An IUCN World Commission on Protected Areas Mission Report

Towards transboundary co-operation and management of the Altai-Sayan Mega Connectivity Conservation Corridor

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TOWARDS TRANSBOUNDARY CO-OPERATION AND MANAGEMENT OF THE ALTAI-SAYAN MEGA CONNECTIVITY CONSERVATION CORRIDOR

INTRODUCTION

In July 2009, the IUCN World Commission on Protected Areas (Mountains Biome and Connectivity Conservation) completed a Mission to the Altai-Sayan Mountains of southern Siberia and far-eastern Russia. The mission was completed at the invitation of the Institute of Geography, Russian Academy of Science and its aim was to facilitate the further development of a Mega Connectivity Conservation Corridor concept for the Altai-Sayan Mountains. The Mission was conducted by IUCN WCPA Vice-Chair Dr Graeme L. Worboys.

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- Belukha Nature Park and its Director, Igor Sailankin
- Ethno Nature Park Uch Enmek and its Director, Danil Mamyev
- Katon-Karagaiskiy National Park, Kazakhstan and its Deputy Director Raushan Krykbaeva, staff and Misha Yurchenkov
- Institute of Water Resources and Ecology, Russian Academy of Science, Barnaul its Director, Professor Yuri Vinokurov and Deputy Director, Dr Irina Rotanova
- Foundation for the Sustainable Development of Altai and its Director, Chaghat Almashev

ABOUT LARGE SCALE CONNECTIVITY CONSERVATION

Large scale connectivity conservation is a critical ecosystem-adaptation to the effects of climate change. It s a strategy recognised by the Secretariat of the Convention on Biological Diversity's (SCB) Programme of Work on Protected Areas (PoWPA; by IUCN; by Governments such as Australia, Bhutan and Nepal; and, by Non Government Organisations (NGO's) such as the World Wide Fund for Nature; The Nature Conservancy; the Wildlife Conservation Society; and Conservation International. Connectivity conservation involves conserving large natural areas

which include embedded protected areas and natural linkage areas between the protected areas. From a biological perspective, it is about the degree of movement of organisms (plants and animals) and processes (ecological interactions, ecosystem processes and natural disturbances (Crooks and Sanjayan 2006). In conserving connectivity, four types are recognised and need to be managed (Lindenmayer and Fischer 2006, Mackey et al. 2009). These are:
1) Ecological connectivity, which recognises the connectedness of ecological processes at multiple scales;
2) Habitat connectivity which recognises the connectedness of habitat patches for a single species;
3) Evolutionary connectivity that recognises the connectedness required by spatially dependent evolutionary processes; and,
4) Landscape connectivity which recognises the connectedness of landscape cover from a human perspective.

Connectivity conservation areas are integrally linked with people, their livelihoods, their customs and beliefs and their values. They are large areas of land and involve many different land tenures and different sectoral interests. Connectivity conservation areas therefore need active management and working with people. Such management is usually guided by a unifying Vision statement for the connectivity area (Worboys et al, 2010) and an excellent contextual understanding of the natural values, local people and their needs as well as the local management environment. Management of connectivity areas may occur at a number of levels, and typically includes the functions of leading, planning, implementing and evaluating (Worboys et al, 2010). Often connectivity areas are found along or cross international borders, and transboundary agreements are established as part of a connectivity conservation corridor's management. Many formal and informal transboundary protected area agreements exist around the world, such as that between Katunskiy Biosphere Reserve (Russia) and Katon-Karagaiskiy National Park (Kazakhstan) in the Golden Altai Mountains of Central Asia.

CENTRAL ASIA'S ALTAI-SAYAN MOUNTAINS

The high mountains of Altai-Sayan are located on the border between Russia, China, Mongolia and Kazakhstan, and the Altai-Sayan Ecoregion includes a large part of the Altai Republic of Russia (Map One).

Map One: Location of the Altai-Sayan Ecoregion and Altai Republic, Russia
(Source: Vasiliy Manishev Altai Republic, Ministry of Natural resources)

They are located in the "heart of Asia", and form the headwaters of many rivers including two of the 10 largest rivers of the world, the mighty Russian Ob and Irtish Rivers which flow from the Altai Mountains (southern Siberia) to the Arctic Ocean. The spectacular mountain landscapes include high mountain peaks including Mount Belukha, the highest mountain in Siberia (4506 metres) with its 169 glaciers that extend over 280 square kilometres, glacial lakes, and deep glacial carved valleys and the headwaters of the river Katun, a tributary of the Ob River (Yashina 2008). The Altai-Sayan area is recognised as one of WWF's critical Global 200 Ecoregions (WWF 2009a). An Ecoregion is defined as a large area of land or water that contains a geographically distinct assemblage of natural communities that (a) share a large majority of their species and ecological dynamics;(b) share similar environmental conditions, and;(c) interact ecologically in ways that are critical for their long-term persistence (WWF 2009b). WWF states for the Altai-Sayan that:

> "But a handful of places exist in the Northern Hemisphere where pristine nature is preserved in its original form. Among them the Altai-Sayan eco-region (sic) is the pearl with a total area of more than one million square kilometres" (WWF 2009a)

The Altai-Sayan Ecoregion is bounded by Siberian taiga forests and the Central Asian deserts, and includes the most northern habitat of the snow leopard (*Uncia uncia*) and the World's largest and most beautiful mountain sheep, the Argali (*Ovis ammon*) (WWF 2001, 2009a), both of which are registered on IUCN's Red List as endangered species. The snow leopard is typically found between altitudes of 2000-4000 metres. The Russian populations of the Argali are found in the border area with Mongolia, and migrate across the border, though populations have become increasingly fragmented by pressures from grazing and hunting (WWF 2001). Species present in the Ecoregion include 300 (+) birds and 3,700 plant species (WWF 2009a). The area is rich in cultural heritage and is home to more than 20 indigenous peoples (WWF 2009a).

The snow leopard (*Uncia uncia*), Altai-Sayan Mountains
(Source: Vasiliy Manishev Altai Republic, Ministry of Natural Resources)

The Argali (*Ovis ammon)*, Altai-Sayan Mountains
(Source: Vasiliy Manishev Altai Republic, Ministry of natural Resources)

There are many threats to the natural heritage of the Ecoregion, including poaching and illegal trading in flora and fauna, infrastructure development, habitat destruction and deforestation, pollution and the threat of climate change. Climate change is a major issue. Records maintained by the Russian Hydro-meteorological Service report identify an increase in average temperatures since 1970 of 1.5 C consistent with global warming and glacial reduction is clearly evident in the

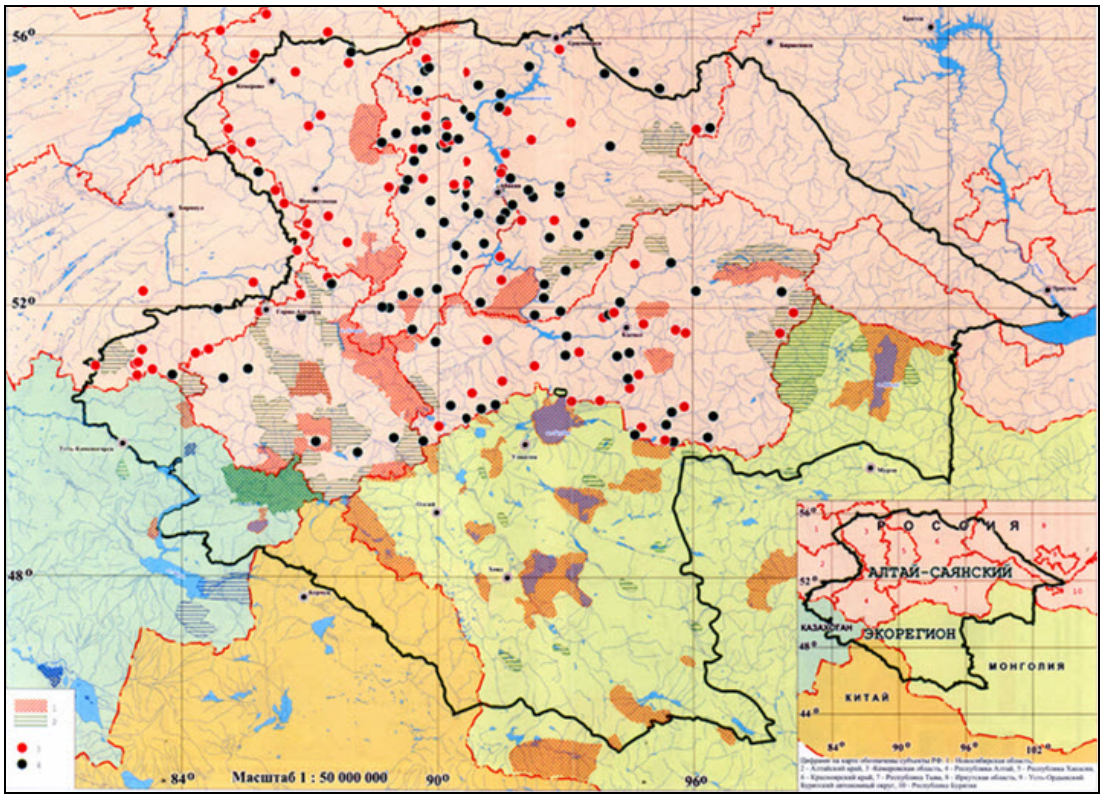
mountains (WWF 2009). A large number of young trees and undergrowth creeping up the slopes can be observed (WWF 2001). Forecasts of change identify that the high mountain nature zone of the Altai-Sayan may shrink in half (WWF 2001) and the Argali, which is very sensitive to temperatures greater than 23-24 Degrees Celsius will be affected. Heavier precipitation and sudden snow thaw may also affect species. The snow leopard may be impacted by heavier snowfalls, but the effects of poaching are also a serious threat (WWF 2001).

The United Nations Development Programme (UNDP) has been actively involved in the Altai-Sayan, and in particular, in a partnership with WWF-Russia. They have worked in co-operation with Local, Republic and National authorities, and have helped facilitate the establishment of new protected areas. The Altai Republic of Russia (for example) is particularly proud of the many areas they have been able to conserve as protected areas (Vasiliy Manishev pers comm.).

The protected areas include a serial World Heritage Site called “The Golden Mountains of Altai” (Yashina 2008). This site includes:

- Altaiskiy State Nature Reserve and Lake Teletskoye, UNESCO Biosphere Reserve;
- Katunskiy State Nature Biosphere Reserve;
- Mount Belukha Nature Park; and
- The Ukok Quiet Zone.

Many other protected areas are found within the Altai-Sayan Ecoregion and along the catchment divide which also, in places, serves as the international border between Russia, China, Kazakhstan and Mongolia (Map Two). Management of these protected areas is undertaken by four national Governments, and in the case of Russia, by the National Government, the Altai Republic Government, and by community groups. These multiple governance arrangements provide a degree of complexity, and this is just for Russia. Even greater complexity exists when managing across international boundaries for the cooperative and integrated management of habitats such as those used by the snow leopard. However, the number of protected areas that are interlinked or are in close proximity, particularly along the high mountain catchment divide provides a unique opportunity to facilitate connectivity conservation management as a mega connectivity corridor. This mega corridor provides east-west (longitudinal) connectivity; north-south (latitudinal) connectivity; and altitudinal connectivity over large areas of the Altai-Sayan Ecoregion. All of these connectivity opportunities will be needed given the forecast weather changes resulting from climate change. A mega connectivity conservation corridor, as a single landuse concept in the Altai-Sayan is seen as a critical adaptation response to the effects of climate change.



Map Two: Protected areas of the Altai Sayan Mountains for Russia, Kazakhstan, China and Mongolia (Source: Tatyana Yashina)

Key:

Red dashed line: International borders

Black line: Altai-Sayan EcoRegion

Dots: Smaller protected areas

Coloured areas: Protected Areas

Mega Connectivity Corridor: Extends along the International border between Russia, Kazakhstan, China and Mongolia and includes (coloured) protected areas along this boundary

AN ALTAI-SAYAN MEGA CONNECTIVITY CONSERVATION CORRIDOR

Background

The need to conserve the rich natural and cultural values of the Altai-Sayan Mountains has long been recognised by the Governments of Russia, Kazakhstan, China and Mongolia, and many protected areas have been established. The UNDP, in collaboration with WWF has been very active in recent years in securing many conservation and sustainable use initiatives in the Altai-Sayan Ecoregion, and particularly in Russia. In addition, the Institute of Geography, Russian Academy of Science has also been an advocate for the greater protection and integrated conservation management of the transfrontier Altai-Sayan Mountains, particularly in the face of ambitious development proposals (Badenkov 2004). Under the Institute's leadership and advocacy, Biosphere Reserves have been established in Russia and their management has actively contributed to larger, global conservation initiatives such as the UNESCO GLOCHAMOST climate change monitoring initiative (Yashina n.d.).

Recent reports forecasting the nature, extent, and impact of climate change on Altai-Sayan species however have identified that an optimum conservation response for many endangered species will be for conservation management to be implemented at the whole of transfrontier

mountain landscape (WWF 2001). Climate change is a big issue. A big (adaptive) response to climate change is connectivity conservation management and it can be achieved across multiple protected areas and other lands along the Altai-Sayan Mountains. Such an approach means that interconnected and co-operatively managed lands could be achieved for many degrees of latitude, many degrees of longitude and many metres of altitude in these mountains. It would help maximise the chances of survival for many species, especially the argali and the snow leopard.

Such a visionary initiative was foreshadowed at an IUCN WCPA Mountains Biome Workshop on connectivity conservation in Papallacta, Ecuador in 2006 (Badenkov pers comm). Consequently, the idea was included as an initiative of the November 2008 WCPA Workshop in Dhulikhel, Nepal. A workshop group comprising representatives from Russia, China and Mongolia recommended that a Mega Connectivity Corridor be established for the Altai-Sayan Mountains (Worboys 2008).

Dhulikhel 2008

The Workshop identified and supported a vision for connectivity conservation for the transfrontier Altai-Sayan Mountains area, the purpose of which was:

> "to ensure the natural and cultural heritage of the Altai-Sayan (The Heart of Asia) always stays intact and interconnected and nurtures its traditional peoples and their cultural legacies"

The Workshop recommended that:

- An international co-ordinating committee be established
- An IUCN-WCPA Mission visit the Altai-Sayan in July 2009 to assess the potential for an International Connectivity Conservation Workshop for 2010
- An Atlas for the Altai-Sayan be produced
- Research and monitoring be established
- A collaborative partnership with the HKKH partnership be established
- IUCN WCPA help initiate the concept of a co-operative transboundary working group for the 2010 Workshop
- That Kazakhstan representatives be briefed on the findings of the Workshop

2009 Mission

The 2009 Mission (this report) confirmed that there was support from Kazakhstan and Russian protected area field managers; Russian academic staff; and, local and regional Russian administrators, for the concept of a Mega Connectivity Conservation Corridor for the Altai-Sayan Mountains, and that a workshop should be conducted in 2010. This Mission recommends that the Workshop proceed.

A 2010 WORKSHOP

The IUCN WCPA Mission confirmed a number of logistic arrangements to progress the 2010 Workshop and the Vision of a Mega Connectivity Conservation Corridor for the Altai-Sayan Mountains. They were:

An IUCN WCPA Workshop

IUCN WCPA has undertaken the responsibility for officially initiating and facilitating the 2010 Altai-Sayan Connectivity Conservation Workshop. This work will be principally undertaken by

IUCN WCPA's Altai-Sayan Focal Point, with support (as required) by the WCPA Vice Chair (Mountains and Connectivity Conservation).

IUCN WCPA Altai-Sayan Focal Point

Dr Tatyana Yashina of Katunskiy Biosphere Reserve, Uts-Koksa, Russia, has been invited to work as IUCN WCPA's Focal Point for the Altai-Sayan Mega Connectivity Corridor and she has accepted this role. In representing IUCN WCPA, Dr Yashina (on behalf of the Vice Chair) has principal responsibility for co-ordinating and organising the 2010 Workshop including direct liaison with field representatives of nations concerned, the appropriate Government organisations and other national and international organisations.

The proposed Workshop

It was agreed that Dr Yashina would help facilitate:

- Preliminary advice to stakeholders about the Workshop concept
- The identification of the preliminary objectives of the Workshop (such as establish the agreed basics for connectivity conservation management for the Mega corridor?)
- Establishing an International Working Group to help plan the workshop
- Establish partners for the Workshop (such as UNDP and WWF?)
- Establish a group of key stakeholders for the Workshop
- Prepare a draft operational plan for the Workshop for comment and further improvement.
- Establish agreed objectives for the Workshop
- Prepare funding proposals and secure resources to conduct the workshop

Venue

It was also agreed that Uts-Koksa would be the venue for the 2010 Workshop, and that Katunskiy Biosphere Reserve would help host and facilitate the Workshop.

Partners

It is proposed that important partnerships be developed to assist with the organising, preparation and co-operative hosting of the Workshop including the participation with key players such as Gorno-Altaisk State University (for critical scientific input), UNDP, WWF and other organisations.

CONCLUSION

The IUCN WCPA Mission confirmed the importance of an Altai-Sayan Mega Connectivity Conservation Corridor to help with the long term conservation of endangered and other species at a time of climate change and for the conservation of cultural heritage. It confirms that protected area practitioners in Kazakhstan and Russia are supportive of the Corridor concept and scientists and practitioners from China and Mongolia are also supportive. The Mission concludes that a proposed Workshop aimed at initiating and facilitating the administration, initial planning and preliminary cooperative management for the Altai-Sayan Mega Corridor should proceed; that Dr Tatyana Yashina should be IUCN's Focal Point for the corridor and the Workshop; and, that the Workshop should be based in Ust-Koksa, Russia in about July 2010.

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APPENDIX ONE: IUCN WCPA (MOUNTAINS AND CONNECTIVITY CONSERVATION) MISSION PROGRAM

Mission personnel
Dr Graeme L. Worboys, Vice Chair (Mountains and Connectivity Conservation) IUCN WCPA
Dr Yuri Badenkov, Institute of Geography, Russian Academy of Science

Monday 20th July 2009
- Mission commences in Moscow
- Institute of Geography and Russian Academy of Science Seminar presentation: "Connectivity Conservation as an adaptive response to climate change"

Tuesday 21st July 2009
Government of the Altai Republic meetings, Gorno-Altaisk
- Minister of Natural Resources, A. Terekhov
- Deputy Minister of Natural Resources, Vasily Manishev

Foundation for Sustainable Development of Altai Mountains
- Director Chagat Almashev
- Gleb Raygorodetsky; The Christensen Fund

Gorno-Altaisk State University Seminar presentation: "Connectivity Conservation as an adaptive response to climate change"
Meeting
- Rector, Professor Yuri v. Tabakaev and Dr Valerie G. Babin

Wednesday 22 July 2009
Altaiskiy Biosphere Reserve meetings and field inspection:
- Director Igor Kalmykov; Eco-Education Officer Svetlana Shigreva and staff stationed at Teletskoe Lake

Thursday 23rd July 2009
Meetings at Katunskiy Biosphere Reserve Head Quarters, Ust-Koksa:
- Director Alexander Zateev, Tatyana Yashina and staff

Friday 24th July 2009
Russia-Kazakhstan Transboundary Protected Area and Connectivity Conservation Meeting at Multinskiye Lake Ranger Station, Katunskiy Biosphere Reserve
- Director Alexander Zateev, Tatyana Yashina, and staff, Katunskiy Biosphere Reserve, Russia
- Director Igor Kalmykov, Altaiskiy Biosphere Reserve, Russia
- Deputy Director Raushan Krykbaeva and staff Katon-Karagaiskiy National Park, Kazakhstan
- Director Alibek Tokymtaev and staff Zapadno-Altaiskiy Nature Reserve, Kazakhstan

Saturday 25th July 2009
Seminar, Russia-Kazakhstan Transboundary Protected Area and Connectivity Conservation Meeting, Multinskiye Lake Ranger Station, Katunskiy Biosphere Reserve and presentation: of "Connectivity Conservation as an adaptive response to climate change"

Sunday 26th July 2009
Russia-Kazakhstan Transboundary Protected Area and Connectivity Conservation Meeting, Multinskiye Lake Ranger Station

Monday 27th July 2009
Meeting at Belukha Nature Park near Ust-Koksa

- Meeting with Director Igor Sailankyn

Tuesday 28th July 2009
Meeting at Ethno-Nature Park Uch Enmek

- Meeting with Director Danil Mamyev

Wednesday 29th July 2009
Meeting at the Altai Republic Ministry of Natural Resources

- Meeting with Deputy Minister Vasiliy Manishev

Thursday 30th July 2009
Meeting in Barnaul, Institute of Water Resources and Ecology, Russian Academy of Science, Siberian Branch

- Meeting with Director Yuri Vinokurov and Deputy Director, Dr Irina Rotanova

Friday 31st July 2009

- Meeting with UNDP Assistant Program Director, Altai-GEF Ecorgion Project, Armen Grigoryan; and Director Biodiversity Centre, Alexy Zimenko
- Mission concludes in Moscow