

Introduction

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This landmark volume provides a wealth of new information to guide conservation of the world's fifteen species of cranes and the ecosystems where they occur. It reflects the work and knowledge of dozens of devoted colleagues in the IUCN Crane Specialist Group. It updates and builds upon the group's first report, *The Cranes: Status Survey and Conservation Action Plan* (1996). As such it charts a comprehensive course forward for crane conservation, synthesizing information on the challenges and opportunities that face the world's cranes and all who care about them.

This volume also reflects the vast experience and network of relationships of its dedicated editors, Jim Harris and Claire Mirande. Jim and Claire both began their careers at the International Crane Foundation (ICF) in 1984. In 1987 Jim spearheaded a landmark international crane workshop in China and subsequently guided ICF's efforts throughout northeast Asia and supervised ICF's Africa Program for a decade. Claire began her career in ICF's captive propagation program and soon became a vital link between in situ and ex situ crane conservation efforts globally. In 2000, Jim and Claire took on the administration of an unprecedented ten-million-dollar grant from the United Nations Environment Program's Global Environment Facility (GEF) to promote the conservation of Siberian Cranes. Jim retired in 2018 and, sadly for all those who knew and worked with him, passed away as this volume was being completed. Claire continues to lead and inspire through all her efforts at ICF and around the world.

Twenty-three years have passed since IUCN published the first *Conservation Action Plan* for cranes. We can look back over this period with both pride and concern. A new generation of talented crane conservation leaders has taken up this vital work around the world. We should be encouraged by the great progress, expanded capacity, and tangible results of our collective efforts. We should also be troubled by the array of continuing and emerging threats confronting the world's cranes. As we look backward and forward, we can also pause and consider just how much more information we now have about the ever-changing status of the cranes. The remarkable technological advances since 1996 now allow us to gather, share, and update information so much more efficiently and effectively. And yet information does not automatically translate into effective conservation. That still requires, and always will, the goodwill and great commitment of people. We are honored and humbled to be part of the global community of crane conservationists whose work is represented here.

This document offers impressively detailed accounts of the current status, threats, and conservation needs for each of the species of cranes. Here we provide a brief introductory overview. Of the fifteen species, eleven are listed as threatened under the IUCN Red List: one Critically Endangered (Siberian Crane), three Endangered (Whooping, Red-crowned, and Grey Crowned Cranes), and seven Vulnerable (White-naped, Wattled, Black-necked, Hooded, Sarus, Blue, and Black Crowned Cranes). The other four species are listed as Least Concern (Brolga, Demoiselle, Eurasian, and Sandhill Cranes).

North America has two species of cranes, including the rarest and the most abundant. Asia has eight species of cranes, two Endangered, three Vulnerable, and three with widespread distribution of Least Concern.

Europe has one species of Least Concern. The two species of southeast Asia/Australia include one Vulnerable and one of Least Concern. All four species of cranes resident in Africa are threatened (one Endangered and three Vulnerable).

The **Siberian Crane** (*Leucogeranus leucogeranus*) is considered the most endangered crane species. Three populations of Siberian Cranes have been recognized, all of which breed in northern Siberia, and winter in Iran, India, and China. Shooting likely caused the demise of the tiny Western Asian population (nine birds in 1996) that wintered on the Caspian lowlands of Iran. A lone male crane in this population has continued to appear there each winter. In 1996, only four Siberian Cranes in the Central Asian population arrived to winter at Keoladeo National Park in India. Poignantly, during the winter of 2002–03 only one pair remained. They did not return to Keoladeo the following winter. Although strictly protected on both their breeding grounds in western Siberia and their wintering grounds in India, illegal shooting along the migration route was likely the major factor behind the loss.

On a more encouraging note, the eastern population of Siberian Cranes that winters in China now numbers around 4,000 birds, a substantial increase from the 2,900–3,000 birds estimated there in 1996. This increase reflects improved counting methods, but also strict protection of the species throughout its expansive range, from the breeding grounds on the tundra of Yakutia in eastern Russia to its sole wintering site at Poyang Lake, China. Innovative water management at Momoge and Xianghai Nature Reserves—key migratory resting areas in northern China—have also contributed importantly to this success. The fate of the species will depend on securing a network of protected wetlands across its range in China as water is diverted for growing human populations; ensuring healthy wetland conditions sustained by normal water level fluctuations at its sole wintering grounds at Poyang Lake; understanding use of upland agricultural feeding sites during years when natural wetland foraging areas are not available (due to drought or flood); and responding to an increasing risk from ingestion of poisoned grains that farmers spread to catch ducks and geese.

The **Whooping Crane** (*Grus americana*) continues to be the rarest of cranes, with a total population of 689 birds in the wild in 2018, with an estimated 500 birds in the only self-sustaining wild population. In 1996, this population included just 150 birds. The population's breeding grounds in northern Canada in Wood Buffalo National Park are protected, but there are growing concerns that climate change and oil development will negatively impact the species. The coastal wetlands in Texas where these cranes winter are threatened by sea-level rise, reduced freshwater availability due to upstream diversions and drought, land development, and the expansion of black mangroves into salt-marsh habitat. The Aransas National Wildlife Refuge and other nearby important wintering areas also face the continuing possibility of catastrophe should there be spillage from the barges that carry millions of tons of toxic chemicals along the Intercoastal Waterway, or an offshore oil spill similar to the Deepwater Horizon disaster in 2010. More positively, there has been recent strong recruitment in the population. A recent population viability analysis indicate that this population is unlikely to go extinct over the next 100 years—a significant increase in viability since 1996. There are also strong efforts underway to secure additional wintering habitat in Texas to support recovery goals.

Over the last two decades conservationists have undertaken a great deal of experimental work on captive breeding and reintroduction of Whooping Cranes. Through both success and frustration, our understanding of effective methods has increased greatly. A captive population of 160 birds, held at

twelve major captive breeding centers, serves as both a safeguard should something happen to the wild population and a source of young cranes for reintroduction programs in Wisconsin and Louisiana. As of April 2018, the Wisconsin population that migrates to the southeast United States numbered about 100, and the non-migratory Louisiana population numbered 67. Neither population is yet self-sustaining.

The island population of non-migratory **Red-crowned Cranes** (*Grus japonensis*) in Japan has increased significantly from 594 in 1996 to more than 1,600 in winter of 2017–18 due to strong protection and artificial feeding programs in winter. The gradual reduction of artificial feeding to encourage the cranes to disperse more widely has perhaps led to some decrease in the overall population, which is being monitored. The migratory population that winters in and near the Demilitarized Zone (DMZ) between the Democratic People’s Republic of Korea (DPRK, North Korea) and the Republic of Korea (ROK, South Korea) has also increased from an estimated 500–650 in 1996 to 1,250 in winter 2017–18. It appears that the loss of winter habitat in DPRK and perhaps in China has caused the cranes to move to the DMZ. There are growing concerns that, as lowlands in and near the DMZ are developed, one-third of the world’s Red-crowned Cranes will face great challenges to their survival.

On mainland Asia, we have seen a distressing decline in the migratory population that winters in China from about 1,200 in 1999–2000 to fewer than 600 as of winter 2017–18. There are several factors behind this decline: loss of breeding and migratory stopover sites as well as wintering habitat, extended drought, the collection of wild eggs, and poisoning. This population is the focus of increasing efforts to improve productivity and understand and mitigate sources of mortality, especially for breeding adults.

The population of the **Grey Crowned Crane** (*Balearica regulorum*) has recently been estimated at 26,500–33,500. Overall estimates suggest that the species’ global population has declined substantially, from over 100,000 individuals in 1985 and 85,000–95,000 in 1996—a reduction of 64–80% in forty-five years. This decline is attributed primarily to habitat loss and fragmentation, disturbance around nesting sites, illegal removal of birds and eggs from the wild for food, use of feathers or parts in traditional practices, domestication, and international illegal trade. This sharp decline, and the fact that the causes of this decline have existed since the 1960s and show no signs of abating, led to the up-listing of Grey Crowned Cranes from Vulnerable to Endangered in the 2012 Red List update.

Other threats to the species include poisoning and collisions or electrocutions related to power lines. An African-Eurasian Migratory Waterbird Agreement (AEWA) Single Species Action Plan was completed in 2015 for Grey Crowned Cranes across their range, and an International Working Group has been established to ensure the plan’s implementation. The African Crane Trade Project, a collaborative effort involving multiple stakeholders, is helping to address the serious issue of illegal trade of Grey Crowned Cranes and other African crane species. Efforts to reverse the loss of critical wetland habitat, strongly linked to rapid human population growth especially in East Africa, are focused on sustainable, conservation-friendly livelihoods and other community-based conservation initiatives.

Although the population of **White-naped Crane** (*Grus vipio*) appears to be increasing, its numbers are shifting significantly in different portions of its range in northeast Asia. Numbers have declined in the western part of the range in Mongolia and nearby areas in Russia and China, where prolonged drought has reduced available wetland breeding areas. The species’ breeding success rate has also been compromised by overgrazing, trampling of nests by livestock, predation by dogs, and the loss of wetlands as permafrost melts. This western population that winters at Poyang Lake, China has

declined from about 3,000 in 1996 to fewer than 1,000. Important stopover sites have been lost, newly identified sites like Duolun are unprotected, and there is increasing evidence that birds are being lost to poisoning.

The wintering population in the Korean peninsula and southern Japan has increased from 1,900–2,300 in 1996 to almost 8,000. However, the population lacks natural habitat where it winters along the Korean DMZ and at Izumi, Japan. The Izumi cranes roost on artificially flooded rice paddies and depend on grain and fish provided daily by the local government, exposing them to risk from disease due to their high concentrations. Collaborative research, planning, and conservation efforts have increased throughout the species' range. A White-naped and Hooded Crane Network was initiated in 2015, and the North-east Asian Subregional Programme for Environmental Cooperation (NEASPEC) selected the White-naped Crane and Hooded Crane as priority flagship species for surveys and studies. Research and advocacy are ongoing to sustain wetlands and grasslands important for cranes, particularly for the Poyang Lake ecosystem in China, Dauriski State Nature Reserve and Muraviovka Park in Russia, and the Khurkh and Khuiten Valleys of Mongolia.

The **Wattled Crane** (*Bugeranus carunculatus*) is the largest, rarest, and most wetland dependent of the African cranes. The population was estimated at between 13,000 and 15,000 in 1996 and then at fewer than 8,000 in 2004. The current global Wattled Crane population is estimated at >9,600 individuals. Although it is evident that the species has declined since 1996, it is unclear whether the improved numbers since the early 2000s reflect a true population increase or improved accuracy of population estimates. Five enormous floodplains in Zambia, Botswana, and Mozambique support more than 80% of the total population. Further research is required to better understand inter-annual or season movements among these large floodplain systems in south-central Africa, and local movements between the floodplains and the more isolated wetland dambos where many Wattled Crane pairs likely breed. Two isolated populations also exist: one of 250–300 birds in Ethiopia and the other of about 400 in South Africa. While the numbers in the Ethiopian population are primarily known from dry season counts of flocks, many breeding areas there remain unknown and unprotected. In contrast, most breeding sites in South Africa are well known and benefit from protection by land owners. Consequently, the total South African population has slowly increased from 250–300 in 1996 to around 400 today.

Major threats to Wattled Cranes include dams and upstream water diversions, human encroachment on floodplains and wetlands, and the invasive *Mimosa pigra*, a thorny bush from South America that is rapidly spreading across wetlands and displacing cranes and other wildlife. On the Kafue Flats of Zambia, with >3,200 individuals the most important wetland for Wattled Cranes, the ICF/EWT Partnership is actively working to control *Mimosa pigra* in collaboration with several other organizations and local communities. The partnership also works to improve water conditions that are degraded by upstream and downstream dams and provide core management support in a collaborative agreement with the Zambian National Department of Parks and Wildlife. In addition, the ICF/EWT Partnership is monitoring threats and conditions on other large floodplains; working closely with landowners and local communities in South Africa to secure key crane sites and improve management practices for cranes and biodiversity in general; and conducting research to improve our understanding of their status, distribution and threats in Ethiopia.

Until quite recently we knew little about the status of the **Black-necked Crane** (*Grus nigricollis*) across its range on the Tibetan Plateau and neighboring areas. Winter counts in the early 1990s where the cranes gathered in flocks to feed revealed a population in 1996 of about 5,600–6,000. By 2007, the winter numbers had risen to about 10,000 cranes. The total population is currently estimated at

10,000–10,200. The largest flocks are along river valleys in southern Tibet, with smaller groups in Bhutan and on the Yunnan Guizhou Plateau. After taking into account the improved winter counting methods, it appears that the population has remained stable or perhaps increased slightly.

However, many changes threaten the welfare of these high-elevation cranes. Warmer summers are melting glaciers that feed into wetlands. This may temporarily create more breeding habitat for aquatic birds, but over the longer term will have complicated impacts. The warmer weather is melting permafrost upon which some of these wetlands are “perched.” They are also increasingly subject to disrupted drainage. Because of the historically short growing season, farmers formerly planted fast-growing grains that produced leftover grain for cranes. Prolonged and warmer summers now allow for the growing of vegetables that provide little food for cranes. In some areas, solar farms and greenhouses now carpet former grain fields. Feral dogs kill flightless cranes, and tree planting in the wetlands threatens the integrity of crane breeding and roosting areas. Researchers in China, Bhutan, and India are monitoring these changes and taking steps to help assure a safe future for the Black-necked Cranes. Encouragingly, since 1996 the Chinese government has made a great commitment to establish protected areas for this species. More than 20 million hectares are now protected—more than for any other bird species in China, and a reflection of their important role as a flagship species.

The **Hooded Crane** (*Grus monacha*) breeds across an enormous range in the wildland taiga of eastern Siberia. Their population has increased from an estimated 9,400–9,600 in 1996 to approximately 15,000 during the winter of 2017–18. Poyang Lake in China hosts about 1,000–1,500 wintering birds, but the vast majority migrate down the Korean Peninsula. About 1,700 winter in the coastal wetlands of Suncheon Bay in the Republic of Korea—an increase from about 200 in 1996. The remaining 13,000 or so birds continue on to Izumi in Japan. There, artificial feeding and the resulting crowded concentrations of Hooded and White-naped Cranes create risky conditions in which disease or a weather-related disaster could prove devastating for both species. Efforts are in progress to encourage dispersal and thus reduce the risk of disease from avian cholera and influenza and other pathogens.

Since 1996 the **Sarus Crane** (*Grus antigone*) has benefitted from new research, restoration efforts, and collaboration. Four populations are now recognized in South Asia (India/Nepal), Myanmar, Southeast Asia (Vietnam/Cambodia/Thailand), and Australia. These populations have experienced different trajectories over the last two decades. The population in South Asia, estimated at 8,000–10,000 in 1996, appears to be increasing across India and Nepal, based on intensive nest monitoring across the region, but a comprehensive range-wide population estimate is lacking. Sarus Cranes appear to be thriving in traditional agricultural landscapes with diversified farming systems and are most threatened by intensified monocultural agriculture.

The population of Sarus Cranes in Southeast Asia was estimated at 500–1,500 in 1996. Annual counts in the lower Mekong Delta begun in 2001 indicate a substantial decline from about 900 cranes to about 400 in 2016, although the Sarus Crane has been reintroduced in eastern Thailand and is increasing. The population faces major challenges due to the loss of breeding habitat in northern Cambodia and high mortality in non-breeding areas due to environmental contaminants. Fortunately, many important new protected areas have been established in Vietnam and Cambodia since 1996, and the Phu My project has become a globally renowned model linking livelihoods to Sarus Crane conservation. Myanmar supports a small population of about 300–400 Sarus Cranes, primarily in the Ayeyardwady Delta region. This population was poorly understood in 1996. Field surveys conducted over the last twenty years have begun to provide more reliable estimates. The status of the Sarus population in Australia, estimated at somewhere under 5,000 in 1996, is uncertain. The population is now estimated at 5,000–10,000, with more reliable population data pending results of recent field surveys.

The **Blue Crane** (*Anthropoides paradisea*) of southern Africa has been making a steady recovery from the 21,000 birds estimated in 1996. The population was decimated in the 1980s and early 1990s, falling from an estimated high of 100,000 due to poisoning and habitat loss in eastern regions of South Africa. Its population has increased in the southern portion of its range, where the cranes breed amid fallow wheat and pasture fields. The South African National Crane Censuses, conducted over a 10-year period between 1996 and 2005, estimated the population at around 25,000. The current global population is estimated at 25,500–30,000 and is increasing. In the future, drier climate conditions in core areas for these cranes, along with associated changes in agriculture, may negatively affect crane numbers. Other threats to the population include collisions with power lines, illegal removal of chicks for trade, mining for energy resources, and the transformation of grasslands to agriculture. A tiny population in Namibia, the only population beyond the borders of South Africa, has declined from 70–100 cranes in 1996 to about twenty now. New programs to increase awareness and engage private landowners, such as South Africa's Biodiversity Stewardship Programme, have been developed to help landowners sustainably manage their land while sustaining viable populations of Blue Cranes.

The **Black Crowned Crane** (*Balearica pavonina*) has experienced a dramatic population decline over the last several decades. Although this likely began before 1996, we did not learn about this drop until it was revealed during a major Black Crowned Crane initiative carried out between 2000 and 2004. The western population is estimated to have declined from an estimated 15,000–20,000 individuals in 1985 to 11,500–17,500 in 1996, and to 15,000 individuals in 2004. Strong anecdotal evidence suggests that number could be lower at present. The eastern (Sudan) population may have undergone a comparable decline from an estimated 50,000–70,000 estimated in 1985 to 55,000–60,000 in 1996 and to 28,000–55,000 in 2004. The exact extent of the trend is unclear due to the population's distribution across many war-torn and inaccessible countries in the region, making accurate initial and current counts very difficult. Given the uncertainty around these estimates, we provisionally estimate a worst-case decline of 30–49% over forty-five years (three generations), though the true figure may be higher depending on the status of the eastern subpopulation.

The species, once widespread across its range, has undergone dramatic declines in certain countries, such as Mali, and may even have been extirpated in others, such as Nigeria. Black Crowned Cranes have declined primarily due to habitat loss and degradation, domestication and illegal trade, and human and livestock disturbance around nesting sites. On a positive note, the ICF/EWT Partnership is working on the African Crane Trade Project focusing on research and monitoring, awareness, and advocacy for policy changes and legislation. The species has been listed on Appendix II of the Convention on International Trade in Endangered Species (CITES). In 1999–2002, ICF and Wetlands International developed a Status Survey and Conservation Action Plan for the Black Crowned Crane. Recent surveys suggest that strongholds for the species exist in coastal west Africa (Senegal to Guinea Bissau), Chad, and Ethiopia. Partners are poised to conduct surveys to monitor the species as travel to politically unstable range states becomes more feasible.

The **Brolga** (*Grus rubicunda*) occurs in Australia and New Guinea (where very little is known about it). Brolgas are most abundant in northern Australia, with 50,000–100,000 individuals estimated in 1996 and over 50,000 surveyed in 2012, suggesting a stable population. The small population in southeastern Australia, estimated at less than 1,000, has been decreasing since the early 1900s. Throughout Australia, Brolgas are threatened by habitat loss and degradation from agriculture, water impoundments and irrigation, and invasive species (both plants and animal predators). Since 1996, conservation scientists and NGOs have emerged as champions for the Brolga. The Brolga has been protected as a migratory species under federal and state legislation. The majority of Brolga habitat is located on private lands, and some habitat protection programs on private land have been initiated,

particularly in Victoria. Regular, systematic, and standardized surveys are needed to establish and track total population numbers, distribution, and trends across the entire species range. More information is also needed on basic ecology, population dynamics, and habitat threats to inform appropriate management actions. Protection of key breeding habitat should be promoted through legislation, landholder incentives, and cooperation with private landholders.

The total population of the **Demoiselle Crane** (*Anthropoides virgo*) is estimated at 170,000–220,000, compared to the 1996 estimate of 200,000–240,000, suggesting that the population may be decreasing. About 60,000–70,000 remain in the steppe region of Kazakhstan and central Asia, but numbers in Kazakhstan have fallen from about 100,000 to 50,000–60,000, with the decline occurring in the south and east. Two small populations found historically in the Atlas Mountains in northwest Africa and in Eastern Turkey have not been reported in recent decades. The species has also declined somewhat in the European part of its breeding range, from more than 60,000 in the mid-1990s to 45,000–58,000 in the mid-2010s.

In its main breeding areas in the Asian part of Russia (Transbaikalia), Mongolia, and northeast China, population numbers have declined from more than 110,000 to an estimated 60,000–95,000. These changes are due to changes in livestock farming, drought, intensification of agriculture throughout its range, and rapid economic development in China. Advertisements on the internet for crane hunting have raised concerns about the status of birds that migrate across Pakistan and Afghanistan and winter in northeast Africa. Regional and local crane working groups in Eurasia, Ukraine, Uzbekistan, Kazakhstan, India, and Turkey coordinate conservation efforts (including monitoring, networking, research, and education activities) for Demoiselle Cranes across its range.

The **Eurasian Crane** (*Grus grus*) population has grown from an estimated 220,000–250,000 in 1996 to over 700,000 today. Its breeding range extends from the United Kingdom to East Asia, with wintering areas in north and northeastern Africa (especially Ethiopia), Turkey, Middle East, India and China. The Western European population has grown from about 60,000–70,000 in 1996 to 350,000 cranes, and the Eastern European and Russian populations have grown from about 95,000 to 230,000. In Western Europe, the increase in breeding crane numbers and expansion of breeding wetland areas reflects improved public awareness, effective legislation, and changes in agriculture that provide more food resources during migration and winter. In Great Britain, the “Great Crane Project” supports the recovery of the breeding population through reintroduction and has contributed to the restoration of wetlands with pairs fledging chicks since 2015. With half a million cranes in Europe, crop damage is an increasing concern. At the same time, these cranes have become an engine for increasing nature-based tourism in many rural areas.

In the eastern portion of the range, numbers are likely declining. The Transcaucasian (or Anatolian) Cranes number around 250–300 individuals and are critically endangered. The Eastern Tian-shan Cranes are vulnerable, with estimates remaining around 1,000 individuals. Research on Eurasian Crane distribution, biology, ecology, and conservation status has expanded significantly over the last four decades, as has international cooperation through conferences, training, and publications. Cooperation in marking and monitoring cranes among various countries through databases and websites has advanced our knowledge of the movements, habitat use, and status of the Eurasian Crane.

The **Sandhill Crane** (*Grus canadensis*) has increased from an estimated 520,000 birds in 1996 to around 827,000 birds today. This gain has been largely attributed to increased availability of agricultural grains on migration and wintering areas, but also represents long-term recovery aided by species and habitat protections. In some regions the growing numbers have led to concerns about crop

depredation. Successful solutions to crop damage, such as the non-toxic seed treatment anthraquinone (Avipel®), have been developed and deployed at the landscape scale. Currently, Sandhill Cranes are legally hunted in eighteen states and provinces in the United States and Canada. Hunting is closely regulated and monitored to ensure sustainable populations.

Research and monitoring continue to improve our knowledge of population demographics, habitat needs, and harvest impacts. Numbers in the Mid-continent Population were relatively stable from 1982 to the early 2000s and have increased in the last decade. The combined Rocky Mountain, Lower Colorado River, and Central Valley populations of Greater Sandhill Cranes stands at about 32,500. The Eastern Population, at about 95,000, has shown the greatest increase and has been expanding its range eastward; it now occurs from Minnesota to Nova Scotia. Two of the three non-migratory subspecies are endangered. Improved field research has allowed our estimates of the Cuban Sandhill Crane population to increase from 300 in 1996 to 525. The Mississippi Sandhill Crane population has remained small and precarious at an estimated 120 birds in both 1996 and at present. The population of Florida Sandhill Cranes was estimated at 4,000–6,000 in 1996 and at about 4,650 in 2003. Provision of optimal breeding habitat for all the non-migratory subspecies is a major concern.

These brief summaries reflect the remarkable work of hundreds of field researchers, local conservation leaders, and citizen scientists, working in agencies, universities, non-governmental organizations, and communities, in all the places where cranes occur. We can look back over the last two decades with deep gratitude for the continued commitment that allows us to learn from our losses and celebrate our gains. We can appreciate the greater clarity with which we understand the challenges and opportunities before us as we work to secure a resilient future for cranes and the ecosystems they inhabit.

How will future crane conservationists look back upon the work in this strategy? How will they weigh our efforts to address a rapidly changing climate, altered hydrological regimes, intensifying human demands for land and water, and other pressures on the world's cranes? We cannot know, but we can be certain that they will benefit from and build upon from the information we compile and share here. They will have new and different tools to work with. They will develop new policies to attain refined conservation goals. And they will find new ways to further conservation education, work in local communities, and encourage collaboration across boundary lines and landscapes.

In the future the conservation of cranes and biodiversity in general will still ultimately depend on the care and commitment of people. We feel confident that the human heart that will always thrill to the sight and sound of cranes. In 1996 we prepared the Crane Specialist Group's first action plan with the great encouragement of our dear friend and IUCN Species Survival Commission chair, Dr. George Rabb. We bid Dr. Rabb a final farewell in 2017. But his words and his passion remain with us and continue to inspire biodiversity conservation efforts worldwide. In one of his last published statements, he wrote:

An ethic of care and caring—such as people manifest for one another, for companion animals and plants, and for favorite places—must be extended to all of nature. Extending the moral scope of care in this way is important because it has the potential to change human behavior on a large scale. The moral and emotional power of care can give new vigor and broaden horizons for conservation.

With the publication of this Crane Conservation Strategy, the IUCN Crane Specialist Group carries forward the hopes of Dr. Rabb and of so many dedicated colleagues. And we pass along to the next generation of conservationists the tools and knowledge they will need to ensure the survival of cranes and their wetland and grassland homes—and thriving human communities that care for them.