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

CONTENTS

Current status and distribution of the saiga in Mongolia

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The Mongolian saiga (*Saiga tatarica mongolica*) is endemic to Mongolia, and one of several ungulate species listed in The Red Data Book of Mongolia (1987). The ecology and long-term conservation needs of the species in Mongolia were reviewed by Bannikov (1954), Eregdenedagva (1954), Dulamtseren & Amgalan (1995) and Lushchekina et al. (1999).

Mongolian saiga calf.
Photo by B.Chimeddorj

The Institute of Biology, in cooperation with the WWF Mongolian Programme Office (WWF MPO) and local rangers, carried out an assessment of the saiga population in Mongolia in January 2008. Using topographic maps, parallel transects were selected 2 kilometers apart and covering the Shargiin Gobi, Khuisiin Gobi, Durgun valley and Mankhan districts. To estimate the poulations size of *S.t.mongolica*, a common transect method was used, with the census team repeatedly following previous transects.

In Shargiin Gobi, Khuisiin Gobi and Durgun valley 282 herds with 1,829 individuals were counted. 62.05% (n=175) of the 282 herds contained up to 5 individuals, 24.1% (n=68) up to 10 individuals, the rest more than 10 individuals. By extrapolation, there are 3,240 saigas in the census area of 13,000 km2 (see table). This is an 11.8 percent increase in estimated saiga numbers in comparison to last year's survey.

Table

Estimated Mongolian saiga population number and density

Place name	Population number, indivs		Density, indivs/1000 ha	
	Jan.2007	Jan.2008	Jan.2007	Jan.2008
Shargiin Gobi	761	1979	2.2	5.9
Khuisiin Gobi	2024	1107	3	1.6
Durgun valley	60	154	0.3	0.8
Mankhan county	15	ND	0.3	ND
TOTAL	**2860**	**3240**	**2.3**	**2.6**

ND - No data

Continued on p.2.

This publication is available online at www.saiga-conservation.com, http://saigak.biodiversity.ru/publications.html 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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High density areas this winter are in the Shargiin Gobi, due to the presence of soft snow. Estimated saiga numbers fluctuate from year to year (see figure). Although different researchers have used different survey methods it is possible to understand the general fluctuations of the saiga population. From 1998 the total saiga population increased, to a maximum of 5,000 animals in 2000.

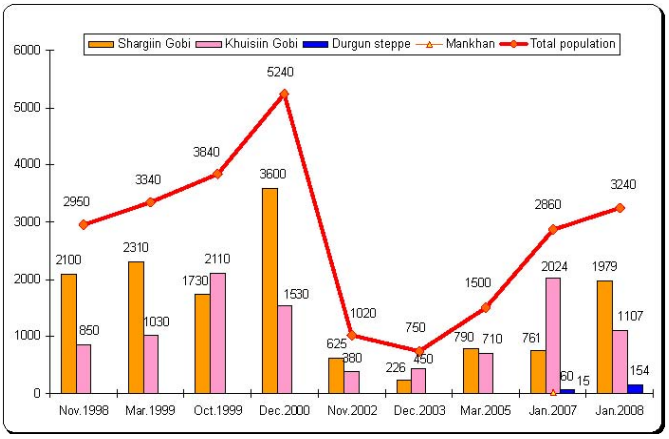


Figure.
Population dynamics of Mongolian saiga

However, frequent cold winters with heavy snow falls (called a dzud) and extended dry periods led to a decline in the population to about 750 animals in 2001 and 2002. The population recovered from this disaster to about 1,500 individuals in 2005 (Amgalan, 2005).

The Mankhan sub-population has declined from 130 animals in 1982, to less than 30 in 1983-1984 (due to a dzud), about 70 in 1993 and about 50 in 1998 (Shar, 1998). Our study suggests that this number has continued to reduce, with only 15 animals counted in 2008 (see table).

These results suggest that the status of the saiga antelope is still critical throughout its range. We suggest that full aerial surveys need to be carried out on the Mongolian saiga population, and that funding is urgently needed for the control of poaching in all parts of the Mongolian Saiga range. Meteorological data should also be collected by rangers, given the importance of the climate for saiga population dynamics in Mongolia.

WWF MPO is continuing to fund these studies and help with data collection, with additional financial support from the MAVA Foundation saiga project. The saiga rangers worked very hard to make this survey a success. We thank these organizations and people, especially Mr Tseveenravdan, the director of the WWF Mongolia for Khovd province.

Updates

The award winning Saiga News!

On 20 December, the results of the 7th national contest for environmentalist journalism were announced in Tashkent. The contest was held to support to the development of ecological journalism and raise public awareness of the issues of conservation of the environment and sustainable resource management. The organizers of the contest were the State Committee for Nature Protection of the Republic of Uzbekistan, the Ecological Movement of Uzbekistan, Ecoforum of non-commercial and non-governmental organizations of Uzbekistan and the ecological publishing company Chinor ENK. More than 80 works devoted to environmental problems were presented at this contest, including films, television and radio programs, news stories, photo reports, articles and environmental newletters. In the category "Best environmental publication" the first prize was awarded to *Saiga News*. The prize winners will be recommended for participation in international ecological journalism competitions. For more detail please visit www.eco.uz, www.ecoforum.uz .


Ўзбекистонда экологик
журналистика 7-миллий кўрик-танлови

ДИПЛОМ

ЕЛЕНА БЫКОВА
"ЭНГ ЯХШИ ЭКОЛОГИК НАШР" НОМИНАЦИЯСИ БЎЙИЧА
БИРИНЧИ ЎРИН
БИЛАН ТАҚДИРЛАНАДИ

Ўзбекистон Республикаси
Табиатни муҳофаза қилиш
Давлат қўмитаси
РАИСИ
Б.Аликанов

Ўзбекистон Экологик ҳаракати
Марказий Кенгаши
Ижроия Қўмитаси
РАИСИ
А.Мингбоев

We are the winners!

Saiga Meetings in Almaty

On 29th-31st October, the SCA met in Almaty for three meetings related to saiga conservation. The first day was a meeting to evaluate the progress towards the Medium Term Work Programme of the CMS MOU on saiga conservation (which can be downloaded from www.saiga-conservation.com/mou) ahead of the next official CMS meeting. For each area of the MTWP progress was assessed, with a particular focus on A1 actions (those that are both critical for saiga survival and needed within the next one to two years). Due to the presence of so many interested parties, lots of new information was added and so we now have a much better understanding of what progress has been made.

The second day was a scientific meeting entitled "Monitoring the saiga antelope – an exchange of best practice".

Scientists from all the participating range state gave presentations on their monitoring programmes, including ranger-based monitoring, participatory monitoring (involving local people), aerial surveys and satellite/radio collaring. This provided an excellent opportunity for those involved in saiga conservation to learn from each other about the opportunities and pitfalls that different methods present.

On the final day the SCA's annual meeting was held. The Alliance has come a long way in two years, and there was much to discuss! The winners of the Small Grant Programme in 2007 reported back on the progress they've made since being awarded their grant, and the winners of the 2008 competition were decided (for more information see the article in this issue of *Saiga News*).

Participants in the 2nd SCA meeting, Almaty, October 2008.
Photo by Alexander Esipov

Members of the SCA Steering Committee in the closed session.
Photo by Alexander Esipov

Amongst other things, we also discussed the 2009 Small Grants Programme, improvements to the website, fundraising strategies, Saiga News, marketing and merchandising, the SCA filials in Uzbekistan and Kalmykia and the WCN Expo (details of which are also in this issue of *Saiga News*).

Many thanks to all those who attended and gave presentations, and to those who made these meetings possible: the CMS, The Royal Society of London and the WCN for providing sponsorship, and the Institute of Zoology in Kazakhstan for hosting us. *For more details contact Elisabeth Whitebread, Saiga Conservation Alliance,* elisabeth.whitebread07@imperial.ac.uk.

The Wildlife Conservation Network Expo

By Elisabeth Whitebread

At the beginning of October, Elena Bykova, Anna Lushchekina and I attended the Wildlife Conservation Network's annual Expo week, which takes place in San Francisco. We had three days of workshops before the weekend's donor events took place, which gave me a great opportunity to get to know the other conservationists attending the event. Some of the biggest names in conservation were there, including Iain Douglas-Hamilton of Save the Elephants, Laurie Marker of the Cheetah Conservation Trust and Rodney Jackson of the Snow Leopard Conservancy. Everybody was incredibly friendly, down-to-earth and passionate about their cause, and I was very pleased to be representing saigas in such inspiring company.

I was very impressed by the workshops themselves – we learnt about Google Earth's outreach programme, had a brief introduction to some of the new capabilities of GIS software, were told how to give the perfect "elevator pitch" i.e., how to persuade someone to fund your project in less than two minutes, and how to construct the best board of directors. There are so many things that are important to successful conservation work that often get ignored because of limited time, funds, or knowledge, and the WCN provided us with an excellent opportunity to fill these gaps in our experience.

America discovers the saiga antelope.
Photo by Elena Bykova

SCA team at the WCN Expo-2008.
Photo by Elena Bykova

On the Friday night we had the first donor event, a safari-themed drinks evening in the horse training barn of WCN's co-founder Akiko Yang. The barn was beautifully decorated with banners depicting each species represented, as well as large plastic African animals. We spent the evening talking to past donors and new faces, and by the time we left I think I'd spoken about nothing but saigas for 4 hours!

The next day was the Expo itself, where we set up a stall of saiga merchandise and handicrafts from Uzbekistan and Kalmykia. Members of the public were very curious about saigas, as many of them had never heard of the species. However, a large contingent of teenage volunteers from Oakland Zoo had attended the Expo last year and since then they had been excited to return and learn more about the charismatic antelope of the steppe! They were first in the queue for Elena's talk, which focussed on her work with local communities. We managed to sell around $1,000-worth of saiga-related merchandise, and spoke to lots of people keen to learn more about saiga and help their recovery. It was a tiring, but very rewarding day.

The final day was spent at a garden party at Executive Director Charlie Knowles's house in Los Altos. All day we chatted to guests, ate, drank, and chatted some more. Each of the conservationists gave a short speech to introduce their work, and Elena's was very well received, especially when she told the audience that a local man had recently told her that because of their educational work his son had persuaded the entire family to stop eating saiga meat.

The WCN Expo is run by an incredibly dedicated and well-organised team of staff and volunteers, and I am very grateful to them for providing such an excellent forum to showcase the SCA's work and for us to meet new potential donors. It is an invaluable opportunity, and I have no doubt that the SCA is stronger through this partnership.

For more details contact Elisabeth Whitebread, Saiga Conservation Alliance, elisabeth.whitebread07@imperial.ac.uk.

Saiga talk in San Francisco, Expo-2008.
Photo by Martin Varon

International Partnerships for Saiga Conservation

In early September 2008, a team from the Conservation Centers for Species Survival (CCSS) travelled to Russia at the invitation of Professor Yuri Arylov, Director of the Center for Wild Animals of the Republic of Kalmykia. The CCSS is a consortium of five American zoological facilities created to focus their combined conservation and research expertise on a number of significant conservation projects, including saigas. The team consisted of two wildlife veterinarians, Dr. Nancy Boedeker of the National Zoo in Washington, D.C., and Dr. Rachael Weiss, veterinary resident at the Wilds in Cumberland, Ohio, and two curators with years of animal husbandry and management experience: Randy Rieches of the Zoological Society of San Diego, California, and Dan Beetem, also of the Wilds. Dr. Anna Lushchekina of the Russian MAB Committee helped to coordinate the trip.

Work started with a meeting held at Kalmyk State University in

Meeting with Yury Kaminov.
Photo by Nadezhda Arylova

Elista, with meetings with staff from the Kalmyk State Department of Zootechnics, and the School of Veterinary Medicine at the Stavropol State Agrarian University.This meeting was followed by an official meeting with Deputy Minister of Natural Resources, Yury Kaminov for an assessment of the status of saiga conservation programs in the republic. A press conference at the Ministry was an important opportunity to raise public awareness about saiga conservation.

From Elista, the CCSS team travelled to the village of Yashkul for a tour of the Centre for Wild Animals. This included an evaluation

Work at the saiga breeding centre.
Photo by Nadezhda Arylova

of the effectiveness of a new anaesthetic drug combination for saiga. The team donated veterinary supplies including a microscope donated by Muskingum College in Ohio, which will be used for routine clinical diagnosis. A camera crew from the local television station filmed the visit. Next the CCSS team went to the Stepnoi Sanctuary to meet with Director Anatoly Kludnev and his team of rangers. The team was thrilled to see saigas in their natural habitat as well as many other species that share the steppe ecosystem, and to learn about the challenges that the rangers face and their educational initiatives.

The CCSS team will prepare some training material on veterinary diagnostic tests and animal restraint and handling to be translated into Russian for use at the Centre. There is interest in supporting future research in endocrinology and building on assisted reproductive technology work at the Centre, such as an artificial insemination project planned with the School of Veterinary Medicine in Stavrapol. The CCSS look forward to developing future international partnerships to benefit the saiga in Russia. For more details contact Dan Beetem, The Wilds, djbeetem@yahoo.com.

Meeting on saiga aerial survey methods held in Tashkent

A technical workshop on saiga aerial survey methods in Uzbekistan was held at the Institute of Zoology, Tashkent, on December 9th 2008. This workshop was organized jointly by the Institute of Zoology, the Saiga Conservation Alliance and Gosbiocontrol RUz.

Representatives of all other relevant agencies also attended (State Committee for nature protection of Karakalpakstan; National State University; Department of National Parks and Hunting; Institute of Zoology, Kazakhstan) as well as other interested people. The workshop aimed to exchange experience on saiga monitoring with a practical focus on aerial surveys within Uzbekistan as well as preparing for future surveys. Participants agreed on the necessity for coordination of saiga monitoring between different agencies responsible for these activities in Uzbekistan. Everyone agreed that cooperation on these questions was also needed with the relevant agencies in Kazakhstan, including signing a bilateral agreement on joint conservation actions for the Ustiurt saiga population.

Working at the meeting.
Photo by Alexander Esipov

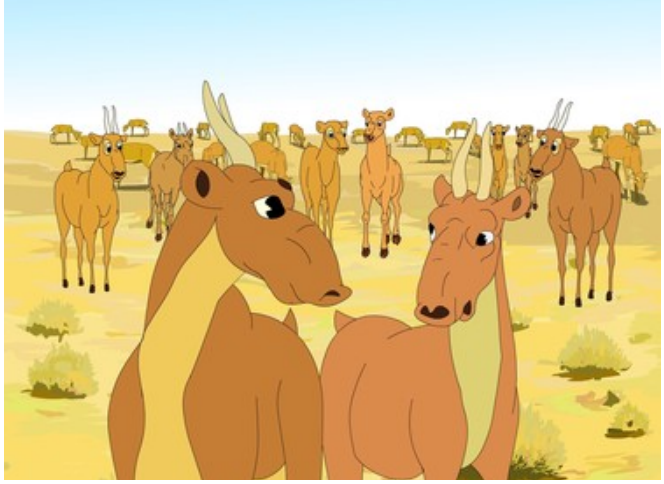
For more details contact Alexander Esipov, esipov@sarkor.uz.

Saigas under protection in Kalmykia

The Rossiskaya Gazeta reported on 24th September 2008 that at a recent session of the People's Hural (parliament) of Kalmykia, the deputies adopted a Republic-wide wildlife law. One of the major goals of this law is to conserve the saiga. The saiga is one of the flagship species of this Republic and the main species protected by Kalmykia's Chernye Zemli Biosphere Reserve. *For more details please go to* http://www.rg.ru/2008/09/24/reg-jugrossii/sajgaki.html.

Animated saiga cartoon among the winners of an international contest

In late October 2008, the second Eurasian television contest for social programmes aimed at young people, entitled "I am a human", was held in the Russian town of Orenburg. A prize-winner's certificate was awarded to the animated cartoon "Saga of the saiga" produced at the Shimkent-based studio, Animaster. The jury noted the great public importance of the issue raised, i.e., the conservation of biological diversity for future generations, and the young audience keenly empathized with the main characters of the cartoon. The cartoon is the second part of a story about saiga calves originally developed by Animaster, but this time the co-authors of the screenplay were the schoolchildren of Karakalpakstan (Uzbekistan), who know about saiga poaching from everyday life in their small villages. The project was supported by a not-for-profit organisation, the Seimar Social Fund, as well as Agip KCO and the Committee for Forestry and Game Management of the Kazakhstan Ministry of Agriculture. *More information can be obtained from Makhsut Zharimbetov, of Animaster studios,* zmaxut@mail.ru.



Horn smuggling cases

A load of saiga horns was detained at the Zabaikalsk customs check point on 19 April 2008 during an attempted illegal shipment to China. Ninety-seven horns with a total weight of 22.5 kg were hidden in the engine of a freight train. The smuggler was the assistant engine driver, a Russian citizen. In total 165 saiga horns were detained at the Harbin customs area in 2006-2007, according to documents presented by Chinese customs officers at a Russian-Chinese customs meeting on the problems of smuggling of wild animal and plant species on 16 October 2007. These are relatively small volumes in comparison with those detained at customs in Xinjiang-Uigur autonomous district (Chinese-Kazakh border and Chinese-Kyrghyz border). The counter-smuggling department of the customs office in Urumqi confiscated 5,386 kg of saiga horns from 1999 to 2007. The largest batch of horns confiscated was at the Kazakh border on 26 November 2001, and constituted 1,793 kg of smuggled saiga horns (approximately 4,482 individuals). The total cost of the batch was estimated at 269 million yuan.

The confiscated batch of saiga horns in Transbaikalia.
Photo by the Transbaikalia customs office of the Siberian Customs Department of the Russian Federal Customs Service

The border of Xinjiang-Uigur autonomous district is much closer to the saiga range than Transbaikalia, and there was significant flow of saiga horns through this border in the early 2000s. Illegal transport of saiga horns in Transbaikalia and the Far East is a relatively new and undocumented phenomenon, however. Although saiga horns from Kazakhstan and probably Uzbekistan are transported through the Kazakh-Chinese border at Xinjiang-Uigur, saiga horns from the Kalmyk population, could be more easily smuggled through the Transbaikalia border (Russian-Chinese). Unfortunately, the origin of the batch of horns confiscated in April

Impounded Saiga horns.
Photo by B.Buuveibaatar

remains unidentified.On 20 October, 2008 a Mongolian customs officer detained two Mongolian citizens that they attempted to smuggle 534 saiga horns to China on an international train. Experts from the Institute of Biology identified the horns as belonging to *Saiga tatarica tatarica* rather than from the Mongolian sub-species, hence originating outside Mongolia.

The case is currently under investigation. This is the second recorded case of an attempt to smuggle saiga horns from Mongolia to China; two Mongolian citizens with 36 horns were arrested in 2006.

It seems that customs officers do not easily recognize saiga horns and that there is a well established network of traders and smugglers. In order to combat these problems we need to exchange information on saiga poaching and horn smuggling between relevant organizations and individuals within Mongolia, Kazakhstan and Kalmykia, including training of customs officers, inspectors and rangers.

Guards at the border post of Karasarai Batyr (Kazakhstan-Kyrgystan border) detained two Kazakhstan citizens who were driving a vehicle to Kyrgyzstan. The border guards found a load of saiga horns with a total weight of 300 kg. An investigation is under way. *For more information on the Mongolian story please contact B.Buuveibaatar,* buuveibaatar@biology.mas.ac.mn *and B.Chimeddorj,* chimeddorj@wwf.mn, *For Kazakhstan, see Kazinform's website* http://www.inform.kz/showarticle.php?lang=rus&id=218977.

Justice served for saiga poachers in Kalmykia

Several cases of saiga poaching are at different stages in the legal process in Kalmykia. The furthest forward is the case of Sergei Manzhiev, 26, who was found guilty of illegal hunting, causing considerable damage (paragraph *a* part 1 of article 256 of the Criminal Code of the Russian Federation) by the Chernozemelsky district court of Kalmykia. The Press Service of the Kalmykia Republican Prosecutor's Office reported on 1 November 2008 that in October 2007, this man shot three female saiga antelopes in this district and loaded them onto his vehicle, after which he was detained by militia officers. The court sentenced him to six months of correctional work and the deduction of 15% of his salary for the benefit of the state. The lawsuit of the district prosecutor led to a levy of 81,900 rubles for ecological damage, to go to the federal budget.

On 19th September 2008, militia officers detained a woman from Yashkul district, aged 26, who was selling saiga

meat, reports the press service of the Ministry of Internal Affairs of the Republic of Kalmykia. She was selling the meat openly in a taxi depot from a GAZel vehicle. Twelve saiga carcasses were found in her trailer. She said that she had bought the dead saiga antelopes from a man on the road from Yashkul to Elista for 1000 rubles per carcass. The investigation will reveal the truth of this story.

A judge at Yashkul district court sentenced a 20-year-old Utta resident, who was found to have used a motorbike south of Utta to illegally kill a saiga in October 2008 . The court fined the poacher 2,500 rubles, and the public prosecutor's office is now preparing materials for the recovery of damages by the state.

On 2 November, 2008, in the Chernozemlsky district, militia officers detained two poachers, in whose vehicle two dead saiga antelopes were found. The poachers were revealed to have chased a herd of saiga antelopes and shot four animals, causing ecological damage valued at over 100,000 rubles. A criminal action against the suspects has been filed on the basis of part 2, article 258 of the Criminal Code of the Russian Federation (illegal hunting).

For more information see REGNUM's website www.regnum.ru/news/1078098.html, www.regnum.ru/news/1079464.html *(on the Chernozemelsky court cases), Kalmykia's press servce* http://www.elista.org/elista/index.php *(on the Yashkul court case), and Izvestiya Kalmykia* http://www.elista.org/elista/files/ik/240908/3.pdf *(on the meat sales).*

Poaching in the Ustiurt region

In late October 2008, on the Kazakhstan side of the Kazakhstan-Uzbekistan border (near the Matai sands), Okhotzooprom rangers patrolling in a helicopter detained 10 Uzbek citizens, who had illegally crossed the Kazakh border. Over two days, they detained six motorcycles (10 people), four of which carried the horns of dead saiga antelopes, with two armed men using the other two motorbikes to hunt saigas. The prisoners also confessed that they had killed and eaten one saiga antelope. However, legal proceedings were not instituted due to a lack of real evidence. Instead, the poachers were brought to the Chelkar District Department of Internal Affairs, their motorcycles confiscated, fined for crossing of the border and deported to Uzbekistan. According to hunt inspectors, well used motorbike trails lead from Uzbekistan to Kazakhstan.

In September 2008, inspectors of the newly established SAI (Specialized Amudarya Inspection) of the State Committee for Nature protection of the Republic of Uzbekistan detained two residents of the Takhiatash town, who had illegally shot an adult saiga antelope, a wild boar and a pheasant in the flood plain of the River Kokdarya in the Takhtakupir district of Uzbekistan. By the decision of the Nukus city criminal court the poachers must pay compensation for the damage inflicted to the sum of 4 million sums (~ $2,860).

Poachers detained in the Betpak dala saiga range

On 19th January 2009, 4 rangers of the Altyn Dala Conservation Initiative (ADCI) together with a policeman of the Nature Conservation and Veterinary Police stopped a "Kamaz" truck belonging to Kazakhstan's largest copper mining companies on the road from Arkalyk to Zhezkazgan. In the truck they discovered heads, skins and carcasses of nine poached saigas, 2 adult and 3 young males with horns and 4 females. Two Yamaha snow mobiles, 4 weapons and cartridges were also found. During winter when the steppe is covered with snow the saigas are unable to move fast and are weak due to the lack of fodder. This makes them relatively easy to hunt using snow mobiles which are also frequently used for wolf hunting.

The discovery followed information received by the ADCI rangers about vehicles loaded with snow mobiles going off onto the steppe, on the basis of which, rangers and police stopped and checked vehicles coming from this direction. All three passengers were employees of the mining company and a subsidiary company, two of them influential top managers. There were also accomplices driving two more luxurious cars, whose names are unlikely to be divulged. The poachers stated that they had bought the poached animals from a local farmer despite the presence of weapons and cartridges in the vehicle.This arrest shows that saiga poaching is not only done for subsistence reasons by rural people but is also a sport for rich and influential people.

Heads of poached saigas in an impounded "Kamaz" truck.
Photo by Orken Shajmukhanbetov, ACBK/ADCI

ADCI Ranger with poached saiga.
Photo by Orken Shajmukhanbetov, ACBK/ADCI

Also in September 2008 two poachers with two saiga females were detained near Zhezkazgan in a joint action between ADCI rangers, hunting area rangers and Okhotzooprom.

Depending on the result of the court cases, fines of 5000-7000 US dollars or imprisonment of two to five years are likely, as well as compensation of 1000-2000 dollars per animal, depending on its sex and age. Due to technical, financial and administrative shortcuts during the month of January almost no state ranger brigades (Okhotzooprom and Committee of Forestry and Hunting) were out in the field.

For more information contact Eva Klebelsberg, eva.klebelsberg@acbk.kz.

Articles

Mongolian Saiga Calves Captured and Collared

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Mongolian saigas underwent a dramatic population decline in the late 20th century, yet the remaining wild saiga populations have the potential for recovery because of their high fecundity that includes early puberty and regular production of twins. Two parameters that affect population dynamics include adult survival and calf recruitment, yet data do not exist on these parameters for the Mongolian sub-species. Therefore, the Wildlife Conservation Society (WCS) in conjunction with the Mammalian Ecology Laboratory, Institute of Biology, at the Mongolian Academy of Sciences (MAS) initiated a project to understand calf production and survival. Specific objectives are to: 1) determine saiga distribution pre- and post-calving; 2) identify calving areas; 3) compare birth timing, twining rates, and morphological characteristics with historical data on Mongolian saiga; and 4) determine survival rates of newborn calves. Field work occurred within the Sharga Nature Reserve in the Govi-Altai region of western Mongolia between 17 May and 21 June 2008. Because monitoring efforts are still underway, we report preliminary findings related to calf captures and mortality.

MAS and WCS staff capture and collar a Mongolian saiga calf in Sharga Nature Reserve, Govo-Altai, Mongolia.
Photo by J.K. Young/WCS

Collared calf after release.
Photo by J.K. Young/WCS

Prior studies of calves suggest females are clumped during birth but current densities in Mongolia are generally low and so it is possible that different spatial patterns exist. WCS and MAS scientists first located female saigas to identify potential calving areas and observed them from ≥ 700 m with a spotting scope during daylight hours. Once females were located, teams of 2-4 people approached the location to capture calves. Efforts were used to ensure mothers did not reject or abandon offspring (e.g., use of gloves, no capturing wet calves). Each calf was weighed, measured, and fitted with a VHF radio-collar (see photo). Radio-collars have an expandable neckband that eventually degrades causing the collar to drop.

After 17 days of observations, the team captured 40 newborn saiga calves over six days (12-19 June 2008). An additional six live and three dead calves were found during this period but not radio collared. Of the 40 calves captured, 22 were males. Males (2.80 ± 0.32 kg) weighed more than females (2.60 ± 0.38 kg, t = 2.02, p = 0.05). Eleven collared calves were solitary, and of the captured twins, four were male-male pairs, four were female-female pairs, and seven were mixed sex, suggesting a 58% twinning rate.

To date, 33 VHF-collared calves are still alive and seven have died, probably from predation. Of those with positive identifications of the predators, one was killed by a feline predator and three were killed by raptors. Monitoring efforts are still underway, with each calf located three days per week. These preliminary findings are the first steps in a multi-year project to identify sources of calf mortality and factors affecting the demography of Mongolian saigas.

Public Awareness Needs Assessment for the Saiga Antelope Conservation Project in Mongolia

Buyanaa Chimeddorj

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In 2008, WWF-Mongolia conducted a sociological survey on the Mongolian Saiga within its range, with the aim of identifying the need for public awareness of the saiga antelope and its conservation, and of prioritising conservation measures for the species. The survey assessed current levels of public awareness of Mongolian Saigas and was conducted at three levels: local communities residing within the saiga range; rangers, environmental inspectors and police; and relevant governmental officials and policy makers. In total 627 respondents were involved in the survey.

Survey team (left) and participants in the sociological survey (right).
Photo by B. Chimeddorj

1. Saiga conservation needs & local communities' perception

According to survey respondents the saiga range has been relatively stable recently, but the species does move within its range area. This movement results in overlap with livestock grazing areas. This is an issue because:

- In recent years the number of livestock has drastically increased. Thus, remote empty areas are now occupied by domestic livestock.
- Saiga numbers have been increasing and its range has expanded into the pastureland, where the domestic livestock is grazed. The herders dislike the saigas grazing within the pasture of their livestock and attempt to make saigas move away.

It is therefore important to make livestock-free grazing areas available for saigas. If this is not possible, it could be possible to allow seasonal grazing of livestock within saiga areas. Areas that are not frequently used for livestock grazing due to lack of water can be utilized for saigas. These areas (e.g. Shar Boorog and Ulaan Ergiin Nuruu), need to have open water. Core areas which saigas use for rutting and birth need to be identified and protected.

2. Illegal hunting and the current situation of Saiga populations

According to recent surveys, saiga poaching has reduced. However, in reality, poaching has not reduced, but the saiga range has expanded and numbers have increased. Thus, it is necessary to have rangers in charge of saiga conservation within the core range of the species. Moreover, additional saiga rangers from local communities can be appointed on a temporary basis in

Running Mongolian saigas in the Darvi region.
Photo by B.Chimeddorj

some areas. In this case, the rights given to local rangers need to be discussed with local government.

The questionnaire results suggest that the main reason for hunting saigas is poverty within local communities. Therefore, we need to provide support to improve livelihoods. For example: training and public awareness raising on the sustainable use of natural resources, planting of vegetables, household budgeting, making handicrafts from livestock-based materials, access to loans and incentives.

3. Public awareness and access to education

No awareness-raising activities on saigas have been conducted within the local communities. Nature conservation partnership activities need to be encouraged, and relevant awareness materials should be circulated among local communities. Additionally, TV and radio programs should be broadcast, and awareness-raising and training days on saiga conservation should be offered to children at the local level.

It is also necessary to encourage a clear understanding and awareness of saiga-based products among the State administrative and Customs Office personnel. Moreover, it is important that this dialogue is two-way. This approach will make our saiga conservation efforts more integrated.

The region where this survey was conducted is an agricultural region, with a few settled areas and towns. This context needs to be taken into account when considering future saiga conservation activities.

Ranger based monitoring of the North-west pre-Caspian saiga antelope population

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Ranger based monitoring of saiga antelope has been carried out for the north-west pre-Caspian population of saiga antelopes in Kalmykia, Russia since September 2003. It is currently based upon opportunistic sightings of saiga by anti-poaching rangers whilst they are out on patrol. The utility of the data that has been collected is somewhat limited as there is no record kept of the areas surveyed by the rangers during their patrols or the amount of time they are out; this means that the level and distribution of monitoring effort cannot be estimated. In order to make meaningful conclusions about the status of the population, monitoring effort must be estimated in order to compensate for any changes in the level or distribution of monitoring effort over time.

The advantage of the ranger based monitoring programme is that it utilises the knowledge of saiga habitat and the experience gained over several years of saiga monitoring by the anti-poaching rangers. It is extremely beneficial to have the support and enthusiasm this group of people who are integral to the future survival of the species.

The focus of this project was to try and make small changes to the existing ranger based monitoring strategies to improve the utility of the data that is collected.

It was found that there was a significant relationship between the density of saiga sightings and the density of tracks in an area (figure 1). This suggests that this may be a key explanatory variable in the distribution of saiga data collected as much of the data collection is done from tracks. This means that, because there is no measure of monitoring effort it cannot be determined whether there are more saiga sightings in an area due to there actually being a higher density of saiga there or because there is more monitoring conducted there and thus a higher probability of seeing them.

The rangers were found to have a good level of accuracy when counting groups of saigas (figure 2). The Chernye Zemli Biosphere Reserve rangers had an average percentage difference between their estimations and the number of saiga seen on the

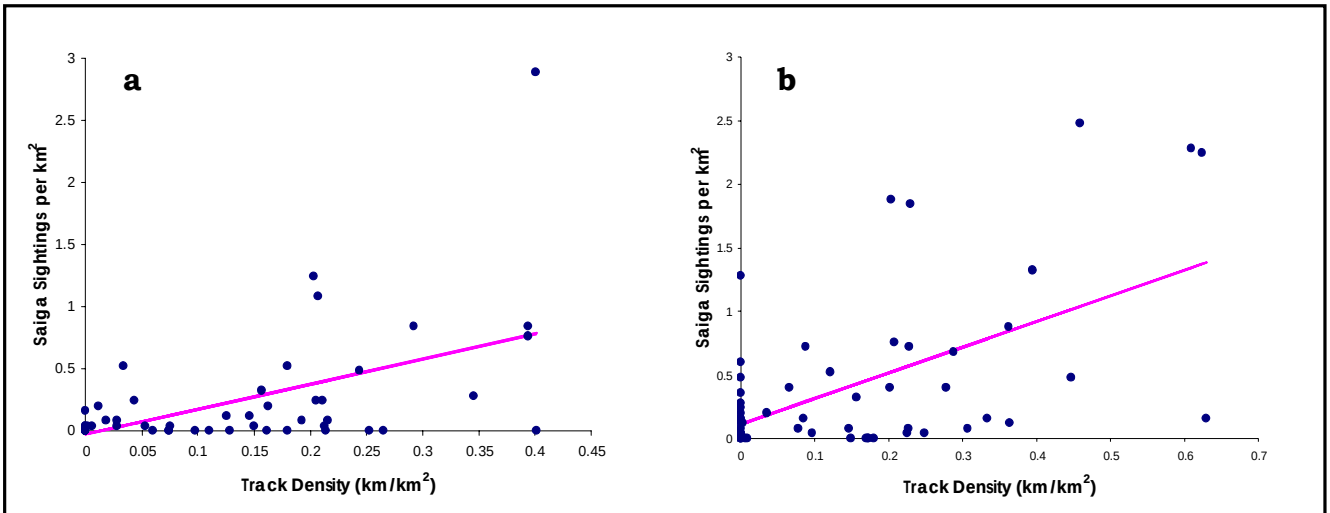

Figure 1.
Regression of saiga sightings against track density in (**a**) Chernye Zemli Biosphere Reserve ($r^2 = 0.285$, df = 54, $P < 0.0001$) and (**b**) Stepnoi Reserve ($r^2 = 0.311$, df = 55, $P < 0.0001$)

photograph of 20.07% (SE = 9.184), for the Stepnoi Reserve rangers it was 25.22% (SE = 9.364). This compares well with other studies which have shown expert observers to have percentage differences of up to 30%. This overestimation of the number of saiga could be adjusted for during the analysis of the data collected.

The sheep experiment agreed with the saiga counting investigation results, the rangers were found to overestimate at low numbers (figure 3). In this experiment the low numbers were based upon the number of black sheep within a flock, used to represent the counting of male saiga within a herd. It showed that the proportion of the flock comprising the black sheep was overestimated whilst the overall number of sheep was underestimated. If this is also true when the rangers count saigas this would have important implications as an overestimation of the proportion of males in the population may lead to erroneous conclusion about population status. It is not clear whether this would be true as the few recorded occasions where the rangers were counting large groups of saigas (estimated to be between 200 and 700 individuals, not included in the analysis due to the small sample size) the rangers appeared to still overestimate the total number of saiga in the herd.

If the total number of individuals in a herd is overestimated as well as the number of males the impact of the overestimation of males will be less severe as the two would, to some extent, cancel each other out.

Rangers from the Chernye Zemli nature reserve participating in the ranger based monitoring project.
Photo by Helen O'Neill

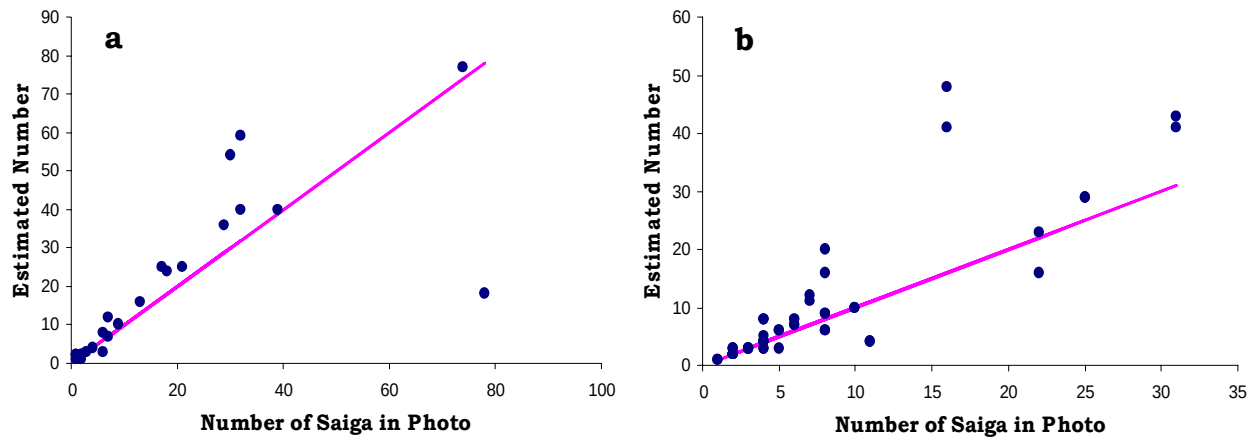

Figure 2.
Comparison between the numbers of saigas estimated to be in a herd by the anti-poaching rangers in (**a**) Chernye Zemli Biosphere Reserve and (**b**) Stepnoi Reserve and the number in the photo.

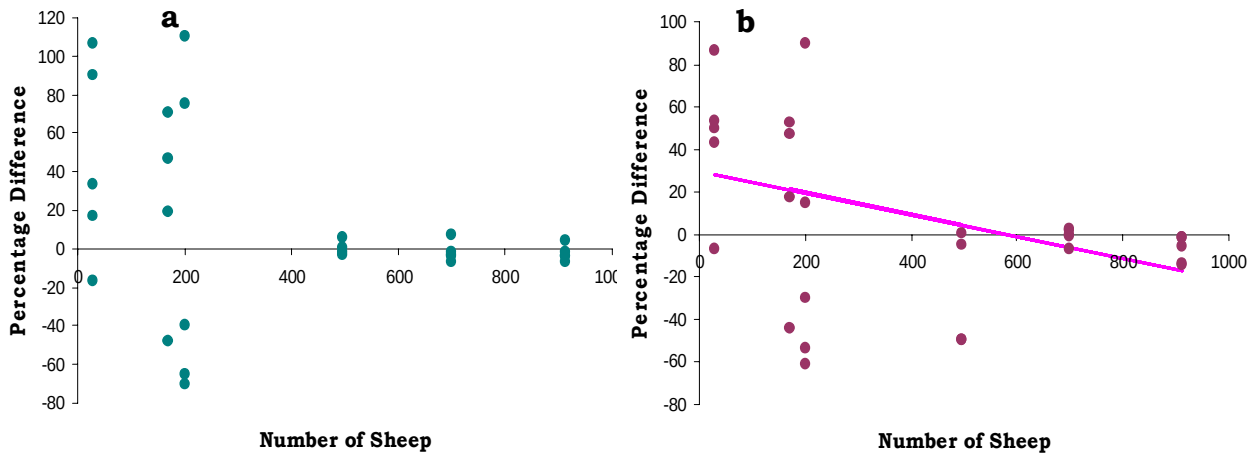

Figure 3.
Results from the sheep counting experiment with the Stepnoi rangers. (**a**) exact estimate of the number of sheep without using a tally counter (**b**) exact estimate of the number of sheep using a tally counter

This project has resulted in several recommendations including that the rangers begin to record when and where they have been surveying saiga; this particularly includes days when they have been out patrolling but have not seen saiga. This is extremely important to allow the distribution, probability and rate of sightings to be calculated, all important aspects of monitoring strategies which enable overall population estimates to be made. Also, the rangers' estimates should be adjusted, during the analysis of the data, to enable more accurate population estimates to be made.

In conclusion the work done by the anti-poaching rangers in both the Chernye Zemli and Stepnoi Reserves is vitally important to the conservation of the saiga antelope. Their involvement in the monitoring of the population is also very positive and work to ensure its continuation is to be highly recommended. This project has made suggestions for ways to improve the strategy and obtain more meaningful data whilst also, hopefully, having a minimal impact on the amount of extra work the rangers will have to do.

This project was a collaborative study between Kalmykia State University and Imperial College London, funded by the British Council's BRIDGE initiative. The long-term ranger data were collected during projects funded by INTAS and the Darwin Initiative.

Helen O'Neill and Chernye Zemli reserve staff.
Photo by Helen O'Neill

Evaluating the potential for participatory monitoring in Kalmykia

Elisabeth Whitebread[1], Diana Obgenova[2] and E.J. Milner-Gulland[1]

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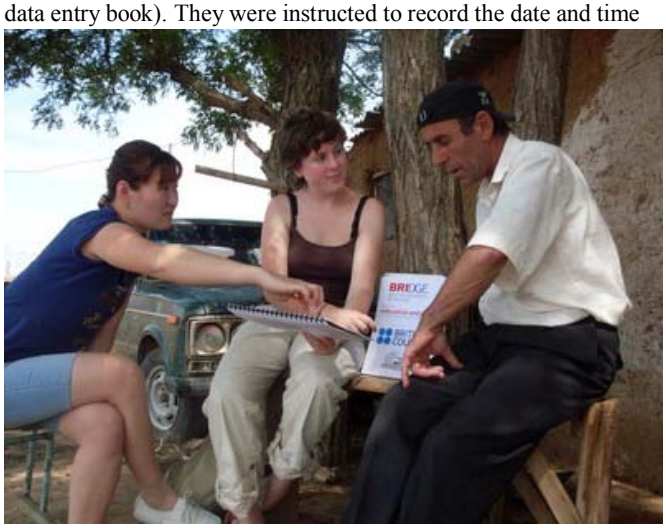
Participatory monitoring is an approach in which local people collect ecological data about species of conservation interest. The approach is gaining popularity worldwide (see www.monitoringmatters.org for examples). We aimed to assess whether it would work in Kalmykia, where there is an existing ranger-based monitoring programme, and there has been substantial previous engagement with local communities.

We established a six-month pilot participatory monitoring project in five villages within the known saiga range. Five farmers were sought from each village to become a saiga monitor. Farmers were chosen because they tend to live outside of the villages they belong to, and so have a greater chance of seeing saiga. Additionally, as livestock herders, they already had experience of counting large groups of animals.

We visited each farmer in June 2008, providing them with equipment (binoculars, tally counter, compass, pen, t-shirt and a data entry book). They were instructed to record the date and time of the sighting, the location of the saiga and also the group size, as well as (if possible) the sex-ratio, number of juveniles and the distance from the observer. Monitors were asked to record saiga observations during the course of their daily lives rather than devote large quantities of their time to searching for saigas. However, on the 1st and 15th of every month we requested that each monitor spent enough time specifically searching for saiga that they could be sure of having thoroughly covered their own land, something that should not take longer than two hours, even on large farms. This was in order to standardise effort and control for double-counting. On these days monitors were requested to make a note in their data-entry book even if no saiga were observed, to give a definite measure of absence.



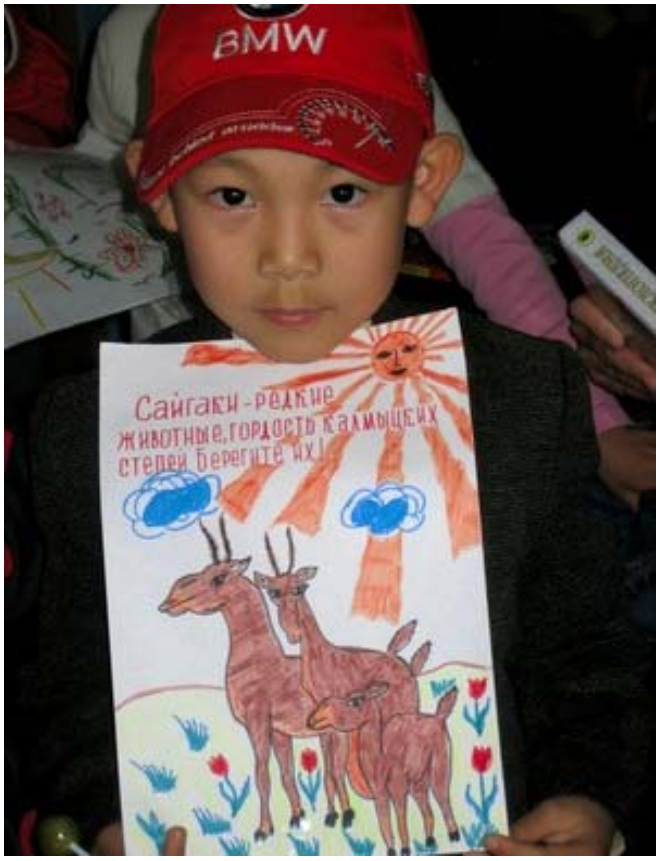
Project team gives instructions to a local monitor recording saiga observations.
Photo by Elisabeth Whitebread

A few weeks later we returned to collect preliminary data and to check that everything was going well. Monitors were still enthusiastic about the scheme, but several had had problems understanding the data booklet, and there were elements of its layout that had not been well thought-through. Additionally, some monitors were discouraged by the fact that they had not seen any saigas (44% of them had recorded no saiga sightings). This could be because the data collection period was quite short (on average only 13 days), but, as the majority of saiga sightings were in areas nearer to the reserves, it could be that the saigas were not present in areas further away (possibly due to the timing of the seasonal migration). This demonstrates the importance of conducting monitoring outside the nature reserves, as currently we have a very limited knowledge of saiga movements throughout the rest of their range.

On this second visit we also assessed each monitor's accuracy when counting saigas, using photos that had been taken a few weeks previously at the Chernye Zemli Biosphere Reserve. The photos were chosen to reflect a mix of herd sizes, distances and terrain types. Each photo was shown for a maximum of 30 seconds, and monitors were asked to estimate how many saiga were in each photo. In order to compare the village monitors'

accuracy with a baseline, we also tested several rangers. Monitors' estimates were very similar to those of rangers, and both groups showed a significant tendency to increasingly over-estimate the number of saiga in each photo as the group sizes got bigger. This may be an artefact of the method used, which neither captured the movement of the saiga nor the correct environmental context for observations. However it can be assumed that rangers and monitors would also have similar accuracy in real-world scenarios.

If participatory monitoring is not supported by the community overall (as well as by the individual monitors), the project is not likely to be viable in the long term. Therefore we assessed the attitudes of villagers towards the scheme. Few people knew about the monitoring already being practised at the Chernye Zemli and Stepnoi reserves, although most people did know that the reserves were there.



Young saiga friend.
Photo by E.J.Milner-Gulland

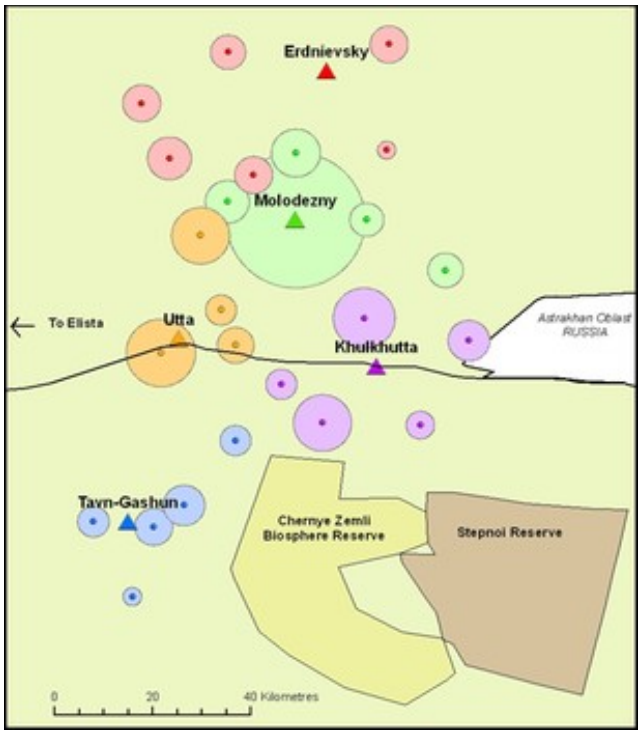


Figure. **Map to show to approximate observation area of each village monitor. Monitoring is now occurring over an additional 61,500 hectares, representing a 34% increase on the area covered by the two nature reserves. For simplicity, all observation areas are assumed to be circular.**

Erdnievsky Khulkutta Molodezny
Tavn-Gashun Utta

When asked to rate participatory monitoring, 66% of people thought it was a "Good" or "Very Good" idea, and 96% of people said that they would support the scheme (with the remaining 4% of people "Not sure", rather than negative). This very positive result bodes well for the future of the project.

In January a general meeting will be held to suggest any improvements and amendments that could be made to the scheme, as well as possible ways to increase its scope – either by involving more monitors or more villages. In time it is hoped that we will build up a network of saiga monitors throughout the entire pre-Caspian saiga range.

This project was a collaborative study between Kalmykia State University and Imperial College London, funded by the British Council's BRIDGE initiative.

Will the saiga return to its traditional breeding grounds in Uzbekistan?

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In the past, mass calving was a common phenomenon in the Uzbek part of the Ustyurt Plateau. It is mentioned in the works of Fadeev (1975), Reimov & Karabekov (1980), and Ishunin (1987). However today, due to severe hunting pressure and a general decline in numbers of the trans-boundary Ustyurt population, the birth of saiga calves has become rare in Uzbekistan. As a rule, saiga antelopes are observed here during the seasonal migration, when herds move from the northern regions of Kazakhstan southwards to their wintering grounds. In December, mating takes place in Uzbekistan. However, saiga numbers have continue to decline year-on-year. In 2008, a critically low number of this species in Uzbekistan has been recorded, just 1,000 individuals.

The most recent official data on calving dates back to 1991 when counts using aeroplanes and vehicles were carried out in the northern part of Uzbek Ustyurt. In total 1,096 calves were recorded, with the highest concentration recorded at Churuk-Beleuly. We started observations in 2003, and have either recorded no calving (2003 to 2005) or isolated cases of breeding (2006-2007). In 2008, the highest level of calving in the last few years was recorded.

According to a survey of local residents, carried out with the support of FFI, calving took place from 28 April to 20 May 2008.

Small isolated groups of 5 to 15 individuals were recorded, with a maximum of 50 females in one group, and an overall total of 180 females and 52 calves, both singletons and twins. The low calf-per-female ratio (0.28) indicates a high percentage of barren females. Currently, the main saiga birth area in Uzbekistan is in Almambet, although isolated births were recorded 30 km southwards of the village of Karakalpakia. Calving was also recorded in isolated groups on Vozrozhdeniya island in the Aral Sea (A.Nurijanov, pers.com), and on the sea's eastern coast (see Makset Kosbergenov's article in SN#7).

Unfortunately, there is nothing sacred for poachers and the ancient prohibition on hunting during the birth period is not observed. We have reliable information that saiga meat was sold during this period in Zhaslyk and Karakalpakia villages, and a brisk trade takes place in trains moving to Kazakhstan, where the price of meat has increased by one third.

In 1991, the Saigachiy state zakaznik (protected area) was set up in the Kungrad district of Karakalpakstan with the aim of conserving saiga birth areas. However, this protected area is ineffective. Proper demarcation of this PA has not been carried out (we found only one worn-out notice), so officials and local people have no idea about its exact location. Indeed, nobody is responsible for the protection of this territory. The history of the Saigachiy zakaznik is a good example of the poor performance of PAs that are not established, but merely proclaimed. As a result, despite being the largest PA in Uzbekistan (1 million ha), the Saigachiy zakaznik is the only PA in which its main protected species has practically vanished.

In view of this, it is necessary to reorganise of the Saigachiy zakaznik. This can be done by giving the PA the status of a legal entity, which requires a management plan. The borders need to be moved northwards, away from populated areas and roads and closer to Kazakhstan border. The area needs to be zoned so that there are parts of the PA where access is prohibited and others with restricted activities, without infringing the interests of local people. There is a need for staff and a proper PA planning process to ensure the key threats to biodiversity are considered and solutions devised, as well as clarifying institutional relationships with government and communities.

In the previous issue of SN (#7) we reported that, beginning in April 2008, based on an SCA initiative, the Institute of Zoology of Uzbek Academy of Sciences and FFI would carry out a project preparing a justification for the reorganization of the zakaznik into a stricter form of PA. The project is being implemented with the financial support of the Disney Wildlife Foundation and WildInvest. Currently, the border of the suggested zakaznik has been decided (figure). Its territory lies in Kungrad and Muinak districts of Karakalpakstan. The proposed strictly protected area covers 735,200 ha in 6 sites, with a buffer zone of 345,600 ha. The western and northern borders coincide with the state border of Uzbekistan and Kazakhstan. In the east, the border lies along the coastline of the Aral Sea from the state border southwards to the Akbulak spring. The southern border crosses the ruins of the Beleuly fortress, the Churuk well and Zharynkuduk area. The so-called Prohibited Zone, a former closed military test ground, which is an important area for saiga antelopes, is completely incorporated into the proposed territory of the zakaznik. Most of the saiga breeding grounds are within this area. The proposed territory is situated at a significant distance from settlements and only lightly used for cattle grazing from April to October.

We hope that it will be possible to manage the transformation of this "paper park" into a real active mechanism for habitat protection. It is hoped it will act as a forerunner for the establishment of a trans-boundary system of protected territories in Ustyurt, with the aim of providing effective protection for saiga antelopes, as well as other representatives of the unique nature and cultural landscape of the Ustyurt plateau.

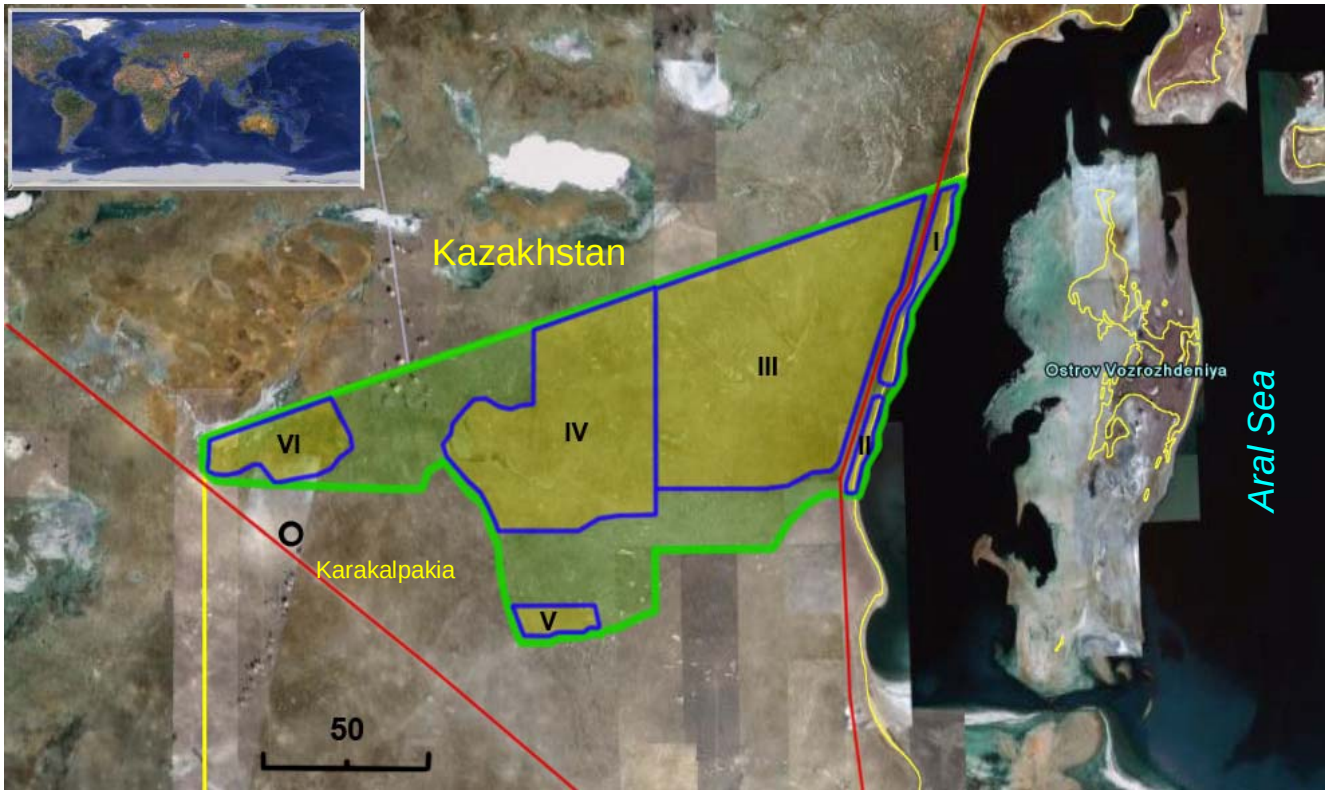

Figure. **The borders and zones of the planned zakaznik Saigachiy.**

- sites: I- Duana, II – Zhideili, III – Almambet, IV – Churuk, V – Beleuly, VI – Zharynkuduk
- buffer zone

A saiga encounter in the Arys-Karatau nature reserve, southern Kazakhstan

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In September 2004, we carried out zoological studies in the Arys-Karaktau nature reserve (Yuzhno-Kazakhstanskaya province, Kazakhstan). This area of 404,000 ha is situated in the Kazakhstan part of the Kyzylkum desert, with the Syrdarya river running through it. We carried out ca. 800km of vehicle transects, aiming to assess the numbers of individuals of large bird and ungulate species. The routes covered a practically flat semi-desert area and areas with low dunes. Low arid vegetation prevailed throughout. In these conditions the large vertebrate animals were highly visible, enabling effective counts which were relatively cheap compared to aerial surveys.

We encountered an adult saiga female in normal condition, which is the southernmost observation of an individual from the Betpak-dala population in recent years. Locally, the area to the west of Bairamkum and Akkum villages is considered to be saiga habitat. Saigas were regularly observed here in small groups in the second half of the 1980s, while in the early 2000s, only 1-2 individuals were recorded in spring. Since then, no saigas have been observed (B.M. Gubin, oral communication). In the Soviet period, the semi-desert in this area was developed for agriculture, but by 2004 there was little agriculture remaining.

During the survey we also encountered 6 groups of goitered gazelles Gazella subgutturosa, totalling 38 individuals. Most of the encounters (24 in 4 groups) were near a lake created by an artesian well, and the presence of tracks and droppings suggest that this place is their permanent watering ground. There are other drilled artesian wells in the reserve which can also act as water sources for ungulates.

Saiga range in the Shardara steppe lies almost completely in the Arys-Karaktau nature reserve. Although few saiga are recorded here, the species is still a priority for monitoring within the reserve.We need to carry out an urgent survey of wild ungulates in this region in order to establish whether or not saigas continue to inhabit the area.

The application of thermal imaging to saiga counts

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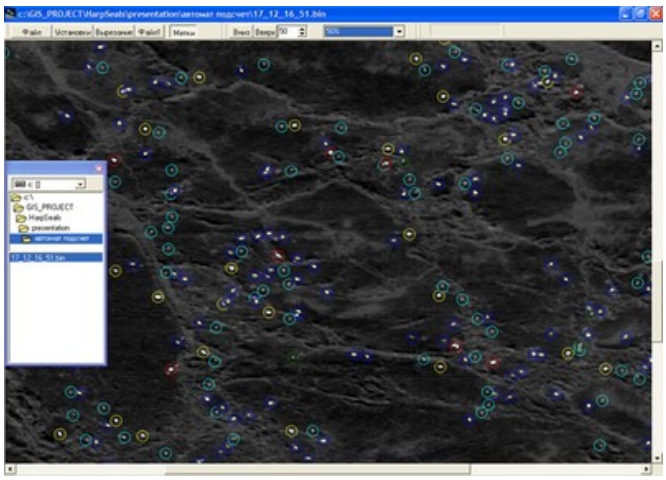
Saiga counts are important for ecological studies and monitoring. One method that could be used for these counts is aerial photography, which has been successfully applied to other wild ungulate species.

From 1997 onwards, we have successfully used thermal imaging to count seals, walruses and reindeer. The effectiveness of the technique is due to the thermal contrast between these warm-blooded animals and their environment, which is sufficient for their detection from a height of 150-200 m. Thermal imaging provides a high resolution over a strip 400 m wide, and gives the opportunity for a precise estimate of the number of animals in the surveyed area.

The thermal readings, digital photos and video images can be processed by computer, using automated algorithms. The detailed documentation that the software provides enables repeated surveys of the same sites for the control and assessment of the precision of the counts.



Infrared imaging.

Photograph of groups of harp seals (seal cubs in red circles).
Photo by V. Chernook

Microphones and computers are used to record verbal communications of visual observations, which provides an opportunity to compare the results of the survey with previous visual counts. The coordinates and flight parameters, as well as altitude, are automatically entered into the computer from a GPS. This ties the results of the aerial surveys to geographical coordinates and enables the identification of the precise size of the surveyed area.

Infrared images are the main source of information. Photographs and video films of saiga aggregations would allow the survey team to confirm the readings from the infrared imaging. In the photographs below, I show infrared images of harp seals obtained from aerial counts in the White Sea, as well as concurrent digital photographs. The same quality of infrared

images and photographs were obtained during aerial counts of saiga antelopes.The concurrent use of photographs and infrared images for counting saigas would enable an estimate of the precision of the instruments. For the aerial count of saiga antelopes we suggest the use of the L-410 airplane-laboratory, which is already suitably equipped. This small low-noise airplane has a speed of 200-240 km/h and a flying time of up to 7 hours.

It is impossible to estimate the size of large aggregations of wild ungulates precisely. The width of coverage of visual counts has a significant error; and besides, no documents remain to confirm the visual observations. Therefore, regular instrumented aerial counts are only way to obtain precise counts of animals, enabling the analysis of population trends.

Alternative sources of energy at the Yashkul Breeding Centre

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Saiga News has published several articles on the establishment, development, achievements and difficulties of the Yashkul Breeding Centre, Republic of Kalmykia. In this issue we would like to highlight how this Centre survives despite a deficit of funds, and a constant growth in electricity prices, which is the major and most expensive service the Centre requires.

The Republic of Kalmykia has many sunny and windy days, which provides opportunities for the use of alternative sources of energy: solar and wind energy.

Five years ago, the nursery obtained a 4 kVt generator which transforms wind energy into electricity. The energy produced is sufficient to heat the home of the Centre's workers, the guest house and one external light. However, this "windmill" has a rather significant drawback – the absence of an accumulator. This design flaw prevents the use of the generator on windless days.

In early 2008, two solar batteries were purchased, which were mounted on the roof of the house. The energy is stored in the accumulator and then transformed into electricity. The energy accumulated in solar batteries is quite enough for the operation of computers, refrigerators, television sets, air conditioners and external lighting.

In general, these installations are convenient and profitable, as electricity bills have significantly decreased and the cost of the solar batteries will be fully compensated before long.

Solar batteries mounted in the Yashkul Breeding Centre (top).
Photo by Vadim Sanjeev

«Windmill» at the Yashkul Breeding Centre (left).
Photo by Yu. Arylov

Editors' Note to this article:

In 2003 Stephen Gold, a proponent of solar energy, attended the annual Wildlife Conservation Network (WCN) Expo in San Francisco. There, he heard cheetah conservationist Rebecca Klein's presentation, in which she described her need for energy to conduct her research in Botswana. Gold, who has a solar home of his own design, contacted WCN director Charles Knowles and volunteered to help. After compiling a wish list for new solar electricity systems and working tirelessly for three years to acquire generous donations from corporations and individuals, Gold amassed about $450,000 of solar equipment.

Today, there are 8 different systems on-line in Kenya, Ethiopia and two more being assembled in Botswana and Zimbabwe. The project continues to spread to other conservationists and other parts of the world. This year, the WCN has identified the SCA as a priority partner organisation for solar power. Even if your project is not currently affiliated with the SCA, if you are in need of solar power for anything saiga or conservation related within the saiga range states then you could be eligible for funding!

If your think your project could benefit from the WCN Solar Project, please email mail@saiga-conservation.com with a wish list, including everything that your solar system will be used to power (this should include everything, not just a typical day's usage).

Project round-up

Winners of the Saiga Conservation Alliance's Small Grants Programme Announced!

The second round of the Saiga Conservation Alliance's small grants programme was held in 2008. The first set of small grants (2007) have already produced excellent results, which are highlighted on the SCA website. The SGP aims to build capacity for saiga conservation at the grassroots level by enabling individuals to apply for a grant of up to $2,000 for a one-year project on any aspect of saiga conservation in the wild. The projects must contribute to the fulfilment of the CMS's medium term work programme for saiga conservation.

This year the SGP received 18 proposals from five countries and was again generously supported by the Wildlife Conservation Network. The SCA Steering Committee considered the proposals at their annual meeting in Almaty. They are pleased to announce that the winners of this year's competition are:

1. Alexander Grachev (Kazakhstan), who will be carrying out research on the population structure and reproduction of the Ural saiga population. This is particularly vital work, because very little is known about the status of this population.

2. Makset Kosbergenov (Uzbekistan). The grant will help to improve the capacity of the Special Amu Darya Inspectors, who are carrying out crucial anti-poaching work in North-western Uzbekistan, where saiga poaching has been highlighted as a major issue preventing the recovery of the Ustiurt saiga population.

3. Tatiana Karimov (Russia), who will be carrying out research on the saiga's feeding behaviour using a non-invasive method based on faecal composition. This is important because certain grasses are becoming more dominant in the Russian saiga range, and it is suspected that these are not eaten by saigas, hence a change in pasture management may be required to ensure population recovery potential is maximized.

The SCA are actively searching for funding to continue the SGP in 2009. If you or anyone you know would like to sponsor the initiative, or if you would like to be informed when the competition opens for applications next year, please email mail@saiga-conservation.com. *For more details visit* www.saiga-conservation.com.

Mongolian saiga female.
Photo by B. Buuveibaatar

Review of recent saiga publications

Arylova N.Yu. Reproduction features of the Saiga antelope (*Saiga tatarica tatarica* L.) in the Republic of Kalmykia in conditions of low abundance. *Povolzhsky ecological journal. 2008. #2. P. 136-141.*

Some reproductive indices of the European saiga population at very low abundance (<20,000 individuals) were analyzed using data from the literature and the author's observations. Despite habitat deterioration, changing demographic structure, and a critical reduction in numbers, the weight of newborn saigas does not differ significantly from the values observed in the 1950s when this population was at maximum abundance (>800,000 individuals).

Bushman L.N., Varganova E.P., Temirgaly R.A., Shaimukhanbetov O.K. Wonder of the motherland. Ed. by Jan Dierks, Maria Zhirkova, Elena Bykova & Alexander Esipov, Tashkent, 2008, 35 pp.

5,000 copies of a saiga schoolbook, entitled "Wonder of the motherland", have been produced in the Karakalpak languages. This schoolbook was approved by the Ministry of Education of Karakalpakstan. It is a new edition of the saiga schoolbook "Wonder of steppes of Kazakhstan" published in 2006 in Kazakhstan in Kazakh and Russian, adapted for Karakalpakstan by the same authors. This new Karakalpak edition of the saiga schoolbook has been prepared by the Uzbekistan filial of the Saiga Conservation Alliance with financial support from NABU BAG "Eurasia" and FFI. The book is now ready for distribution among the schoolchildren of Karakalpakstan, starting with the Kungrad district of the Ustyurt plateau. It will provide children with new knowledge about saiga conservation activities and create understanding of the saiga as a unique part of the natural steppe ecosystem.

Esipov A., Bykova E., Chernogaev Eu. On the necessity of reorganizing the Saigachiy nature reserve. Problems of conservation of a biodiversity in protected areas of Uzbekistan. Proceedings of the conference. Nukus, 2008. 39-42 pp.
See the article on page 13 for more details of the content of this publication.

Abaturov B. D., Larionov K. O., Dzhapova R. R., Kolesnikov M. P. The quality of forage and food provision of *Saiga tatarica* under restoration of vegetation on Chernye Zemli of Kalmykia. *Zoological Journal*, V.87, # 12, 2008. 1524-1530 pp.

At present, the diet of saigas in the Chernye Zemli reserve, Kalmykia, mainly consists of monocotyledonous plants (Gramineae, sedges) with a high content of silica and lignin. In all seasons, the silica and lignin contents in the diet of saigas was not lower than 1.33% and 17.18%, respectively; in some seasons, content reached 1.42% and 18.48%. A high silica and lignin content is accompanied by low digestibility. The coefficient of digestibility was not higher than 56–60% in all seasons. Food of such quality does not provide good nutrition for saigas, and can only can maintain energy balance. Higher quality (high digestibility) food can compensate for reproductive costs (lactation, juvenile growth). The present state of pasture vegetation is unfavorable for saigas and does not support a sustainable population of the Kalmykian saiga.

Larionov K.O., Dzhapova R.R., Rizenfeld S.L., Abaturov B.D. Feeding of saiga (*Saiga tatarica*) on the pasture of Chernye Zemli reserve, Kalmykia under plant successions and steppification. *Zoological Journal*, V.87, # 10, 2008. 1259-1269 pp.

The composition of plants consumed by saigas was studied over a year in the Chernye Zemli NR of Kalmykia. The dietary composition of 96 animals was determined on the basis of microscopic analysis of their faeces. At present, monocotyledons (Gramineae and sedges), with the dominant *Stipa capillata*, prevail in the vegetation cover of Chernye Zemli (80%). These are less preferred plants for saigas. Dicotyledons (xerophilous dwarf shrubs) occupy a subordinate position (10%). Monocotyledons predominate in the saiga diet and amount, on average, to 56% over all seasons. The low stocks of dicotyledons – the main forage plants for saigas – may explain their low prevalence in their diet. In winter, saigas graze areas exposed to summer fires. In autumn and mild winters, these areas are intensely overgrown with plants.

McConville, A.J., Grachev, Iu.A., Keane, A., Coulson, T., Bekenov, A., Milner-Gulland, E.J. (2008) Reconstructing the observation process to correct for changing detection probability of a critically endangered species. *Endangered Species Research* **6**, 231-237.

Effective conservation decision-making requires robust estimates of population trends. It is often assumed that so long as monitoring methods remain consistent over time, then trends in relative abundance are valid proxies for actual abundance. However, if the bias and uncertainty of relative abundance estimates change over time, this can have a serious impact on the validity of monitoring programmes. We develop a simple model for the retrospective assessment of the likely error and bias in abundance estimates from aerial surveys of the saiga antelope. Due to dramatic reductions in group size and density, current estimates of abundance are probably substantially lower than the true population size, and the levels of uncertainty surrounding these estimates precludes their use for monitoring trends. This has implications for the Government of Kazakhstan's ability to monitor progress towards their agreed conservation goals. The method is potentially widely applicable to species for which historical data on relative abundance and group size are available. Full article available at: http://www.int-res.com/articles/esr2008/6/n006p231.pdf.

Featured Institutional Member

Starting with this issue of Saiga News, in each edition we will invite an institutional member of the SCA to profile their organisation and explain their interest in saigas. In this issue we are profiling CIC Wildlife, the SCA's first ever institutional member.

If your organisation would like to become a member of the SCA, please email mail@saiga-conservation.com. As well as the opportunity to be featured in Saiga News you will also receive a page on our website and will have the opportunity to submit news stories to our website and to this newsletter.

The International Council for Game and Wildlife Conservation (CIC)

Born from a Central European idea around 1900, the International Council for Game and Wildlife Conservation (CIC) was established in 1928 in Palárikovo, Slovakia. Since then, it has gained global recognition as a unique advisor in the field of sustainable use and the conservation of wildlife.

The CIC is a politically independent advisory body and is recognized by the Austrian Government as an international non-governmental and non-profit organization, working in the public interest. Since 2003, the CIC has had its legal seat in Vienna.

As a membership organization, CIC is unique in that it unites State Governments and Agencies, NGO's and Associations, Universities and Institutions and private individuals all under one roof. Globally, over 84 countries are represented with 32 State Governments as members. The CIC is supported by an Administrative Office, based in Budapest, and a Commission structure that focused and enables the activities of the Members.

Under various agreements and conventions, the CIC enjoys the status of an Intergovernmental Organization (IGO). In 2004, the CIC became a signatory to the CMS Saiga MoU and, in 2007 the CIC became an institutional member of the SCA.

As an Institutional Member, the CIC will use its communications channels, influence and advisory capacity to help the CMS and the SCA to strive for the improvement of the conservation status of the critically important Saiga.

Announcement

XXIX International Union of Game Biologists (IUGB) Congress to be held in Moscow

From the 17th to 22nd August 2009, the largest forum of the global community of game biologists, the XXIX IUGB congress, will be held in Moscow, Russia.

For more than 50 years, the IUGB has been holding its international congress every two years around the world. The main goal of the XXIX congress is to enhance the ability of prominent scientists worldwide to find solutions for scientific problems connected with the sustainable and careful use of biological resources, and to familiarise them with up-to-date methods for the management of biological resources. The XXIX IUGB congress has 18 sections covering a range of topics. It will comprise plenary meetings, special sessions and symposia on the subject: "Game management is one of the most important tools for preservation of the animal world."

Of particular importance to us is that the special subject of the Congress this year is "International cooperation for saiga conservation". The SCA hopes to be very well represented at the Congress, and we are currently raising funds to ensure that our Steering Committee members can attend. We plan to hold the SCA's annual meeting alongside the Congress. So please put the dates in your diaries! For more detailed information on the Congress and registration please follow the link: www.iugb-moscow2009.ru.

In Memoriam

In late 2008 the Saiga Conservation Alliance was saddened to hear of the death of John Gibbs, one of our earliest and most regular supporters. His dedication to saigas and to wildlife conservation in general was apparent through his huge enthusiasm for the subject, as well as his commitment to a variety of conservation organisations (including our institutional member and sponsor FFI). We are very grateful to have known him.

Acknowledgements

The Saiga Conservation Alliance would like to express its sincere gratitude to the following individuals for supporting our activities over the last 6 months in a range of different ways: Maggie Bryant, Vance Martin and the Wild Foundation, Judy Wheatley, Kennon and Bob Hudson, Michael Hackett, Anne Marie Burgoyne and Brad Roberts, Gloria and Kent Marshall, Marjorie Parker, Mike Bromberg, Kim and Kevin Nykanen, Joyce Montfort, Helen Galland and Jenny Bettensen at Spitalfields City Farm, Sophie Arlow, Christian Wenzel at www.saiga.de, Stacey Iverson, Eve Schaffer and all the staff and volunteers at the WCN Expo, Laura Cerasi at the CMS, the Italian Ministry for the Environment and participants at the CMS COP9 who adopted a saiga, and Alexandra Sangmeister. We are also grateful to the organisations that have supported this issue of the newsletter – FZS, CMS, WCN, and WWF Mongolia.

The SCA is monitoring progress of the MOU on Saiga Conservation

Summary of progress report towards the CMS MOU over the last 2 years

A CMS-sponsored meeting of the SCA was held in Almaty on 29th October 2008 (see article on page X). The meeting was open to all, and was aimed at summarising progress towards fulfilment of the MTWP over the last 2 years (September 2006 - October 2008). Below are the key findings of this review; more details are available online at www.saiga-conservation.com.

Range-wide measures

1. Implementation: Some steps have been made towards effective MOU implementation but these are patchy between countries. Russia is yet to sign the MOU, but the signs are promising. Communications are generally working well. The establishment of a coordination mechanism would greatly help to facilitate further progress. There has been a suggestion that the Association for the Conservation of the Biodiversity of Kazakhstan would be a suitable host for this mechanism, which we strongly support.

2. Anti-poaching: Although there has been investment in anti-poaching activities in all countries, progress remains patchy and largely uncoordinated, and funding is still inadequate. No country yet has a fully developed plan for allocation of anti-poaching effort to particular issues or areas, which would enable strategic decisions to be made. Poaching is still a key threat to the species and so further efforts are urgently required.

3. Sustainable use and trade: There has been very little progress under this theme, and a worrying lack of engagement which needs urgent attention.

4. Human factors: There has been further research carried out on attitudes to saigas. Small-scale alternative livelihood and incentive programmes have been trialled, but they are at the pilot stage. There is a need for large-scale and substantial engagement with local community needs if this approach is to have the required impact on poaching rates. This requires planning for sustainable rangeland use at the national level and active engagement with this agenda by the national focal points.

5. Awareness: There has been a lot of awareness activity in the last 2 years. This action theme is progressing well.

6. Mapping distribution: Although there have not been any concrete outputs yet, a number of initiatives are starting up on this theme, which should begin to bear fruit by the time of the next CMS MOU meeting.

7. Protected areas: There has been some progress, particularly in the Betpak-dala population and Mongolia. There is a need for more action here, but the underlying science to inform protected area placement (action point 6) is a prerequisite for effective siting of protected areas. Hence there is a need to proceed with caution to ensure that sound science informs decision-making on this theme.

8. Monitoring: Monitoring programmes are continuing and there have been some new initiatives (e.g. participatory monitoring). However it is concerning that there has still not been a robust count using the most up-to-date methods in any population. We are now much more aware of the issues surrounding current approaches to saiga monitoring, but we need to move forward to integrate these insights into ongoing, coordinated monitoring programmes. This is particularly important as the assessment of the degree to which the Overall Goal of the MTWP has been achieved requires the development of a robust monitoring programme.

9. Captive breeding: No major breakthrough has occurred under this heading. The Centre for Wild Animals in Kalmykia is developing well, and a feasibility plan has been carried out for Mongolia.

Population-specific measures

10. North-west Pre-Caspian: There has been much impressive conservation activity, but progress is hampered by political and administrative uncertainties and a lack of ongoing large-scale financial support from government; the activities are carried out on short-term project funds.

11. Ural: This population is still suffering from relative neglect. There is no specific conservation project aimed at this population, and a lack of information about the status of the population and particularly about human factors. Some scientific monitoring is being carried out, which suggests that the population is stable. There is also government-funded anti-poaching activity in the area. However it is a high priority to establish a conservation presence in this area.

12. Ustiurt: This population is of very high concern due to the high level of poaching that appears still to be ongoing, and the apparent continued population decline (the only population in which declines are still being reported). There is a lack of knowledge about population status (and particularly movement ecology) and there is no current conservation project addressing human factors in the Kazakhstan part of the range. There is a lot of conservation activity in Uzbekistan, mostly aimed at human factors, but a lack of major funding to establish the required protection. This population is a priority for urgent intervention.

13. Betpak-dala: This population has benefitted from substantial investment both from government and from international and national NGOs in the last few years. These investments appear to be paying off in terms of improved population status (although without improved monitoring this cannot be established for certain).

14. Mongolia: This population is also receiving substantial investment from national and international NGOs, and its prospects are therefore considerably brighter than at the time of the last status assessment. It appears that captive breeding has been downgraded as a priority for Mongolia, in favour of increased investment in in situ actions. A formal review of this decision would be helpful, which could then lead into a downgrading of the relevant action points in the MTWP if appropriate.