



# Securing a Future for Cranes along the East Asian Flyway



For many thousands of years people throughout East Asia have held great reverence for cranes as symbols of nobility, wisdom, marital fidelity, and long life. Cranes are a favorite subject for paintings, silk screens, sculptures, ceramics, and origami, for government currency and stamps, and for haiku poetry, literature, and folklore. They adorn everything from ornate wedding kimonos to the walls of fancy restaurants to greeting cards and chopsticks. In China during the Manchu Qing Dynasty, cranes were embroidered on the badges of the highest-ranking civil servants. In Japan, crane images appear on medieval family crests and on the street signs of modern cities.

Four crane species – Siberian, Red-crowned, White-naped, and Hooded Cranes – migrate long distances across East Asia, from breeding grounds in Russia, Mongolia, and northern China to southern wintering areas, including

## Sadako and the Thousand Paper Cranes

Japanese legend maintains that anyone who folds 1,000 origami cranes will receive one wish. Sadako was a young girl who survived the bombing of Hiroshima in 1945, only to later develop leukemia from exposure to radiation. Sadako worked diligently to fold cranes in order to receive her wish of a full recovery. Sadako did not live long enough to make a thousand cranes, but her efforts and story became an international symbol of peace.

The Peace Park in Hiroshima includes a large statue honoring Sadako. It shows a young girl holding a folded crane. These lines are inscribed on the monument:

*I will write peace on your wings  
And you will fly all over the world*

Children all over the world have joined the Thousand Crane Peace Network and folded paper cranes that are placed at the base of the Children's Monument.

Poyang Lake in China, the demilitarized zone between North and South Korea, and Izumi, Japan. However, the cranes and many other species along these flyways face serious and mounting threats.

- **Siberian Cranes (Critically Endangered)** breed in the Russian arctic. The eastern migratory population of about 4,000 birds stops at critical sites in the Amur-Heilong River basin to rest and refuel on their long journey to Poyang Lake in southeast China. **An astounding 98% of the species' entire population winters at Poyang.** The former western and central migratory populations are no longer viable in the wild.

- **Red-crowned Cranes (Endangered)** occur in two distinct populations in mainland Asia and Japan. **The mainland population has been in steady decline for decades, with about 1,500 birds breeding in China and adjacent parts of Russia.** About 500 of these birds winter along the rapidly developing Chinese coast; the remaining birds follow an eastern migration route and winter along the fragile Korean Demilitarized Zone. Security issues have by chance shielded these lands from the intensive development that has affected the rest of Korea. A second, stable population of Red-Crowned Cranes lives year-round on the island of Hokkaido, Japan. Their natural habitat is limited here and the birds depend on artificial feeding stations in winter.



- **White-naped Cranes (Vulnerable)** breed primarily in Mongolia. The western migratory population, which winters at Poyang Lake, China, has declined from 3,000 to 1,000 birds over the past decade due to development pressures. The eastern population is growing, but is increasingly dependent on artificial feeding stations on their wintering grounds in Izumi, Japan.
- **Hooded Cranes (Vulnerable)** are the most successful of East Asia's migratory cranes, with a population of 15,000 and growing. About 1,500 winter at Poyang Lake in China, but the vast majority migrate down the Korean Peninsula. Some of these birds winter in natural wetlands at Suncheon Bay in South Korea, but most continue on to Izumi in Japan. Artificial feeding and the resulting overcrowding of Hooded and White-naped Cranes create risky conditions; disease or a weather disaster could prove devastating for both species.

## Pearls in a necklace

The future of these imperiled, long-distance migrants requires a flyway approach to conservation, with strategies that address needs at every stage of the annual migration cycle. On their breeding grounds, cranes disperse widely to establish territories that offer essential conditions for nest success: security from predators, adequate food, and optimal water conditions. We focus on protecting key areas that sustain substantial numbers of nesting cranes within their overall breeding range. Along their migration routes, cranes require multiple stopover and staging sites to meet their immediate feeding and roosting requirements.

Natural droughts and floods, exacerbated by climate change—as well as site-specific changes in land management—require us to conserve a strategic network of stopover sites. Together these sites ensure that sufficient suitable habitat will always be available, despite conditions that can change unexpectedly from year to year. In the winter, cranes form large flocks, and the wintering sites must support large concentrations of birds for months at a time.

**Like pearls in a necklace, each of the crane breeding, stopover, staging, and wintering grounds is vitally important to the survival of the species—and to the rich diversity of other wildlife these places support.** And all of these sites require healthy wetlands! The most severe threat across this densely populated, rapidly developing region is the loss and degradation of wetlands due to agricultural development, urban expansion, and water diversion and regulation. When habitat loss forces cranes into close proximity to people, they become vulnerable to poachers, pesticides, and power line collisions. In addition, disturbance by people, dogs, and livestock prevent cranes from successfully nesting and rearing their chicks.



Photo by Iderbat Damba

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## OUR IMPACT

Our East Asia Flyway Program focuses on four vital links in the chain of migration: the high arctic of far eastern Russia; the Amur-Heilong River basin in northeast China, Russia, and Mongolia; Poyang Lake in the Yangtze River basin in southern China; and the Korean Peninsula. These sites are critical to the survival of East Asia's threatened cranes, and to the diverse and abundant wildlife—and the people—who likewise depend on these productive lands. At each site, we draw on the deep cultural and spiritual connection that cranes inspire to safeguard these spectacular birds. **We champion cranes as flagships for saving some of the most important wetlands on Earth, and as ambassadors for international goodwill and cooperation across political boundaries.**

## Protecting Breeding Grounds for the Critically Endangered Siberian Crane

Siberian Cranes nest in the Russian high Arctic, in fragile tundra along rivers and coastal inlets. For twenty years the International Crane Foundation has worked with local scientists and staff at Kytalyk Nature Reserve to monitor breeding success and assess threats to nesting, including habitat fragmentation, predation, and climate change. The

Reserve supports half of the world's breeding Siberian Cranes and is under consideration for World Heritage Site designation. Key actions include:

- Supporting provincial government efforts to upgrade Kytalyk Nature Reserve to a Russian National Park, which would ensure adequate funding and staff devoted to research, education, and protection of this globally important site.
- Engaging local communities and scientists to count Siberian Cranes across their breeding grounds, improving our global population estimate for the species.
- Researching climate change impacts on Siberian Crane breeding grounds and developing necessary mitigation measures.

## Reverse the Decline for Siberian Cranes

The International Crane Foundation was selected by the Disney Conservation Fund to participate in a ten-year program to “Reverse the Decline” for Siberian Cranes, one of only ten charismatic wildlife species worldwide selected for support. We use the Open Standards for the Practice of Conservation to develop conservation plans for Siberian Cranes on their breeding, stopover, and wintering grounds, employing measurable indicators to monitor our success and practice adaptive management. We will also apply lessons learned from this approach to advance conservation planning and adaptive management for the other threatened cranes species in the East Asian Flyway region.

## Securing wetlands and water in the Amur-Heilong Basin

The Amur-Heilong Basin is home to some of the world's outstanding wetlands and wildlife, including six crane species. Many protected areas—Zhalong, Momoge, Xianghai, and Dalai Lake National Nature Reserves in China; Muraviovka Park and Dauriski Nature Reserve in Russia; and Daguurun Nature Reserve in Mongolia—have been established here to protect the most important breeding grounds for Red-crowned and White-naped Cranes, and vital staging areas for Siberian and Hooded Cranes. **The International Crane Foundation works with partners in China, Russia, and Mongolia to address serious threats to key wetlands in these arid landscapes.** Especially important are water shortages caused by the diversion of river inflows to thirsty cities, conversion of floodplains to agriculture, and other water alterations that degrade wetlands and trigger uncontrolled fires and the spread of invasive species. At Momoge National Nature Reserve, for example, we were instrumental in rerouting water from agricultural areas to re-flood wetlands that now provide healthy stopover conditions for Siberian Cranes. We have recently focused on reducing crane poisoning, another factor behind the dramatic declines in Red-crowned and White-naped Crane populations—farmers spread poisoned grain on fields and wetland edges as bait for ducks and geese, but cranes are unintended victims. We also work to prevent power line collisions near roosting sites, and to reduce chemical toxins in the water and in the foods that cranes eat. Our key projects in the Amur-Heilong basin include:

- In cooperation with Hui River Nature Reserve in China, monitoring nest productivity of Red-crowned Cranes and leading outreach efforts to reduce nest disturbance from people and livestock. Over the past decade, our work has resulted in a ten-fold increase in the number of fledged chicks.
- Providing management guidance to wetland managers at Zhalong Nature Reserve in China, another important breeding site for Red-crowned Cranes, based on ten years of research and monitoring of waterbirds, hydrology, water quality, and vegetation.
- In partnership with Mongolian scientists, capturing and marking White-naped Cranes and tracking their movements across East Asia, allowing us to identify key stopover sites in China needing protection. We assess

the water requirements of these sites, monitor nest success, and work with herding communities to reduce nest disturbance from horses and dogs.

- Supporting wetland experts from the U.S. Geological Survey and U.S. Fish & Wildlife Service to assist Momoge, Xianghai, and other flyway nature reserves with best management practices and restoration guidelines for wetlands in arid regions.
- Coordinating synchronized migration counts across eastern China for thirty major wetlands, enabling more accurate tracking of population numbers, trends, and threats for imperiled cranes.
- Raising community awareness throughout the flyway, using visually-appealing materials to emphasize the importance of cranes and wetlands and the need to address such threats as poisons, snares, nest disturbance, and wetland degradation and destruction.



Photo by Zheng Zhongjie

## Safeguarding Poyang Lake—the most important wetland in East Asia

Poyang Lake is the largest lake in China and home to more than 400,000 wintering waterbirds, the most of any site in East Asia. Poyang provides winter habitat for almost all of the world's Siberian Cranes and significant wintering populations of White-naped Cranes, Hooded Cranes, Oriental White Storks, Swan Geese, Tundra Swans, and many other species of conservation concern. The incredible productivity of Poyang Lake is sustained by the significant natural variation in its water levels, between and among years. This special ecosystem is now threatened by dams and water diversions in the surrounding watershed that are fundamentally altering the hydrological system. Declining water quality is reducing the availability of aquatic food plants that cranes and other tuber-feeding birds require. **For thirty years, the International Crane Foundation has cooperated with Poyang Lake Nature Reserve to study the ecological relationships among cranes, aquatic plants, and water levels, providing critical data for evaluating future water projects and management schemes.** The situation has recently become even more complex as some Siberian Cranes have for the first time shifted to foraging in rice paddies, cornfields, and lotus ponds. This shift could open up vast agricultural lands for foraging. However, it could also make the cranes more vulnerable to ingestion of the poisoned grain that farmers spread to catch ducks and geese, or to snares and toxins that are set near the water. To safeguard the future of Poyang Lake and its abundant waterbirds, we are:

- Evaluating the scale and impact of poisoned grain bait and snares on crane populations, conducting public awareness campaigns to reduce these practices, and promoting legislation to make them illegal.
- In cooperation with Ocean Outcomes, and with Poyang Lake and Nanjishan National Nature Reserves, developing a pilot program that integrates waterbird conservation and fisheries management.

- Monitoring long-term ecological change through bi-annual basin-wide waterbird surveys and gap-filling studies of vegetation, hydrology, and water quality.
- Researching the impacts of shifting Siberian Crane foraging patterns on their nutrition and breeding success.
- Facilitating community involvement in conservation and community-based tourism; reducing threats to cranes through community awareness programs; and encouraging appropriate behaviors that reduce harassment of cranes by photographers and visitors.



Photo by Jim Harris

## A Peaceful Future for Cranes in the Korean Peninsula

The Demilitarized Zone (DMZ) dividing North and South Korea, a “no-man’s-land” isolated by barbed wire and land mines, supports an extraordinary range of biodiversity and protects the best remnants of natural ecosystems on the Korean peninsula. Hundreds of bird species depend on the DMZ, including breeding Endangered Black-faced Spoonbills, wintering Red crowned Cranes, and staging White-naped Cranes. The cranes feed primarily on waste grain in the Cheorwon Plain, where limited, traditional farming is practiced immediately adjacent to the DMZ in South Korea. When reunification comes to the divided peninsula, much of this region is slated for urbanization, seaport development, and intensified agriculture. **Our conservation efforts on the Korea Peninsula have included high-level participation in the DMZ Forum.** The Forum aims to conserve the unique biological and cultural resources of Korea’s DMZ and transform it from a symbol of war and separation to a place of peace among humans and between humans and nature. We supported exchange visits and study tours for both North and South Korea experts and site managers to Mongolia and China, as well as a project to restore crane habitat in the Anbyon Plain of North Korea. Going forward, our focus includes:

- Developing a program in the Cheorwon plain to address emerging threats to cranes, including the spread of large commercial greenhouses on former rice fields, the advent of chicken and pig farms in the area, and the loss of wetland habitat. Our program will build on the value of traditional rice farming practices and promote ecotourism based on the cultural reverence for cranes on the peninsula.
- Permanently securing the Han River Estuary and other portions of DMZ for biodiversity conservation and as a world heritage site, working in partnership with Korean colleagues.
- Conducting annual crane surveys in Korea and tracking migration patterns using color-banded and satellite-tagged birds.
- Addressing threats to cranes from avian influenza and planning for government responses to outbreaks. This includes minimizing risk by reducing concentrated feeding stations in Korea and neighboring Japan.



Photo by Shaohai Sun

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## WE NEED YOUR SUPPORT

The International Crane Foundation is working to safeguard the remarkable diversity of cranes and other wildlife that depend on the East Asia Flyway. Your support will help us strengthen and expand our conservation activities at key sites across the region, building a safe and secure network of wetlands to ensure that cranes can successfully complete their spectacular journeys between Siberia to southern China and beyond.

*Please join us in safeguarding cranes and wetlands along the East Asian Flyway, so these magnificent birds can continue to inspire with their amazing journeys.*

### FOR MORE INFORMATION CONTACT:

Spike Millington, VP-International (East Asia), International Crane Foundation, Wisconsin, USA  
spike@savingcranes.org | +1-608-356-9462 ext. 140

Yu Qian, Program Director for China, International Crane Foundation, Beijing, China  
yqian@savingcranes.org | +86-138-1039-7543