



THE DAURIA ECOREGION

Conserving East Asia's last vast grassland



The Dauria Steppe of East Asia

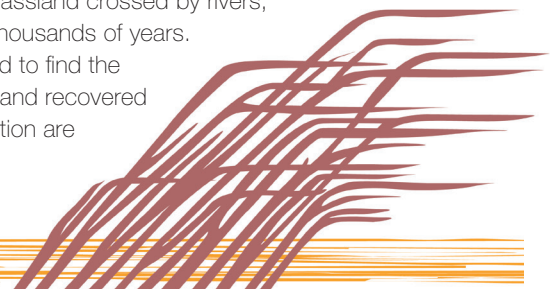
The Daurian steppe of East Asia is a vast temperate grassland scattered with wetlands, rivers and pockets of forest. Extending over one million square kilometres, this transboundary ecoregion stretches across eastern Mongolia and north-eastern China and also reaches into Russian Siberia. The region is one of extremes – subject to severe winters, massive temperature fluctuations, and scarce and fragile water resources.

The Dauria is one of the largest areas of indigenous temperate grassland that remains on our planet. For thousands of years a low human population combined with sustainable land use practices have kept the grassland intact, and hence the potential for large-scale landscape conservation in the Dauria is enormous. There is an opportunity to act now to protect this pristine grassland before it becomes degraded and fragmented like so many grasslands in other parts of the world. In recognition of the area's globally significant conservation potential and need, the Temperate Grasslands Conservation Initiative (TGCi) has selected the Dauria region as one of its four regional priority areas for conservation.

The Dauria constitutes one of the best-preserved examples of Eurasian steppe and supports huge populations of large migratory species such as the Mongolian Gazelle. The vegetation communities that have formed here are unique and rich in endemics. The Dauria is also an important breeding and stopover site for millions of birds on several Asian flyways, and is critical for the survival of Red-crowned Crane, White-naped Crane, Swan Goose, Great Bustard and at least 15 other globally threatened bird species. The region retains exceptional habitat connectivity, essential to preserving the migratory patterns of the region's wildlife.

Not only is the Dauria a globally significant biodiversity region, the conservation of the Dauria area is imperative to the livelihoods of nomadic herders and local communities that directly rely on its resources. With its swathes of grassland crossed by rivers, lakes and wetlands, the Dauria has been central to nomadic herding communities for thousands of years.

Traditional knowledge and a common use of land allowed livestock to be moved around to find the best pasture, reducing pressure on the natural ecosystem and ensuring that the grassland recovered between grazing events. It is estimated that in Mongolia alone 60% of the local population are herders, and fewer but still substantial herder communities exist in Russia and China, meaning that the Dauria ecoregion is critical to the lives of at least 2 million people.



The Dauria Region

(Protected areas are in yellow)



The Challenge and Opportunity to Make a Difference

Despite the large scale and intact condition of the Dauria ecosystem, the area is not without threat. Existing and emerging pressures are placing both the biodiversity values and livelihoods of the local people in peril. The region is currently undergoing an unprecedented period of economic growth, with mining and urbanization both rapidly accelerating. Although bringing great economic benefit, with less than 7% of the Dauria region contained within formal Protected Areas this places most of the Dauria ecosystem at threat from development activity. Associated with economic development is the conversion of wetlands and damming of rivers to allow transfer of water to mines and urban areas, damaging river systems and wetlands in downstream areas. Road and rail development and other associated infrastructure cause the direct loss of habitat and block the movements of migratory species.

In another form of economic development, traditional herding practices have become more sedentary, meaning that some grassland areas, in particular around water resources, have become overgrazed. Agriculture has also become more predominant, but with the removal of deep perennial grass roots the topsoil is lost and dust storms impact areas as far away as Beijing. Other impacts to the Dauria include pollution and overhunting. Overarching all of these threats is climate change, responsible for greatly exacerbating other human-induced changes.

An additional challenge for conservation action is the occurrence of the Dauria ecoregion across three national boundaries. With a lack of full transboundary cooperation, pressures from one country are having flow-on impacts – for example, upstream water diversion projects impact on transboundary river systems in downstream areas, and the barricading of national boundaries impedes the migration of fauna. It is only through significant transboundary cooperation that many of the key challenges of the Dauria can be addressed.

All of these changes in East Asia are having severe impacts on the ecoregion and local livelihoods, resulting in severe water shortages, land clearing, loss of species and fauna habitat, increased drought and wildfires.

Despite the significant threats posed to the region, immediate conservation actions can retain the Dauria grassland in its natural state, protecting one of the world's exceptional assemblages of fauna and securing the livelihoods of local communities. In recognition of the need for urgent action, the TGCI, in conjunction with the Dauria International Protected Area (DIPA), have developed a number of projects to address key threats in the Dauria region.

A common element proposed in all of the project concepts is the expansion of the existing protected area system. As with grasslands elsewhere on the globe, there is an immediate need to substantially expand protected areas in the Dauria region beyond the existing 7% coverage. Simply by expanding and managing the protected area system, this will address a spectrum of the issues facing the Dauria. Expanding and improving the protected area system will provide resilience to climate change, ensure the adequate protection of habitat and migration area for fauna species such as the Mongolian Gazelle and Eastern Great Bustard, provide protection of grassland and other habitats from accelerating development including mining, and ensure the conservation of wetlands and rivers to safeguard scarce water supplies. In conjunction with the expansion of the protected area network is a need to enhance the sustainable use of grasslands beyond the boundaries of formally established nature reserves, working with local communities to ensure protection of both their livelihoods and the natural resources that form the basis of their livelihoods.

Scope of the Projects

Landscape level conservation planning

Conservation planning is an essential first step for co-ordinating conservation efforts across the Dauria. A regional group will be established to lead the planning and implementation of conservation actions in the Dauria through development of a 10-year Action Plan for the region. This Action Plan will analyse the unique characteristics of the Dauria including the network of formal protected areas and potential for expansion, key threats, the ecological conditions of ecosystems, the potential for connectivity between ecosystems, potential for restoration, the status of wildlife populations and ability for re-introductions, and enhancement of sustainable land use by local communities.

 **Ongoing annual funding requirement: \$50,000US**

Research into the socio-economic values of the Daurian grasslands

In the Dauria region the grazing values of grasslands provide for the livelihoods of over two million people. In addition, the Dauria grasslands provide less tangible goods and services including helping to regulate and filter water, trap and store carbon, and contributing to maintaining the world's climatic systems. Initial global research recently commissioned by the TGCI has indicated that, although it is accepted that grasslands provide a vast array of goods and services that benefit global health and wellbeing, these values are not easy to quantify in economic terms and little specific research has been conducted. This project will support local research Institutes to investigate the goods and services provided by the Daurian grasslands, helping to place a 'dollar' figure on their socio-economic values. The research obtained through this project will give much needed weight to arguments for grassland conservation amongst decision-makers and policy-makers. By knowing the Total Economic Value of grasslands we can also help to raise the profile of grasslands amongst management and government agencies and to help bring about successful fundraising for grassland conservation.

 **Ongoing annual funding requirement: \$20,000US**

Grassroots projects

A range of practical actions have been developed to preserve the Dauria grasslands and ecoregion. Some actions are long-term and large scale to combat climate change and improve water security – two of the greatest issues facing the Dauria. Other projects describe smaller actions that over a shorter timeframe can help to protect key fauna populations of the region and ensure the livelihoods of the Daurian nomads and local communities are secured. Some projects are transboundary, while others are national projects implemented within China, Mongolia or Russia. Further detail on these projects is given in the associated project concept notes.

Concept Note #1: Climate change in the Daurian steppe: Protecting biodiversity and local communities under an extreme and changing climate

This **five-year project** describes activities to help protect the Dauria ecoregion under the devastating impacts of climate change.

Target area: Transboundary conservation across Russia, China and Mongolia

 **Total funding requirement: \$1,115,000US**

Concept Note #2: Water Conservation in East Asia: Sustainable water use for the conservation of the Dauria's wetlands and local communities

With water scarcity now a key threat in the Dauria, this **five-year project** will help to ensure that water is shared equitably with local communities and the environment.

Target area: Transboundary conservation across Russia, China and Mongolia.

 **Total funding requirement: \$2.15 millionUS**

Concept Note #3: Breaking down the Barriers: Transboundary conservation of the Mongolian Gazelle

Targeting one of the most charismatic fauna species of the Dauria, this **two-year project** will ensure that the habitat range of the Mongolian Gazelle is protected and that herds can migrate freely across the region.

Target area: Transboundary conservation in Russia, China and Mongolia

 **Total funding requirement: \$160,800US**

Concept Note #4: A Home for the Dauria's Rare Creatures: Securing steppe fauna in the Daursky Biosphere Reserve, Russia

The Dauria grasslands in Russia are severely lacking in formal protection. Through this **four-year project** the Daursky Biosphere Reserve will be expanded to capture key habitat for a range of threatened fauna species, and provide areas in which future reintroductions of locally-extinct fauna species can be undertaken.

Target area: Russia

 **Total funding requirement: \$624,000US**

Concept Note #5: Bringing back the Eastern Great Bustard: Conserving East Asia's last remaining populations

Up until now little attention has been paid to the plight of one of the largest species of bird on the planet. China will be the focus of this **one-year project** to begin conservation actions to help bring back this species from near-extinction.

Target area: China

 **Total funding requirement: \$75,600US**

Concept Note #6: Mining in Mongolia: Engaging local communities to reduce the impacts of mining

Mining of gold and other minerals has brought economic benefits to Mongolia, however the price to the environment and to local communities has been high. This **three-year project** will help build the capacity of local communities to have a voice in determining how mining impacts their livelihoods, and to play a role in ensuring the environmental impacts of mining are improved.

Target area: Mongolia

 **Total funding requirement: \$435,000US**

Funding Requirements and Timetable

ACTIVITY	YEARS					BUDGET PER ACTIVITY (US\$)
	I	II	III	IV	V	
Landscape level conservation planning			Ongoing			50,000 annually
Research into the socio-economic values of the Daurian grasslands			Ongoing			20,000 annually
Concept Note Projects:	Projects Total					4,560,400
1. Climate Change in the Daurian Steppe: Protecting biodiversity and local communities under an extreme and changing climate	X	X	X	X	X	1,115,000
2. Water Conservation in East Asia: Sustainable water use for the conservation of the Dauria's wetlands and local communities	X	X	X	X	X	2,150,000
3. Breaking Down the Barriers: Transboundary conservation of the Mongolian Gazelle	X	X				160,800
4. A Home for the Dauria's Rare Creatures: Securing steppe fauna in the Daurian Biosphere Reserve, Russia	X	X	X	X		624,000
5. Bringing Back the Eastern Great Bustard: Conserving East Asia's last remaining populations	X					75,600
6. Mining in Mongolia: Engaging local communities to reduce the impacts of mining	X	X	X			435,000



Temperate Grasslands Conservation Initiative

http://www.iucn.org/about/union/commissions/wcpa/wcpa_what/wcpa_conserving/wcpa_grasslandstf/

Contacts:

Temperate Grasslands Conservation Initiative (TGCI)

Peter Shadie

TGCI East Asia Regional Coordinator
 Coordinator Regional Protected Areas Programme, Asia
 International Union for Conservation of Nature (IUCN)
 63 Sukhumvit Soi 39
 Wattana, Bangkok 10110, Thailand
 Tel: + 66 (0)2 662 4029 ext 302
 Email: peter.shadie@iucn.org

Daurian Biosphere Reserve

Dr. Vadim Kiriliuk

Vice-director of Daurian Biosphere Reserve
 Russia 672020 Chita 1th mikrorayon 38-67
 Tel: 7-9144801167 Fax: 7-8-30252-41559
 Email: vkiriliuk@bk.ru

Acknowledgements

The Temperate Grasslands Conservation Initiative and the progress that we have made would not be possible without the generous funding support of the J.M. Kaplan Fund.

Printed on recycled paper