



**CONVENTION ON MIGRATORY
SPECIES**

**MEMORANDUM OF UNDERSTANDING
CONCERNING CONSERVATION,
RESTORATION AND SUSTAINABLE USE
OF THE SAIGA ANTELOPE**

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THIRD MEETING OF THE SIGNATORIES TO THE
MEMORANDUM OF UNDERSTANDING CONCERNING
CONSERVATION, RESTORATION AND SUSTAINABLE
USE OF THE SAIGA ANTELOPE

Tashkent, Uzbekistan, 26-29 October 2015

COMPILATION OF PROJECT REPORTS (ENGLISH ONLY)

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PROJECTS REPORTING TEMPLATE FOR SAIGA-RELATED ACTIVITIES

This reporting template is designed to collate information on projects carried out by intergovernmental, international non-governmental and non-governmental organisations as well as academics and other experts working on any aspect of Saiga antelope conservation and sustainable use. Information will be compiled into a table for discussion at Saiga MOU meetings. The information will be used to: (1) monitor implementation of the [Memorandum of Understanding concerning Conservation, Restoration and Sustainable Use of the Saiga Antelope \(*Saiga* spp.\)](#) and the associated [Medium Term International Work Programme](#); (2) support exchange of information throughout the range and beyond, and assist the identification of necessary future actions; and (3) support the implementation of CITES Decisions [14.91 \(Rev. CoP16\)](#), [14.93 \(Rev. CoP16\)](#) & [16.95 to 16.101](#).

Please complete sections as appropriate and **return to the CMS Secretariat**.

E-mail: cms.secretariat@cms.int; Fax: (+49 228) 815 2449

Project: Emergency Response to Saiga Mortality Kazakhstan May 2015				
Country:	China	<input type="checkbox"/>	Turkmenistan	<input type="checkbox"/>
	Kazakhstan	<input checked="" type="checkbox"/>	Uzbekistan	<input type="checkbox"/>
	Mongolia	<input type="checkbox"/>	International	<input type="checkbox"/>
	Russia	<input type="checkbox"/>		
Organisation / Contact details: Royal Veterinary College rkock@rvc.ac.uk				
Duration of project: from __Ongoing__ to _____				
Location(s) of main activity: Kazakhstan				
Sub-species:	<i>Saiga tatarica tatarica</i> *	<input checked="" type="checkbox"/>		
	<i>Saiga tatarica mongolica</i> *	<input type="checkbox"/>		
Areas of work:				
Anti-poaching	<input type="checkbox"/>	Habitat restoration	<input type="checkbox"/>	
Population monitoring	<input type="checkbox"/>	Protected area management	<input type="checkbox"/>	
Ecological research	<input checked="" type="checkbox"/>	Training & capacity-building	<input type="checkbox"/>	
Education and awareness	<input type="checkbox"/>	Law enforcement	<input type="checkbox"/>	
Alternative livelihoods	<input type="checkbox"/>	Trade issues	<input type="checkbox"/>	
Socio-economic research	<input type="checkbox"/>	Captive breeding	<input type="checkbox"/>	

* Note that CMS Parties have adopted Wilson, D.E. & Reeder, D.M. (2005) Mammal Species of the World. A taxonomic and geographic reference. Third edition. John Hopkins University Press, Baltimore, USA as taxonomic reference for terrestrial mammals through [Recommendation 9.4](#) where *S. t. tatarica* is referred to as *Saiga tatarica* and *S. t. mongolica* is referred to as *Saiga borealis*.

Range mapping	<input type="checkbox"/>	Reintroduction/release	<input type="checkbox"/>
Habitat research	<input type="checkbox"/>		
For each box ticked, please provide brief details in the project summary box below			
Project Summary: Disease outbreak investigation & disease ecology - Betpak-Dala - Turgai and Tengiz aggregations during calving May 2015			
Planned Activities: Monitoring of die-off and diagnostics, metadata collection for disease co-factors			
Achievements to date: Die-off monitored in two sites with collection of pre – post mortem animal biological materials. Amangeldy rayon of Kostanay oblast (“Turgai”) and Akmola oblast (“Tengiz”) aggregations May 2015. Preliminary diagnosis.			
Reports / Publications / Information material: Summary report at current date attached.			
Collaborators: Biosafety Institute Dr Mukhit Orynbayev, ACBK Steffen Zuther, FAO AGAH Dr Sergei Khomenkho; Royal Veterinary College, Prof Richard Kock			
Budget available: NA			
Current sponsors: CMS UNEP, FFI, RVC, FAO, FZS			
Past sponsors: CMS, FFI, MAF, FZS			
Information contributed by: R. Kock, S. Khomenko. S. Zuther, M. Orynbayev			
Date report submitted:	11/06/2015		
Other:			

Summary Report 9th May to 11th June 2015

Background

Joint monitoring of the saiga Betpak-Dala main calving aggregation (60,000) was started by ACBK & Royal Veterinary College (RVC) research team, in Amangeldy rayon of Kostanay oblast ("Turgai") N49° 48' 18" E065° 27' 59" on 10th May as part of ongoing ecological and background mortality studies. As per agreed protocols unusual mortality was reported on 10th and triggered a rapid response team from the Biosafety Institute, Gvardeskiy (RIBSP), which joined the team for biological and diagnostic sampling until the 19th when the die-off was complete. The team was then strengthened by the addition of Prof Richard Kock RVC on 22nd with the team moving to Akmola oblast ("Tengiz") N51° 04' 36" E067° 23' 36" and the second aggregation monitored for a new die-off which had started around 18/19th May. Dr Mukhit Orynbayev RIBSP and Dr Sergei Khomenkho joined the team on the 24th May. The die-off was complete by the 26th May. Core laboratory studies were done at RIBSP and finding of *P. multocida* infection corroborated by Astana Vet Ref Laboratory and reported as such to the OIE.

A presumptive diagnosis, based on pathological signs and preliminary diagnostics, reported by this outbreak investigation team is polymicrobial disease. This is primarily, a haemorrhagic septicaemia, caused by *Pasteurella multocida* serotype B, complicated by secondary factors, which may include clostridial enterotoxaemia and theileriosis. The most likely primary cause is an environmental trigger, causing massive opportunistic infection of latent commensal bacteria and a synchronous disease cascade in saiga population.

Clinical presentation

Adult animals showed remarkable synchronicity in presentation of illness over a short period of a day or less with increasing lethargy, inappetance, weakness/incoordination, salivation, sometimes diarrhoea, and died in extremis in lateral recumbency showing respiratory distress and haemorrhagic diarrhoea in this final phase, in most cases. Calves died some hours after the mothers and twins triplets died within a short period of each other, with similar signs of collapse and terminal diarrhoea. Mortality occurred at an increasing rate with a peak at about 15th May in Turgai and 23rd May in Tengiz. The assumed total die-off period is approximately 8-9 days in each case. The spread of carcasses reflected this with a tear drop of increasing cases to a mass die-off site with the majority of cases were to be found. The area of die-off in the case of Tengiz was approximately 21 km² – carcasses were not especially aggregated or clustered and on average some 30 – 40 m apart suggesting per acute disease leading to cessation of normal behaviour reluctance to move and death where they had been grazing.

Gross pathology

The carcasses showed reasonable body condition, rarely ticks, mosquitos were still attempting to feed and there was loss of winter coat. Post mortem signs were similar in most cases with reasonable fat reserves, minor differences in some organ systems and varying degrees of the same pathology;

including; severe haemorrhages (petechiae and ecchymoses in subcutis, subserosal, subendocardial, lymph nodes etc.), severe congestion and oedema of tissues, early pneumonitis and hyperaemia of the thoracic inlet and severe (haemorrhagic) enteritis suggestive of enterotoxaemia and early severe liver and kidney changes suggestive of a severe toxemia and most likely septicaemia. The relative degree of change in core and peripheral organs and tissues reflected a probably enteric and/or respiratory route of infection, rather than initially blood borne (e.g. from vector transmission) although in many cases septicaemia was clearly too advanced to be certain.

Histopathology

This is pending detailed analysis although initial studies suggest acute inflammation of the intestine and lung and toxic degeneration of the liver and kidney. The currently reported histopathology is preliminary and requires more intense investigation but is consistent with a bacterial septicaemia from oral and respiratory routes.

Bacteriology

All cases (27+) sampled show positive culture for *P.multocida* and the serotype is B and genotype consistent between individuals suggestive of this as a causative agent. Clostridial alpha toxins were identified suggesting these bacteria might have contributed to a polymicrobial disease cascade.

Parasitology

Theileria annulata was identified in samples of blood by PCR. High infection burdens with theileria spp. is reported in healthy antelope populations and the pathology is not all consistent with theileriosis. Some signs at least grossly are shared with HS including haemorrhages, lymphoid oedema and haemorrhages but hyperplasia was not a particular feature and there was an absence of spleen enlargement which would be expected (absent in all but one case necropsied). These findings suggests theileria might be a secondary factor in a polymicrobial disease event. Histopathology should resolve this question. One tick was seen on the necropsied saiga, but saiga might have come into contact with ticks much earlier in spring in more southern areas. No other parasites of significance were noted grossly.

Virology, toxicology

These studies are still largely incomplete.

Diseases tested for and found to be sample negative:

Foot-and-mouth disease (FMD), Peste de petit Ruminants (PPR), Epizootic hemorrhagic disease (EHD), Q-fever, Malignant catarrhal fever (MCF), mycoplasmosis, Akabanae disease, maedi-visna virus (MVV), sheep pox, anthrax, campylobacteriosis, paratuberculosis, brucellosis, listeriosis, bluetongue. RNA of a Flaviviridae virus detected, but the virus was not identified yet.

Metabolic co-factors

Pasture factors are as yet not analysed. There is a possible hypocalcaemia in some saiga.

Ecology & co-factors

Vector born disease – although mosquitos and culicoides were abundant at the time of die-off there are no supportive evidence to suggest this was a primary disease factor although work must continue on this aspect.

Weather - These are largely preliminary results. To date only weather data and preliminary observations on pasture and remote sensing data on vegetation are available. Meteorological data is available from local met stations and the research weather station used by RVC on the Turgai site.. There is an associated temperature rise and precipitous fall in temperature, in both monitored die off sites, that might have served as a trigger of bacterial virulence factors in the environment where the bacteria are living, in the case of the *P.multocida* in the oropharynx. This is a preliminary hypothesis and needs verification. Precipitation does not appear to have been associated directly with any trigger of the event although overall average rainfall and snow melt has been associated with flooding prior to this event and is a factor requiring analysis.

Pasture – NDVI analysis suggests the pasture quality and nutrient densities may be variant in 2015 from non-die-off years in this system but this is preliminary and needs careful evaluation. And must include ground work, both botanical and investigation of forage quality/nutrient/mineral data using baselines from last year (in Turgai) and from studies initiated now in both affected and unaffected siaga range.

Water – animals were not dependent on environmental open water sources given moist and rich pasture at this time so this as a possible source of pathogen or toxin is unlikely.

Soil – the extensive range and synchronicity of the die off is not suggestive of a soil toxin unless universal and the effect of flooding needs investigation in this respect if pathology suggests this co-factor.

Other species – no verified reports of sickness in other species, relating to or associated with this event, have been documented

Carcass pick up / burial operations: Carcass pick up / burial operations: the work to localize possible spread of infection and minimize public and animal health risks organised by Kazakh government was very efficient given the unprecedented scale and extent of the die-off, as well as remoteness of most areas.

Other

The Ministry of Agriculture and the Kazakhstan Government should be commended on the efforts that they have made to support the conservation of saiga antelope, including the transparency in which they have approached the current die-off event. A number of Kazakh and External institutions have offered assistance including in the fields of virology and toxicology. The current Kazakh institutions contributing research are significant and valuable, as long as they are well coordinated and synergistic. The team advises that; Royal Veterinary College Pathology and Epidemiological Departments provide support on histology and field epidemiology, Pirbright Institute, UK and FLI Germany undertake supporting virological studies, The Queens' University, Belfast and University of California Davis supporting toxicological studies. Further specialist institutions might be advisable as the pathological, epidemiological and ecological investigation is progressed.

Further comprehensive investigations are needed to establish the definite cause of death for the Saiga antelopes and understand the complex mechanisms behind it.

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Please complete sections as appropriate and **return to the CMS Secretariat**.

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Project:	
Country:	China <input type="checkbox"/> Turkmenistan <input type="checkbox"/> Kazakhstan <input checked="" type="checkbox"/> Uzbekistan <input type="checkbox"/> Mongolia <input type="checkbox"/> International <input type="checkbox"/> Russia <input type="checkbox"/>
Organisation / Contact details: WWF Russia/Central Asian Programme; 19., bd.3, Nikoloyamskaya, Moscow, 109240, Russia; +7 495 727 09 39, fax +7 495 727 09 39; opereladova@wwf.ru	
Duration of project: from from __07.2009__ to -06.2012_ (previous project phase – 07.2006-06.2009)	
Location(s) of main activity: Betpakdala, Kazakhstan	
Sub-species: <i>Saiga tatarica tatarica</i> * <input checked="" type="checkbox"/> <i>Saiga tatarica mongolica</i> * ³ <input type="checkbox"/>	
Areas of work: Anti-poaching <input checked="" type="checkbox"/> Habitat restoration <input type="checkbox"/> Population monitoring <input checked="" type="checkbox"/> Protected area management <input checked="" type="checkbox"/> Ecological research <input type="checkbox"/> Training & capacity-building <input type="checkbox"/> Education and awareness <input checked="" type="checkbox"/> Law enforcement <input type="checkbox"/> Alternative livelihoods <input type="checkbox"/> Trade issues <input type="checkbox"/> Socio-economic research <input type="checkbox"/> Captive breeding <input type="checkbox"/> Range mapping <input checked="" type="checkbox"/> Reintroduction/release <input type="checkbox"/> Habitat research <input type="checkbox"/>	
For each box ticked, please provide brief details in the project summary box below	

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<p>Project Summary: Project Summary: A network of kids' and youth clubs and independent persons is involved in observations on saiga migrations and ecological education activities; series of lectures, presentations, talks with local (groups and personal), regularly organised in remote settlements, education materials distributed. In cases, when data on real or potential poaching are discovered, information is immediately passed to officially authorized anti-poaching teams (mobile groups of Okhotzoprom, regional inspections). Numerous data on the size of saiga groups, time of arrival in various parts of area is collected and passed to relevant specialists and organizations as a background material on:</p> <ul style="list-style-type: none"> - population sex-age structure - seasonal migrations/sites of concentrations - areas of potential poaching (special seasonal needs for protection) <p>Specifically, observations during the last years proved serious expansion of saiga area to the North – both wintering sites, and lambing sites (Kostanai oblast). Methodological support is provided for the Altyn-Emel reservat for the preparation and implementation of the management plan and preparation of the nature chronicles.</p>
<p>Planned Activities: to follow up the above-named activities</p>
<p>Achievements to date: wide range of representatives of various stakeholders involved in monitoring and poaching-prevention activities; data on group size dynamics proves saiga population growth and territorial distribution in Betpakdala; numerous cases of potential poaching prevented; Altyn-Dala reservat monitoring system / management improved.</p>
<p>Reports / Publications / Information material: WWF Technical project reports to the donor . Previously prepared by WWF together with various partners information materials were used for distribution.</p>
<p>Collaborators: game management /protected areas, local NGOs, specialists of the Institute of Zoology, Anti-plague Institute, Okhotzoprom, regional inspections, FHC.</p>
<p>Budget available: 10 000 -15 000 \$ a year</p>
<p>Current sponsors: WWF Netherlands</p>
<p>Past sponsors: FZS – a set of antipoaching activities and protected areas system development – handed over to ACBK</p>
<p>Information contributed by: Olga Pereladova, the head of WWF Central Asian programme</p>
<p>Date report submitted: <u>13/07/2015</u> dd/mm/yyyy</p>
<p>Other:</p>

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Project:				
Country:	China	<input type="checkbox"/>	Turkmenistan	<input type="checkbox"/>
	Kazakhstan	<input type="checkbox"/>	Uzbekistan	<input type="checkbox"/>
	Mongolia	<input checked="" type="checkbox"/>	International	<input type="checkbox"/>
	Russia	<input type="checkbox"/>		
Organisation / Contact details: WWF Mongolia Program Office, 8th khoroo, Sukhbaatar district, Amar street 4, Ulaanbaatar, Mongolia				
Duration of project: from <u>2007</u> to <u>current</u>				
Location(s) of main activity: Khovd and Gobi-Altai provinces, Western Mongolia				
Sub-species:	<i>Saiga tatarica tatarica</i> *	<input type="checkbox"/>		
	<i>Saiga tatarica mongolica</i> *	<input checked="" type="checkbox"/>		
Areas of work:				
Anti-poaching	<input checked="" type="checkbox"/>	Habitat restoration	<input type="checkbox"/>	
Population monitoring	<input checked="" type="checkbox"/>	Protected area management	<input checked="" type="checkbox"/>	

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Ecological research	<input type="checkbox"/>	Training & capacity-building	<input checked="" type="checkbox"/>
Education and awareness	<input checked="" type="checkbox"/>	Law enforcement	<input checked="" type="checkbox"/>
Alternative livelihoods	<input type="checkbox"/>	Trade issues	<input checked="" type="checkbox"/>
Socio-economic research	<input type="checkbox"/>	Captive breeding	<input type="checkbox"/>
Range mapping	<input type="checkbox"/>	Reintroduction/release	<input type="checkbox"/>
Habitat research	<input type="checkbox"/>		

For each box ticked, please provide brief details in the project summary box below

Project Summary: Mongolian Saiga (*Saiga tatarica mongolica*) is an endemic subspecies to Mongolia. It is registered by IUCN as “very rare”, and listed as such in the Mongolian Red Data Book. The species is extremely vulnerable to habitat competition with livestock, poaching, and extreme natural disasters such as cold winters and drought. All three factors together reduced the population to about 800 animals in 2001/2002. The status of the species has improved significantly since then, to about 14,000 animals, thanks to the conservation efforts of WWF, MAVA Foundation and other organizations.

The project funded by the MAVA Foundation which provided crucial support for the period 2007-2015 in the fields of law enforcement, the mobilizing of support for Saiga conservation from local populations, and the establishing of livestock free rangelands in cooperation with local decision makers and herders. The long term goal of the Saiga conservation project is to maintain and restore the Mongolian Saiga in the Great Lakes Basin and to extend its range to its former habitats. The short-term goal of the second phase is that by end-2013, the Saiga population in Shargiin and Khuisiin Gobi has increased by 30% compared to 2010 (baseline is 8,000 individuals according to the aerial survey).

Planned Activities: Following the recommendation, the first amendment was signed between the MAVA Foundation and WWF International for extending the project for one year. This second phase of the project focusses on revitalizing a more active Saiga Ranger Network and monitoring of pasture management plans in saiga range, including the establishment and monitoring of grazing reserves in Saiga core habitats. Those are believed to help to validate project’s previous years’ achievements and to ensure sustainability. Specific objectives of the second phase are: 1) strengthen law enforcement through improving the Saiga Ranger Network and develop other law enforcement measures as recommended in the evaluation carried out in 2013; 2) Ensure smooth implementation and monitoring of pasture management plans from seven soums and use of reserve pasture through supporting the environmental sustainable development units in the soums; and 3) Maintain support for Eco Clubs and consolidate clubs in key saiga habitats.

Achievements to date: The overall result of the project is that the saiga has been saved from extinction, its numbers have increased from 2.950 in 1998 to about 14.000 animals in 2014, the range increased by 13% since 1998 and continues to extend. The distribution of the saiga has been expanded by 13% since 1998. A small population with over 50 individuals is constantly recorded in the northern historical range since 2013. However, we must realize that the population is still fragile given the fact that 12.000 and 120.000 saiga died in Kazakhstan in 2010 and 2015 respectively from an unknown disease. Further efforts are therefore needed

to extend the species range into other suitable habitats, in particular towards the north.

Approved regulation for the use of reserve pasture that covers 434,380 ha (35.3% of the saiga habitat) disseminated to all stakeholders. Reserve pastures are kept out of mining related licenses because of its protection status of “state reserve pasture”. This allows free moving of saiga with no habitat disturbance.

The project represents one of the most effective and successful implementation of a Species Conservation Action Plan in Mongolia. Appropriate structure of saiga ranger network for an effective patrolling is in place based on identification of hot spots for saiga poaching and assessment results of rangers’ performance. The Saiga ranger network is highly respected in the region. Saiga rangers become familiar with environmental conservation, conservation biology, government policy on conservation, conservation legislations, public relations, data collection, protected area management and monitoring techniques.

Reports / Publications / Information material: The museum of Gobi-Altai aimag has been contributing a lot to the saiga conservation in close collaboration with WWF-Mongolia. There is a Saiga corner in the museum where exist saiga taxidermy, books, brochures, and automatic animal voice player. Within a year more than 1500 visitors enjoyed the corner. In addition, dedicated with the Saiga Day and to increase public awareness on illegal poaching issues 5 special news and articles were published in daily newspapers in last year.

Collaborators: This project is closely connected to the Ministry of Environment, Green Development and Tourism, regional and local authorities (Aimag, Soum and Bag level).

The MOU between WWF and WCS is operational.

Good cooperation between WWF-Mongolia and Department to Combat Organized Crime under the National Police Agency started to ensure an effective control and monitoring of wildlife trade through establishing network of informants.

Budget available: 35000 Euro

Current sponsors: MAVA Foundation

Past sponsors: MAVA Foundation

Information contributed by: Chimeddorj Buyanaa

Date report submitted: _____
28/July/2015

Other: The Saiga poaching cases and attempts of illegal trade of Saiga horn happen repeatedly during the last 3 years. The offenders are unknown. More focus is required to increase the involvement of local people and herders, to engage them as informants on wildlife poaching and illegal trade cases. Therefore, WWF Mongolia PO adopted a strategic

approach to strengthen community based law enforcement through creating informants' network and establish close collaboration between civilians and relevant enforcement agencies e.g. General Police Authority through encouragement and motivation of people with special focus on globally and regionally endangered wildlife species.

WWF needs to work to strengthen the synergy between sustained rangeland management, Saiga conservation and improved livelihood. This is under a set of goals to improve herders' income from sustainable livestock production and increase income opportunities from non-livestock income generation such as agriculture development.

In order to strengthen Saiga conservation, enhanced knowledge is needed on their biology and ecology which plays a key role in integrating Saiga conservation and sustainable use of natural resources. Long term activities for providing more information on the species and determining the carrying capacity of rangeland are needed. The priority study is to collar adult saiga to determine the movement of saiga and home range.

In view of recent increases of the Saiga population, restoring the Mongolian Saiga population is needed by starting a captive breeding program, associated with other conservation measures such as strengthening of law enforcement, establishing livestock free habitats, enhancing public awareness and conservation education.

Involvement of youth and herders through establishing a network of informants are critical to support measures against illegal trade activities.

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Project: Addressing the illegal trade in the critically endangered Ustyurt Saiga			
Country:	China <input type="checkbox"/>	Turkmenistan <input type="checkbox"/>	
	Kazakhstan <input checked="" type="checkbox"/>	Uzbekistan <input type="checkbox"/>	
	Mongolia <input type="checkbox"/>	International <input type="checkbox"/>	
	Russia <input type="checkbox"/>		
Organisation / Contact details: Fauna & Flora International, 4 th Floor, Jupiter House, Station Road, CB1 2JD Cambridge, UK			
Duration of project: from April 2010 to March 2013			
Location(s) of main activity: Ustyurt Plateau			
Sub-species:	<i>Saiga tatarica tatarica</i> * <input checked="" type="checkbox"/>		
	<i>Saiga tatarica mongolica</i> * <input type="checkbox"/>		
Areas of work:			
Anti-poaching	<input type="checkbox"/>	Habitat restoration	<input type="checkbox"/>
Population monitoring	<input type="checkbox"/>	Protected area management	<input type="checkbox"/>
Ecological research	<input type="checkbox"/>	Training & capacity-building	<input checked="" type="checkbox"/>
Education and awareness	<input checked="" type="checkbox"/>	Law enforcement	<input checked="" type="checkbox"/>
Alternative livelihoods	<input type="checkbox"/>	Trade issues	<input checked="" type="checkbox"/>
Socio-economic research	<input checked="" type="checkbox"/>	Captive breeding	<input type="checkbox"/>
Range mapping	<input type="checkbox"/>	Reintroduction/release	<input type="checkbox"/>
Habitat research	<input type="checkbox"/>		
For each box ticked, please provide brief details in the project summary box below			
Project Summary:			
This project was implemented as one component of FFI's wider programme on Saiga and the Ustyurt Landscape.			
<u>Education and awareness:</u> A broad awareness raising campaign, consisting of video clips, posters and comic books for school children in Kazakh, Uzbek, Karakalpak and Russian language, was developed and fully implemented in Kazakhstan.			
<u>Socio-economic / trade research:</u> In cooperation with Imperial College London, socio-economic research was conducted on the Ustyurt in the main villages to identify key actors in and drivers for			

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trade in saiga products, the economic value of these activities, regional markets and trade chains.

Training & capacity-building: Based on identified needs a training package for law enforcement personnel was developed, including a training manual in Russian language and a poster guide to identify horns of endangered ungulates. Through the provision of training and GPS units, rangers increased their knowledge in the use of GPS, legal aspects of seizure and arrest and in international laws and conventions on saiga. A one-week exchange trip to the Canine Training Centre of the World Customs Organization in the Czech Republic was organised for personnel from the Dog Training Centre under the Customs Committee of Kazakhstan to learn about the use of dogs to help enforce CITES.

Law enforcement: Building on this project, with follow-up FFI support, the Kazakh Customs Committee now have four dogs trained and operational to assist in the detection of trafficked saiga horn.

Trade issues: this project follows an integrated approach including researching harvest, trade and consumption of meat and horn; engaging local people, especially poachers, in the development of effective conservation measures; strengthening capacity and facilitating improved transboundary cooperation for law enforcement; increasing understanding of local livelihood needs.

Planned Activities:

The project ran for three years, completed in March 2013.

Output 1. Research into the saiga product commodity chain, the drivers of poaching and alternative livelihood options completed and used to inform the development of conservation interventions and engagement with poachers and the wider local communities.

- 1.1. Conducted research to identify key actors and drivers of trade in saiga products, regional markets and trade chains for saiga products
- 1.2. Utilised research results together with results of wider operational landscape and needs assessments in order to determine trade interventions.
- 1.3. Conducted research to identify alternative livelihood options for local communities with a particular focus on those engaged in saiga trade and poaching.
- 1.4. Shared learning on alternative livelihoods options so as to inform the development of livelihood interventions to be delivered under the parallel FFI SCAPES initiative.

Output 2. Training package developed and capacity of enforcement agencies, customs service, local and border police strengthened at the local, regional and national level.

- 2.1. Conducted Training and Resource Needs Assessments (TRNA) for each of the target groups engaged on illegal trade interventions.
- 2.2. Developed training modules that improved target group skills to deliver the illegal trade intervention strategy.
- 2.3. Delivered training to target groups - customs service, local and border police.
- 2.4. Evaluated training delivery and impacts.

Output 3. Cooperation and coordination; transboundary coordination and overall collaboration between Uzbekistan and Kazakhstan improved; linkages made to other international organisations working on issues related to saiga trade.

- 3.1. Developed a saiga trade intervention strategy in close cooperation with all partners.
- 3.2. Identified roles and responsibilities of the various enforcement agencies and supported them to deliver the saiga trade intervention strategy.

3.3. Developed and implemented a plan to co-ordinate inter-agency (national and bi-lateral) activities related to illegal trade.

3.4. Held transboundary meetings to foster exchange of experience and share lessons learned between host countries.

Output 4: Awareness-raising campaign to raise and address issues of illegal trade of saiga; conducted at customs posts and local markets along the border between Uzbekistan and Kazakhstan; lessons learned shared.

4.1. Conducted assessments of awareness and perceptions of local people of the trade in saiga / wildlife products.

4.2. Developed and implemented an information campaign to build understanding of the positive values of biodiversity to local culture and livelihoods and to raise- awareness of the illegality and consequences of wildlife trade.

4.2. Conducted highly visible random police inspections of market goods at the local and regional level.

4.3. Disseminated information on project progress and evaluation to all relevant stakeholders and the wider public.

Achievements to date:

With the excellent support of all partners/collaborators:

- Two 6-week socio-economic and saiga trade studies conducted, resulting in increased understanding of saiga product commodity chains, trade hubs and the role of poaching and trade in people’s livelihoods.
- Contributed to an overall increase in enforcement capacity, led by the Forestry and Hunting Committee of Kazakhstan; increased awareness of urgency for saiga conservation resulting in strengthened fines.
- Training of Trainers for law enforcement agencies developed; including a manual and a poster guide on identifying ungulate horn.
- Officers from the Dog Training Centre under the Customs Committee of Kazakhstan gained substantial knowledge on training and using sniffer dogs to support the detection of illegally traded wildlife products to help enforce CITES.

Reports / Publications / Information material:

Collaborators: Forestry and Hunting Committee of Kazakhstan, Association for the Conservation of Biodiversity of Kazakhstan (ACBK), Small and Medium Enterprise Development Agency (SMEDA), Imperial College London

Budget available: 192,994 GBP

Current sponsors: Darwin Initiative (UK Government funding)

Past sponsors:

Information contributed by: Paul Hotham, Regional Director, Eurasia, Fauna & Flora International

Date report submitted: 28/08/2015

Other:

PROJECTS REPORTING TEMPLATE FOR SAIGA-RELATED ACTIVITIES

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Please complete sections as appropriate and **return to the CMS Secretariat**.

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Project: Ustyurt Landscape Conservation Initiative (SCAPES)				
Country:	China	<input type="checkbox"/>	Turkmenistan	<input type="checkbox"/>
	Kazakhstan	<input checked="" type="checkbox"/>	Uzbekistan	<input type="checkbox"/>
	Mongolia	<input type="checkbox"/>	International	<input type="checkbox"/>
	Russia	<input type="checkbox"/>		
Organisation / Contact details: Fauna & Flora International, 4 th Floor, Jupiter House, Station Road, CB1 2JD Cambridge, UK				
Duration of project: from __ Oct 2009_____ to _____ Sept 2014_____				
Location(s) of main activity: Ustyurt Plateau				
Sub-species:	<i>Saiga tatarica tatarica</i> *	<input checked="" type="checkbox"/>		
	<i>Saiga tatarica mongolica</i> *	<input type="checkbox"/>		
Areas of work:				
Anti-poaching	<input checked="" type="checkbox"/>	Habitat restoration	<input checked="" type="checkbox"/>	
Population monitoring	<input checked="" type="checkbox"/>	Protected area management	<input checked="" type="checkbox"/>	
Ecological research	<input checked="" type="checkbox"/>	Training & capacity-building	<input checked="" type="checkbox"/>	
Education and awareness	<input checked="" type="checkbox"/>	Law enforcement	<input checked="" type="checkbox"/>	
Alternative livelihoods	<input checked="" type="checkbox"/>	Trade issues	<input checked="" type="checkbox"/>	

* Note that CMS Parties have adopted Wilson, D.E. & Reeder, D.M. (2005) Mammal Species of the World. A taxonomic and geographic reference. Third edition. John Hopkins University Press, Baltimore, USA as taxonomic reference for terrestrial mammals through [Recommendation 9.4](#) where *S. t. tatarica* is referred to as *Saiga tatarica* and *S. t. mongolica* is referred to as *Saiga borealis*.

Socio-economic research	<input checked="" type="checkbox"/>	Captive breeding	<input type="checkbox"/>
Range mapping	<input checked="" type="checkbox"/>	Reintroduction/release	<input type="checkbox"/>
Habitat research	<input checked="" type="checkbox"/>		

For each box ticked, please provide brief details in the project summary box below

Project Summary:

The Ustyurt SCAPES project ran from Oct 2009 to Sept 2014:

Anti-poaching: Support to Ustyurt rangers, support and resources for customs officers, education and training activities and facilitating transboundary cooperation between rangers.

Population monitoring: Saiga collaring and mapping, rangeland survey, saiga mortality survey and saiga movement study.

Ecological research: Baseline ecological surveys carried out to develop biodiversity monitoring protocol.

Education and awareness: Public awareness campaign, eco-clubs, International saiga day, student exchange, mobile environmental resource centre, school activities, media campaign.

Alternative livelihoods: Mobile environmental resource centre, small grants programmeme.

Socio-economic research: Socio-economic surveys.

Range mapping: Collaring, rangelands survey.

Habitat research: Rangeland assessment, baseline ecological survey, climate and carbon studies.

Habitat restoration: Mitigating the border fence and railroad.

Protected area management: Support to Ustyurt rangers, facilitating transboundary cooperation between rangers, development of management plan.

Training & capacity-building: Training was conducted for state rangers, local saiga monitors, relevant state agencies, customs service, border and local police, planner and developers. Capacity building of rangers and customs officers.

Law enforcement: Saiga horn sniffer dogs and capacity building for customs officials, support to rangers.

Trade issues: this project connected to a parallel FFI initiative on addressing illegal trade in saiga products (see Darwin Initiative report). Also, provided saiga sniffer dogs and support to customs officials.

Planned Activities: The SCAPES project closed in Sept 2014.

Achievements to date:

With the excellent support of all partners/collaborators:

1. Improved wildlife law enforcement capacity

The project placed great emphasis on supporting efforts that reduced poaching and trafficking of Saiga not only on the Ustyurt, but throughout their range. This support came in the form of training and resource provision, awareness-raising and the facilitation of exchange, targeted at agencies charged with documenting and enforcing hunting and illegal trade laws. As a result of the project, there is now greater collaboration between agencies on efforts to deter and detect poachers. Rangers on the Ustyurt

are also better equipped to be in the field and have improved skills and capacities to take advantage of the new technology and data available to them. The Kazak customs agency also has greater capacity to halt the flow of smuggled Saiga horns as a result of the world-class Saiga detection dog programme established with the support of the project.

Capacity building:

The first project activities included the delivery of Training and Resource Needs Assessments for enforcement and customs teams. Training and resources were then provided based on the needs identified. Trainings supported rangers to build their field and patrolling skills. Training also enabled customs officials, local police and border guards to better understand illegal wildlife product trade chains, to build skills in identifying illegal wildlife products and understanding of the national and international laws that regulate wildlife trade. These included regulations and approaches to meeting the requirements of the CITES Convention and the Convention on Migratory Species (CMS) Memorandum of Understanding (MoU) and Medium Term Work Programme on Saiga conservation.

Wildlife detection dog programme:

The project's assessment of capacity needs to address the cross-border trade in Saiga products identified a strong interest to establish a wildlife detection dog programme to strengthen border controls. A study tour was arranged between officers of the Regional Dog Training Center, Kazakhstan and the Czech Republic's World Customs Organization certified Canine Training Facility. After this exchange, the project worked with the Regional Dog Training Centre to develop a sniffer dog programme for Kazakhstan, using dogs trained to detect Saiga horn odour. Four detection dogs, which were pre-trained in the USA to detect drugs, were transported to Kazakhstan and trained to detect Saiga horn during an intensive dog handling training programme held at the Regional Dog Training Centre. Within two months of deployment, two finds of Saiga horn, one at the Uzbek-Kazakh border and one at the Kazakh-Kyrgyz border had been made. The programme is viewed as highly successful and is a symbol of what can be achieved through effective collaboration between different government agencies and International and local NGO's. The programme was featured at an International Saiga Ranger Summit, also delivered by the project, and at the October 2014 regional CITES meeting, hosted by the Government in Kazakhstan.

Transboundary and international cooperation promoting Saiga conservation:

In 2013, the project supported two major CMS facilitated events: 1. the development of a bilateral action plan between Uzbekistan and Kazakhstan on conserving the Ustyurt Saiga; and 2. a technical workshop aimed at increasing cooperation and coordination in implementing activities outlined in the Saiga MoU. Both of these events pointed towards the need to improve transboundary cooperation between wildlife law enforcement groups charged with protecting the Ustyurt Saiga. The project followed these events up with the first ever 'International Saiga Rangers Summit', bringing together rangers tasked with protecting the Saiga from the range states.

2. Improved knowledge of the Ustyurt landscape guiding its management

The project team and partners together with a range of specialists undertook a raft of surveys and studies. These included baseline surveys of biodiversity and the socio-economic position on the Ustyurt; satellite collaring of Saiga antelope; assessment of rangeland condition, carbon values, climate change impacts and market chains for the illegal trade in Saiga products. As a result, a much stronger baseline data set exists against which future management strategies and decisions can be taken. Building upon the biodiversity and Saiga baselines, the project started the process of developing a biodiversity monitoring protocol, which we anticipate will be used by the Authorities to guide future management decisions.

Rangelands:

The project recruited an internationally recognized rangeland expert to conduct an ecosystem

wide survey. This resulted in one of the first systematic attempts to quantify rangeland conditions on the Ustyurt. The results were that the rangelands were experiencing localized grazing pressure around settlements but much of the Ustyurt has remained un-grazed by domestic livestock for long periods of time and is in relatively good condition.

Climate and carbon studies:

The project also engaged climate change and carbon specialists from FFI to develop a climate change adaptation plan for the region and to assess the relative carbon values of the Plateau ecosystem and feasibility of using carbon finance as a means to protect the Ustyurt's threatened grasslands.

Biodiversity assessment:

The project facilitated biodiversity surveys on the both the Uzbek and Kazakh Ustyurt, an approach that had not been undertaken for several decades. The project supported the development of a draft biodiversity monitoring programme for the Kazakh Ustyurt, which should enable changes in key biodiversity to be measured over time and for better decisions to be made to allow management to be adapted.

Saiga mortality study:

In 2010 and 2011 two consecutive Saiga mass-die offs were reported in NW Kazakhstan involving more than 10,000 animals. The cause was a mystery. The Ustyurt population was unaffected but with such critically low numbers any additional mortality would be a grave threat to their future. One of the world's leading wildlife epidemiologist was contacted and supported using emergency funds leverage by FFI and the project to conduct an investigation as to the probable cause and to provide recommendations for the future.

Socio-economic study:

The project sought to gather data through delivery of a socio-economic survey. The results of this survey have been important in guiding the project's conservation actions to ensure that they are acceptable to and supported by the communities. The design concept for the Mobile Environmental Resource Center (MERC) was influenced by the results from this survey.

Saiga movement study:

The annual Saiga migrations are a widely documented global ecological phenomena. Despite this, uncertainty about the transboundary nature of the Ustyurt Saiga movements remained. Understanding the scale and nature of these movements was critical for the project. The project therefore supported the capture, satellite collaring and release of Saiga on the Ustyurt. The resulting data was added to ongoing research on Saiga movements in other Saiga populations, thereby leveraging learning and expanding the scale of impact of this research. The results of this research have been powerful. It is now indisputable that Ustyurt Saigas are transboundary and depend on habitat in Uzbekistan during the winter months to survive. Data on Saiga movement clearly demonstrates how the continued development of roads, railroads, and fences serve to fragment the Ustyurt by acting as barriers to Saiga movements. These results were used to justify recommendations that the existing border fence be modified to a more wildlife friendly fence design.

3. Greater community involvement in Ustyurt environmental issues

For biodiversity conservation to be successful activities need to take into account the needs of local people and facilitate their participation in activities wherever possible. The project used research, consultations, study tours and the development of local infrastructure to engage local people. Conservation and environmental messaging were informed and shaped by these interactions to ensure they were appropriately targeted and have the greatest impact possible.

Public awareness campaigns:

The project used public mass media outlets to reach a larger audience. Using video footage of Saiga the project produced a short film that appealed to the audience to consider that the fate of the Saiga is in their hands and to dissuade others from poaching. This clip was broadcast on regional TV outlets and a link to the video is available to view on You Tube.

The project also produced posters and large billboard signs that highlighted the importance of protecting Saiga and asked people not to purchase Saiga horns or meat. These also provided information on laws regulating the sale of Saiga products and hunting. These were placed on billboards along major roads/motorways leaving the regional capital and in train stations and airport terminals.

Inspiring the future:

The project established and supported the development of eco-clubs on the Ustyurt. Initially these efforts were focused on establishing clubs within villages on the Uzbek side of the Ustyurt. Although the project was not able to continue activities with these clubs; they remain active and are supported locally. In Kazakhstan, the project supported the establishment of an eco-club in the town of Shalkar at school No.5. In two years over 100 students have participated in eco-club activities, which include two international Saiga day celebrations. The project also supported an international exchange of students between Uzbekistan and Kazakhstan during the first Saiga day festival. This positive exchange provided an opportunity to share views and opinions, to bust myths on who was responsible for poaching and create a more positive conservation message.

Mobile Environmental Resource Centre (MERC):

The MERC was established to provide information and support of value to the communities while also providing information on environmental issues. In this way, the project aimed to enable local people to see a positive link between their improved livelihoods and the state of their environment through raised awareness and, thus begin to be more proactive in engaging on protecting the environment, species and habitats. The Centre is based around a traditional yurt that travels between 5 villages on the Ustyurt on a regular basis, providing training on micro loans, developing business plans, employment opportunities and lectures on local environmental issues. The use of a traditional yurt and the mobility of the centre, enables it to reach a larger audience than would be possible at a fixed site.

Reports / Publications / Information material: SCAPES final closeout report

Collaborators: Forestry and Hunting Committee of Kazakhstan, Association for the Conservation of Biodiversity of Kazakhstan (ACBK), The Royal Veterinary College, London, Small and Medium Enterprise Development Agency (SMEDA), Imperial College, London, The Smithsonian Conservation Biology Institute, USA, The Customs Committee under the Ministry of Finance (Kazakhstan), Frankfurt Zoological Society (FZS), Saiga Conservation Alliance (SCA) Food and Agriculture Organization (FAO), Makor K9 & Battleborn K9, Black Earth Nature Reserve-Republic of Kalmykia, Russia.

Budget available: \$1,152,525

Current sponsors: Project completed

Past sponsors: USAID, British American Tobacco, Darwin (Defra), Disney Worldwide Conservation Fund, Individual donors, WildInvest, Arcadia, Mohammed bin Zayed Foundation, Halcyon Land & Sea, Whitley Fund for Nature

Information contributed by: Paul Hotham, Regional Director, Eurasia

Date report submitted: 28/08/2015
Other:

PROJECTS REPORTING TEMPLATE FOR SAIGA-RELATED ACTIVITIES

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Please complete sections as appropriate and **return to the CMS Secretariat**.

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Project: Conservation of the Ustyurt Saiga: Rebuilding the Critically Endangered Saiga Antelope Population on Ustyurt Plateau				
Country:	China	<input type="checkbox"/>	Turkmenistan	<input type="checkbox"/>
	Kazakhstan	<input checked="" type="checkbox"/>	Uzbekistan	<input type="checkbox"/>
	Mongolia	<input type="checkbox"/>	International	<input type="checkbox"/>
	Russia	<input type="checkbox"/>		
Organisation / Contact details: Fauna & Flora International, 4 th Floor, Jupiter House, Station Road, CB1 2JD Cambridge, UK				
Duration of project: from Sept 2014 to Dec 2016 (current grants)				
Location(s) of main activity: Kazakh Ustyurt Plateau				
Sub-species:	<i>Saiga tatarica tatarica</i> *	<input checked="" type="checkbox"/>		
	<i>Saiga tatarica mongolica</i> *	<input type="checkbox"/>		
Areas of work:				
Anti-poaching	<input type="checkbox"/>	Habitat restoration	<input type="checkbox"/>	
Population monitoring	<input type="checkbox"/>	Protected area management	<input type="checkbox"/>	
Ecological research	<input checked="" type="checkbox"/>	Training & capacity-building	<input checked="" type="checkbox"/>	
Education and awareness	<input checked="" type="checkbox"/>	Law enforcement	<input checked="" type="checkbox"/>	

* Note that CMS Parties have adopted Wilson, D.E. & Reeder, D.M. (2005) Mammal Species of the World. A taxonomic and geographic reference. Third edition. John Hopkins University Press, Baltimore, USA as taxonomic reference for terrestrial mammals through [Recommendation 9.4](#) where *S. t. tatarica* is referred to as *Saiga tatarica* and *S. t. mongolica* is referred to as *Saiga borealis*.

Alternative livelihoods	<input type="checkbox"/>	Trade issues	<input type="checkbox"/>
Socio-economic research	<input type="checkbox"/>	Captive breeding	<input type="checkbox"/>
Range mapping	<input type="checkbox"/>	Reintroduction/release	<input type="checkbox"/>
Habitat research	<input type="checkbox"/>		

For each box ticked, please provide brief details in the project summary box below

Project Summary:

Ecological research: Continue to improve our knowledge of saiga movements, habitat use and the effects of linear infrastructure within their range through use of satellite tracking.

Education and awareness: Support local communities, particularly local youth, in implementing active conservation measures and raise public awareness about the fate of the Ustyurt saiga at local, national and international levels.

Training & capacity-building and Law enforcement: The Kazakh government have established an Ustyurt saiga ranger team who together with customs officers form the frontline in the fight to end poaching and illegal trade. The project will provide training and other support in legislation and enforcement, saiga monitoring, evidence gathering and use of detection dogs, and promote collaboration with officers from other Kazak agencies and other range states.

Planned Activities:

Strengthen law enforcement / conservation

- Provide legal and investigative training and support to enforcement teams (primarily Ustyurt saiga ranger team); Work with rangers in developing more effective patrol and deterrent strategies.
- Organise second international ranger experience exchange workshop.
- Provide follow-up training to 4 customs ('sniffer') dog handlers on dog welfare and working protocols; Work with these officers to train new dogs; Engage road police and environmental rangers – demonstrations of the odour detection dogs.

Building a supportive constituency, including community outreach and education

- Support existing and establish new school eco-youth clubs; Organise an eco-youth camp; Organise 'Saiga day' events.
- Provide technical / resource support to the mobile environmental resource centre (MERC) for sustainable business model and environmental education / outreach activities.
- Engage key businesses operating on the Plateau to pilot mitigation hierarchy scheme.
- Monitor border fence adjustment; engage in policy discussions on mitigation of other planned infrastructure.

Field research – integrate improved ecological data into Ustyurt saiga management

- Capture and fit satellite tracking collars to female saiga; take daily GPS fix.
- Collate and analyse existing and incoming data and use to inform management decisions.

Achievements to date:

Achievements of FFI's overall Saiga programme can be found in the following Project Reports:

i) Ustyurt Landscape Conservation Initiative (SCAPES) ii) Addressing the illegal trade in the critically endangered Ustyurt Saiga	
Reports / Publications / Information material:	
Collaborators: Association for the Conservation of Biodiversity of Kazakhstan (ACBK); Forestry and Hunting Committee of Kazakhstan; Dog Training Centre under the Customs Committee of Kazakhstan.	
Budget available: USD 75,000 (for 2015)	
Current sponsors: Regina Bauer Frankenberg Foundation; Disney Wildlife Conservation Fund	
Past sponsors: Disney Wildlife Conservation Fund	
Information contributed by: Paul Hotham, Regional Director, Eurasia, Fauna & Flora International	
Date report submitted:	28/08/2015
Other:	

PROJECTS REPORTING TEMPLATE FOR SAIGA-RELATED ACTIVITIES

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Please complete sections as appropriate and **return to the CMS Secretariat**.

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Project: Ecology and Conservation of Mongolian Saiga				
Country:	China	<input type="checkbox"/>	Turkmenistan	<input type="checkbox"/>
	Kazakhstan	<input type="checkbox"/>	Uzbekistan	<input type="checkbox"/>
	Mongolia	X	International	<input type="checkbox"/>
	Russia	<input type="checkbox"/>		
Organisation / Contact details: Wildlife Conservation Society, Mongolia Program, 201 San Business Center, Amar Street 29, Small Ring Road-14200, Sukhbaatar district, Ulaanbaatar, Mongolia				
Duration of project:	from June 2011	_____	to June 2015	_____
Location(s) of main activity: Western Mongolia				
Sub-species:	<i>Saiga tatarica tatarica</i> *	<input type="checkbox"/>		
	<i>Saiga tatarica mongolica</i> *	X		
Areas of work:				
Anti-poaching	<input type="checkbox"/>	Habitat restoration	<input type="checkbox"/>	
Population monitoring	X	Protected area management	<input type="checkbox"/>	
Ecological research	X	Training & capacity-building	<input type="checkbox"/>	
Education and awareness	<input type="checkbox"/>	Law enforcement	<input type="checkbox"/>	
Alternative livelihoods	<input type="checkbox"/>	Trade issues	<input type="checkbox"/>	

* Note that CMS Parties have adopted Wilson, D.E. & Reeder, D.M. (2005) Mammal Species of the World. A taxonomic and geographic reference. Third edition. John Hopkins University Press, Baltimore, USA as taxonomic reference for terrestrial mammals through [Recommendation 9.4](#) where *S. t. tatarica* is referred to as *Saiga tatarica* and *S. t. mongolica* is referred to as *Saiga borealis*.

Socio-economic research	<input type="checkbox"/>	Captive breeding	<input type="checkbox"/>
Range mapping	X	Reintroduction/release	<input type="checkbox"/>
Habitat research	X		

For each box ticked, please provide brief details in the project summary box below

Project Summary: The Mongolian saiga (*Saiga tatarica mongolica*) is one of the last great migratory species of Central Asia, but their population size and range have declined dramatically during the past half-century. Declines have been attributed mainly to illegal hunting for the horns of males, which are used in Chinese traditional medicines, as well as other factors including harsh climate, habitat loss, disease, and competition with livestock for resources. Understanding the effects of environmental and anthropogenic factors on distribution and population dynamics of Mongolian saiga is critical to conservation planning of the species. Overarching goal of this project is to implement a scientific study to address uncertainties with regards to factors that regulate recruitment and space use pattern of saiga antelope in western Mongolia.

Planned Activities:

- Genetic samples from Mongolian saiga is planned to collect in June 2015, in collaboration with researchers from University of Copenhagen Denmark and WWF Mongolia, to examine genetic structure of this subspecies.

Achievements to date:

- During 04-15 February and 15-27 August, 2014, we surveyed 39 systematic line transects with spacing of 10 km a totalling 1,505 km survey effort across 14,713-km² area, to estimate saiga densities in western Mongolia. In total, 148 groups and 1,934 individuals of saiga observed during the winter and 243 groups and 1,738 individuals of saiga observed during the summer survey, respectively. This analysis gives an average estimate of 14,869 animals (CV = 15.00) across its entire range of 14,713 km² area.
- A total of 78 hair and horns samples (of these 13 hairs and 33 horn samples were from Mongolia) have been analysed at University of Tübingen (Germany) in 2014, to check if different geographical origins can be tracked using stable isotopes. Preliminary results already indicate that it is possible to discriminate between different saiga populations by the application of stable isotopes. Thus stable isotopes can be potentially a useful tool in the future to help fighting against illegal trade of saiga horns and to conserve this endangered antelope.
- Factors that could affect selection of saiga calving locations in the Sharga Nature Reserve, western Mongolia studied using data obtained from ground surveys over 4 years between 2008 and 2012. Our results indicate individual saiga females preferred calving locations that were away from settlements and closer to water sources and avoided steeper slopes in comparison with random locations. These results demonstrate that the choice of calving locations for saiga antelope is driven by both internal and external factors.
- We used time series data, ecological snapshots of the biomass of native and domestic ungulates, and ecologically and behaviorally based fieldwork to test a hypothesis that global trade in cashmere has strong negative effects on native large mammals of deserts and grassland where cashmere-producing goats are raised. In Mongolia increases in domestic goat production were associated with a 3-fold increase in local profits for herders coexisting with endangered saiga, and native ungulate biomass comprises < 5% that of domestic species.
- Seasonal changes in the group size and social structure of saigas in relation to environmental and anthropogenic factors in western Mongolia during 2009–2012. We found seasonality exerted strong effects with the smallest groups in June and largest in December. Our results are concordant with studies of other arid-adapted ungulates and suggest vegetation productivity, predation rate and biological cycles are responsible for saiga grouping patterns in

<p>Mongolia.</p> <ul style="list-style-type: none"> We monitored Mongolia saiga calves in Sharga Nature Reserve, western Mongolia, during 2008–2010. Our results showed that Litter size and birth mass varied among years, and there was a negative relationship between these variables. Survival of calves during the 1st year was ~50% and year of capture and litter size played a key role affecting their survival. We identified 3 sources of mortality - predation by raptors, foxes (red fox [<i>Vulpes vulpes</i>] and corsac fox [<i>V. corsac</i>]), and lynx (<i>Lynx lynx</i>). Most predation was attributed to raptors, such as golden eagles (<i>Aquila chrysaetos</i>) and cinereous vultures (<i>Aegypius monachus</i>).
<p>Reports / Publications / Information material:</p> <p>Schneider, M, D. Drucker, B. Buuveibaatar, and H. Bocherens. <i>In press</i>. Tracking saiga horns to the population of their origin with stable isotopes. <i>Saiga News</i></p> <p>Buuveibaatar, B., B. Chimeddorj, G. Olonbaatar, B. Purevdorj, and T. K. Fuller. <i>In press</i>. Population abundance and factors affecting the distribution of Saiga antelope in western Mongolia. <i>Saiga News</i></p> <p>Berger, J., B. Buuveibaatar, and C. Mishra. 2015. The cashmere connection, biodiversity, and climate; Response to von Wehrden, et al. 2014. <i>Conservation Biology</i>. 29: 290–292.</p> <p>Buuveibaatar, B., T.K. Fuller, J.K. Young, and J. Berger. 2014. Calving location selection patterns of saiga antelope in Mongolia. <i>Journal of Zoology</i>. 294: 241–247</p> <p>Buuveibaatar, B., T.K. Fuller, A.E. Fine, B. Chimeddorj, J.K. Young, and J. Berger. 2013. Changes in grouping patterns of saiga in relation to intrinsic and environmental factors in Mongolia. <i>Journal of Zoology</i>. 291:51–58.</p> <p>Berger, J., B. Buuveibaatar, and C. Mishra. 2013. Globalization of the cashmere market and the decline of large mammals in Central Asia. <i>Conservation Biology</i>. 27: 679-689.</p> <p>Buuveibaatar, B., J.K. Young, J. Berger, A.E. Fine, B. Lhagvasuren, P. Zahler, and T.K. Fuller. 2013. Factors affecting survival and cause-specific mortality of saiga calves in Mongolia. <i>Journal of Mammalogy</i>. 94: 127-136.</p>
<p>Collaborators: University of Massachusetts Amherst, Mongolia Program Office of World Wildlife Fund for Nature, University of Tubingen Germany</p>
<p>Budget available: n/a</p>
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<p>Information contributed by: Buuveibaatar Bayarbaatar</p>
<p>Date report submitted: <u>11/06/2015</u> dd/mm/yyyy</p>
<p>Other: Additionally WCS has done literature review on saiga health and tested adult gazelle serum samples for presence of infectious diseases. Published on Saiga News in 2011.</p> <p>Literature review shows that health evaluation studies on Mongolian saiga antelope are lacking. However, scientists in Kazakhstan have hypothesized that saiga that graze in proximity to livestock may be exposed to infectious diseases that are present in livestock. Lundervold (2004) reported that all cattle, sheep and goat herds tested in Kazakhstan showed exposure to foot and mouth disease</p>

(FMD), blue tongue virus (BTV), epizootic hemorrhagic disease virus (EHDV), peste-des-petits-ruminants virus (PPRV) and brucella, indicating high potential risks of transmitting these diseases from domestic to wild ruminants in the region.

Therefore, this preliminary study to determine the degree of exposure to infectious diseases of domestic ruminants is a crucial first step to explore disease dynamics and to prevent disease transmission in wildlife for the future.

In August 2006 the Wildlife Conservation Society (WCS) in collaboration with the Institute of Biology, Mongolian Academy of Sciences, fitted radio-collars for the first time on adult Mongolian saiga within the Sharga Nature Reserve in western Mongolia. Eight adult females were fitted with GPS or satellite radio collars and blood samples were collected from the jugular vein of eight individuals (7 adult females and 1 calf).

The serum samples were sent to Cornell University in 2009 to test for a panel of common livestock diseases known to circulate among livestock in Mongolia including the following: foot and mouth disease (FMD), blue tongue virus (BTV), bovine viral diarrhea (BVD), bovine respiratory syncytial virus (BRSV), bovine parainfluenza virus type 3 (PIV-3), contagious ecthyma (Orf), leptospirosis (9 serovars), brucellosis and paratuberculosis (Johne's disease). Evidence of exposure to diseases of livestock was found in 3 separate individuals. Two of eight (25%) Mongolian saiga were identified with exposure (1 adult female weak positive and 1 adult female suspect) to contagious ecthyma (Orf) by indirect immunofluorescence testing and one of eight (12.5%) Mongolian saiga with exposure (1 adult female weak positive) to bovine parainfluenza virus type 3 by serum neutralization testing. This is the first detection of exposure of Mongolian saiga antelopes to contagious ecthyma and bovine parainfluenza virus type 3 (PIV-3). PIV-3 is an important and widespread respiratory tract disease of ruminants. Infection usually spreads rapidly in susceptible populations of cattle, sheep and goats. Animals infected with PIV-3 often develop secondary bacterial pneumonia which can lead to death if untreated. Contagious ecthyma (sore mouth, orf) is a common disease of sheep and goats that is transmissible to humans and has a worldwide distribution. It has also been reported in reindeer and musk oxen (*Ovibos moschatus*). Animals that have had infection are immune for one to several years but morbidity rates are high (80%) among naive individuals. PIV-3 lesions may occur at the coronary band, interdigitally, on the conjunctiva of the eye, on the external genitalia, or on the udder or teats, however, mortality rates in domestic ruminants are low (Smith, 1996). The finding of this work was published on Saiga News issue 11, Summer 2010 on page 10-11.