



THE ICF BUGLE

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World Center for the Study and Preservation of Cranes

Conservation for People at Cao Hai Nature Reserve

by Jim Harris,
Deputy Director

The waters of Cao Hai Nature Reserve reflected sunset, purple clouds, and hills circling all around, the timeless passing of days and seasons. The cranes flocked at the lake's edge, their harsh cries equally timeless, and a farmer steered his cow-drawn plow over sloping fields. Yet this quietness of evening in southwestern China masked the interplay of drastic change for wetlands and hills, cranes and people. Because of this history of change, the International Crane Foundation (ICF) has developed a project here that explores ways to integrate people and conservation for nature reserves in China.

Cao Hai means "Sea of Grass," after its abundant wetland vegetation, and lies in China's southwestern Guizhou Province at 7,125 feet elevation. The lake is one of the most important wintering areas for the endangered Black-necked Crane. About 400 Black-necked Cranes winter at Cao Hai, along with a thousand Eurasian Cranes, thousands of Bar-headed Geese, and tens of thousands of other waterbirds. Cao Hai is internationally important for its wintering waterbirds. The relatively small size of Cao Hai and its watershed make it an ideal place for developing solutions to the struggles over resource use and protection that threaten wetlands throughout China. The two dozen magnificent reserves, established in China for wetlands and cranes, cannot survive without support and involvement of local people.

At Cao Hai, heavy use of wetland resources has caused increasingly severe ecological damage, resulting in the current crisis be-

tween the nature reserve and human communities. The lake was partly drained in 1958, to expand cropland for a growing human population, and entirely drained in 1971. Abundant wildlife and a rich fishery vanished. But the new farmland gave scant harvest, with most land too wet or too dry. Wind blew the dry soils, and pests ravaged crops.

These unforeseen troubles so shocked the people that the government built a dam to restore the lake in 1982. When cranes and many other birds returned, the Guizhou Environmental Protection Bureau, together with Weining County, created the nature reserve in 1985.

During these decades, the hills were stripped of their forests until mere patches remained. Then the villagers sent sheep and

goats grazing upon the hillsides. Even as grasses thinned and rains tore gullies in the soil, the people could not afford to give the land rest.

In the 1980s, the farmers gradually converted wetland edges of Cao Hai to cropland by digging ditches and heaping soil upon the ground between. These low fields might flood during summer rains, but the farmers felt they had no alternative. As wetland areas shrank, cranes and geese increasingly foraged on croplands. Farmers complained that the birds destroyed vegetables and potatoes.

This most recent destruction of wetlands occurred within the nature reserve, but the reserve had no effective way to stop the farmers. Reserve managers realized that they needed to increase wetland areas as habitat for cranes. In 1991, the reserve gained con-

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Rural communities bordering Cao Hai, and most other wetlands in Asia, are struggling to improve their livelihoods. Conservation at Cao Hai must focus on the hopes and future of the people. Without better alternatives, people cannot avoid damage to wetlands, watersheds and, ultimately, themselves as they solve their short-term needs. Photo by Jim Harris.

An Ancient Landscape Faces New Challenges

by Curt Meine,
Coordinator, Crane Action Plan

At day's end, two dozen of us worked our way through olive and almond trees to the base of a bluff near the hamlet of Almorchón in southwestern Spain. Our hosts led us up the steep face of the bluff toward the ruins of a 9th-century Moorish fortress. For the Moors, the site served as a strategic post between the hills of Córdoba to the south and a large grassy plain (known as "La Serena") to the north. Medieval Christians inherited the fortress and transformed it into a monastery. For our modern visitors, mostly members of the European Crane Working Group, the ruins offered a commanding view of a valley through which wintering Eurasian Cranes passed between their daytime feeding areas and their evening roosts.

As the sun fell toward the Portuguese border, we stationed ourselves among the ancient battlements, with binoculars, cameras, and notebooks at the ready. First came the calls from the hills behind us, faint at first, then swelling with the cranes' approach. Finally the flocks emerged out of the dusky background into the sunset, swept through the valley, and disappeared into the broad interior of La Serena.

People and cranes have shared Iberia's woodlands, wetlands, and skies for millennia. Long before even the Moors and monks lived here, prehistoric cave dwellers painted Eurasian Cranes on cave walls. Today, the Spanish region of Extremadura boasts some of Europe's wildest landscapes, and provides a haven for Great Bustards, Golden Eagles, Griffon Vultures, and other rare species. From October to March, it is home to the cranes that breed in Scandinavia, Germany, and Poland. It was an appropriate site, then, for January's meeting of the European Crane Working Group.

Grus grus in Europe

Although the Eurasian Crane is not among the world's threatened crane species, its status and fate in Europe—and especially in Extremadura—raise issues of global importance for conservation. These issues revolve around the question of whether the age-old coexistence of cranes and people can continue in the face of rapidly changing economies, land uses, and landscapes.

With an estimated global population between 150,000 and 250,000, the Eurasian Crane is the third most abundant of the world's crane species, after the Sandhill and Demoiselle. Its breeding range stretches across the Eurasian landmass from Scandinavia to eastern Russia, while its wintering

grounds are found in the Iberian Peninsula and Morocco, northern and eastern Africa, the Middle East, India, and China.

Across much of its historic range, the Eurasian Crane continues to flourish. Europe, however, is the main exception. Cranes were extirpated from the British Isles in the mid-1600s. Since then, the species has steadily withdrawn along the edges of its range in southern Europe due to hunting, loss of wetlands, and other pressures from expanding human populations. Cranes last bred in Italy, France, Bulgaria, and Slovakia in the late 1800s. In the 20th century, one country after another lost its breeding populations: Austria (1900), Hungary (1952), Spain (1954), Yugoslavia (1965), Greece (1968), and Romania (1969).

Today, Europe's cranes breed only in the northern countries—Norway, Sweden, Finland, Russia, Estonia, Latvia, Lithuania, eastern Poland, and northern Germany—with occasional or scattered nestings in Denmark, France, and England. Especially in the Scandinavian countries, the cranes still find the large, isolated wetlands they prefer. In other areas, however, they are adapting to the presence of people, and increasingly use smaller natural wetlands, as well as artificial and restored habitats.

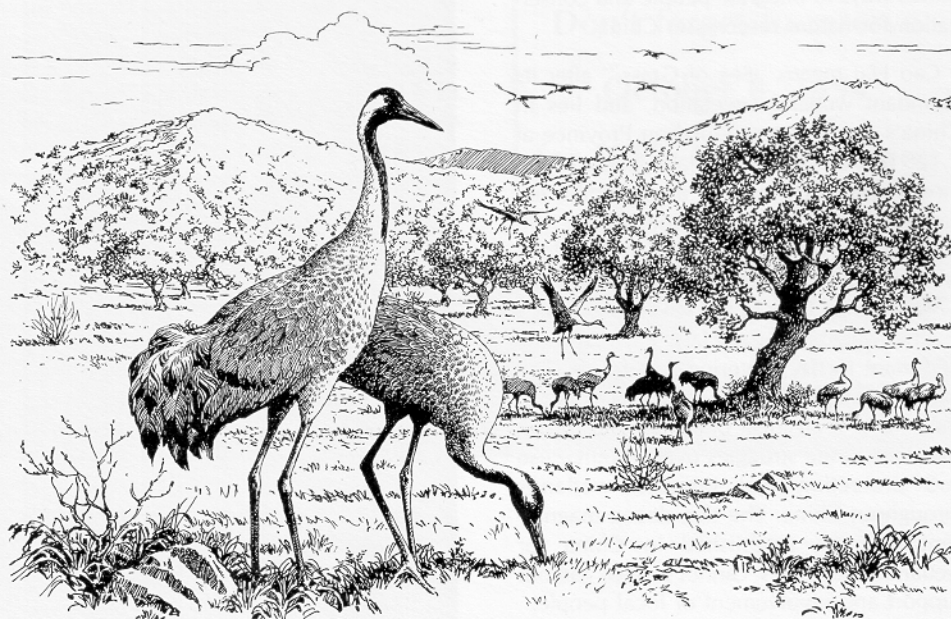
During migration, Europe's cranes split into two main wintering populations, each of which is believed to number more than 60,000 (see map). Those from the more western breeding areas migrate through Germany, Belgium, and France. Some overwinter in southwestern France, but most cross the Pyrenees into Spain, pausing at Laguna de Gallocanta, a critical migration

stopover point northwest of Madrid. From there they scatter to their wintering grounds. Some go as far as Morocco, and others spill over into Portugal, but about 75% of the western population—between 50,000 and 55,000 cranes—settle into Extremadura's open woodlands, steppes, and wetlands.

Over the last several decades, intensive conservation work has stopped the centuries-long decline of Europe's crane populations. However, many threats remain. The northern wetlands in Scandinavia and eastern Europe where they breed, although relatively isolated, are still subject to degradation. Important resting areas along their migration routes, especially wet meadows and smaller wetlands, have been lost as the scale of European agriculture has increased. Habitat loss, in turn, has concentrated the flocks, increasing the risk of crop damage. In Eastern Europe and the Balkans, political and economic instability hinders cooperative conservation efforts, while changing land use may increase pressures on vital crane habitats. Finally, changes in traditional agricultural practices—especially in Extremadura—are altering the conditions under which cranes and people have coexisted for so long.

The dehesas of Extremadura

Extremadura's cranes belong to a unique type of ecosystem. The landscape in Extremadura and neighboring portions of Portugal is dominated by what appear to be natural savannahs—great expanses of tawny grassland dotted by evergreen oaks. But in the Mediterranean, where natural woodlands were long ago altered (or even completely eliminated) by human beings, the distinction



The semi-natural "dehesas" of southwestern Spain and Portugal host 50,000-55,000 Eurasian Cranes during the winter. For centuries, these open landscapes have provided safety and food for cranes, plus a variety of products for humans. But now, with economic pressures from a more integrated Europe, dehesas are being converted to more intensive agricultural systems. Illustration by Victor Bakhtin.

between natural and man-made landscapes is not so easily drawn. These semi-natural oak savannahs, known as "dehesas" (day-há-yus), are in fact the product of centuries of intensive human use of the land.

The dehesas are a type of agroforestry system that combines the raising of crops, trees, and livestock on the same land. Such systems are increasingly encouraged and promoted in developing countries due to their social, economic, and environmental benefits. Extremadura's dehesas have the distinction of being the only widespread agroforestry system still in use in Europe.

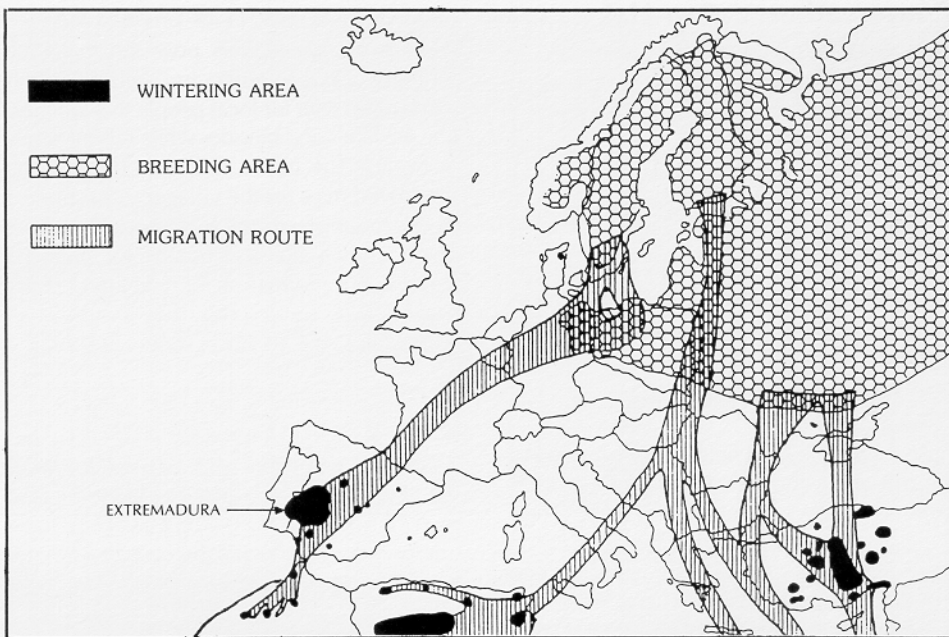
Evergreen oaks, principally the holm oak *Quercus rotundifolia*, are the dominant trees of the dehesas. Although modest in size compared, for example, to the massive oaks of eastern North America, oaks of the dehesas are in fact hundreds of years old, a consequence of their slow growth.

For the local farmers and herdsman, the dehesas provide multiple benefits. Oak acorns are an important food for pigs, which are turned into premium Iberian hams. Oak limbs are sometimes trimmed for fuelwood and charcoal. The bark of the cork oak, which also occurs in the dehesas, provides high quality cork. Once every several years, the land between the trees is plowed and planted to grains or forage grasses. Sheep, goats, horses, and cattle also graze the dehesas.

In the dehesas, cranes find food in abundance—acorns, bulbs, waste grains, invertebrates, other small animals—as well as the shallow wetlands and solitude they require. In early winter, they subsist almost entirely on the nutrient-rich acorns, breaking the shells with their bills and extracting the meat. As the acorn supply declines, they switch to other foods in the dehesas, and to grains and seedlings in agricultural fields.

On occasion, large flocks of cranes have caused crop damage, and crop depredation was an important topic of discussion during the Extremadura meeting. A variety of responses to the problem were proposed, including changes in agricultural policies to reward farmers who protect crane habitat, increased research, closer cooperation between farmers and conservationists, and special campaigns to promote traditional agricultural products.

Periodic grazing and plowing are needed to maintain the dehesas. In the absence of these activities, the acorns sprout and other woody vegetation takes hold. When the system loses its savannah-like character, it becomes less attractive for cranes. Ever wary of people and predators, the cranes need the



Europe's Eurasian Cranes split into two wintering populations, each numbering more than 60,000. The western group pauses during migration at Laguna de Gallocanta, then scatters as far as Morocco and Portugal. Most cranes, however, winter in the Extremadura region of southwestern Spain. Map reproduced with permission from *La Grulla Común en Extremadura*, by Grupo de Investigación de Conservación, Universidad de Extremadura.

open vistas that the dehesas provide, and are rarely found in overgrown areas.

The dehesas have proven to be economically and environmentally sustainable, providing food, fuel, forage, and wildlife habitat for generations. They are changing, however, under increasing pressures. In recent decades, many landowners have cut the ancient oaks to make way for more intensive land uses. Nuclear and hydroelectric power facilities, transmission lines, and other public utility projects have appropriated extensive portions of the dehesas. Large-scale irrigation schemes have transformed traditional agricultural practices, while diverting scarce water from the region's wetlands. An even more subtle threat is posed by the recent changes in European agricultural and economic policy, which may make it more difficult for the local farmers of the dehesas to survive economically.

Fortunately, Extremadura's cranes, other wildlife, and environment have strong supporters. Since 1978, a private organization in Spain called the Asociación Para la Defensa de la Naturaleza y los Recursos de Extremadura (ADENEX) has had as one of its principal goals the protection of the dehesas. Through education programs, the establishment of reserves, and active participation in the political process, ADENEX has focused attention on crane conservation, and has made the cranes a source of local concern and pride. With the support of Extremadura's Environmental Agency, ADENEX organized

the January meeting of the European Crane Working Group.

Toward a long-term strategy

The conservation of the dehesas in Extremadura is only one of the challenges that cranes and their defenders face within the highly developed European landscape. In a summary statement of their findings and recommendations, the members of the Working Group noted that many measures will be required in the coming years to ensure a safe future for Eurasian cranes and their habitats. These measures include: stronger legal protection for breeding, migration, and wintering habitats; habitat restoration, especially to provide alternative resting areas along migration routes; marking of utility lines to reduce accidental collision; new programs and policies to help balance the needs of farmers and cranes; better coordination of banding programs to improve our understanding of crane migration routes; and greater cooperation with colleagues working with Eurasian cranes in Eastern Europe, Africa, and Asia.

Such actions may allow cranes and people to coexist in Europe for millennia to come. While the historical decline of crane populations in western Europe reminds us of the need to remain vigilant, the recent stabilization of crane populations provides reassurance. Although wild things are vulnerable, they can recoup losses, if given the opportunity. The view from Extremadura's ancient ruins offers us that lesson, and that hope.

Conservation at Cao Hai

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control over the outlet dam for Cao Hai. They closed the dam, thus raising the lake level to drown many low-lying fields. Seldom, if ever, had a Chinese nature reserve taken such a strong step to preserve wildlife habitat. Aquatic plants gradually returned to these shallows of the Sea of Grass. By 1994, Black-necked Cranes waded through these shallows, probing for tubers. Ducks in flocks whirred overhead.

Human needs require response

When their lowest fields were returned to the fish and bulrushes, local families could no longer hope to expand crop areas. Their harvests, stored high under the roofs of the one-room homes, were insufficient to feed the families until spring. The government forgave farmers the tithe of crops each family must pay as tax, and even gave out free food. But the nasal honking of geese, and the cries and courtship of cranes strutting over land the farmers had labored for and lost, were bitter sounds.

The abortive drainage of Cao Hai had made local people sensitive to the dangers of changing the natural landscape. But it mattered little if people realized that nature reserve staff and their high lake levels were not the primary cause for diminishing resources—forests, grasses, soils and even shrinking fish harvests. The nature reserve had closed what seemed the best (or maybe only) option for people without business skills or capital, who had just their own hand labor. People did not know what to do. Farmers angrily turned to the nature reserve for solutions.

Reserve and provincial wildlife staff realized that conservation efforts at Cao Hai must focus on people as well as cranes. Returning the recently restored shallows back into cropland was no real solution, because the damp soils produced marginal crops. The people needed long-term solutions. The wildlife-human conflict was not the issue—the fundamental problem had been a gradual destruction of productive ecosystems, the natural basis for supporting any life, human or crane.

ICF develops Cao Hai project

In January, 1994, Cao Hai Nature Reserve, Guizhou Environmental Protection Bureau, ICF, and the Trickle Up Program (a poverty alleviation organization from New York) reached agreement on a three-year program. Our activities at Cao Hai attempt to change two key relationships—between the reserve and the local people, and between the people and the land. In the past, the reserve had

followed a narrow, crane oriented mission. Nature reserve leaders now see that their primary task is to guide and assist the types of development for local people that will heal the wetlands and hillsides while raising family incomes. The future of cranes depends on improved lives for the villagers. Our project seeks to empower the local people, to give them knowledge and means for pursuing sustainable alternatives for development. By right and by self interest, they are the chief custodians of Cao Hai's waters and hills.

A crucial first step involves collaboration with the Trickle Up Program (TUP). TUP has followed a strategy of self-help for poor communities in 108 countries, based on field experience demonstrating that the people themselves can provide the best direction for business development.

TUP provides conditional grants of \$100 to groups of three or more people, often families, who select their own businesses. To receive the first payment of \$50, each group prepares a business plan, agrees to invest at least 1,000 hours of labor over the next three months, and agrees to reinvest or save at least 20% of business profits. After three months, each group fills out a business report; provided the grant conditions have been followed, the group receives a second \$50. While TUP's small grants are significant, equally important are the training and confidence that group members acquire while developing their business plans and reports.

Cao Hai is the first place where TUP has

participated in a concerted effort to link poverty alleviation with conservation. Our project requires that business activities be compatible with conservation needs for Cao Hai and its watershed. For example, raising pigs is suitable but not raising ducks, as domestic ducks compete with wild birds in the wetlands and expose cranes to disease.

Problems for the people are urgent at Cao Hai. TUP grants provide immediate assistance for the farmers. TUP's guidelines and clear expectations are now helping to develop cooperative relations between the reserve and farmers, a delicate process given past distrust. The first 12 TUP grants were given in fall, 1993, arousing strong interest in the villages, and another 20 grants will be awarded this spring. If the project proceeds as intended, TUP plans to provide a total of 400 grants from 1994 to 1996. These grants will be administered by Director Chen Zhende of Cao Hai Nature Reserve, his staff, and staff of cooperating local agencies.

Process and change for Cao Hai

As each village gains experience from the TUP grants, ICF and Chinese conservation agencies will be contributing funds to create a Community Trust Fund for that village. Once a village's fund exceeds \$2,000, a village committee will invest its Community Trust Funds in small business activities, involving individual farmers or the village as a whole. These will be longer-term projects than TUP's three-month grants, but recipients will be returning money to the Community Trust Fund so that new grants can be awarded



Black-necked Cranes at Cao Hai live in the narrow space between deep water and the villages. ICF and nature reserve staff will be monitoring crane behavior. Our hope is that restoration of Cao Hai's wetland edges will mean that cranes and waterfowl cause less damage to local crops.

to others. TUP business groups will also contribute money for establishing these funds, so that the farmers have a personal stake in project outcomes. We hope that the Community Trust Funds will be a permanent resource for their villages.

The nature reserve will not control the Trust Funds, but will provide technical help to business groups. ICF is working with the nature reserve to revise and elaborate its management plan so that it provides clear guidelines for economic strategies that avoid damage to the resource base—the one requirement for trust fund grants.

Our project attempts to create a process where villagers work actively with nature reserve staff to pick development options for Cao Hai and its people, where farmers see direct benefits to conserving lands and waters, and where wildlife have a secure home. Such a process requires everyone to learn new roles, and to unlearn the old ways of conflict. We look for gradual change, with new relationships the result rather than starting point for our project.

The Cao Hai project has received financial support from Trickle Up Program, the National Wildlife Federation, the John D. and Catherine T. MacArthur Foundation, the University of Wisconsin, Clark University, Mr. Jack Puelicher, and other ICF members. A grant from the Liz Claiborne and Art Ortenberg Foundation provides major support over the next three years. The Rural Development Research Center in Kunming, China is providing guidance in rural assessment and public participation techniques.

Our community work is strengthened by three concurrent activities supervised by ICF's Director of Field Ecology, Jeb Barzen. Field studies of Black-necked Cranes and their habitats will determine what cranes need and their response to changing human activities. Geographical Information Systems (GIS) will be used to compile and analyze watershed and wetland data as a basis for management planning. Community forestry efforts aim at healing upland portions of the watershed by involving farmers in the process and profits of reforestation. Three graduate students—Li Fengshan, Zhang Bingcai, Stephen Young—are taking lead roles in these activities.

Issues of resource abuse, public participation, and watershed planning threaten many of China's nature reserves. We hope the process and lessons from the relatively small Cao Hai can influence how managers work with resources and local people at other wetland reserves. We plan to hold an evaluation workshop at Cao Hai in 1996, and develop further steps for community based conservation in China.



Abigail Avery worked twice with ICF in Vietnam, where she tramped over the wetlands and talked about conservation to local people. Abbie had a slogan she loved: "I want to live till I die." We can all take comfort that her wish was granted. Her example challenges each of us to do the same.

Abigail Avery

by George Archibald, Director

Having celebrated a weekend of Christmas festivities with friends and family, Abigail Avery peacefully passed away on Tuesday, December 21, after suffering a massive stroke that morning as she prepared for another full day. She was active and involved to the last day of her 81 years.

Abbie became a member of the ICF "family" in 1979, when her husband, Stuart, joined our Board of Trustees. New Englanders with a passion for conservation, the Averys came out to Wisconsin three times a year to spend time with ICF staff and to participate in the meetings of our Trustees. They cherished the concept of "one world," and considered crane conservation, with its contributions to international cooperation, as a way to transcend barriers between people worldwide.

When Stuart died in 1984, Abbie took his seat on the Board of Trustees. Abbie loved adventure, and so less than a year later, she joined me on an expedition to China. ICF had just received news that the wintering grounds of the world's most endangered crane, the Siberian Crane, had been discovered at Poyang Lake in the Yangtze lowlands. Several hundred birds were reported, a count that matched surveys from northern Siberia where these enormous white cranes rear their young during the brief Arctic summer.

On our first day at Poyang Lake, Abbie was by my side as we led a group of 40 American volunteers and Chinese colleagues through

the dense fog and mud in quest of the elusive cranes. At midday, we heard their distant calls. A steep, grass-covered peninsula separated us from their voices. On hands and knees, the entire entourage crawled up the hill, then looked down to the mud flats on the other side.

As the late morning sun cut through the fog, we were astounded to see more Siberian Cranes than I had ever imagined! It was one of the most thrilling sights of my life. Abbie was so overwhelmed she burst into tears. But tears were temporary, and soon she helped in the count which tallied 1350 birds.

That night, two Chinese reporters asked Abbie why she cried when she saw the cranes. "Because of the beauty of the scene, I wished that Stuart also could drink it in, and because I was happy there were so many cranes."

For thousands of years, elderly people and cranes have been revered in China. The elders represent wisdom, while the cranes are symbols of good luck. This remarkable discovery of so many cranes, along with the participation of a senior lady from Boston—who came halfway around the world to walk for hours through fog and mud for cranes—deeply touched the Chinese. The next day, newspapers throughout China told the story. Perhaps Abbie's tears did more good for wetland conservation in China than all of our research.

Stuart and Abigail were committed to education. In their memory, we have established the Stuart and Abigail Avery Memorial Fund for Conservation Education.

Good News from Chinese Reserves

Human pressures on wild resources continue to intensify, especially in the Yangtze Basin of southern China. Effective management of resources within nature reserves is becoming more critical.

Poyang Lake supports the largest crane populations wintering in China, including 98% of the world's Siberian Cranes. A year ago, Poyang Lake Nature Reserve gained control over two of its most important wetlands, Dahu Chi and Sha Hu. Because the reserve staff retained ample water rather than draining Dahu Chi quickly for fish, large numbers of cranes visited—reserve staff counted 2,877 Siberian Cranes on December 6, 1993!

East Dongting Lake Nature Reserve has the only other wintering Siberian Cranes in China (38 this past winter). The reserve is undertaking a substantial habitat improvement project within its core zone. Small dikes will impound waters in three pools (1,300 hectares total). During the winter dry season, water gates will slowly release the water and create shallows suited for water birds. A monitoring station will restrict human entrance, and staff will document changes in wetlands and wintering birds. Wetlands in the middle Yangtze Basin have already been heavily modified by centuries of human use, and East Dongting's project may serve as a prototype for measures increasingly necessary in the future.

Contributions Needed for China Program

We enclose an envelope so that *Bugle* readers can donate directly to our China field work. Even small donations are significant in supporting equipment purchase, local travel of Chinese researchers, and public education. Funds are urgently needed.

THE ICF BUGLE is the quarterly newsletter for members of the International Crane Foundation (ICF). Articles review ICF programs as well as crane research around the world.

Co-Founders: George Archibald
Ron Sauey
Editor: David Thompson

ICF offers memberships at the following annual rates:

Individual	\$20	Foreign	\$25
Family	\$30	Sponsor	\$500
Associate	\$100	Patron	\$1,000

Enjoy Summer Workshops at ICF

ICF will be open daily from May 1 through October 31, from 9:00 a.m. to 5:00 p.m. Guided tours are given at 10, 1, and 3—daily from Memorial Day through Labor Day, and on weekends in May and after Labor Day.

Once Again, we are offering "Special Saturday" workshops at ICF every other week during July, August, and September. There are some old favorites, plus new offerings. The timing of workshops from 11-1 and 2-4 allows you to take a tour at 10:00 a.m., enjoy two workshops, and in between, lunch in our picnic area from 1:00-2:00 p.m.

Special Saturdays are an ideal time for members to visit. We're looking forward to meeting you! Workshops for the public at ICF's Baraboo site cost \$6 for non-members (free for ICF members). This fee includes admission to the site. Advance registration is required, but pay at the door. Contact Rose Blada, 608/356-9462. Instructors are ICF staff unless otherwise noted.

A golf cart is now available for visitors who need assistance getting around. Please call ICF to reserve the golf cart.

Discovering the Father of Wildlife Ecology
Visit Aldo Leopold's summer cabin ("the shack"), hear readings from his works, and learn about his life and teachings from the author of the acclaimed biography of Leopold. **When:** Saturday, 11 a.m.-1 p.m., July 9. **Instructor:** Curt Meine.

How Cranes Work

See birds in a new light! Examine skeletons and feathers, consider flight and migration, study anatomy and behavior, all in layman's terms. **When:** Saturday, 2-4 p.m., July 9.

People in the Prairie

View prairies through the eyes of a "sodbusting" farmer in the 1930s, and learn the folklore of European plants. **When:** Saturday, 11 a.m.-1 p.m., July 23. **Instructor:** Wayne Pauly.

Ethnobotany of Wisconsin

Examine plants to learn how Wisconsin's original inhabitants used them for food, fiber, and medicine. **When:** Saturday, 2-4 p.m., July 23. **Instructor:** Lee Olson. **Special Instructions:** Be prepared to go outside in any weather.

Pairing Cranes

Learn about how cranes are paired, see the video system for monitoring behavior, and hear stories from their lives. **When:** Saturday, 11 a.m.-1 p.m., August 6.

What's Hatching at ICF

A hands-on, behind-the-scenes look at factors influencing eggs during incubation, and the methods ICF uses to hatch crane eggs. **When:** Saturday, 2-4 p.m., August 6.

Crane Communication

Birds have a simple system of signals based on calls and postures. Find out about crane personalities. **When:** Saturday 11 a.m.-1 p.m., August 20. **Instructor:** Scott Swengel.

Raising Crane Chicks

Different rearing techniques are used to raise chicks for a variety of purposes. Find out how the crane costume is used. **When:** Saturday, 2-4 p.m., August 20.

A Conversation with Soils

A classic that every environmental educator and teacher should see! An indoor presentation with music, poetry, and displays, followed by an outdoor walk to see landscapes and soils. **When:** Saturday, 11 a.m.-1 p.m., September 10. **Instructor:** Francis Hole.

Inside Crane City

A rare opportunity to tour ICF's breeding center with staff, meet some of our special birds, and learn about techniques. **When:** Saturday, 2-3:30 p.m., September 10 and 24.

Techniques of Radiotelemetry

Find out how biologists use radios to track cranes, and what they are learning about migration routes. Try your hand at tracking a "crane" through ICF's prairie. **When:** Saturday, 11 a.m.-1 p.m., September 24.

Field Trips

Exploring Fens and Bogs

Field trip to Vernon Marsh (a fen) and Beuleah Bog. Explore these unique wetland communities and look at endangered plants. **When:** Saturday, 9-12 a.m., September 10. **Instructor:** Don Reed. **Fee:** \$5/non-member, \$3/member. **Special Instructions:** Bring repellent. Prepare for feet wet to ankles. Directions upon registration.

Field Trip to Sandhill Wildlife Area

An evening program, tour of the refuge, and a morning view of crane flocks from blinds. **When:** Saturday-Sunday, October 15-16. **Where:** Sandhill Wildlife Area near Babcock. **Instructor:** Dick Thiel. **Fee:** \$30/non-member, \$25/member. **Special Instructions:** Meet Sat. at 2:00 p.m. at Sandhill. Bring tent, sleeping bag and warm clothes. Fee includes Saturday supper and Sunday breakfast.

Contributions

Received January through March, 1994



Lufthansa

ICF's Official Airline

Grants and Awards:

AMOCO Eurasia; R.L. Austin; Roger & Ann Avery; Susan Avery; Barnstable Water Co.; Thomas Benjamin; Robert Bishop; Eugenie Mayer Bolz Family Foundation; Lynde & Harry Bradley Foundation; Michael Bress; Chevron Co.; Victoria Shaw Cohen; Patrick & Anna Cudahy Fund; Kate Culver; John Day; Gordon & Debra Dietzman; Geraldine R. Dodge Foundation; Mrs. Gordon Donaldson; Tom & Barbara Donnelley; Susan Draxler; U.S. Environmental Protection Agency; Armand G. Erpf Fund; Sam Evans; Mary Fitzgerald; David & Alice Garrison; General Mills Foundation; Harold & Ann Ginke; Tom & Linda Heilman; The Jacob & Terese Hershey Foundation; Thomas & Janet Hoffmann; Eliot & Margaret Hubbard; Institute of Museum Services; ISAR (Institute for Soviet-American Relations); Thomas Jacob Foundation; Kikkoman Food Foundation; Herbert Kohl Charities; Arthur Kootz Foundation; Lands' End, Inc.; Robert Laura; Mark Lefebvre; John D. & Catherine T. MacArthur Foundation; David Mazsa; National Geographic Society; Oshkosh B'Gosh; Fred Ott; Tom Pffifner; Phase Co., Ltd.; William Piel; Kathy Prout; J.A. Puelicher; Norm Sauey, Jr.; Stanton & Lee; Mrs. John C. Stedman; Julie Stine; Dan Storey Foundation; Willis Sullivan, Jr.; The Greenstone Foundation; Hao C. & Dieb T.B. Tran; U.S. Fish & Wildlife Service; Wagons-lits Travel; Irvin Young Foundation.

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Sponsors: Jonathan & Rosemary Avery; Donald Bruckmann; Steve Bubulka; Barbara Crass & Paul Holzman; Derse Family Foundation; Genetics Computer Group; Victoria Krause Mayer; Mr. & Mrs. Charles Mowbray; Grace Roughton; R.G. & Marian Van Dellen; Francie Von Mertens; Winifred Woodmansee; Mary Wright.

Associates: Ad-Lit Distributing; Helen Adelt; James Akey; Albrecht Foundation; Aldo Leopold Audubon Society; Wilmer & Rita Anderson; Thomas Ashman; Paul & Ida Babington; Virginia Bacher; Bagels Forever; Betty Bamforth; Bill & Helen Barnes; Sally Baumgartner; Gerald Birth; Andria Blattner; Joan Bowman; Joyce Brink; Robert & Jean Brockman; Chris & Judy Budnick; Mary Jane Bumby; James Burgess; Carol J. Cameron & Russell Kumai; Emily B. Campbell; Gertrude Carter; Kent Chandler; Elizabeth Clarke;



ICF is experimenting with a new flight show to replace the chick walk. A Brolga male named Razz-am-taz, who hatched last spring, is being trained for this very important role. If Razz continues to be reliable and responsive, ICF visitors will be able to attend a flight show in the prairie daily at 11:45 a.m., starting Memorial Day. Here, ICF staff turn out for a dress rehearsal of the show. Photo by David Thompson.

Louise Coleman; Robert & Verne Crane; Frances Cumbee; Ronald Curio; Chase & Lynne Curtis; Diane Curtis; John & Susan Davenport; Gordon F. Day; Mario De Justo; Mike Dearing & Debi Morton; Rita Derezinski; Olivia Dodge; Gerri Doebelin; Marion Doherty; William & JoAnne Doppstadt; Scott Dryburgh; Barbara Elwood; Susan Emerich; John & Catherine Erskine; Kenneth Finkel & Jane Delzer; Dean Fitzgerald; Peter Frederick; Dave Gendler; Margaret Gettings; Mildred Gill; Dorothy Gosting; Beatrice Haemmerle; Mr. & Mrs. John Hands; Jack & Grace Harkness; Laurin & Patricia Healy; Mrs. Joseph Hickey; Paul Hickie; Hatsue Higa; Michael & Reva Holmes; Clare F. Hutson; Lt. Col. J.E. Jacoby; H. Fisk Johnson; Mrs. Rosemary Johnson; Barry & Jane Jones; Dr. Craig & Noreen Jordan; Bea Kabler; Mr. & Mrs. Walter Kasten, II; Jean Killingsworth; Anne Mary Klaprat; Joan Knoebel & Michael Cullenward; Norma J. Kolthoff; Harold & Teddy Kubly; Col. Edward Kurdziel; Lakeland Audubon Society; Melanie Maas; Helen Mackensen; Steve & Diane Mahler; Mr. & Mrs. Harold Malmberg; Pierre Manigault; Kate Marrs; Mrs. Richard Mason; Mabel Mc Clanahan; Susan McDonald; Mr. & Mrs. John Meeker; Glenna Miller; Bill & Emily Moore; F. Paul Mooring; Wendy Munroe; Prashant Nayak; Dorothy Nichols; Dr. & Mrs. E.J. Nordby; Mrs. Edward Notz; John Ochsner; Charlotte Oglesby; Carol Cecil Oleson; Diane Otis; Dr. Judith Patrick; Don & Connie Patterson; Audrey Pertl; Mary Ellen Peters; Dr. & Mrs. Philip Piper; Oliver Pittenger & Kathy Drazen; Charles Potter, Jr.; Frank Priebe, Jr.; George & Victoria Ranney; Birgit Rennehampff; Mr. & Mrs. Albert Ritchie; John

& Rita Robin; Gene & Rochelle Robkin; Harold Rock & Margaret Jahnke; Jay & Tracy Rothman; Charles Ruedebusch & Linda Flack; Don Ruzin; Leon & Lucy Sanna; Larry & Marilyn Sauey; Richard Schmitt; Fay Schoenemann; Alfred Schroeder; Mr. & Mrs. J.S. Shoemaker; Jim & Rose Sime; Randall Skiles; Natalie Soref; Don Spangenberg; Carol Steinhart; Rodney Stewart; Willis & Linda Sullivan; Dr. & Mrs. Stewart Taylor, Sr.; The 1st National Bank and Trust Co.; Virginia Thomas; Sally Tongren; Greg & Marla Turek; Dr. Harvey Turner; Lorraine Uihlein; William Van Evera; Masahiro Wada; Emily Wade; Margaret Wallace; William Webster; Mrs. A. Weinman; Mrs. Robert Weinstock; Dr. & Mrs. Wallace Wendt; Jack & Nancy Westman; J. Nash Williams; Carroll Winther; Wisconsin Metro Audubon Society; Verdetta Wolf; Richard S. Wolfe; Kazunori Yanagibayashi.

To Our Wisconsin Members

Due to a regrettable error, some of our members in Wisconsin received more than one membership appeal in March. If you did receive more than one mailing, please accept our apology for this inconvenience. The problem has been corrected, and will not happen again. We do wish to thank all who wrote bringing this matter to our attention. Thanks also to all members who renewed early—we appreciate your support and loyalty.

New Photography Exhibit in ICF's Library

Many consider the Red-crowned Crane to be the most beautiful crane, and Japanese photographers to be among the world's best. This year, these superlatives come together at ICF in the Ron Sauey Memorial Library for Bird Conservation, where visitors will have an opportunity to view 40 exquisite photographs of Red-crowned Cranes in the wilds of northern Japan.

The photographer, Masahiro Wada, lives near the wild cranes, where he manages a restaurant and guest house for tourists in the small village of Tsurui ("tsuru" is the Japanese word for crane). Winter is his busy season, when more than 200 cranes gather daily to be fed on farmlands near Tsurui. Thousands of tourists bundle up to see and photograph the cranes. Mr. Wada both attends to the visitors and joins the photographers in his ongoing project to capture on film the majesty of *Grus japonensis*.

The Wada exhibit is provided through the generosity of Mr. Wada and the Leigh Yawkey Woodson Art Museum of Wausau, which displayed the photographs this past winter, and is best known for its "Birds in Art" exhibition each September. The lower level of our library has been readied as a gallery. Here, in an air-conditioned environment during the hot days of Wisconsin summer, you can watch magnificent Red-crowned Cranes on the snow-covered fields of Hokkaido.

If you have moved, please send your new address to Linda at ICF. *The ICF Bugle* won't be forwarded from your old address.



With its stark black and white plumage and red crown, *Grus japonensis* is probably the most beautiful of all cranes. The bird's Hokkaido habitat is a land of snowy winters, steaming hot springs, and vast wetlands. Japanese photographer Masahiro Wada captures the beauty of both bird and habitat in an exhibition of 40 stunning photographs, now showing for the entire season at ICF in the library.

National Geographic Story on Siberians

Don't miss the May, 1994, issue of *National Geographic*, containing a story by George Archibald entitled "The Fading Call of the Siberian Crane." Here's an update.

Wild Siberian Cranes never arrived at India's Keoladeo National Park this winter. Nevertheless, Russian, Indian, and American colleagues made progress in observing how four new chicks adjusted to reintroduction, in learning to work together, and in studying Eurasian Cranes that may be used to show the migration route to reintroduced chicks in the future. Ten Siberian eggs were sent to Russia on May 2 to continue the reintroduction effort in Siberia.

VCR Player Needed

ICF needs a video playback machine (1/2" VHS) for use in previewing videos, showing new videos to ICF staff, and for staff training. Recently, when an instructor needed a VCR for a first aid workshop, staff had to "borrow" the machine used for recreational viewing in the Guest House. If you are upgrading your machine, send your used VCR to ICF!

Don't forget to reserve

October 8, 1994

for ICF's Annual Meeting

International Crane Foundation

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