Saving Wetlands across Eurasia: Inspired by the Siberian Crane

UNEP/GEF Siberian Crane Wetland Project

THE SIBERIAN WHITE CRANE – THE PERFECT FLAGSHIP!

Conservation is facing the increasingly difficult challenge of saving species while at the same time attempting to save the ecosystems on which they depend. This requires sustaining the health and diversity of these ecosystems while meeting the needs of local people. To achieve this requires bringing people together around a common vision. **The Siberian Crane is a charismatic species** that has proven its ability to attract people to its cause, but this particular species offers much more.

The Siberian Crane, the great white crane of Asia, has inspired generations of people by its beauty and elegance and by the fidelity and devotion of crane parents. This crane is 'great' not only in physical stature but also in spiritual stature in the legends and beliefs of ancient peoples throughout its range – **this white crane is a revered symbol of morality and good fortune.**

The Siberian Crane is an 'umbrella species', a species whose habitat requirements are so broad as to encompass entire ecosystems – **the conservation of their wetlands protects a wealth of species dependent on these same wetland ecosystems.** More than this, the Siberian Crane's epic migration routes dramatically extend their 'umbrella' beyond their breeding wetlands to include their wintering wetlands and all the stopover sites they need along their migration routes. Their West/Central and East Asian flyways are used

Siberian Cranes feeding with Swan Geese and Tundra Swans at Poyang Lake, 30 October 2005. Photo by Crawford Prentice

A few of the 1200 Siberian Cranes that stopped over at Momoge National Nature Reserve, China, in November 2007. Photo by Sergei Sleptsov

by millions of migratory waterbirds including at least 32 endangered species that depend on the same wetlands for their survival.

The extraordinary migration paths of the cranes cross numerous international boundaries, bringing them into contact with diverse conditions and challenges. The individual cranes that traverse these flyways link the peoples in the countries through which they pass. **They serve as ambassadors for conservation and cooperation**. These great cranes link the chains of wetlands that are their flyways. This great White Crane is the perfect flagship to serve as the symbol for "flyway conservation".

Siberian Cranes are critically endangered as a result of hunting and habitat loss. The last known pair of the central population wintered in India in 2001/02. Unconfirmed sightings of a few individuals of the central/western populations continue to be reported in Kazakhstan and Russia during migration, but only a single male was recorded at a known wintering site in Iran in 2007. Although only a very few may still survive, hope remains. The eastern population wintering in China at Poyang Lake has been reported as more than 3500 birds, but their numbers may be due to a concentration of birds as other winter habitat is lost. The plight of this extraordinary species has inspired many people to protect them and their wetland homes, but the challenge is great. The future of this great white crane depends on coordinated action all along their flyways.

Siberian Crane with Whooper Swans and ducks at Naurzum Lake system, Kazakhstan, during autumn migration 2006. Photo by Eu. Bragin

THE UNEP/GEF SIBERIAN CRANE WETLAND PROJECT

A BRIEF HISTORY–

In 1973, in consort with Dr. Vladimir Flint then with the Museum of Natural History in Moscow, the earliest international efforts to save the Siberian Crane originated from Dr. George Archibald and Dr. Ron Sauey, who co–founded the International Crane Foundation (ICF). They also pioneered conservation work with the Siberian Cranes through collaborations with Afghanistan, India, Iran, and China. This early work was expanded and strengthened by other ICF researchers and a network of conservationists inspired by the great white crane. Twenty years of conservation efforts were drawn together through the Convention on Migratory Species (CMS) leading to creation in 1993 of a **Memorandum of Understanding Concerning Conservation Measures for the Siberian Cranes** (MoU), an innovative conservation model designed to encourage cooperation among all eleven Siberian Crane range states to develop and coordinate conservation action plans.

From this base, ICF in collaboration with the governments of China, Iran, Kazakhstan, and Russia launched a joint initiative adopting the Siberian Crane as a flagship species to protect and maintain the ecological integrity of a network of globally important wetlands. The unique Siberian Crane Wetland Project (SCWP)[1] began in 2003 funded by the Global Environment Facility (GEF) and implemented through the United Nations Environment Programme (UNEP). By focusing on the chain of wetlands encompassed by the Siberian Crane's flyways, the project successfully directed conservation effort to

Dr. Vladimir Flint (Russia), Ronald Sauey, ICF co-founder, and Ali Ashtiani (Iran) – start of long-term cooperation on Siberian Crane conservation. Photo from ICF archive

these threatened wetland ecosystems, benefiting hundreds of plant and animal species as well as human communities that depend on wetlands for water and natural resources.

THIS SIX–YEAR $22 MILLION PROJECT FUNCTIONS AT THREE LEVELS:

At the **site level**, activities aim to reduce external threats and ensure necessary water flows to maintain the ecological

health of wetlands. Activities include strengthening legal protection and enforcement, training nature reserve staff, involving local communities, and developing site management plans, environmental education and public awareness programmes, and projects that promote sustainable livelihoods for local communities.

At the **national level**, the SCWP supports monitoring, training, education and public awareness programmes across sites and also applied research to inform sound management decisions, including ongoing study of seasonal waterbird movements and wetland system dynamics. SCWP is also working to improve legislation, policy and planning to support wetland and waterbird conservation. These activities are coordinated with other national wetlands initiatives to strengthen integrated wetland management through collaboration with different organizations.

The First Range State Meeting under the Siberian Crane Memorandum of Convention of Migratory Species, Moscow, 1995. Photo from ICF archive

At the **international level**, the focus is **on flyway–level conservation–the network of wetland sites along the entire migratory pathways of the cranes.** To achieve this, the SCWP promotes cooperation among the four countries, enhances interaction among sites and engages communities in the management of the wetlands along the West/Central and East Asian flyways for migratory waterbirds. Conservation actions within these flyways are coordinated with other initiatives for migratory waterbirds and closely integrated with the Conservation Plans created through the CMS MoU.

Launch of the Western/Central Asian Site Network for the Siberian Crane and Other waterbirds, Almaty, Kazakhstan May 2007. Photo by Elena Efimova

[1] Development of a Wetland Site and Flyway Network for Conservation of the Siberian Crane and Other Migratory Waterbirds in Asia. GF/6030–03–01 and GFL/2712–03–462

CHINA

CHALLENGES –

China has made a major commitment to conservation of wetlands and migratory waterbirds in the face of great challenges. In the north, growing demands for water and extended periods of drought have led to diversion of water away from protected wetlands. Some wetlands are entirely dry. In central parts of the flyway, dense human populations and the fast growing economy have put tremendous pressure on all wetland resources. In the south, lakes used in winter by millions of waterbirds along the Yangtze River are impacted by major water projects, including the Three Gorges Dam and the South–to–North Water Diversion.

Installing a hydrological monitoring gauge at Zhalong NNR, 2005. Photo by Crawford Prentice

Protected area managers generally lack scientific information, especially about the complex ecology of wetlands, to safeguard waterbirds and wetlands in the face of new development activities and the needs of rural communities that depend on water and wetland resources.

ACHIEVEMENTS –

SCWP coordinated surveys at 50 sites to monitor the distribution and movements of large migratory waterbirds along the East Asian flyway leading to new discoveries and new protection measures.

Based upon our growing understanding of the relationships linking waterbirds with water levels and aquatic vegetation, the SCWP created Water Management and Wetland Restoration

Aerial survey team under the UNEP/GEF SCWP, NE China, April 24-26, 2008. Photo by Wang Wen Feng

Plans for three key reserves in northeast China. These ecosystem management plans supported cooperation with regional water management authorities to secure the water flows needed to sustain the natural functions of the wetlands.

At Poyang Lake—the main wintering home for the eastern population of Siberian Cranes—SCWP has assisted with strengthening and expanding the protected area system that now extends to over 150,000 ha. Beyond the existing protected area system, SCWP has extended wetland and waterbird conservation through establishment and support of 15 county-level protection stations around the Poyang Lake Basin. In addition, SCWP's on-going research at Poyang Lake has created the opportunity to integrate waterbird conservation into the country's third comprehensive master plan for the Yangtze River Basin.

THE FUTURE –

People have used the natural resources of wetlands in China for thousands of years and continue to do so. The involvement of local communities as active participants in the co-management of wetlands reserves is vital to the future; however, creating this level of community-based conservation is challenging and will require special skills for nature reserve staff and a long-term commitment to learning and partnership.

The monitoring systems, applied wetland research, and cooperation across government agencies are key to resolving threats to these reserves and to creating more effective water management for protected wetlands across China.

RUSSIA

CHALLENGES –

In Russia, the main focus is on the breeding areas of the Western and Eastern populations of the Siberian Crane in forest–tundra wetlands in the Ob River Basin in Western Siberia and in arctic tundra of the Sakha Republic (Yakutia). These wild tundra and forest–tundra wetlands are highly vulnerable to climate change and are already experiencing alarming changes in their lake margin habitats and underlying permafrost.

West Siberia is the centre of Russia's oil and gas industry, and Yakutia has diverse mineral resources as well as oil and gas. With energy of strategic importance to Russia, new developments include plans for oil and gas pipelines to China and the Pacific and a massive hydro–electric project in the Lena River basin in Yakutia with associated power lines as well as rail and road developments and expanded oil exploration.

The SCWP is seeking to reduce the impact of these developments by working with government and industry partners to expand protected areas at key sites and elevate their legal status and level of protection and to raise awareness of environmental concerns for development outside reserves.

Crane Celebration in Belozersky Wildlife Refuge, Armizon District, southwest Siberia, 2003. Photo by Alexander Sorokin

ACHIEVEMENTS –

In West Siberia, public awareness activities have had significant impact on schoolchildren, local communities and government decision–makers through the outstanding efforts of the Sterkh Foundation supported by the SCWP. For example, informed scientists, officials, and community members contributed to the removal

A Siberian Crane flying over the breeding grounds in the Yakutian tundra. Photo by Alexander Sorokin

of an oil exploration drilling platform that was too close to a Siberian Crane breeding site. A new and innovative measure to enhance the security of the key Kunovat Federal Wildlife Refuge was the creation of a regional nature park around the reserve that serves as a buffer zone.

In Yakutia, the SCWP identified key migratory staging areas, provided training and equipment to reserve staff, and conducted waterbird monitoring and public awareness programmes. The SCWP engaged conservation interests at private and government levels to achieve some remarkable advances: for example, the Kytalyk Reserve, which is critically important for protecting key crane and waterbird breeding habitat, was expanded to over 2.5 million ha. Partnership with a local energy utility opened a channel to consider conservation concerns in the routing of power transmission lines and other measures to reduce bird collisions with power lines. And, with SCWP support, the government of the Sakha Republic convened an international conservation conference, which generated a high level of interest to incorporate environmental recommendations in economic development planning.

THE FUTURE –

In the face of the changes occurring in these regions, integrating research on waterbird distribution, wetlands, and climate change will be critical to support effective management of Kytalyk and other key sites.

The strong support of regional governments has been a key factor in the success of conservation activities. Partnerships with government leaders and industry and the continued involvement of local communities are needed to maintain support for conservation efforts to integrate environmental perspectives into development planning and further develop mechanisms to resolve land use conflicts.

KAZAKHSTAN

CHALLENGES–

The steppe lakes in the Kostanay Province of northern Kazakhstan lie on a major migration route for millions of waterbirds including the Siberian Cranes. Water levels are decreasing and lakes are drying due to highly variable rainfall combined with uncontrolled withdrawal of water by the local population.

Teacher training in Karamendy Village. Photo by Tamara Sabitova

The closing of former agricultural enterprises increased unemployment and resulted in greater pressure on wetland resources. With agriculture now recovering, the improving economy is bringing new pressures on land and water resources. Thus, now may be the best time to create a network of protected wetlands, although their future conservation will depend on involving all concerned parties in wetland management and working with local farmers and communities to create development of alternative livelihoods.

ACHIEVEMENTS–

The protected area system has been significantly expanded. The key Naurzum Nature Reserve was increased by 103,000 ha to 191,381 ha plus a new 116,726 ha buffer zone and has been proposed as a World Heritage site. The Urkash–Zharsor Lakes project site and the Sarikopa and Tounsor Lakes outside the project have been proposed as new nature reserves; other project sites will follow. In addition, Kazakhstan recently joined the Ramsar Convention, an international treaty focusing on conservation of wetlands of international importance, and the Convention on Migratory Species and is in the process of designating the project sites as Ramsar sites. The project sites and Ural Delta were among the first designated within the West/Central Asian Site Network in May 2007.




«Legend of the White Crane» presented at the 2007 Crane Festival. Photo by Aigul Yessineeva

Model education and public awareness programmes targeting different groups in the Kostanay Region are being incorporated into the educational system through a cycle of workshops to **train the trainers.** This innovative strategy included training tools for hunters and inspectors and education modules with textbook kits, which have been delivered to all schools and district educational departments of the project sites. Crane celebrations have become widespread and have attracted enthusiastic local interest with participation of some 14,000 schoolchildren from ten districts in the Kostanay Region in 2007. Public awareness of the SCWP, of conservation of rare bird species and of the global importance of their wetlands increased by 80% since 2005.

Fostering public interest in nature has led to the creation of several local conservation groups, two resource-and-informational centers and the "Siberian Crane Network" for dissemination of information about conservation and SCWP activities.

THE FUTURE–

Work in progress to elevate the status of project sites to the level of Federal Reserves is aimed at promoting development of a strong protected-areas system. The SCWP is strengthening capacity for management of the wetland network through training of reserve personnel and by providing materials like GIS maps of project site ecosystems and a new system for ecological monitoring.

Finding new alternatives to ensure the long-term protection of Kazakhstan's waterbirds and wetlands will require creating new mechanisms for communities to participate in co-management, such as the establishment of the 'Society of Water Users', and working with local communities to develop alternative livelihoods and job opportunities such as with ecotourism.

IRAN

CHALLENGES–

The South Caspian Lowlands of Iran are a wintering area for millions of waterbirds, yet they contain excellent agricultural land and popular tourist destinations. The human population density is high and increasing, and the pressure on land for development is intense. Shooting and trapping waterfowl are traditionally widespread across this region. Controlling hunting and introducing sustainable harvesting concepts are significant challenges. Avian influenza also poses a serious new threat. These factors are increasingly threatening coastal wetlands where effective protection for waterbird habitats is vital.

Fereydoon Kenar, recognized as an Important Bird Area for wintering waterfowl and the only site where wintering Siberian Cranes from the Western population have been recorded recently, provides a key example. The Fereydoon Kenar area consists of a small wildlife refuge surrounded by rice fields and traditionally–managed duck–trapping areas (**damgahs**).

Released and wild cranes together in winter 2007/2008. Photo by Ali Zamani

In this unique situation, conservation of the cranes and other waterbirds depends on the development of co–management with the local farmers and duck–trappers.

ACHIEVEMENTS–

The SCWP supported the establishment of the Fereydoon Kenar Non–Shooting Area and the Bujagh National Park with both designated as Ramsar Sites. Legislation for species protection has also been strengthened, with a $12,400 penalty for killing a Siberian Crane.

Community co–management at Fereydoon Kenar and community involvement in protected area management at Bujagh National Park are being fostered through a process of training, management planning and awareness–raising. **New Site Management Committees are active at both sites and duck–trappers' associations are now contributing at Fereydoon Kenar.**

Pilot projects on eco–agriculture, created with a sound grassroots approach, have reduced the use of pesticides, providing a viable model for other areas.

THE FUTURE–

To achieve balanced development and environmental protection, constructive cooperation among government agencies, private landowners, and wetland users will be essential. The success of the eco–agricultural pilot projects depends on profitability and government support. The goal is to promote these eco–agriculture approaches over the entire Non–Shooting Area and eventually across the Caspian Lowlands.

While the work on community participation at Fereydoon Kenar has already influenced attitudes among the parties involved and reduced shooting, achieving effective co–management is a long process and will need continued support to ensure a sustainable outcome.

Community Meeting at Fereydoon Kenar, 2007. Photo by Sadegh Sadeghi Zadegan

Survival of the Siberian Crane in Iran will depend on conservation of their wetland habitats, improved control of hunting across the Caspian Lowlands, and on reintroduction, which may be possible through cooperation with Russian captive breeding experts under the CMS MoU on the Siberian Crane.

REGIONAL LEVEL ACHIEVEMENTS

The development of regional flyway networks: SCWP has played a key role in collaborating with regional initiatives to facilitate international cooperation. **A significant part of this goal was realized with the launching of the Western/Central Asian Site Network for Siberian Cranes and Other Waterbirds** on 18 May 2007 at the Sixth CMS MoU meeting in Kazakhstan. The first ten sites designated within the network included four SCWP project sites in Kazakhstan and two in Iran.

International capacity–building is exemplified by the Regional Training Workshop on Site Management Planning in Nanchang, China, in March 2007, attended by 36 participants from seven countries including 31 trainees from Azerbaijan, China, Iran, Kazakhstan and Russia. Sessions on key issues like participatory management to engage communities in the management of reserves and site management planning to improve the effectiveness of their management of protected sites. This provided strong support for the development of site management plans now being produced at most SCWP sites.

A waterbird monitoring system is being designed and implemented at all the project sites. Monitoring results are compiled at the flyway level in regional and national databases to improve access to the most complete scientific data possible to guide flyway–level conservation planning.

Education and public awareness programmes: Of the great successes, **Crane Celebrations were initiated at many sites throughout the region and have been outstandingly creative and hugely popular.** We estimate that they have now been held at over 100 sites spread over nine countries–inspiring children, local stakeholders, government officials, as well as potential donors.

Regional training course on management planning in Nanchang, China, March 2007. Photo by Crawford Prentice

FUTURE PERSPECTIVES

Beyond the end of the SCWP in 2009, **the Convention on Migratory Species (CMS) and the International Crane Foundation (ICF) are both highly committed to support future conservation activities** under the CMS MoU for the Siberian Crane. Nevertheless, we must ask how the resources invested and human efforts inspired through the SCWP will contribute toward a brighter future.

How will SCWP's experiences and successes benefit other conservation efforts?

Best practices, such as the waterbird monitoring system and crane celebrations, and important lessons learned will be broadly shared through websites, conservation newsletters, and publications to inform and guide the design and operation of similar conservation initiatives.

With what support will this work be continued?

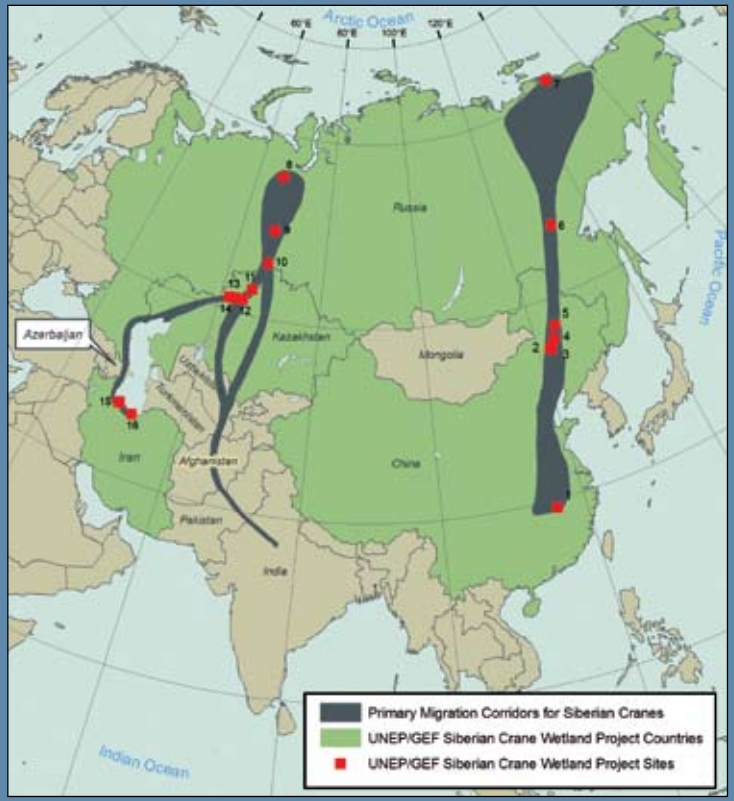
SCWP is seeking commitments to sustainable financing from governments, looking for supplementary sources of income generated at sites to augment support for their activities, and exploring new forms of support through collaborations between non–profit organizations and businesses.

Children at Chian Village, a community pilot project site supporting a county nature reserve at Poyang Lake, China. Photo by Crawford Prentice

Who will contribute to the continuation of this work?

Future work will be carried on by government managers, by better trained reserve staff, by NGOs and by local communities–leaders, teachers and students–who have become inspired by the values of wetlands and biodiversity, who have gained a greater understanding and interest in conservation, and who, through their efforts, now see themselves as part of an international network of flyway sites and partners in the conservation of the great white Siberian cranes and the waterbirds and wetlands of a continent.

SIBERIAN CRANE MIGRATION FLYWAYS LINKING WETLAND CONSERVATION SITES



SCWP Sites:

1. Poyang Lake Basin, China
2. Keerqin National Nature Reserve, China
3. Xianghai National Nature Reserve, China
4. Momoge National Nature Reserve, China
5. Zhalong National Nature Reserve, China
6. Middle Aldan Site Complex, Russia
7. Kytalyk Republic Resource Reserve, Russia
8. Kunovat River Basin, Russia
9. Konda & Alymka Rivers Basin, Russia
10. Tyumen & Kurgan Transboundary Area, Russia
11. Tyuntyugur & Zhanshura Lake, Kazakhstan
12. Naurzum Lake System, Kazakhstan
13. Zharsor & Urkash Lakes, Kazakhstan
14. Kulykol Lake, Kazakhstan
15. Bujagh & Sefid Rud Delta, Iran
16. Fereydoon Kenar, Ezbaran & Sorkhe Rud Damgahs, Iran

For more information:
INTERNATIONAL CRANE FOUNDATION
E-11376 Shady Lane Road, Baraboo, WI 53913-0447, USA
Tel.: +1-608-356-9462; e-mail: scwp@savingcranes.org
WEBSITES: ICF: www.savingcranes.org
Siberian Crane Wetland Project: www.scwp.info
Siberian Crane Flyway Coordination: www.sibeflyway.org

UNEP GEF CMS

Photo on front cover by Yu Youzhong, Keerqin National Nature Reserve
Text by T. Moermond, E. Ilyashenko, J. Harris, C. Mirande, and C. Prentice
Design by D. Parsadanyan