

WCS Business and Biodiversity in Mongolia

Setting the Stage for a Sustainable Future



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Our Mission

WCS Mongolia is dedicated to science-based, long-term, and landscape-level conservation. In Mongolia our mission is the conservation of Mongolia's priority species and its intact landscapes, particularly the vast expanses of the Eastern Steppe and the Southern Gobi.

The Wildlife Conservation Society works with the Government of Mongolia, communities, and industry to maintain biodiversity, ensure landscape connectivity, and contribute to sustainable management of resources. When combined, these goals support the protection of resilient ecosystems in Mongolia that support thriving populations of wildlife and the livelihoods of local communities.

Mongolia, known as the “land without fences”, is one of the last places in Asia where large intact habitats and wildlife migrations, other than birds, can still be observed.¹ It encompasses what is believed to be the largest continuous temperate grassland in existence and hosts an array of wildlife species, including large mammals such as snow leopards, khulan, Mongolian and goitered gazelle, ibex, Przewalski’s horses, moose, and Bactrian camels. Magnificent birds of prey—including the endangered imperial eagle, saker falcon, golden eagle, steppe eagle, boreal owl, and cinereous vulture—soar through its skies. Yet its extreme climatic variation ranging from -40 degrees (-40 C) in the winter to over 100 degrees Fahrenheit (38 C) in the summer in the Gobi, coupled with unpredictable precipitation, make it nearly impossible for species to survive without the ability to move freely amongst its vast network of ecosystems.

Landlocked between Russia and China, Mongolia is the least densely populated country in the world. Grassland and desert comprise 90 percent of its land and the remainder is forested or cultivated. Most Mongolians live in rural areas, and about a third are nomadic or semi-nomadic, engaged in livestock herding. In the Eastern Steppe, huge herds of Mongolian gazelles still dominate the grasslands. In the west, snow leopards and argali sheep scale the towering Altai

¹ Large mammals (>20 kg) have been eliminated from more than 80 per cent of the terrestrial ecosystems in which they were formerly present (Olson 2013, citing Morrison et al. 2007; see also Kaczensky et al. 2006, Mallon & Jiang 2009).

Mountains. The critically endangered and endemic Mongolian saiga antelope roams where the mountains descend to the plains of the Gobi Desert. Unfortunately, a burgeoning trade in wildlife—the result of poverty and heightened demand from foreign markets—has led to serious declines in Mongolia’s rich fauna. At the same time, Mongolia boasts some of the richest coal and mineral deposits in the world, which has led to rapid development and land-use change that threatens these highly nomadic species’ ability to access critical resources when needed.



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The Wildlife Conservation Society in Mongolia

WCS first entered Mongolia when senior conservationist Dr George Schaller came to study snow leopards, Gobi bears, and Bactrian camels in 1989. He led the first-ever radio collaring endeavor on snow leopards in the world. In 1993, he helped initiate a UNDP-GEF conservation project, which led to the implementation of the Eastern Steppe Biodiversity Project, the Living Landscapes Program, and the SCAPES Program respectively. In 2003, the WCS office was officially opened in Ulaanbaatar.

In the past twenty years, WCS Mongolia has implemented activities that range from work on wildlife health, wildlife trade, wildlife research, awareness campaigns and protected area and community group support. More recently rapid industrialization and land-use changes from mining and other extractive industries have increased in Mongolia. New infrastructure projects needed to support industry are leading to habitat fragmentation and restricting the movement of nomadic species, changing the quantity and quality of water available to wildlife, and disturbing critical habitats. Nevertheless, mining has created rapid economic growth in Mongolia and provided a way out of poverty for many rural herders.

WCS Business and Conservation Initiative

Working directly with private companies, governments, lenders, and civil society, the Wildlife Conservation Society's (WCS) Business and Conservation Initiative (BACI) promotes policies and practices to avoid and reduce negative impacts on wildlife and biodiversity from project design and implementation, and then to compensate for any residual impacts to achieve a net conservation benefit. By undertaking baseline studies, critical habitat assessments, and landscape level planning, WCS provides companies with the information necessary to avoid, reduce, and offset these impacts. We assist companies to comply with government and lender requirements on natural and critical habitats, and support the design of effective compensation measures.

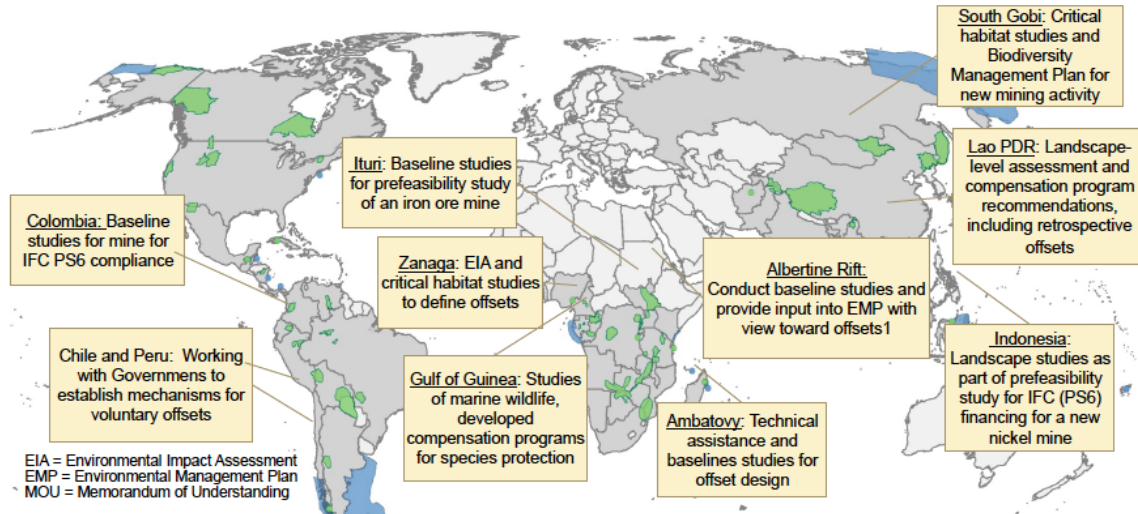


A cornerstone to the BACI strategy is our work with national and regional governments to support their efforts to achieve no net loss of biodiversity through establishment of regulations and policies that protect biodiversity and ecosystem services and ensuring their application across development sectors. We help to build the systems and metrics necessary to ensure implementation of consistent no-net-loss policies at both national and sub-national levels. Through land-use planning and contributions to improved environmental assessment requirements, WCS helps deliver optimal solutions for land-use decisions that maximize conservation and sustainable development outcomes.

Finally, BACI supports lenders and donors by providing information and technical support in project evaluation to ensure that investments meet biodiversity conservation compliance requirements in the field, by developing biodiversity management plans, and by designing and implementing monitoring programs. As part of this comprehensive effort WCS seeks to harmonize lender requirements with government regulation and business commitments to create optimum approaches to biodiversity management. In the field, WCS engages communities and community organizations to optimize land-use decisions and deliver ecosystem service benefits based on local needs and priorities.

Today WCS works in 65 countries where it conducts scientific research on biodiversity and wildlife, and of those 65 countries we have been engaged with extractive industry in more than half, carrying out baseline studies, creating biodiversity action plans, developing monitoring programs, and designing offset programs.

The following figure provides a small example of WCS's activities with extractive industry around the globe. WCS works with companies such as Rio Tinto, Xstrata, Tullow Oil, Total, Chevron, Anglo Gold Ashanti and others to develop strategies that reduce company environmental risk and develop positive conservation outcomes from investments.



Policy and Outreach in Mongolia

In Mongolia WCS has engaged effectively with government as part of its operations in the country to gain support for adoption of best practices. Examples of these this engagement include:

Ecology and Transportation Study Tour In 2013 WCS Mongolia sponsored a delegation of Mongolian decision-makers and mining officials in a visit to the United States to learn about best practice in mitigating the impacts of linear infrastructure on wildlife. This trip was designed to provide Mongolian decision makers from the Ministry of Environment and Green Development (MEGD) and the Ministry of Roads and Transportation (MRT) with examples of how linear infrastructure can be developed in a way that mitigates habitat fragmentation impacts. The delegation visited the Western Transportation Institute, 41 wildlife crossings along Highway 93 in Montana, pronghorn friendly fencing, a railway underpass, and a wildlife crossing on interstate 40 in New Mexico. The trip to the US also included discussions with key experts in wildlife underpass design and monitoring. Trip participants were given tools for how to plan wildlife underpasses and access to key contractors and institutions that can be called upon to assist with road and railway planning in Mongolia.

Much attention was given to the Study Tour and as a result it was featured in 29 newspapers across the US, and on the Mongolian national TV. Later WCS was asked to produce a documentary on the need for wildlife underpasses in Mongolia. The documentary was produced in Mongolian and aired on 4 stations throughout the country. The documentary can be viewed at: <https://www.youtube.com/watch?v=94Lxp5f2IMU&feature=share>.

Ecology and Transportation Workshops Following the study tour WCS hosted the first Ecology and Transportation Workshop in Ulaanbaatar. The goal of the workshop was to: synthesize and share lessons learned from the study tour with all relevant stakeholders in Mongolia; develop a strategy for how those lessons learned could be shared with other stakeholders not attending the meeting; develop a strategy for creating a lasting process that allows all relevant sectors to jointly plan linear infrastructure while considering the needs of wildlife.

WCS Mongolia is in the process of planning the second Mongolian Ecology and Transportation Workshop in Ulaanbaatar with support from the Ministry of Transportation.



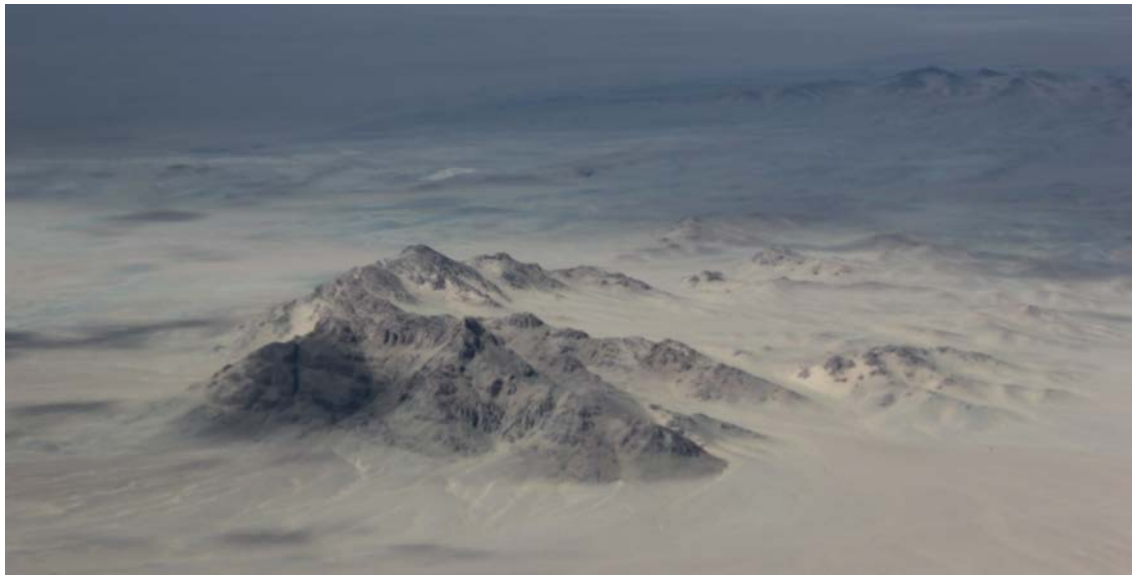
Joint Ministerial Working Group As a result of the Study Tour and the Mongolian Ecology and Transportation Workshop, the Ministry of Environment and Green Development and the Ministry of Transportation officially formed a Joint Ministerial Working Group in June of 2013. The goal of the joint working group is to create solutions that address the barrier effect of linear infrastructure on wildlife movements. The working group is currently in the process of approving the removal of three kilometers of fencing along the trans-Siberian railway running through the South Gobi that is restricting the movements of khulan, goitered gazelle, and Mongolia gazelle. The removal of this small section of the fence will act as a pilot study for the removal of most of the fencing along the railway, except where the potential for human and livestock casualties are high.

Convention on Migratory Species Guidelines for Addressing the Impact of Linear Infrastructure on Migratory Ungulates in Central Asia The great temperate grasslands of Mongolia and Central Asia are home to some of the largest and most threatened mammal migration left in the world. Recognizing the importance and impending threats to migratory species in this region, the Convention on Migratory Species (CMS) requested that WCS develop guidelines on mitigating the impact of linear infrastructure (including roads, railways, fences, pipelines, etc.) and related disturbance affecting ungulates in the region. These guidelines describe the application of best practices addressing the impacts from linear infrastructure development at the project and national level to maintain connectivity for wildlife populations in the face of growing infrastructure development. The guidelines can be found at: <http://www.cms.int/en/document/guidelines-mitigating-impact-linear-infrastructure-and-related-disturbance-mammals-central>.

Business and Biodiversity in Mongolia

WCS initiated an Extractive Industry Program in Mongolia in 2012 in response to these rapid development changes and the threats they pose to wildlife. There is no question that mining is positive for the economic growth of the country; however, WCS' goal is to help ensure that Mongolia retains its rich biodiversity while continuing to grow economically.

The Mongolia Extractive Industry Program was designed to: 1) monitor the impacts of mining and other development projects on biodiversity; 2) develop appropriate actions to reduce and mitigate those impacts, including the use of compensation and offset measures so that companies pay for their residual impacts; 3) implement effective outreach to companies and lenders to promote adoption and implementation of best practices in terms of management of biodiversity and ecosystem services; 4) coordinate with government to support the establishment of policies and regulations that provide clear rules for all investors and foster improved land use management; and 5) create opportunities for better conservation outcomes from development programs.



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Currently, the WCS Mongolia extractive industry program focuses on the South Gobi region of Mongolia. The extremely harsh environment of Mongolia's Gobi desert has given rise to unique ecosystems with particularly well-adapted species, many of which are found nowhere else in the world. The large mammal fauna consists of several rare or globally threatened species, namely the wild Bactrian camel (*Camelus bactrianus*), the Gobi bear (*Ursus arctos gobiensis*), the snow leopard (*Panthera uncia*), the argali wild sheep (*Ovis ammon*) and the Asiatic wild ass (*Equus hemionus*). In particular, the Gobi desert is an important stronghold of the Asiatic wild ass (khulan in Mongolian) and the country has a global responsibility to ensure their conservation. Rapid expansion and development in the mining sector coupled with extensive national road construction plans could have drastic impacts on biodiversity in the Gobi.

Core Biodiversity Monitoring



WCS, in partnership with Sustainability South East Asia, has been working with Oyu Tolgoi LLC (OT), one of the world's largest gold and copper mines, to develop a pilot *Core Biodiversity Monitoring and Evaluation Program* to track the mine's progress toward having a Net Positive Impact (NPI) on the high-value biodiversity in the Southern Gobi region of Mongolia.

OT is committed to working towards the Rio Tinto target of Net Positive Impact for all priority biodiversity values. This aligns with its lender commitments to work towards net gains where critical habitat are impacted and no net loss where those impacts affect natural habitats. The *Core Biodiversity Monitoring Program* tracks OT's progress toward meeting that goal by measuring its impacts, its mitigation responses, and the 'state' of the biodiversity value for all qualifying species and habitats. Where monitoring suggests that these are not as predicted, then a standardized process is initiated for investigation, adaptive management and revised monitoring. Our current *Core Biodiversity Monitoring Program (CBMP)* is a pilot to enable baselines to be collected and lessons learned, before embarking on a long-term *Biodiversity Monitoring and Evaluation Program (BMEP)*.

Ungulate Monitoring In 2012, WCS Mongolia conducted a pilot baseline ungulate survey to determine the abundance and distribution of ungulates in the South Gobi. Our goal in implementing this baseline ungulate survey was to assist OT in developing a comprehensive long-term ungulate monitoring program that would help the Oyu Tolgoi biodiversity program transition towards a sustainable national model that mitigates development impacts on ungulate populations. Habitat conflicts between free-ranging



wild ungulate populations and infrastructure development are increasingly well documented. Physical barriers such as fences, pipelines, or structures can influence habitat selection, displacing animals even though the forage quality of the habitat surrounding these areas remains suitable. For the future conservation of these wide-ranging species, quantitative identification of factors that influence or limit ungulate movements and distribution within their range is essential. Thus, the overall goal of this survey and spatial modelling effort was to determine how new OT mine developments are impacting the movement, assemblage and resource use patterns of ungulates in the South Gobi and the surrounding region.

Collaring The Asiatic wild ass or khulan has been identified as one of the most threatened species in the Gobi. Consisting of about 40,000 animals (Bayarbaatar 2014 CBM quarterly report), the population of khulan in the South Gobi is thought to be the largest and most genetically viable populations of khulan left in the world. As part of our Core Biodiversity Monitoring, WCS has collared 20 khulan in order to *track* their movements and resource use patterns. Similarly, we have for the first time in history captured and collared 10 goitered gazelle to monitor their movements and responses to mining infrastructure in the South Gobi. Our other key monitoring initiatives include the monitoring of critical elm and saxaul forest habitats, houbara bustard and snake eagle populations, poaching incidents, and rare and endangered plants.



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Critical Habitats Elm (*Ulmus Pumila*) and tall saxaul (*Haloxylon ammodendron*) forests have been identified as priority biodiversity features critical for the survival of many species in the Gobi. It is anticipated that these habitats may be indirectly impacted by OT project activities. Increased harvesting of saxaul forests due to heightened fuel wood demand resulting from population increase in the mine area has been identified as a potential negative impact on this critical habitat. These species are also ground water dependent, having deep root systems that access shallow aquifers. While OT is only pumping groundwater from deep aquifers, there may be residual impacts to shallow aquifers that could potentially harm the vegetation that depends on it. WCS is monitoring the health and extent of these critical habitats within a 90,000 km² region on the South Gobi.

Anti-Poaching Mitigation

In 2006 WCS published a ground-breaking study on the illegal wildlife trade crisis in Mongolia (*Silent Steppe*: http://siteresources.worldbank.org/INT/EAPREGTOPENVIRONMENT/Resources/silent_steppe.pdf). Since then, WCS has conducted annual anti-poaching training with border guards, protected area rangers, and environmental inspectors, and beginning in 2008 has been piloting a ground-breaking and highly successful multi-agency enforcement task force in Ulaanbaatar and eastern Mongolia. Based on this successful history of building capacity for implementing effective and coordinated law enforcement initiatives in Mongolia, in 2014 WCS Mongolia initiated an anti-poaching initiative for the South Gobi as part of a mitigation strategy to reduce hunting. These activities are forming the initial steps in what is expected to be a long-term process for improving law enforcement, protected area management and community engagement activities to mitigate illegal wildlife hunting and trade.



As part of this pilot initiative, WCS is: 1) providing capacity building and technical assistance to protected area authorities on how to effectively patrol, identify and report poaching incidents; 2) training and deploying a Multi-Agency Team (MAT) that will enforce anti-poaching and trade laws, prosecute offenders and collect standardized information on violation rates across seven soums; and 3) training and deploying Mobile Anti-Poaching Units (MAPUs) that will be responsible for conducting anti-poaching patrols, reaching out to inform and engage community members and reporting to the MAT. We have also initiated market surveys that were carried out both under cover by trained partners and on a volunteer basis by community members.



Additional protected area capacity building needs will be addressed in phase two of the project. This will include the introduction of the Spatial Monitoring and Reporting Tool (SMART). SMART is designed to improve anti-poaching efforts and overall law enforcement effectiveness by providing a standardized tool to collect, store and evaluate data on patrol efforts, patrol results and threat levels.



Cashmere

In 2014 WCS initiated a pilot study to explore the feasibility of creating a “wildlife friendly” cashmere and camel hair market for the South Gobi. This demand for cashmere from the Western fashion industry is a welcome economic boon to nomadic herders roaming this landscape but it is affecting the delicate ecology of the Gobi Desert in Mongolia. A recent study by WCS and partners shows that the number of domestic goats had increased tremendously in the last 30 years. This increase in goats has resulted in the displacement of many native species of ungulates, including the endangered khulan. Goats eat almost 95% of all the available forage in the region, leaving only 5% for the native ungulates, thus squeezing them out of their habitat.

WCS recently led a team to investigate the feasibility of replacing some of the goats in the Gobi with camels. Camels are considered much less destructive than goats to desert rangelands due to naturally lower stocking rates and much less harmful grazing and browsing patterns. WCS is also investigating the potential for certification and labeling of higher value “sustainable and wildlife-friendly” cashmere that would incentivize herders to decrease stocking rates to meet sustainability criteria in order to obtain a premium for their product.

The WCS Mongolia team continues to fulfill a key role assisting governments, companies, and civil society to protect threatened and endangered species in the South Gobi, mitigate the negative impacts of linear infrastructure on wildlife movements, and pursue the sustainable development of natural resources in ways that benefit Mongolia’s economy, communities, and invaluable biodiversity.

