patuxent Wildlife Research Center in Laurel, Md., where the U. S. Government maintains its Whooping Crane facilities. John has sterling credentials as an aviculturist and we are expecting great strides

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Elaine Gasser took

Terry Quale's position as general all-around office person last August when Terry married and moved to Colorado. Although Elaine's main responsibility is keeping track of our ever-growing membership roles, she has proven most valuable when level-headed pragmatic advice is needed. Elaine and her late husband, Melvin, ran

one of Wisconsin's show-case dairy farms and her 25 plus years experience handling obstinate and thick-headed bovines has proven particularly useful in dealing with ICF's staff. She also has a farmer's feeling for animals, be they domestic or exotic, and is not afraid to pitch in and handle the cranes when necessary.

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John Taapken, on the job since November, '77, is our first aviculturist. His main task is to see that the birds are healthy, happy, and comfortable. John is a graduate of Cornell College in Iowa and worked for several years in Puerto Rico on a project to propagate the extremely rare Puerto Rican Parrot, a species which currently consists of 48

individuals! John also worked a summer at the Patuxent Wildlife Research Center in Laurel, Md., where the U. S. Government maintains its Whooping Crane facilities. John has sterling credentials as an aviculturist and we are expecting great strides



MILE-STONES

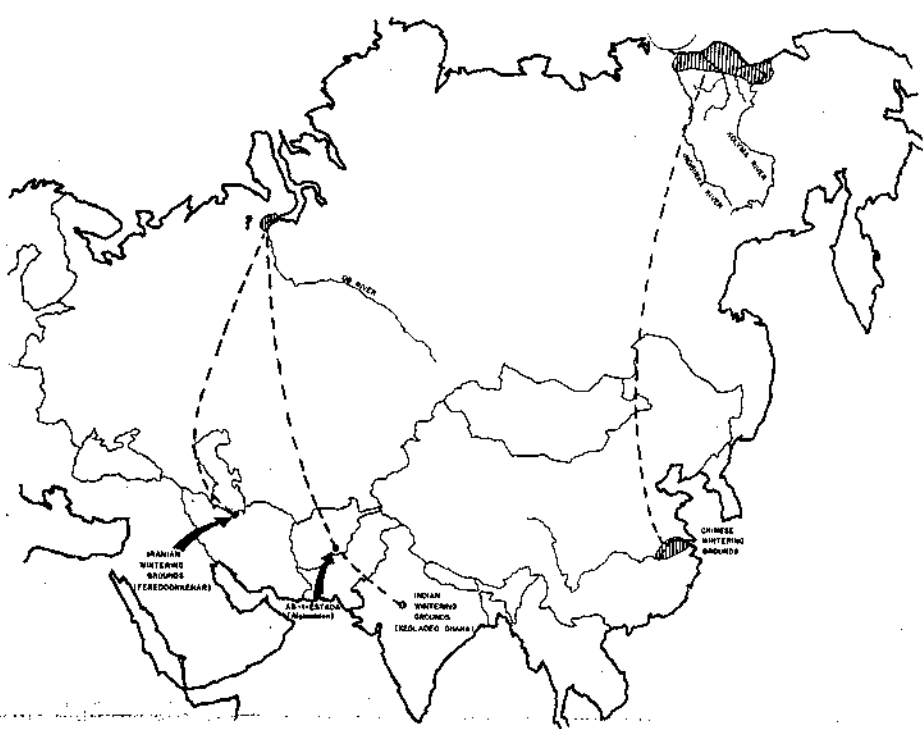
Circles of Death - Fereydunkenar

Most modern texts on Asian birds list the Siberian Crane, *Grus leucogeranus*, as a winter resident in Iran, though the crane has only been seen there a few times during the present century. In the nineteenth century a sizeable population wintered along the southern shore of the Caspian Sea; that population has long been considered extinct and the one recent record, a single bird sighted flying along the western coast in 1967, was considered a straggler from the Indian population at Bharatpur (see map).

Now, Iran's Department of the Environment has announced that one of its ornithologists, Ali Astiani, has discovered a flock of at least nine Siberian Cranes near the south Caspian town of Fereydunkenar. According to the local villagers, these cranes are yearly visitors to the flooded fields near the town and, like their conspecifics in India, spend their time wading in shallow water and digging for plant roots.

The news was a pleasant surprise to researchers at ICF who are currently working on a plan to introduce the Siberian Crane to the Arjan National Wildlife Reserve in southern Iran. The report also solves a mystery of sorts.

In 1977, John McGough and Ron Sauey of ICF together with a party of diplomats and researchers spotted 56 Siberian Cranes on March 17 at Ab-e-Estada in Afghanistan. This flock represented all but one of the cranes seen four days previously at Bharatpur, India. Later that summer, a Russian scientist, V. V. Vinogradov of the Astrakhan Wildlife Reserve located on the northern shore of the Caspian Sea, reported seeing three Siberian Cranes flying over the Astrakhan Reserve on March 15, two days before the ICF party reached the Afghan lake. Where were those three cranes from? Only two explanations were



Present distribution of the Siberian Crane *Grus leucogeranus*. Map by Cilla Kimberly and John Wessinger

possible: 1) three of the Indian cranes left the flock in Afghanistan, flew to the Astrakhan Reserve, and then returned to Afghanistan, all in a matter of three days; 2) the cranes belonged to another population of Siberian Cranes. The latter explanation is certainly reinforced by the new find at Fereydunkenar.

But the biggest surprise was yet to come. ICF's George Archibald on his way back from Korea stopped in Iran and travelled for two days to Fereydunkenar to see the newly-discovered cranes. He found that the birds were literally living in a gigantic waterfowl trap, a devilishly clever system of circular ponds and channels designed by Iranian villagers to catch and kill ducks and other birds (see diagram below). The traps, called an Ab-bandan, consist of a pond with two semi-circular channels leading from them. One channel connects the pond with the main flooded field where most of the waterfowl and cranes spend their day. The other channel ends blindly at a pen.

During the trapping procedure, domestic ducks are thrown into the air in the direction of the pond. The heavy, poorly-flying ducks just manage to clear the patch of thorny brush planted around their cage and land noisily in the pond where they find the water strewn with floating grain.

The sight and sound of these flying and feeding ducks arouse the curiosity of wild ducks in the main flooded field. They swim up the narrow channel to the pond where they are set upon by trappers armed with long knives. Unable to take flight because of the height of the brush surrounding the pond and the narrowness of the channel, the wild ducks are quickly slaughtered.

Trappers rigorously exclude all strangers from Ab-bandan for fear that the wild ducks may be disturbed. George Archibald was threatened by two of these men when he approached to observe the Siberian Cranes. He returned the next day accompanied by police and was then allowed to observe the flooded field where the cranes reside.

Because Siberian Cranes prefer open, unobstructed areas and are extremely wary, these birds appear to be safe from the trappers' slashing knives. However, there are reports that as the date approaches for the ducks' northern departure, the villagers forsake the traps and use guns, killing masses of waterfowl over a two or three day period. It is therefore difficult to assess the danger to cranes without more information. Clearly the cranes are still using the Ab-bandan in spite of the dangers. An attempt to alter the situation might anger the trappers, resulting in a "trapper backlash" and the destruction of the last handful of Siberian Cranes in Iran.

Three Arrivals . . .

(Continued from page 1)

to the zoo in Kagoshima where she has lived until last fall, one of the zoo's proudest possessions.

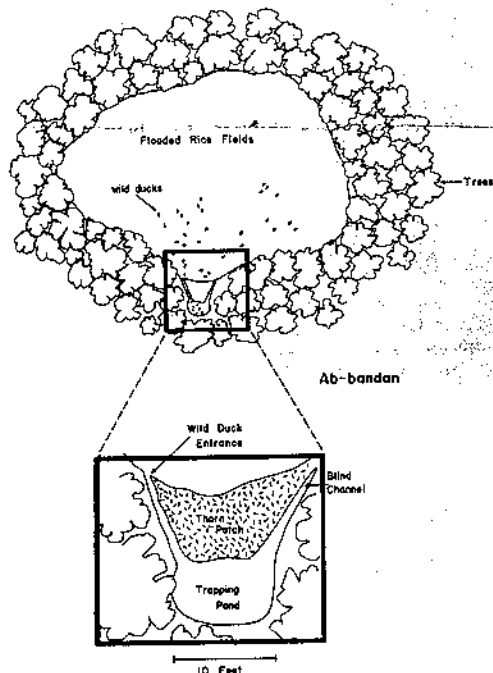
We don't know very much about the history of our new Japanese Crane, Zhurka. Her extreme tameness suggests that she was hatched and raised in captivity, perhaps at one of the European Zoos which bred this species in the past. Zhurka's large size and rarity (she was apparently the only crane of her species in captivity in the U. S. S. R.) made her a great favorite with visitors to the Moscow Zoo where she lived in a large enclosure with ducks and other waterfowl.

In the spring of 1977, Zhurka nested and laid three eggs, all of which were infertile. Distressed at the prospect of further infertile eggs, the zoo contacted ICF and offered Zhurka on breeding loan.

Zhurka is now settled and seemingly content in her pen beside our young Japanese male, Tsuru. We are keeping a close watch on the two and hoping another international match is in the making in Baraboo.

We are extremely grateful to the Audubon Park Zoo, the Hirakawa Zoo, and the Moscow Zoo for loaning their three valuable cranes to ICF.

CORRECTION: In the fall issue of *The Brolga Bugle*, Harold Bessac's address was erroneously reported as Markesan, Wisconsin. Harold actually lives in Dalton, where he has a machine shop connected to his home.



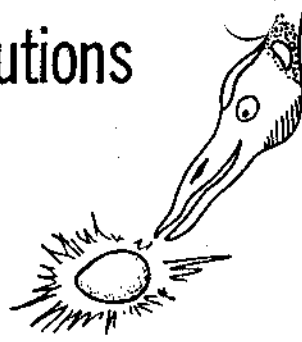
Diagrammatic view of an Ab-bandan waterfowl trap. by John Wessinger

Obituary . . .

LULU (1954-1978)

We are grieved to report the death of our old female Japanese Crane, Lulu, who produced 12 young over the short period of three years. Lulu was on loan to ICF from the Honolulu Zoo where she was hatched in 1954. She was one of the ICF's first birds, having arrived in Baraboo in 1973, and quickly proved to be the most productive crane at the Foundation. She had an unusual, high-stepping walk which was later diagnosed as an arthritic condition. During her last two years at ICF, she became increasingly crippled by inflammation of her leg joints. But she laid eggs, nevertheless, and her last season at ICF was her most productive—seven young. Lulu was a small, gentle bird and she will be missed at ICF.

Contributions



MEMBERSHIP CONTRIBUTIONS

Linda Aanonson, Edgar Abraham, Robert Alexander, Harold Allen, Soren Ambrose, Bruce Ambual, Antigo Audubon Society, Donald Archibald, Edward Aspar, Athenian School, National Audubon Society, Roger Baker, Bernice Bareta, Mary Baxter, Karen Beach, George Becker, William Becker, Gerald Behling, Elizabeth Beinert, Dorris Belknap, Alan Bennett, H. R. Bird, Alice Bischel, Cris Blakeslee, Andrea Blattner, John Bliese, Bill Bodden, Mike Bodden, Mrs. Randolph Bolles Jr., John Bollinger, James Bond, Pat Bontinen, Donald Brace, Steven Brachman, Bernard Brachman, Charles Bradley, John Brakefield, Richard Brakefield, Dorothy Braun, A. Brodie, Naomi Brill, Bernard Brouchoud, Helen Brown, R. R. Brown, Hjalmar Bruhn, Richard Bruns, Todd Bryan, Mary J. Bumpy, Elizabeth Bunge, David Burke, Elaine Burstatter;

E. W. Cack, Jr., Calgary Zoo, Emily Campbell, Marilyn Campbell, Canada Fisheries and Environment, Canadian Library Wildlife Service, John Canfield, Roy Carlson, Robert Cawthon, Norman Chester, Irma Chipman, Charlotte Churchill, Florence Clark, Margaret Clark, Stephen Coleman, Harold Coolidge, Chester Corson, Milton Cotey, Booth Courtenay, Ronald Crete, G. W. Croft, R. S. Cron, David Dawson, John Day, Judy Day, Bruce DeLong, Ronald Devey, Dickerson Park Zoo, Phillip Dickert, Bernard Dickinson, John Discher, Emily Dodge, Mary Doering, John Doherty, Philip Doncheck, Rod Drewien, Lois Edford, Florence Edwards, Janet Ela, Theodore Eliot, Jr., Thomas Ellis, Russell Erickson, D. L. Evans Co., Hugh Evans;

Harold & Suzan Falk Foundation, James Farrar, Jeannette Feldballe, David Fenner, Thomas Fifield, Mary Filion, Leslie Fischer, Dennis Fisher, Robert Fisher, Dennis Folczyk, David Fordam, John M. Forester, G. W. Foster, Jr., William Foster, Clara Fountain, W. G. Frank, Warren Gaskill, Lucy Gemlo, Ann Gillette, Theodore Glass, B. H. Glover, Stefan Graham, August Grams, Grede Foundation, James Gritton, Harlan Grasz, Loren Grueber, Eihel Habeck, Karen Hale, Mary Hammersmith, Faye Hannigan, Elwyn Harris, Stanley Harris, Jr., Reid Harsch, Grace Hauf, Thomas Hauge, Phyllis Hawthorne, John Henderickson, Jr., Kim Hennings, Richard Hibbard, Jonathan Higman, William Hilsenhoff, Carol Hinds, Ruth Hine, Norman Hinkley, Paul Hodgson, David Hoffman, Mrs. Paul Hoffman, Ronald Hoffman, Ray Hofmann, R. J. Holland, Herbert Horn, Merna Hotson, Shirley Hunsaker, Gordon Hunter;

Myrtle Ingles, John Iverson, Kal Jabara, John Jaeschke, Milton Janeczek, Debbie Jansen, William Jefferson, Elizabeth John, Brian Johns, Douglas Johnson, Page Johnson, Carol Johnston, Jeannette Jordan, Clarence Jung, June Kabelitz, J. D. Kobler, Luca Kammholz, Donald Karraker, Esther Kassner, Karen Keil, Alan Keitt, Cameron Kepler, James Key, Ronald Kimbell, Donald Kindsch, Harry Kindschi, R. M. King, Warren King, Charles Kirkpatrick, Charles Kjos, Shirley Klapperich, K. Klaver, Terrill Knaack, Jan Knadel, Edith Knutson, Allen Koch, Norma Kolthoff, Leo Kosak, Greg Kroetzig, Gilbert Krueger, Ernie Kuster;

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Clarence Napper, Charles Nelson, Mary Von Neumann, Myra Niemeier, Reade Nimick, Nepeming Audubon Society, William Offenkrantz, Kennett Offill, Emory Olson, William Olson, Oneida Wildlife Society, Robert O'Neil, Phil Orth Co., Lucille Oston, Robert Otis, Lisi Ott, Lorrie Otto, Ellen Padley, Joe Park, Allen Paschen, Evelyn Patterson, Robert Patzke, Bertha Pearson, Ben Peckham, Silas Peller, Janet Pennington, N. Z. Perry, Marsha Petersen, Roger T. Peterson, Larry Phelps, Eleanor Piel, Doris Platt, Frederick Pullman, E. A. Purtell, Jr.;
Verna Radtke, Marilyn Randall, Thomas Raif, Hope Rice, Marion Rice, Lemont Richardson, Matt Rifkin, Russell Rill, Neil Riopell, Charles Ritzenhaler, Catherine



Over \$100.00 was raised for ICF by these students at the Wisconsin School for the Visually Handicapped in Janesville, Wis. The blind and partially-blind students raised the money through bake sales. The Brogla Bugle will soon be available in braille at the school so the students can keep informed of the latest in the crane world.

FEATURE . . .

(Continued from page 2)

indicated 94 cranes on the fields below. This find boosted the numbers of Japanese Cranes known to winter in Korea from 70 to perhaps more than 170.

The rest of the survey of the DMZ was uneventful and no further cranes or ibises were spotted. By January 1, I returned to the vicinity of Panmunjom to continue observing the last pair of Crested Ibises on the Asian mainland.

I also continued working with an organization I had helped found in 1974 during my first visit to Korea. The Korean Council for Crane Preservation was originally devoted to crane research and the establishment of feeding stations for cranes near and on the DMZ. The group, made up of about 12 Koreans and non-Koreans, was successful in influencing the South Korean Government to set aside a 3500 square kilometer mudflat as a permanent sanctuary for cranes. This winter, the group evolved into the Korean Council for Bird Preservation and expanded their interests to other

rare birds including ibises, storks, and woodpeckers. They also became involved in a public education effort to convince the Korean people to preserve the last wildlife treasurers left on the peninsula.

Much remains unfinished. We hope that the Korean Government will grant ICF permission to capture the last pair of ibises for captive propagation at the famous Jersey Zoo in England where other species of ibises have bred. We also hope that the Chorwon Valley will be declared a national monument so that future generations of Koreans, as well as foreign visitors like myself, will have an opportunity to see these magnificent birds on their wintering grounds along the DMZ.

New Faces . . .

(Continued from page 1)

in our propagation program under his careful watch.

John is married and has a small daughter and son, which also is some indication of a successful propagation technique.

John Weissinger joined our staff in early March, 1978, and coordinates our tour and classroom programs. He holds a bachelor degree from the University of Florida in Miami and a masters degree in environmental education at Cornell University in New York. For his master's degree, John analyzed the public's response to the reintroduction of the peregrine falcon to the eastern U. S., a topic which is of great interest to ICF since we have also initiated programs for reintroducing endangered birds.



John Weissinger

John has recently developed several talks on birds, cranes, and the environment which ICF is now offering to grade schools and high schools in the surrounding counties. On some of these programs, he will be accompanied by a small female Sandhill named Al, who is tame, gentle, and very fond of people. Al and John should make a good team.

When not accompanied by small female cranes, is seen in company with his wife, Diane, who is soon to receive her own master's degree from Cornell.

ICF welcomes its new employees and predicts that their presence will serve to make our organization a more effective vehicle for crane and wetland conservation.

Rivard, Oral Robbins, Frank Roznik, Alan Ruppelt, Candyce Ruppelt, Jerome Saeman, Sauk County Farmers Union Co-op Supply Co., Scherschel Camera Shop, Rosemary Schindler, Norbert Schmitz, Fay Schoeneman, Jesse Scholl, W. L. Schultz, Werner Schumann, Sharon Schwab, Lorne Scott, Walter Scott, Lucia Severinghaus, Sheldon Severinghaus, L. A. Shelton, Mary Shephard, John Sherman, Arthur Singer, Stan Skutek, Michael Smith, Marilyn Stoup, Clara Sodka, John Sorce, Walter Spofford, John Squier, Donald Squires, Martin Stabb, Mrs. Richard Stanley, Walter Stein, Setinman Lumber Co., St. Louis Zoo, Janet Stockhausen, Joel Stone, Toby Styles, Robert Sundell, Elizabeth Swab, Phoebe Swazey;

William Taylor, James Tennant, Frank Terbitcox, Esther Tesnow, Peter Thomas, John Thompson, H. W. Thornburg, John Tibbitts, John Tokaruk, Alan Tracy, Robert Tracy, Duncan Tremaine, Glenn Trewartha, Bill Unger, Lloyd Ure, Otto Uehara, Beverly Vaninger, Raymond VanKlyen, Joseph Vilas, Harry Vogts, Martin Voss, Walter Washburn, Patt Watner, Mark Weldon, Wallace Wendt, David Wenner, Jr., Candace Westrich, Philip Whitford, P. Wickel, Judy Williams, Nash Williams, Wisconsin School for Visually Handicapped, Eugene Woehler, Sandra Wolens, Kenneth Wood, Scott Wood, Ellen Worzala, V. Crane Wright, O. B. Wynn, Brian Yandell, M. G. Yazer, F. Chandler Young, James Young, J. O. Young, Edward Zieve, Theodore Zillman.

LABOR AND MATERIALS

Howard Ahrensmeier, Harold & Margaret Allen, Elizabeth Anderson, Harold Bessac, First National Bank Chicago, Jim Harris, Forrest Hartmann, Steve Kerr, Cilla Kimberly, Flo Lueders, Charles Luthin, Helen & Herb Malzacher, Dorothy Mudd, Lynn Mueller, Akira Okazaki-JAL, Lisi Ott, Eleanor Parson, Portage Industries Corporation, Sauk Prairie Star, Steve Schmidt, Raisa Scriabine, Gerald & Gladys Scott, Soil Test, Sixth Grade East School Baraboo, Lucille Thompson, Marvin Waterfeldt, Forrest Zantow, Everyone who contributed Christmas Trees!