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Saiga Conservation Alliance

Saiga News

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Providing a six-language forum for exchange of ideas and information about saiga conservation and ecology

Contents

Almaty meeting marks a big step forward for saiga conservation

The First Meeting of the CMS Signatory States of the Memorandum of Understanding on the Conservation and Management of the Saiga Antelope (*Saiga tatarica tatarica*) took place in Almaty, Kazakhstan, from 25-26 September 2006 and was attended by representatives from Kazakhstan, Turkmenistan, Uzbekistan, Mongolia, Russia and China, and many NGOs. At the meeting, the Government of Kazakhstan signed the MoU, which thereby finally entered into effect. This successful outcome owes a lot to the persistence and hard work over several years of the CMS Secretariat and other dedicated individuals. Representatives of three international NGOs, Fauna and Flora International, Frankfurt Zoological Society, and Wildlife Conservation Society, also signed the MoU as Collaborating Institutions.

Naurazbay Khadyrkeyev and Lyle Glowka after signing MoU; David Mallon's statement at opening session. Photo by Alexander Esipov

The CMS meeting was preceded by a two-day Technical Workshop, convened by IUCN/SSC Antelope Specialist group and European Sustainable Use SG. It was attended by over 50 people, including representatives of all range states, researchers, captive breeding experts, protected area managers, and representatives of the sustainable use of Saiga products. All organisations engaged in saiga work were present at the workshop which marked another significant milestone in saiga conservation.

National report forms and project report forms were circulated by CMS before the meeting. Completed forms were received from all five range states and China and from 22 individual projects. The forms were used to compile a project summary table listing all current saiga projects and as the basis for an Overview Report describing the current saiga conservation situation. The Technical Workshop reviewed and amended the draft report, updated latest figures for three of the five saiga populations and agreed a final version for recommendation to the MoU meeting. Recent increases in saiga numbers have been reported and it was tentatively concluded that the severe decline has stabilised and that some populations may be beginning to recover.

A Medium-term International Work Programme, also prepared by ASG/ESUSG, was discussed. This programme was derived from the full MoU Action Plan and was intended to reflect the highest priorities for action over the next five years. The vision guiding the document was the restoration of saiga to levels where sustainable use was again possible. The programme was reviewed at the Technical Workshop by two sets of working groups who considered the actions first thematically and then by individual populations and a revised version recommended to the MoU meeting. National representatives further agreed that the next meeting should be held in 2 years time and that a Technical Workshop should again be held in conjunction with it.

Both the Technical Workshop and MoU meeting were held in a positive atmosphere and produced successful outcomes. Many thanks are due to CMS and the Kazakhstan Committee on Hunting and Forestry for organizing and hosting them.

David Mallon, IUCN/SSC ASG, d.mallon@zoo.co.uk
Note from the editors: You can find all the meeting documentation in English and Russian on the CMS website, http://www.cms.int/species/saiga/1st_saiga_range_states_meeting.htm.

Editorial team. China: Dr A. Kang, WCS China (ygling@online.sh.cn) & Dr Li Lishu, WCN-China (jasmine.lls@hotmail.com); Kazakhstan: Professor A. Bekenov & Dr Iu.A. Grachev, Institute of Zoology (terio@nursat.kz); Mongolia: Dr B. Lhagvasuren, Institute of Biology (ecolab@magicnet.mn) & Yo.Onon, WWF-Mongolia (mpo-species@wwf.mn); Russia: Professor Yu. Arylov, Centre for Wild Animals of the Republic of Kalmykia (kalmsaigak@elista.ru) & Dr A. Lushchekina, Institute of Ecology & Evolution (mab.ru@relcom.ru); Turkmenistan: Dr. D.Saparmuradov, National Institute of Deserts, Plants and Animals (sjuma@untuk.org); Uzbekistan: Dr E. Bykova & Dr A. Esipov, Institute of Zoology (esip@tkt.uz); UK: Dr E.J. Milner-Gulland, Imperial College London (e.j.milner-gulland@imperial.ac.uk).

All contributions are welcome, in any of our six languages. Please send them to esip@tkt.uz or to one of the editors. We publish twice a year.

This publication is available online at http://saigak.biodiversity.ru/publications.html, www.iccs.org.uk/saiganews.htm and http://www.wildlifewarden.net/wcs/mini/Saiga-Chinese.pdf , as a pdf, or in hard copy on request in Chinese, English, Kazakh, Mongolian, Russian and Uzbek.

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Updates

INTERNATIONAL AND REGIONAL

Final meeting of INTAS project partners - Saiga Conservation Alliance is born

The teams working on the INTAS-funded project "Reproductive Ecology of the Critically Endangered Saiga Antelope" held their final project meeting in Almaty, Kazakhstan on 21st-22nd September 2006. The meeting allowed us to exchange results and ideas from our research, and to agree a strategy for analysis and publication of project results by the end of the project period (March 2007). The project is running in Kazakhstan, Uzbekistan and Russia, with the key aim of developing and testing a robust monitoring protocol for saiga conservation, including a database of the distribution and characteristics of saiga herds and non-invasive methods to monitor reproductive success. The project also collaborated with the recently completed Darwin Initiative project "Using saiga antelope conservation to improve rural livelihoods" to develop a similar standard monitoring tool for social studies of attitudes and behaviours towards saigas by local people. Finally, we are disseminating information on saiga conservation and ecology to scientists, local people and policy-makers.

Saiga experts meeting in Almaty. Photo by Alexander Esipov

Our research outputs are now appearing in *Saiga News* (see the article on hormonal monitoring in this issue) and in international journals. We are also influencing conservation policy. Particularly important was holding our meeting directly before the CMS meeting of the Saiga MOU signatories, at the request of the CMS secretariat. This enabled the INTAS project team members to participate in the Technical Workshop to agree a medium term work programme for the next 5 years, and to lend their considerable expertise to this process. One output of this involvement was the important statement that the success of the Work Programme would be judged by a timeseries of population estimates made using appropriate methods, accompanied by an estimate of the associated uncertainty.

We also spent a considerable amount of time during the INTAS meeting discussing new initiatives. A major outcome of the meeting was a formal agreement to launch the Saiga Conservation Alliance as an umbrella association for all those who support the SCA's mission, with founder members including the teams who are currently working together on the Darwin and INTAS projects. From this issue of Saiga News onwards, therefore, you will see that *Saiga News* is now published officially by the Saiga Conservation Alliance. The Alliance has also just been awarded Candidate Partner status by the US-based NGO the Wildlife Conservation Network (see below), and has its own website at www.iccs.org.uk/SaigaAlliance.htm.

The Saiga Conservation Alliance's next projects include reaching out to local people in Kalmykia through the Darwin Initiative's post-project "Evaluating approaches to public engagement in saiga conservation"; developing a participatory monitoring scheme to include local people, which will be piloted this year in Uzbekistan; and monitoring saiga movement through the use of satellite telemetry. Some of these projects are already underway, and some are still looking for funding.

The European Union has terminated the INTAS programme as of December 2006. They say that funding for projects in the Newly Independent States of the Former Soviet Union will still be available as part of their general science and research budget (Framework 7), but we don't yet have any information about how this will work in practice. INTAS has supported saiga research continuously since 1995, and this support has been very important in providing the scientific information needed for effective saiga conservation. The loss of this source of financial support is worrying, but given that INTAS was becoming more and more competitive for relatively small grants with tight restrictions on eligibility, perhaps its replacement by Framework 7 will be a positive step.

For more information contact E.J. Milner-Gulland, Imperial College London, e.j.milner-gulland@imperial.ac.uk.

Saiga Conservation Alliance takes part in WCN Expo-2006

Participants in the Expo-2006 (above); Saiga Conservation Alliance had a stall at the Wildlife conservation Expo (below). Photo by Sandy Ball and Elena Bykova

This year, the Saiga Conservation Alliance (SCA) was invited to participate in the annual Wildlife Conservation Expo hosted by the Wildlife Conservation Network (WCN) in Los-Altos, California, US, from 6 to 8 October. We visited Los-Altos to draw the attention of the public and potential donors to the critical situation of the saiga in the last few years.

WCN works very effectively to help provide long-term conservation of endangered species inhabiting various parts of the globe. Expos of this kind are long-awaited and unique events briging many people together. These include scientists involved in conservation of endangered species, international nature protection organizations and nature lovers. During the Expo, WCN creates excellent opportunities for a wide exchange of information and expertise, as well as conditions for informal meetings of people involved in nature conservation and potential donors, among whom there are many well-known people sharing their fondness for nature and willing to help conserve it.

The Saiga Conservation Alliance was invited to the Expo as an applicant for WCN Partner status, which provides an excellent opportunity for a range of support for projects aimed at the conservation of the saiga and for further development of this Alliance as an organization. We are glad to inform you that in November 2006 the Saiga Conservation Alliance was awarded Candidate Partner status, which enables us to represent the interests of SCA at the Expo in 2007 and will increase the chance of attracting additional funds for our current and potential projects.

For more information contact Elena Bykova, Institute of Zoology Uzbekistan AS, esip@tkt.uz, and E.J. Milner-Gulland, Imperial College London, e.j.milner-gulland@imperial.ac.uk or visit the WCN web site: http://www.wildnet.org/expo2006_photos.htm.

Round table for saiga conservation held in Uzbekistan

On 15 August 2006, a round table was held at the Press Center of the State Committee for Nature Protection, with the aim of discussing issues pertaining to the conservation of the saiga and its habitat in Uzbekistan. The organizers were the State Committee for Nature Protection and the Institute of Zoology of the Uzbekistan Academy of Sciences. A work program of urgent measures was put forward, focused on the implementation of the international Action Plan for the protection, rehabilitation and sustainable use of the saiga for the period 2006-2010. A decision was taken to create an inter-departmental working group on this issue.

The agreed priority steps included: organization of a specialized saiga protection service; establishment of a monitoring system; improvement of protected areas through the reorganization of the "Saigachiy" reserve into a landscape (integrated) reserve; implementation ecological education programmes.

A suggestion was put forward to set up a saiga breeding centre. The necessity of assessing of the effect of possible gas extraction, a motorway and railway on the status of saiga populations, particularly in potential construction sites, was emphasized. Monitoring and enforcement of ecological standards and development of a programme to reduce the effect of these industries on the saiga population were also high on the agenda.

For more information contact Elena Bykova and Alexander Esipov, Institute of Zoology Uzbekistan AS, esipo@tkt.uz.

Pulat Reimov – head of the Karakalpak branch of the State Committee for Nature Protection of the Republic of Uzbekistan - replies to participants in the saiga round table. Photo by Alexander Esipov

Demonstrating for saigas in Uzbekistan

On 6 October 2006, the day of habitat protection, a group of members of the "Human-Rights Alliance of Uzbekistan" held a picket outside the building of the State Committee for Nature Protection of the Republic of Uzbekistan. The activists demanded a halt to the extermination of saigas on the Ustyurt plateau and establishment of effective protection for the species. They also called upon the Russian companies Gazprom and Lukoil, which are prospecting for gas on this plateau, to provide the public with detailed information on their activities and plans, which could adversely affect the status of the saiga population. For additional information, please follow the link http://saigak.biodiversity.ru/news/121006.html.

Saiga calves born at Volokalamsk breeding centre, Russia

The newspaper "Moskovsky Komsomolets", 31 July 2006, announced that saigas kept at the Volokolamsk Zoological Breeding Centre of Moscow Zoo had given birth to calves. Local zoologists believe this is one of most important events in this year, since it is rather difficult to maintain saigas in captivity as they are very shy, often become ill and die. At Volokalamsk breeding centre, saiga stocks have declined from several dozen to only three males and two females. However, one of the females unexpectedly gave birth to two calves. The workers in this Centre hope that from now on numbers will increase.

The Mongolian saiga through the eyes of children

A children's art competition entitled "The Mongolia saiga through the eyes of children" was organized by the Governor of Darvi soum, Gobi-Altai province from 1st September to 15th October, 2006. The best of the art works were selected to appear in a calendar put together by the WWF Mongolia Programme Office and distributed to children and their parents.

For more details contact Yo.Onon and B.Elbegzaya, WWF Mongolia Programme Office onon@wwf.mn.

1st place winner: E. Sersen Demid, Darvi soum

Lessons on saigas in China - music and sports stars call for wildlife protection

On the 2nd, August 2006, at the Wild Aid news conference, NBA star Yao Ming, famous Chinese musician Liu Huan and the legendary sport star Li Ning announced their support for the conservation of endangered wildlife. Yao said that he had heard the story that saiga antelopes in China were hunted to extinction in the 1960s for their enormous economic value, and commented "I hope this tragedy will not happen to other wild animals."

Animated saiga cartoon in Kazakhstan

A presentation of a 15-min animated cartoon *Saga of the Saiga* was held in Kazakhstan on 17 October. Production of the cartoon part of the project "The steppe without saigas is like a wedding without the bride". This project aimed to establish an alliance between scientists and artists for saiga conservation. The project was run by the German Union for Wild Life Protection (NABU) and AniMaster Studios, and funded by the Global Nature Fund and Shell.

For more information contact Martin Lenk, lenk@uni-greifswald.de and visit http://www.caresd.net/site.html?en=0&id=4534.

The Saiga Story – a new UK documentary film

How do local people in the steppe view the decline of saigas? What has gone wrong? What do they think needs to be done to save the saiga? With the help of Imperial College PhD student Aline Kühl, British journalist Julia Mills lets local people in the Kazakh steppe have their say in her debut documentary. The film links the ecological threat facing saigas to the human story about the social and economic impact of the collapse of the Soviet Union. It brings together contemporary and Soviet-era footage of saigas and interviews with villagers from the Ustiurt and Betpak-Dala regions. Through this, the film explores the pressures and challenges of life after the Soviet Union, what this has meant for saigas until now, and what the prospects are for the future - both for the saiga as a species and for the local people living in these remote areas. The film has recently had its premiere in London, hosted by BBC Channel 4 and the One World Broadcasting Trust. For more information contact Julia Mills, jam1403@yahoo.co.uk.

Children in Bosoi village (Ustiurt, Kazakhstan) after an exciting day of following the film makers (left); Oserbay Tileyzhanily, one of the former hunters interviewed in Bosoi village, who showed Julia, Aline and his grandchildren how saiga were traditionally hunted with traps (right). Photo by D.J. Murrell

A saiga calf becomes the talisman of the chess contest between Topalov and Kramnik

The official talisman of the world chess championship between Bulgarian Veselin Topalov and Russian Vladimir Kramnik, which was held in Elista from 21 September to 13 October 2006, was a saiga calf, a symbol of Kalmykia. The author of the logo is a well-known Kalmyk artist, Sergei Balendaev. For more details, please visit http://www.elista.org/elista/index.php?option=com_content&task=view&id=758&Itemid=2.

Mobile Anti-poaching Unit Irves-3 in the field. Photo by WWF, Mongolia

Saiga Conservation in Mongolian heightened

An On-site Refresher Training Course for Saiga Rangers was conducted in the period 14-17 September 2006 in Gobi-Altai aimag with the Mobile Anti-poaching Units (MAPU) Irves-1 and Irves-3, which are active in the Altai Sayan Eco-region of Western Mongolia. The Saiga Rangers Network is an informal network of volunteer rangers recruited by WWF-Mongolia's saiga conservation project. It has been functional since autumn 1998 (see *Saiga News*, 2). The "Irves-3" MAPU conducts regular patrols in saiga habitat areas for a minimum of 5-7 days every month. As a result, 5 cases of illegal saiga hunting and one case of illegal trade in saiga horns were revealed and the violators were fined. The members of Irves-3 complement their regular patrolling work with a wide range of public awareness activities on environmental legislation, with the aim of decreasing poaching on saiga. For more details contact Yo.Onon and B.Elbegzaya, WWF Mongolia Programme Office onon@wwf.mn.

Mongolian customs officers stop illegal export of saiga horns

Dr. B. Lhagvasuren assesses the subspecies of the confiscated horns. Photo by B.Chimeddorj

Mongolia is one of transit states for the illegal trade in saiga horns. In June 2006, Mongolian customs officers detained two Mongolian residents with 36 saiga horns near the Chinese border. A criminal case was launched against them. However, the confiscated horns did not belong to saiga antelopes of the Mongolian subspecies, which are noticeably smaller. They could have been transported from Kazakhstan or Kalmykia (Russia). Mongolian law provides for large fines or imprisonment in such cases. The case has been submitted to the public prosecutor's office. This case is an example of the growing control of poaching throughout the saiga range, including the toughening of customs controls. However, nobody knows for sure how many criminals still at large manage to cross the Mongolian border and those of the other saiga range states with their illegal load. To determine the true number of illegally obtained horns, information exchange, particularly from the Chinese side, is crucial.
For more information contact B. Lhagvasuren, Mongolian AS, ecolab@magicnet.mn.

Saigas in the news

Kazakhstan: *Kazakhstanskaya Pravda,* Issue 236 (25207), 25 October 2006 [abridged]

In between the past and the future

Kazakhstan signed the Memorandum of Understanding on the Conservation and Management of the Saiga Antelope at the First Meeting of the CMS Signatory States of MoU which was held in Almaty.

On the right track

Today in Kazakhstan, specialized saiga protection services cover the whole ranges of the species. They are represented by the Central Protection Service, three branches and six monitoring points. Mobile and well-equipped groups of inspectors work on a shift regime during the entire year. Over three years, 67 poaching event have been revealed and 99 infringers of nature protection laws have been detained; 100 saiga corpses were confiscated, as well as 22 vehicles and 46 arms. Criminal proceedings were instituted against all the infringers.

The organization of effective protection and state funding of the program has helped to increase saiga numbers to as many as 49,300 individuals by 2006. Wolf control and monitoring of saiga birth rates and migration have contributed to this increase. Their habitats are visited not only by scientists, but also by journalists, who have shot several films and published numerous articles on the subject, which has led to increased financial support. For instance, the private fund "Seimar Social Fund" gave 14 high-powered vehicles equipped with communications and satellite navigation, as well as uniforms for rangers.

Specialists from Ohotzooprom, together with the Institute of Zoology, conduct an annual count of saiga numbers. International organizations make a significant contribution to the conservation of saigas in Kazakhstan. The Secretariats of the Convention on Migratory Species, CITES and WWF have initiated the development of an action plan for all saiga range states, listing measures for population rehabilitation to optimal levels.

The most severe problems affect the Ustyurt population, which migrates to Uzbekistan and then to Turkmenistan, where their protection is only at a low level, according to Nauruzbai Hadyrkeev, the Chair of the Committee for Forestry and Hunting of the Republic of Kazakhstan. In the future, the Ural population may also have problems when it starts to migrate to Russia as its numbers increase. We rest our hopes upon the memorandum to solve the problem of saiga conservation by all range states.

How are others doing?

The so-called European saiga inhabits the areas of the Republic of Kalmykia (Russia). "In 1997, Okhotupravleniye, the Hunting Authority of Kalmykia counted more than 270,000 animals", states Yuri Arylov, the director of the Centre for Wild Animals of the Republic of Kalmykia.

"However, aerial counts conducted by Okhotupravleniye and the state-run agency Centrohotkontrol (Central Hunt Administration) revealed a catastrophic decline of the population to as low as 24,000-26,000 in May 2000. We started to look for ways out of this situation. One of generally accepted mechanisms for the protection of threatened species is to set up a captive population for biological research as well as the rearing and subsequent release of some individuals into the wild. It was our chance. Currently, a small herd of the European saiga already exists in captivity at the Centre for Wild Animals of the Republic of Kalmykia."

Out of sight...

In the turbulent 1990s, saiga antelopes were overlooked by Uzbekistan's responsible agencies. Enterprising people took advantage of this situation. Despite the fact that the decision to set up the Saigachiy reserve was taken in 1991, the situation has not as yet improved. It is only now that Uzbekistan is confronting this problem - it has signed a number of conventions, among which is the Convention on Biological Diversity and the Convention on Migratory Species. Based on these and other international instruments, an Action Plan for saiga conservation has been developed, which is being used as a framework for the activities of nature conservation agencies.

There is hope

In the concluding speeches, meeting participants expressed their hope for immediate action on saiga conservation. The necessity of making it a lasting campaign was stressed. Priority actions included expanding anti-poaching activities,, raising public awareness and instilling an attitude of stewardship towards this symbol of our steppe. It is crucial to preserve this animal for future generations.

Olga Volodina

Full version at http://www.kazpravda.kz/index.php?uin=1152013916&chapter=1160770329.

Articles

Recommendations for the Restoration of the Mongolian Saiga in the Great Lakes Basin

Hartmut Jungius
WWF International

Dr. H. Jungius and project team in Great Lakes Basin, Mongolia. Photo B. Chimeddorj

Discussion on cooperation with the Centre for wild animals in Kalmykia (from left to right - Dr. H. Jungius - WWF International, Dr. V. Neronov - Russian MAB Committee, Dr. Yu. Arylov - Center for wild animals of Kalmykia, Mr. V. Dan'kov - "Living Nature of the steppe" Association). Photo Anna Lushchekina

The Mongolian Saiga is endemic to Mongolia. It is listed as endangered in the Mongolian and IUCN Red Data Books and included in Cites Appendix 1. The numbers and distribution of the species have been declining for many years, because of competition with livestock and illegal hunting, which is a result of poor law enforcement due to lack of funds for efficient anti-poaching patrols. The current population status is alarming; about 1,500 animals were left in 2005. Mongolia is a signatory to the Convention on Biodiversity (CBD) and as such is obliged to take the necessary measures to ensure the saiga's survival. Establishment of a captive breeding centre, restoration of the population through release of animals, together with improved protection and rangeland management are essential measures to rebuild and maintain the population.

Establishing a captive breeding unit, as recommended by CITES, WWF, the First Meeting of the Signatories to the Saiga MOU and the national and international scientific community, is a priority for the Mongolian authorities. The Ministry of Environment is ready to implement such a project and asked WWF Mongolia to assist in this task.

A feasibility study was carried out with Mongolian, Russian and WWF scientists, thanks to financial assistance from the MAVA Foundation. The study concentrated on the Great Lakes Basin with the objectives of collecting information on the species' former distribution and potential habitats, assessing the status of the habitats and identifying the most suitable area for a captive breeding centre to provide animals for restocking the population.

The team analyzed the biological and ecological data on the species and its habitats. Competition with livestock was assessed via a 12-month survey of rangeland use by herder families in the saiga range. The field survey covered the current and potential habitats of the saiga in Shargin Gobi, Khusiin Gobi, Khomin Tal and Durgun Tal.

The final conclusion is that Durgun Tal offers the best conditions for the project:

- The rangeland provides good pasture and water all year round.
- The Jargalant Mountain Range and the hills in the north provide excellent shelter against the cold winds from the west and the north.
- There is very little livestock grazing in summer and winter, but locally some intensive grazing in spring and autumn, when nomads move from the mountains to fresh pastures along the lower slopes and near the lakes and wells.
- A fairly large livestock-free area could be set aside for the breeding and restocking programme.
- Restocking the Saiga in Durgun Tal will stabilize and increase the population in the northern part of its range and promote its expansion into its historic range further north.
- The project is situated in the Khar Us Nuur National Park which provides a modest infrastructure and the legal basis for the programme. This includes two game wardens who are based in the region.

The first steps for implementing the project must include negotiations with the local herders. These discussions will be led by the Ministry of the Environment, representatives of the local authorities and WWF. An agreement needs to be reached with the herders concerning the site for the centre and a 20,000 ha livestock-free enclosure around it, with access to open water. This will require compensations. Experience from the Takhi reintroduction projects in Khomin Tal and Hustain Nur will be used. Husbandry procedures should be based the experience already gained in Kalmykia, including training of Mongolians in Kalmykia and assistance from Kalmykian experts in setting up the programme.

The project needs to be accompanied by a comprehensive rangeland management programme to help maintain and where possible improve grazing conditions. An education and information campaign should be started to inform local people of the objectives of the project and to obtain their support. Establishment of youth clubs should be considered. Anti-poaching operations need to be strengthened throughout the Saiga range. This should include a mobile anti-poaching unit.
A programme of this kind needs to be supported for at least 6 to 8 years. Females reach maturity after 7 to 8 months but males only after 1.5 years. Building up a captive population and providing of sufficient animals for regular release will therefore take about 3 years. Subsequent releases will be necessary each year to fulfil the objectives of the project. Efforts are under way to raise the necessary funds.

WCS field crew members, assist in radio-collaring an adult female saiga in the Sharga Nature Reserve, Mongolia, in September 2006. Photo by Kim & Joel Berger

Mongolian Saiga: A summary of WCS field work and radio-collaring efforts

Kim & Joel Berger
Wildlife Conservation Society, kberger@wcs.org

It August 2006, the Wildlife Conservation Society (WCS), in collaboration with the Mongolian Academy of Sciences, initiated a field-based study of saiga and their habitat in western Mongolia. There were two goals: 1) to capture and collar saigas to understand movements and survival, and 2) to design and execute surveys to estimate the size of the saiga population and assess trends over time. These objectives were developed based on input received during a 2005 site visit from numerous government, private, and non-governmental organizations, as well as Mongolian scientists and conservationists. The field work in 2006 was carried out by Joel and Kim Berger in conjunction with WCS Mongolia Program Country Director, Amanda Fine, and Mongolian Academy of Science's (MAS) B. Lhagvasuren, Head of the Mammalian Ecology Laboratory. Also assisting in the field were MAS biologist B. Buuveibaatar, Mike Dunbar (a veterinarian with the U.S. Department of Agriculture), and Z. Namshir, a veterinarian and former MAS researcher. The study was funded by a grant from the National Geographic Society.

Using drive nets, the team successfully captured 13 saigas (2 males, 9 females, and 2 calves). Eight adult females were fitted with GPS or satellite radio collars, which will collect data on movements and survival until July 2007. Mean handling time for animals was 6 ½ minutes and no chemical immobilization was required. All animals appeared in good physical condition at the time of capture and were alive 3 weeks post-capture. Blood, hair, and faecal samples were collected for subsequent analyses of exposure to disease, genetics, and parasitology. Following the captures, the team provided training in radio-telemetry techniques to local WWF saiga rangers, who will monitor the radio-collared animals following the Berger's return to the United States.
The success of the captures was attributable, in part, to restricted chase times, which kept saiga body temperatures low. As with all animals, saiga are vulnerable to capture myopathy, a disease associated with capture and handling of wild mammals. The primary symptom of capture myopathy is hyperthermia, or increased body temperature. This occurs due to stress and fear during handling, as well as over-exertion when animals are chased for long periods, and can be influenced by factors such as the animal's physical condition and the environmental temperature. Death from capture myopathy may occur instantaneously or up to two weeks post-capture due to muscle and kidney damage sustained at the time of capture. Thus, the results of this capture operation are extremely important for future radio-collaring studies, as they demonstrate that saiga can be safely captured and handled as long as chase and handling times are kept to a minimum.
Working with local herder families, the field crew also deployed GPS collars on fat-tailed sheep in areas in and around the Sharga Nature Reserve. Information from these collars will be used to assess the relationship between habitat use by domestic livestock and saiga.
Over a two-week period, the team also conducted 360 km of transects (see map) to estimate saiga abundance, and collected data to assess the influence of various factors on saiga occupancy of sites throughout the Shargyn Govi. Nearly 500 saiga were observed while conducting the drive transects. In the coming months, the transect data will be analyzed using program Distance to generate a population estimate for the Shargyn Govi.

A saiga school book as a tool for saiga conservation

Jan Dierks
NABU "Eurasia" Working Group and Institute of Botany and Landscape Ecology, Greifswald University, Germany, jdierks@uni-greifswald.de

In the autumn of 2004, I was sponsored by the German Academic Exchange Agency (DAAD) to ascertain what measures can be taken to protect the critically endangered saiga antelope from being hunted to extinction. Interviews revealed that saigas are often killed by boys ages 13-14 on motorcycles. Without even using a gun, these adolescents simply chase male saigas to death. From the boys' point of view this method is convenient, as motorcycles are easy to obtain in rural areas and, since the motorcycles rarely have number plates, they are hardly ever caught by officials. The boys perceive of this form of poaching as an adventure: it gains them respect among their peers and a relatively high income.
So far, the Kazakh state and international non-governmental organizations have tried to protect the endangered saiga by focusing attention and financial sponsorship (roughly € 750,000 annually) on well-armed "anti-poaching brigades" who patrol saiga habitat and arrest poachers. The success of these brigades in actually stopping poaching is questionable, and we feel there are other, additional options in the "saiga conservation tool box" that can be used to protect this species.
Most rural inhabitants feel the state does not provide them the means for a decent life, as it did in their eyes during the "good old days" of the Soviet era. As long as most rural people live in or near poverty, anyone who tries to prevent them from increasing their income (for example by poaching saiga) is presumed an enemy. The military appearance of the anti-poaching brigades exemplifies a classical top-down approach to conservation, based on deterrence.

I hypothesize that many locals have an aversion to the brigades, who they feel are exercising authority over them, and this dislike is projected onto the saiga antelope. The animals thus bear the brunt of local frustrations about poverty and neglect by the government, which are only added to by the commanding image of the anti-poaching brigades, resulting in an unsustainable basis for saiga conservation. Conservation can only be successful if at least part of the local population is aware of the need to protect the species concerned, and if the animal is perceived positively or valued in the community. That is unlikely to be the case if

- no in-depth information about the saiga antelope and the need to save it is presented to the villagers,
- the comparatively low standard of living in the country's remote areas is not improved,
- the practice of saiga conservation is (solely) governed by armed, organized groups, and
- there is no local interest in or value of the saiga antelope.

Our research revealed that there is a lack of educational material about the saiga antelope for schoolchildren, especially for the ages immediately before they become the next generation of poachers on motorcycles. By providing knowledge and creating a positive image of the saiga through a school book, we hope to sow the seed of understanding and insight for conservation. With the information offered in the book to pupils (and therefore to some extent to their parents), we try to reduce acceptance of saiga poaching in these rural areas.

The saiga school book – a project of NABU - has been published in Russian and will be published in the Kazakh language soon. It is aimed at children around the ages of 9-13 living in communities close to saiga habitat, and gets them acquainted with this unique animal as well as its threatened status. The content is structured in two parts: the first, for younger children, includes legends and fairy tales about the saiga as well as poetry, art, and handicraft projects. The illustrations incorporate a saiga cartoon character that follows readers throughout the story. The second part of the book, aimed at schoolchildren aged 12-13, provides facts about the biology and the ecology of the saiga, threats to its ecosystem, the need for conservation, and some actions that have already been undertaken in worldwide saiga conservation. This part shows what schoolchildren can do on the local level to save the saiga and its habitat.

The main aims of the saiga school book project are to:

- provide knowledge about the saiga antelope in Kazakhstan and neighbouring countries,
- improve the image of the saiga antelope in Kazakhstan and neighbouring countries,
- reduce acceptance of poaching,
- integrate additional civil society stakeholders into saiga conservation activities, and
- promote creativity in conservation efforts.

The school book is not intended as a "better" solution to current anti-poaching activities. But the book tries to animate people to think of their own creative ideas for saiga conservation. We need diversified approaches to conservation that complement one another. Demonstrations of power by armed brigades do not win many allies; but positive images and interesting information are things that everybody can appreciate and participate in - even in the poorer regions of Central Asia. Children especially can identify with the material presented in the book, and may end up teaching their fathers not to poach anymore. The book intends to change people's minds about the value of this unique animal. Finally, the saiga school book is, in comparison to current approaches, a relatively cheap tool in the "saiga conservation tool-kit."

The book was written, designed and co-edited by our partners from Karaganda, Kazakhstan (EcoObraz and Arlan) who are professional teachers and biologists. Funding was provided by the NABU and the German Ursula-Merz-Foundation with additional financial support for the Russian edition from WWF-Russia/FZS, and INTAS. Printing of the Kazakh edition will be funded by the Seimar Social Fund (Kazakhstan). Bi-lingual distribution (Kazakh and Russian) will be 20,000 initially, with the option of additional print runs if funding allows. If organizations in other saiga range states endorse such an effort, the book can also be translated into other, e.g., Uzbek or Turkmen languages.

The book is freely distributed. It can be required from Jan Dierks, jdierks@uni-greifswald.de and Maria Zhirkova, ecoObraz@nursat.kz. Also the book will be soon available online at several websites, including www.saigak.biodiversity.ru, www.oopt.kz, www.iccs.org.uk/papers/Saiga_Schoolbook(rus).pdf and www.nabu.de/m01/m01_08/00991.html.

Status assessment and recommendations for the conservation of the Ustyurt population of saigas in Uzbekistan

Makset Kosbergenov
Administration of Forestry of the Republic of Karakalpakstan, epronmakset@mail.ru

The Sam-Matai sands area in the north of Uzbekistan (50 km from the border with Aktybinsk province, Kazakhstan), is a perennial breeding ground for the saiga antelope. In favorable years, mass breeding takes place in late April-May, depending on the weather. During the breeding season, several tens of thousands of saigas are present. In the early 1990s, we observed several thousand saiga calves, which constituted only a small part of the main population.

When I again visited these breeding grounds in late May 2006, I had to draw a painful conclusion that saiga antelopes no longer migrated to this area. What made saiga leave this area and search for less favorable breeding grounds in Kazakhstan? The answer is obvious: it is long-term poaching resulting from soaring demand for saiga horns in China, high unemployment, consumption of meat as the major food source for local villages, absence of proper protection, as well as industrial development and the exposed bed of the Aral Sea. Formerly, the saiga migrated far into the Republic of Karakalpakstan and southwards to the Kungrad and Shumanai districts, while in the snowy winters of 1993-94 and 2004-05, saigas could be seen in the outskirts of settlements, which caused a boom in poaching and significantly reduced their numbers. The Saigachiy reserve, established in 1991, did not have any significant effect on the conservation of the saiga population in Ustyurt. Due to a high demand for horns, poachers mainly hunted males thus undermining the reproductive potential of the population.

A count conducted in Ustyurt over three days in December 2004 revealed 45-50 saigas in 32 herds. Only one mature male with horns was recorded; a third were yearling males with horns of about 5 cm, the others were females. Another large herd of migrating saiga of several thousand individuals was driven by organized groups of poachers into deep snow near a railway embankment in the vicinity of Abadan and Jaslyk villages, near Karakalpakia station. All the saigas were killed. Many pools of blood, clumps of hair and vehicle tracks in this area all witnessed this fact. The killing and transportation of dead bodies continued for several days; however neither the administration of the district, nor law enforcement agencies took any steps to prevent this slaughter. This migration of a large number of saiga was caused not by an increase in their numbers, but by heavy snowfalls and lack of forage in Kazakhstan.

Saiga tracks crossing a highway near Jaslyk village, Uzbekistan (December, 2004). Photo by Alexander Esipov

To avoid further extermination, saiga had to change their long-term migratory routes. Now, without going far into the Ustyurt plateau, they go down the Adjibai slope near Komsomolsk-on-Ustyurt village to the exposed bottom of the Aral Sea to migrate further eastwards, towards Tahtakypir district of the Republic of Karakalpakstan bordering on Kzyl-Orda province of Kazakhstan, where they overwinter in saxaul copses. It is noteworthy that these new area are less favorable in terms of climatic conditions, biomass and diversity of forage and the availability of fixed dune sands (which protect them from cold winds), than their former wintering grounds in Turkmenistan. The new migratory routes are also risky as the saiga antelopes have to cover significant distances (about 200 km) in the open, in an area where several gas deposits are currently being exploited. Poaching by residents of Tahtakypir and Muinak districts, staff of oil derricks and teams of geologists is commonplace. However, in comparison with the practically limitless poaching by unemployed villagers and professional poachers on the Ustyurt Plateau, the poaching of saigas on the exposed bed of the Aral Sea is more secretive and and less large-scale.

The staff of the derricks and the geological teams are afraid of losing their jobs and saiga hunting is not their only way of earning a living, which acts as a deterrent. In the near future, there are plans to significantly expand the development of gas and oil deposits by foreign companies in this region. The mass inflow of equipment and human resources will naturally aggravate the disastrous situation of the saiga, deprive them of their last refuge and bring them closer to the brink of extinction.

Thus, the main factors affecting the state of the saiga population in Karakalpakstan include poaching by the local population and transient poachers; their impunity;, insufficient numbers of rangers and their poor equipment; lack of coordination and incorrect location of the nature conservation agencies dealing with saiga protection (the office of the main inspector of the Department of Forestry is situated in Turtkul, which is 700 km away from the saiga habitats, while the Ustyurt task force of the State Committee for Nature Protection is located in Kungrad, which is 150 km away); and intensive industrial development of Ustyurt Plateau and the exposed bed of the Aral Sea.

To improve the situation, the following measures are of importance: establishment of a protected area in the saiga breeding grounds of the northern part of Ustyurt on the border with Kazakhstan (Sam-Matai sands); coordination of activities by nature conservation agencies of adjacent states during the autumn-winter saiga migration (including identification of areas of responsibility while accompanying migrating saigas); establishment of a “Saiga” eco-centre in close proximity to its breeding grounds; digging wells to provide watering places; establishment of mobile groups of rangers to prevent poaching and accompany migrating herds; establishment of stationary ranger posts to improve the effectiveness of the patrols.

A new approach to studying saiga reproduction in the North-Western Caspian Sea region

Nadezhda Yu. Arylova, Anna A. Lushchekina, Vera V. Voznesenskaya
A.N. Severtsov Institute of Problems of Ecology and Evolution, Russian Academy of Sciences, mab.ru@relcom.ru

Young scientists Anna Voznesenskaya and Nadezhda Arylova carry out laboratory analysis. Photo by Anna Lushchekina

Selective hunting of saiga males by poachers has caused a grave sex ratio imbalance and a resultant drop in reproduction capacity and stability of the North West Precaspian population. Given the critical state of saiga within its whole range, it is very important to develop recommendations for reproductive improvement.

In our work, we set the following goal: develop non-invasive methods of monitoring the reproductive status of female saigsa, which suggests identification of hormones or their metabolites in the urine and faeces. The use of non-invasive methods enables not only the examination of animals without causing stress (catching, excessive keeping in captivity, blood sampling) and even without the animals themselves, by analyzing their faeces. This is extremely important not only from the methodological, but also from the conservation standpoint.

We conducted studies at the Yashkul saiga breeding centre of the Centre for Wild Animals of the Republic of Kalmykia, where we collected samples of faeces and blood from 20 saiga individuals (15 females and 5 males), in 2004-2006, with the aim of identifying the correlation between the main steroid hormones in blood plasma and in faeces. The concentration of the main steroid hormones (testosterone, progesterone and oestradiol) was identified by using a hard-phase immune-enzyme assay.

The analysis of the dynamics of the oestradiol content in blood plasma and faeces of females showed high correlation between these samples ($p<0.001$). The immune response to oestradiol in saiga faeces increased more than 10-fold at the stage of 4 to 5 weeks of pregnancy and 50-fold by the beginning of week 7 of pregnancy (Fig. 1). The same pattern was recorded in the blood plasma.

The analysis of blood samples and faeces for immune response to progesterone did not show a significant correlation in the content of this hormone in blood plasma and feces. What is more, in female saigas a signficant increase in the progesterone content in blood plasma takes place at a relatively late stages of pregnancy – weeks 12 to 15 (n=5). The data obtained suggest that progesterone is not suitable for use in monitoring the reproductive status of females.

The analysis of the testosterone content in males (n=5) in the blood plasma during the year showed an except the autumn-winter (November-December) increase in the level of this steroid, and a second peak in April-May.

A test based was developed based on these results for the diagnosis of pregnancy in female saiga via the immune response of faeces to oestradiol. This can be used as an alternative to the contact method of monitoring the reproductive status of saiga females. For the viability of any population, successful breeding and a higher birth rate than mortality rate, or at least a balance between them, are crucial.

The breeding success of the European saiga population, as mentioned above, depends on many factors. However, in our opinion, one of the keys is the absence of stress. In the future, we plan to introduce the method we have developed into practical monitoring of the saiga population in the wild.

The work has been conducted within the framework of project INTAS No 03-51-3579 and program of fundamental studies “Biodiversity and Gene Pool Dynamics” of the Presidium of Russian Academy of Science.

The Saiga in the area of the Aral and Caspian Sea watershed

Konstantin Plakhov
Institute of Ecological Research, Kazakh National Agrarian University,
Almaty, Kazakhstan, elchor@nursat.kz

It was previously deemed that only one group of saigas, the Ustyurt group, inhabited the Ustyurt Plateau, with a migration route that significantly varied between years; sometimes they moved to the Buzachi Peninsula or southern Ustyurt, sometimes as far as the outskirts of the Sam sands. These changes were attributed to intensive hunting or severe weather. Later, the opinion was expressed that after habitat recovery in 1954, saigas from the northern deserts moved to the Ustyurt plateau, where they formed independent groups following new migratory routes. Their wintering grounds were situated on the southern escarpment of Ustyurt, in the Janaka and Zaunguz Kara Kum desert. Most saigas moved northwards to summer pastures, while some remained. Numbers in N.W. Turkmenistan reached ca. 40,000-50,000 animals in winter, and several hundred to 30,000 individuals in the summer.

Migrating saigas. Photo by Lars Lahmann

The goal of this study is to evaluate saiga distributions in the Aral-Caspian watershed, a vast arid region lying between the Aral and Caspian seas, encompassing Kazakhstan, Uzbekistan (Karakalpakstan) and Turkmenistan. The study was conducted in 1985-2002, and the reconstruction of migratory routes was carried out using materials from the literature and interviews with experts. These resulted in the following findings:

1. There are at least three saiga groups (not including local herds). Of these, the largest is the northern Ustyurt group. Its wintering grounds are situated in northern Ustyurt south to the latitude 44°N, while its summer pastures are north of the River Emba. In 2003 there were 20,000 to 30,000 saigas in this group.
2. Two other groups overwinter in NW Turkmenistan – in the southern Ustyurt area, Janaka and Zauzboi sands. From there, their migration mainly lies along the SW part of the Ustyurt Plateau northwards, as far as the Karabaur Ridge. Individual herds can move to other areas - the Kenderly-Kayasan Plateau, Karynjaryk depression, across eastern Ustyurt to the Barsa-Kelmes salt pan. The first of these groups migrates through the Ustyurt nature reserve in April-early May, before calving. The second group migrates to this site in June-July, after calving.
3. From Karabaur Ridge, the routes of the two groups diverge. The first migrates further to the Ustyurt Plateau, passing Eraly, towards the Karatulei salt-marsh, near which females give birth. In June, they move further northwards, spending summer between the Sam sands, Asmantai-Matai saline depression and the northern chink of Ustyurt. Saigas stay in this district, which is hard for predators to reach, until October and then return to their wintering ground.
4. The route of the second group is more complicated. From the Karabaur Ridge it continues to migrate along the western escarpment of the plateau. Near Baurbas, some saigas descend to the foot of the escarpment, gathering for the summer pasture in the well-watered area between the Kaskyrjol ridge, eastern Karatau, Tuzbair salt pan and Sauskan sands. The main group continues to move along the western Ustiurt escarpment to the area around the Kertty spring. Then the saigas again break up in two directions. The first group continues moving westwards and descends from the Kaidak salt pan to the Buzachi Peninsula, in the eastern part of which they spend the summer. The others move north along the western escarpment, and descend near Mount Jamanairakty. They spend the summer at the foot of the northern part of the western escarpment and in the Mertvy Kultuk salt pan. In the second half of October, all these three subgroups begin to move back to their wintering grounds.
5. Despite a lack of data, it is most likely that in the first half of last century the saiga antelopes of the southern groups in areas like the Buzachi Peninsula increased in numbers and range and restarted their traditional migratory routes. The diversity of routes and their annual variation indirectly supports this suggestion. However, the nature of saiga migrations in eastern Ustyurt remains to be investigated.
6. The peculiarities of the distribution of precipitation, the resultant differences in the rate of vegetation growth and dessication, as well as conditions in the previous winter, affect the time and routes of the saiga’s annual migrations within the Aral-Caspian watershed. A reverse migration, when part of the saiga from the southern group returns to the summer pasture in NW Turkmenistan, is still possible in very dry years.
7. It is noteworthy that the vast saline depressions of Ustyurt and Mangyshlak are not an impassable obstacle for the saiga. They can migrate for dozens of kilometers with an amazing accuracy to get to “islands” of high grass and dense shrubs, which provide shade from the sun. These inaccessible islands provide shelter from two main enemies, humans and wolves.
8. The average number of saigas per herd in the south Ustyurt groups was 4.8-14.2 individuals in the spring and summer of 1985-2000,. In autumn, herd sizes were 19.2-24.4 individuals, while the proportion of mid-sized and large groups (over 15 individuals) also increased.

To preserve the natural riches of the Aral-Caspian watershed, strictly protected territories were set up: the Kaplankyr state reserve (Turkmenistan) in 1979; Ustyurt state reserve, Aktau-Buzachi and Karagie-Karakol reserve (Kazakhstan) in 1984, as well as the Saigachiy reserve (Karakalpakstan) in 1991. However, they have not had a significant effect on saiga conservation. In the last few years, the numbers of the north Ustyurt group have declined ten-fold, while the south Ustyurt groupings were not recorded in Ustyurt and Mangyshlak in 2002. Levels of poaching have dramatically increased, including in relatively remote areas. One of the ways out of this situation could be setting up national parks in Mangistau and adjoining areas of Aktyubinsk province, as corridors to unite existing and designated reserves, as well as promising sites for the future conservation of the saiga and other species. On the other hand, one should not overestimate the role of strictly protected areas without improving protection from poaching.

Note: the full article will be published in the journal Selevinia (Kazakhstan) in 2006.

Project round-up

FFI's Alternative livelihoods on the Ustyurt Plateau, Kazakhstan

Fauna & Flora International have been working in Kazakhstan since 2000 and have for the last few years been focusing on the fate of the Ustyurt saiga population. Whilst the long-term aim is to progress saiga conservation within the framework of steppe rehabilitation, FFI's initial project has been the support of substitute livelihoods as an alternative to poaching. This programme has been in underway since 2004 and is now into its second round of small grants.

In collaboration with our partners at Imperial College London, a community in the Ustyurt, which was involved in poaching, was identified. A series of community consultations, workshops and individual coaching was initiated to prompt members of the community of Bosoi to devise their own proposals for sustainable employment opportunities that could be initially supported through a small grants programme, funded in part by DGIS. The first round of grants was directed at the poorer parts of the community, those assumed to be most associated with poaching in the area. A mechanics workshop, a welding station and a carpentry shop were established, and a remote pasture farm about twenty kilometres away, initially enabling 4 different individuals and their families to supplement their basic income. Most of these projects are now established enough to be occasionally employing extra staff, further extending the benefit of the project.

A second phase of small grants was initiated in October 2006 in Bosoi and a further five projects, again devised by individuals in the village, have been funded. Thanks to the technical assistance of the Israeli firm AGS-Technology, a greenhouse is being built at the school to grow fruit and vegetables for the children, and a drip irrigation scheme established within the village to grow vegetables for the community. The other three projects are a second remote pasture project, allowing a family to develop their own herd as well as care for their neighbours' animals, and helping to lessen the direct grazing pressure round the village, a dance school at the village hall, to help promote regional cultural themes, and a health massage clinic. These projects are centred more within the whole community and address families and women more directly than the first tranche of small grants. This will hopefully result in the benefits of this alternative livelihood programme being spread further within the community and being more sustainable.

FFI, now a signatory of the Convention on the Conservation of Migratory Species of Wild Animals, as a co-operating organisation, plans on extending its work on saiga conservation in the Ustyurt in the foreseeable future, both in Kazakhstan and Uzbekistan. Fauna & Flora International is committed to working in partnership with, and in support of, suitable local organisations and institutions involved in saiga and desert steppe conservation in all four of the range states over which saiga still roam.

For more information, please contact Richard Allcorn, FFI, rallcorn@fauna-flora.org

Only males have horns, for fighting over females. Chinese Traditional Medicine uses the horns. Photo by Zhaoyao-Heihe

Project of survey on Saiga horn in markets of China

From Feb 2006 to Feb 2007, with the supports of the CITES Secretariat and CITES China Management Authority, the WCS China programme is running a project aiming to investigate and evaluate the current market status of saiga horn in China. Information from this study will provide the Chinese Government and the CITES Secretariat with market information to determine appropriate interventions for management of the saiga horn trade, and for saiga conservation. In all, 12 main wholesale markets in eight provinces and one municipality, retail markets in eight cities of three provinces, and 3 boundary provinces will be investigated. Also relevant information will be compiled from the literature, internet, and interviews with experts and TCM practitioners.

For more information, please contact Lishu Li, WCS-China, jasmine.lls@hotmail.com and Aili Kang, WCS-China, ygling@online.sh.cn.

Review of recent saiga publications

Grachev, Yu.A., Bekenov, A.B., Tashibaev, E.S. (2006) Features of reproductive biology and structures of saiga population in Ustyurt in 2005. Proceedings of International conference "Actual problems of ecology and wildlife management in Kazakhstan and adjacent territories", May, 25-26, 2006, Pavlodar, 293-295.

The results of INTAS-03-51-3579 project on research into saiga reproductive biology in Ustyurt in 2005 are presented. It is demonstrated that reproductive timing has not changed in comparison with long-term data. The animals' fertility has decreased due to reduction in the number of adult males. Data about saiga population structure during the spring and autumn in this region are given. Contact: Yury Grachev and Amankul Bekenov, terio@nursat.kz.

Morgan, E.R., Lundervold, M., Medley, G.F., Shaikenov, B.S., Torgerson, P.R., Milner-Gulland, E.J. (2006) Assessing risks of disease transmission between wildlife and livestock: the Saiga antelope as a case study. *Biological Conservation* **131**, 244-254

Disease transmission between wildlife and livestock can undermine conservation efforts, either by challenging the viability of threatened populations, or by eroding public tolerance of actual or potential wildlife disease reservoirs. This paper describes the use of transmission models to assess the risk of disease transfer across the wildlife-livestock boundary, and to target control strategies appropriately. We focus on pathogens of the Saiga antelope (*Saiga tatarica*) and domestic ruminants in Central Asia. For both foot and mouth disease and gastrointestinal nematodes, the main risk is associated with infection of saigas from livestock, and subsequent geographical dissemination of infection through saiga migration. The chance of this occurring for foot and mouth disease is predicted to be highly dependent on saiga population size and on the time of viral introduction. For nematodes, the level of risk and predicted direction of transmission are affected by key parasite life history traits, such that prolonged off-host survival of *Marshallagia* in autumn enables infection of saigas and transfer northwards in spring. Field estimates of parasite abundance provide qualitative support for model predictions. The application of models as tools for the early evaluation of disease transmission between wildlife and livestock is discussed. Contact: Eric Morgan, eric.morgan@bristol.ac.uk.