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World Center for the Study and Preservation of Cranes

Cranes in a Crowded World

by Jim Harris, ICF Deputy Director and Julie Langenberg, ICF Veterinarian

On Ding Jia Shan, meaning sleeping dragon mountain, the gentle slopes have been terraced into a thousand rice paddies. Beside each village, voices of children and chickens mingle, and brown-white ducks waddle between houses and muddy ponds. This "mountain" is well worn, for here in the Yangtze River Basin of China, people have worked the land for thousands of years.

Therefore, one feels greatly surprised skirting one more village and scaling the small fences that keep pigs out of crops, to find the land dropping from a bluff edge. Shallow water stretches almost beyond sight, and thousands of cranes pace, drink, and dig in the Yangtze mud as if the world had not changed.

Fully half these cranes are white with red faces, Siberian Cranes. In 1980, scientists had thought only 300 survived. While their Siberian nest areas were known, the wintering cranes could not be found. For years, the Chinese had searched for this lost flock, finally finding many more birds than anyone had hoped. This lake beside Ding Jia Mountain is now protected within Poyang Lake Nature Reserve (PLNR). The Siberian Cranes come and go from PLNR, often moving to unprotected mudflats elsewhere along Poyang Lake. But from this bluff, up to 2,877 have been counted at once, 99% of the world population. They mingle with up to 3,000 White-naped Cranes, over 60% of the world population.

Today, people can witness larger crane flocks than ever before — despite the worldwide destruction of wetlands on such a vast scale that 11 of the 15 crane

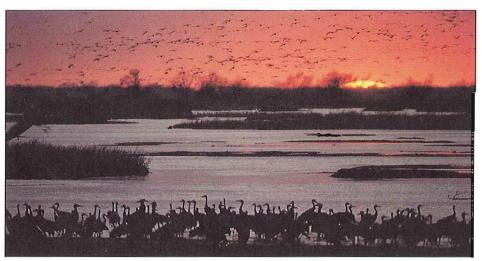
species are now threatened with extinction. But the giant flocks are crowded remnants, and vast surrounding landscapes have lost all cranes.

Away from Poyang Lake, there are perhaps only 20-30 Siberian Cranes alive in the wild. And the White-naped Cranes have only two other winter sites of importance: the Demilitarized Zone (DMZ) in Korea and Izumi in southern Japan. Izumi boasts up to 2,000 White-naped Cranes and a remarkable 8,000 Hooded Cranes. Both species have dark bodies and mostly white heads, so that the feeding flocks shine when vigilant and heads up, a brilliant carpet of elevated necks and wary eyes.

Why cranes gather

The great crane flocks are not simply the result of human destruction of wetlands and other crane habitats, a process that would force cranes together. Long before people crowded the world, cranes tended to gather in large numbers. Today, it is often difficult to separate the effects of habitat loss from the crane propensity to congregate during migration and winter.

Large flocks can only occur where food is abundant. Tubers of aquatic plants, on which so many cranes depend, often do grow in vast numbers. At Poyang Lake, Tram Chim in Vietnam, and other locations, many cranes tend to feed in single locations. After several days, the entire flock may shift to another location. But before this shift happens, small parties have been flying out from the main flock, dispersing and foraging in widely scattered locations. These flocking and dispersing behaviors may have strong survival value — with large numbers of



Flocking of cranes ia a natural behavior. Today's flocks have grown larger than ever, however, as human pressures have reduced wetland habitats available to cranes. These Sandhill Cranes roost on shallows of the Platte River in Nebraska each March. Management of this flock, and the world's other great flocks, has become more difficult in a world crowded by people. Photo by George Archibald.

Cranes in a Crowded World

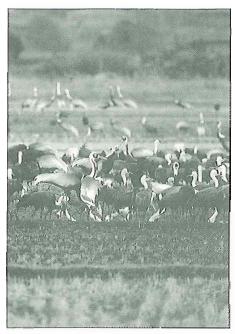
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cranes moving about, likelihood of finding other good feeding places is enhanced, and those birds finding abundant food are followed by the masses of other cranes. We have only begun to understand the dynamics of crane flocks.

Another advantage of feeding in flocks is that many eyes can detect the slightest danger. While a lone pair must divert much time from feeding to watch for enemies, members of a flock share this vigilance and feed with less interruption.

Crane flocks also have a critical social function. During intensive morning feedings, few social displays can be seen. But during afternoon loafing, the birds have pronounced bouts of threat posturing and unison calls. Some cranes will be dancing, a sweeping of wings and bobbing of heads, great leaps up into the wind and down. Flocking allows young birds to meet many possible mates before they scatter in pairs on the breeding areas.

Cranès are creatures of tradition. Young birds learn the resting and wintering places from their parents, generation by generation. Poor wintering sites will likely be abandoned, while locations with safe roosts and ample food will have the same cranes back another year, plus others on the move. Once the flocks found Izumi and farmers started feeding them (see August 1995 *ICF Bugle*), numbers of cranes steadily grew.



Hooded and White-naped Cranes, about 10,000 birds, winter on a tiny area in Izumi, Japan. Such concentrations heighten dangers of catastrophic disease.

Wetland loss curtails crane movements

Continuing habitat loss means that fewer places can support crane flocks, and the remaining flocks have fewer places for dispersal. Winter counts of cranes, that have yielded larger numbers over the past decade in China and Japan, do not mean crane populations are growing. These counts are in part symptoms of habitat loss.

Poyang Lake's cranes are a remarkable treasure. Yet if protection focuses on just PLNR, most other wetlands, still available nearby, may be lost; the natural tendencies for cranes to flock and disperse will be interrupted. Wetlands are dynamic systems. Their waters fluctuate month by month — Poyang Lake waters drop as much as 13 meters during the winter dry season, creating vast muddy shallows essential to Siberian Cranes. And water levels change between years, and between decades. PLNR's mud now holds great beds of Vallisneria and other tubers favored by cranes. But will such vegetation always be available, or will coming decacles force the cranes to move elsewhere? Now is the time, when China's economy grows so rapidly, that we must preserve other wetlands, varied in water depths and nutrients and plants. There will be no later chance.

Where no natural wetlands remain, crane feeding is the only approach possible. Cranes are maintained at a few wintering locations by artificial feeding. Hokkaido in northern Japan is famous for the winter feeding stations supported by farmers and school children. Because winter food was limiting for this non-migratory population of Red-crowned Cranes, feeding stations have allowed crane numbers to build from 30 in the 1950s to over 600 today. Without artificial feeding, such a population could never inhabit Hokkaido's chill wetlands.

Izumi is equally dramatic. Natural wetlands are not available; the 10,000 rare cranes roost on a tiny 4.5 hectare patch of paddyfield rented from the farmers. This great concentration depends almost entirely on artificial foods.

Across much of mainland Asia, however, there is still a chance to save numerous wetlands on the flyways and wintering grounds. Time is short. ICF has recently learned from Wang Qishan, of Anhui University in southern China, that Chongming Island near Shanghai has lost all of its wintering cranes. Development pressures have also greatly reduced cranes at nearby Xinglongsha.

Once the cranes retreat to just a few tiny points upon a continent, any break in the chain of wetlands can threaten an entire population. Korea, for example, is now of great concern. The last winter place for Hooded Cranes, at Taegu, suffers a spread of plastic covered greenhouses, for growing of winter vegetables.

ICF's George Archibald visited South Korea in February. The Han River Estuary, a national monument for the cranes near burgeoning Seoul, seems to have lost much of its habitat for White-naped Cranes, perhaps as a consequence of high tidal levels following construction of a highway and upstream dam.

Multi-lane highways now lead from Seoul to Choelwon Basin within the DMZ. George found several hundred Redcrowned Cranes wintering there, while over a thousand White-naped Cranes rest in this no-man's land on migration from Izumi. But local farmers do not like conservation. Land prices are immense, and if ever the peninsula is reunified, they want to sell their rice paddies as building sites. They merely emulate the financial success of many fellow farmers who already have sold land.

Crowding increases disease threat

When cranes come together in large numbers, disease risks grow. Bacteria and parasites, such as those causing avian tuberculosis, salmonellosis and coccidiosis, can build up in the environment when cranes are concentrated in small areas. Avian cholera, a highly infectious bacterial disease, has killed hundreds of Sandhill Cranes and other waterbirds congregated in wintering and migratory groups in Colorado, New Mexico, and Nebraska.

Artificial feeding concentrates the cranes, and also exposes them to close contact with diseases carried by other birds attracted by the free food. Feeding stations, such as at Izumi and or at Khichan in India, bring cranes close to farms and villages, thus increasing contact with domestic poultry. In the winter of 1986-87, close to 100 Common and Black-necked Cranes died at Caohai in China, from Newcastle virus spreading rapidly through chickens raised by farmers around the lake.

Artificial foods and the planting of lure crops themselves carry risks. Fungal toxins associated with moldy or old seed, such as corn and peanuts, have killed Sandhill Cranes in the United States and Sarus Cranes in India. If just one type of

grain is provided to prevent cranes from feeding in farmlands, nutritional deficiencies could result. Managers at Izumi seek to avoid this problem; late in winter, they supplement wheat with 400 kg per day of sardines and crabs freshly caught in the nearby ocean.

Can disease threats be controlled? Maybe, but only by dispersing concentrated groups of cranes when diseases occur, and using good hygiene, such as periodically relocating feeding stations, and monitoring the quality of the food provided. A more certain solution is long term protection of sufficient good habitat so that cranes are not increasingly forced into small areas. Where the flocks still move widely, as at Poyang Lake, disease risk is reduced.

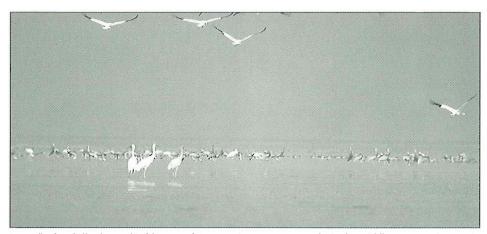
Managing the huge flocks

As the world tightens, crane havens become increasingly precious. Each site has unique problems that require original responses. Poyang Lake has immense challenges, as the attached sidebar indicates. At other sites such as Izumi, conflicts with local farmers require action.

Artificial feeding can be a valuable part of an overall strategy for species survival. Lure crops or feeding stations may help prevent damage to local crops, or elsewhere (as at Izumi) provide food where natural habitat is insufficient. Another benefit is the chance for people to get close to cranes. Inspiring people to act for cranes has immense importance. But only if visitors know the true needs of cranes and what actions are necessary.

Artificial feeding can be highly negative, however, if it distracts attention from efforts to preserve or restore natural habitats. A diverse array of wetlands is always much better for the long term than feeding stations. And artificial feeding does nothing for the extraordinary and threatened hosts of wildlife that share wetlands with cranes.

Those who witness the crane flocks—and especially the great world spectacles at Poyang Lake, the Platte River in Nebraska, or Izumi — discover an ancient creature's response to a crowded and changing world. At most such sites, natural cycles are so disrupted that humans must take an active role for the cranes. Our challenge is to rediscover old balances, or create new balances, linking cranes, the land, and people.



Large flocks of Siberian and White-naped Cranes winter at Poyang Lake in the middle Yangtze River Basin of China. More wetlands need to be protected here, and detailed ecological studies of the birds and wetlands are urgently needed. Otherwise management cannot address changes to the wetlands caused by Three Gorges Dam and other development projects. Photo by Sture Tranewig.

Key Challenges for Poyang Lake

Drought forced most cranes to leave Poyang Lake Nature Reserve (PLNR) this past winter. From 26-28 December 1995, Lu Jianjian from East China Normal University in Shanghai and a team from the Japanese Association of Wild Geese Protection visited PLNR. They could find only 160 Siberian, 450 White-naped, and 20 Hooded Cranes.

During winter 1992-93, another severe drought occurred, with wetlands of PLNR nearly dry. Thus the 1995-96 drought is the second in four years! In the earlier drought, ICF helped organize a search for cranes, and birds were discovered along the northern shores of Poyang Lake, far from PLNR. These areas receive no protection, except for efforts by the Jiangxi Nature Reserve Management Office to strengthen anti-hunting measures. Even within PLNR, poaching remains a problem; the situation outside can only be worse.

Low numbers of cranes at PLNR this past winter probably do not indicate real declines in these endangered species. As in 1992-93, it is likely the cranes have moved elsewhere to find suitable habitat because PLNR's wetlands are dry. But the drought does raise serious concerns about the effectiveness of PLNR. It is urgent that the Chinese government at all levels address these problems soon.

<u>First</u>, PLNR gained control of Dahu Chi and Sha Hu (2 key wetlands inside PLNR) during the earlier drought, in order to ensure that water could be managed for waterbirds. But last year, as usual, fishing villages drained the water to catch the fish, and the lakes were dry. What can be done to make sure this never happens again? Economic needs of local people must be met while PLNR guarantees sufficient water for the birds.

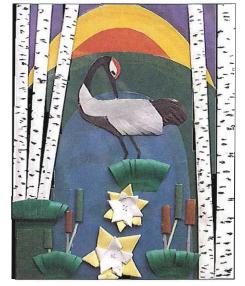
<u>Second</u>, the frequent movement of cranes outside the reserve indicates that PLNR's wetlands are not sufficient as a wintering home for these great flocks, nor for geese and many other birds. Much larger wetland areas need to be safeguarded, and protected from poaching, if the cranes are to survive over the long term. The provincial government's plans to establish new nature reserves, or expand PLNR, must be an urgent priority.

Third, hydro-development projects (such as Three Gorges Dam and projects proposed for the five rivers feeding into Poyang Lake) are likely to cause changes in water flows, nutrients, vegetation, and thus suitability of wetlands for cranes. Careful ecological studies of the wetlands are needed urgently as a basis for conservation in the Yangtze Basin. Otherwise, gradual changes to PLNR may make its wetlands much less suitable for cranes in the future. This research will allow PLNR to design effective responses to the negative impacts of hydro projects or of drought.

China's Ministry of Forestry has an opportunity to address these issues under the Global Environmental Facility (GEF) grant, received through United Nations Development Programme and World Bank, to strengthen China's nature reserves. The project includes substantial funds for PLNR, with an emphasis on management planning. It is critical that PLNR's serious shortcomings be addressed, and that China use its available conservation funds to work toward solutions. The international community should join in these efforts, as the fate of Poyang Lake's waterbirds will ripple across half a continent.









Crane, the Bird of Peace

by Rochelle Robkin

Artwork by children of the Amur Region of the Russian Far East

Last year, Russia's "Amur-Batyushka" Center for Environmental Education, in cooperation with the Amur Program of the Socio-Ecological Union (SEU) initiated the Crane, the Bird of Peace project. The idea was to bring attention to cranes, and the importance of preserving their habitats to the people of the Amur region of Russia, where five species of cranes live. The project was conceived as a contest of crane art — encouraging children and families throughout the entire region to participate.

The response was impressive. Over a thousand works were submitted: wood carvings, classroom collages, paintings, small crochetted crane sculptures and poems. Whole families were involved. The winners of the contest were treated to a week at camp at Khinganski Nature Preserve. As the exhibit travelled throughout the region, exhibit openings were festive occasions for official speeches, crane dances, poem recitations and songs by children.

Teachers from Wisconsin, working under the auspices of the International Crane Foundation (ICF) and the SEU were guests at the opening at Tambovka. The idea of shipping the Russian art to Wisconsin to share with other Wisconsin teachers and their classrooms was intriguing. *Crane, the Bird of Peace* became an international exhibit of student art, celebrating cranes and their habitiat, when two Russian educators

brought the work to Wisconsin schools and teachers conventions last fall.

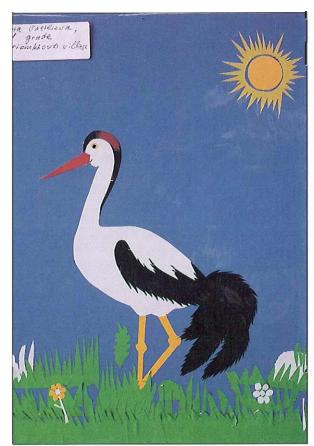
American youth and adults were impressed with the quality of the Russian art. They were inspired and challenged to do their own best art work using the cranes and wetlands theme. By exchanging art expressions, the kids gain an understanding of their cultures and insight into similar environmental issues facing children living half of a world away.

Rural Wisconsin people are familiar with the Sandhill Cranes that come to the state every spring to nest and rear their young. In addition, many school groups visit ICF in Baraboo, where they can see all 15 species of cranes on display.

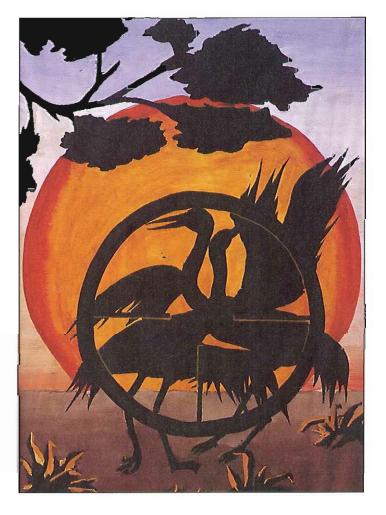
Crane, the Bird of Peace grew out of other environment-crane art exchanges connected with ICF's international conservation education projects. It will culminate in an exhibit that will tour Wisconsin in the the fall of 1996, including children's art from Russia, the United States, Japan, and perhaps China and Korea.

Expressing feelings about cranes through art involves youth directly and validates their skills, knowledge and expression. Exhibiting the work, sending it across the world with other admirable art, gives kids a strong message about the power of art to teach and affect positive change.









Contributions

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Faqir Abdul Khaliq, President of the Crane Hunters Association Lakki Marwat, speaks with children at Neenah Creek Grade School in Briggsville, WI. Mr. Faqir spent two weeks with ICF staff in March, receiving aviculture training, visiting the Platte River, and meeting with crane and waterfowl conservationists in both Nebraska and Wisconsin. His visit was sponsored through a grant from the Lynde and Harry Bradley Foundation of Milwaukee.

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1996 ICF Crane Breeding Season Update

by Scott Swengel, ICF Assistant Curator

This year we hope to get some new pairs of Whooping and Siberian Cranes laying eggs. During March and April we dug 20' diameter ponds in the pens of seven young pairs of Whoopers, in hopes that this aquatic habitat would stimulate them to breed. We battled frozen ground to get this done before the cranes' prime egg-laying period. The usual breeding pairs of Whooping Cranes had already produced 11 fertile eggs by April 25. Several eggs laid since then could add to this total. New laying pairs start later in the year than experienced pairs, so in May we'll be hoping for eggs from some younger pairs.

Most of the 1996 Whooper chicks will be released in Florida this fall. Although several experienced pairs will be raising chicks, the majority of chicks will be isolation-reared using nearby adult cranes and costumed humans to teach them the ropes. The first Whooper chick hatched on April 26.

On April 13 "Lance," whom ICF acquired from Vogelpark Walsrode, became the youngest Siberian Crane to lay an egg in captivity. She was 3 years, 10 months old—one month younger than our previous record holder, named "Oka!" Oka hatched our first chick of the year on April 25, and will be raising it with her mate "Dushenka." A second Siberian hatched April 26 and is being parent-raised by "Dr. Saab" and "Eduard."

We are excited to have two Hooded Crane chicks at ICF this year, the first since 1979. They were hatched from the eggs laid by our female at the Johnson Exhibit Pod. The first Hooded chick hatched on April 27. Later the same day it took its first trip into the Chick Exercise Yard. The second chick hatched April 29.

Our old Wattled Crane pair "Chaka" and "Nandi" hatched a chick May 10, and will be raising it in Crane City. ■

African Workshop Proceedings Published

by Rich Beilfuss, Wetland Ecologist

The "Spirit of Maun" lives on in the recent ICF publication, *Proceedings of the African Crane and Wetland Training Workshop*. The workshop, held in Maun, Botswana, brought together more than 100 delegates from nineteen African nations, Saudi Arabia, Japan, Europe, and North America to:

- teach each other how to study and protect Africa's cranes and wetlands;
- write a Crane and Wetland Action Plan for every country represented at the workshop;
- strengthen Africa's regional working groups on cranes and wetlands;
- create new working groups and alliances in northern and southern Africa;
- help develop funding stategies for African research and conservation projects involving cranes and wetlands; and
- build bonds of trust and friendship that would strengthen the drive to conserve nature throughout Africa.

The *Proceedings* is a coflection of ninety-seven papers describing the ecology and conservation of cranes, wetlands, and grasslands in 30 African nations. In addition to papers presented at the workshop, select papers are also included from the Conference on the Black Crowned Crane and its Wetland Habitats in West and Central Africa held in Nigeria, as well as recent updates from ongoing field research and conservation projects. Many of the great wetland systems of Africa are highlighted, including the Okavango Delta in Botswana, Zambezi Delta in Mozambique, Kafue Flats and Bangweulu Basin in Zambia, the Lake Chad Basin in West Africa, and the Sudd of the Upper Nile River.

Featured in the *Proceedings* are National Crane & Wetland Action Plans written by workshop delegates. The action plans provide an overview of the cranes and wetlands in each nation, principle threats to cranes and their habitats, and recommended projects at the national and regional level. These plans will help shape the future for ICF conservation activities with our colleagues in Africa.

Copies of the proceedings may be obtained through: Gift Shop, ICF. ■

Crane Stories & Crane Music

Question: What do you get when you blend together a love of children, a master gardener, an ear for a good tune, and a garden hose, a faucet, and a number of other unrecylable objects?

Answer: A whole lot of fun, and storyteller Larry Johnson!

Storyteller extraordinaire, Larry Johnson, will be weaving his crane tails (or is that tales?) for children of all ages at the International Crane Foundation on June 23, beginning at 1:30 pm. Larry Johnson brings his love of the Earth and children to work with him every day. And ICF is delighted that he will be joining us to tell crane stories and play crane music on things that won't compost for this family entertainment/education event.

Larry has made a life for himself blending together the things he loves most — gardening, music, teaching, video production — all the while sharing these loves with others. In the process, he offers his tools of the storytelling trade to others, equiping them to tell their own stories.

"Growing a garden teaches one to care for the Earth and one's own body. Making a video teaches one to think more critically about what is viewed, or if you will, to care what goes into the mind,"says Larry.

Teaching and storytelling go hand in hand for him, and Larry has encouraged young nature lovers to share their stories in Kids for Ecology magazine, and by making their own gardening videos.

Be prepared to enjoy yourself, and join us Sunday, June 23 for an afternoon of family fun.

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

Editors: Debbie Carley

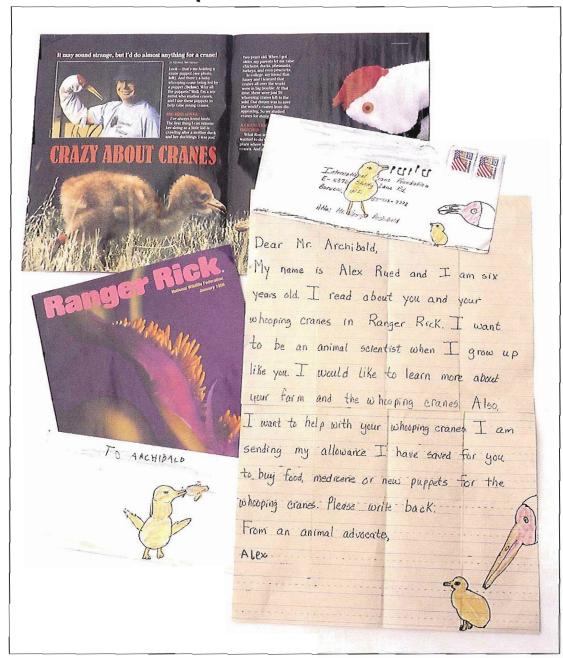
Marshal Case

ICF offers memberships at the following annual rates:

Student or Senior Citizen \$20 Individual \$25 Foreign \$30 Family \$35 Sponsor \$500 Associate \$100 Patron \$1,000



With a "Little" Help from Our Friends



Reproduced with permission of National Wildlife Federation.

Editors Note:

We at ICF are grateful for the support and generosity offered by our friends. It is through their kindness, that we are able to go about our work of protecting the cranes of the world and their wetland and grassland homes.

Help comes in many forms and from many places. We thought our readers might enjoy hearing the story of how one of our younger friends learned of us and how he is helping to make a difference.





International Crane Foundation

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