

# DESPERATELY SEEKING SAIGA

Just 15 years ago, a million saigas grazed the Eurasian steppe. Since then, their numbers have plummeted. **EJ MILNER-GULLAND** and **ALINE KÜHL** are fighting to save this tiny, elephant-nosed antelope from almost certain extinction.

**WHEN MAMMOTHS** and woolly rhinoceros roamed the northern hemisphere during the last ice age, a strange little antelope walked beside them. While the mammoth and woolly rhino have long since disappeared, the saiga – with its bizarre elephant nose – still haunts the wide Eurasian plains. Yet this animal is little known to the wider world and has recently suffered a dramatic decline in numbers. Without immediate help, it may follow its prehistoric companions into extinction.

For the past 10 years, our research team has scoured the steppe for a glimpse of one of the most spectacular sights of the animal kingdom – the saiga's calving aggregation. For only one week each year, tens of thousands of heavily pregnant females come together in a dense herd to give birth. The barren land is suddenly filled with newborn calves and their mothers' 'baaing' calls can be heard from far away. Vultures and eagles swirl above the birthplace, waiting to prey on any casualties, making it easier to locate the calving herds from a distance.

Sadly, in recent years, such vast birth aggregations have disappeared. After the collapse of the Soviet Union in the early 1990s, saigas were heavily poached for their horns and meat. Nowadays we are lucky to find a few hundred mothers and calves whenever we venture out into the steppe.

## LOST IN THE STEPPE

Even when the saiga was abundant, finding the herds was never easy because of the sheer expanse of their steppe habitat. The land here is dry, open and treeless – you'd think there would be nowhere for an antelope to hide. But this nomadic species migrates up to 1,000km between its summer and winter



Hose, water-storage vessel or hoover, the saiga's trunk-like nose has been the subject of many outlandish theories. It's actually a filter, perfect for keeping out the desert sand. This particular animal is part of a captive-breeding programme – one of the many attempts to halt the decline of this unusual antelope species.



## THE EXPERTS

**EJ MILNER-GULLAND** (left) is Reader in Conservation Science at Imperial College London and has 15 years' research experience on saigas. **ALINE KÜHL** is currently completing her doctorate on the reproductive ecology and conservation of the saiga at Imperial College London.

## THE LOCATION

**EJ AND ALINE'S** team have been studying the saiga in Kalmykia on the edge of Europe and Kazakhstan in Central Asia. The saiga roams the regions' vast areas of semi-desert grassland known as 'steppe'.



A small herd of saigas graze near a ruined farmstead on the Kalmykian steppes.

Igor Shpilnenok

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## PEOPLE &amp; SAIGAS

The saiga plays an important role in the traditions and histories of the people of Eastern Europe and Central Asia.

» KALMYKIA is a tiny Russian republic just north of the Caucasus, and is where the most westerly population of saigas is located. The Kalmyk people fled from western Mongolia 400 years ago, and journeyed through Central Asia before finding refuge on the eastern edge of Europe. They suffered deportation under Stalin and suppression of their Buddhist religion. Only now can they begin to celebrate their culture again, which is closely entwined with the saiga. Folk songs, poems and dances tell the story of the nomad of the steppe, symbolic of the traditional Kalmyk lifestyle.

» THE KAZAKH PEOPLE also value the saiga – a symbol of the freedom of the steppe – as they rediscover their nomadic heritage in independent Kazakhstan. Sadly, while working in villages on the Kazakh steppe over the past three years, we learned that none of the children below the age of 10 had ever seen a saiga.



Saigas depicted in Bronze Age rock carvings from Tamgaly Gorge, Kazakhstan.

Two male saigas joust using their horns in a trial of strength. Saiga horns are prized in Chinese medicine – they are thought to have anti-convulsive properties.



pastures in search of food. In summer, the saiga feasts on long steppe grasses in the north of its range, but winter here brings freezing temperatures and deep snow, so the herds seek refuge in the clay deserts of the south. Here, the blanket of snow is lighter, the temperatures are less extreme and shrubs poke up, providing rough forage. Wormwood is one of the saiga's favourite foods, spreading its wonderful herbal smell across the steppe. On the return journey north in spring, the herds pause in the semi-desert to give birth.

When on the move, saigas follow each other nose-to-tail, like sheep, their delicate hooves leaving distinctive thin trails that can easily be spotted from the air. Even now, with saigas so sparse, their ancient pathways still criss-cross the Kazakh steppe.

The saiga survives as a desert nomad thanks to its distinctive, specially-adapted nose. This

lengthy appendage, which bears more than a passing resemblance to a sawn-off elephant trunk, acts like a large filter, a necessity when running in dusty conditions with thousands of other saiga, nose low to the ground. But scientists have only recently come to this conclusion. A report from the 18th century stated that the saiga draws up water through this 'trunk' to store in its head, allowing it to live in arid regions. A 17th-century observer was convinced that the large, boneless nose structure would get in the way when the saiga was feeding, and claimed that it could "only feed while walking backwards." In fact, the saiga feeds perfectly happily walking forwards, eating anything green it encounters.

It's no wonder that scientists have struggled to study the saiga in detail. Locating the herds is difficult because they don't follow the same routes from year to year. These fleet

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antelopes can also move fast, crossing 100km of desert in a day to reach better pastures. So, even if you do find them one day, they'll have vanished the next. Out in the steppe, local people say that if you claim to know where the saigas are, you are a liar. And when you've travelled over 3,500km through dirt and dust on terrible roads in an ancient Soviet jeep, you can understand why.

But if you *are* lucky enough to glimpse a

saiga, its unusual running style makes it easy to identify. Like camels, the saiga has a 'pass gait', whereby the legs on one side push off the ground at the same time and, as a result, its back hardly bends. To us, it resembles a table on wheels. This running style is energy-efficient and allows the saiga to cover large distances of flat terrain quickly with minimal effort. For instance, mothers hide their calves far from water – and therefore predators – and think nothing of a daily commute of up to 40km to drink before returning to feed their newborns.

Though this long-distance running style is ideal for outlasting the saiga's main predator – the wolf – it has now become the species' undoing. The peculiar, stiff gait makes it very hard for saigas to dodge and turn corners, and to run when the going is uneven, so the antelope is no match for modern poachers

who hunt them from jeeps and motorbikes. The easiest way to kill a saiga is to chase it until it collapses from exhaustion. These illegal hunters are after the antelope's meat and, more lucratively, its horns, which is the main cause of the species' recent decline.

#### EVER DECREASING MALES

The saiga's partly translucent, lyre-shaped horns, which are exclusive to the male, are highly sought after in traditional Chinese medicine and rampant poaching for this trade has led to a severe lack of adult males. At one point in the Kalmykian population, there was on average only one male to mate with every 100 females. Even for a species in which males defend large harems of females, this was too much and many females failed to conceive.

In 2003, we went out into the steppe to



In the rutting season, the male's nose swells to impress females and rivals.

A female saiga can give birth to twins each year and female calves can be mothers before they are one year old. This could help saiga numbers to recover.



Igor Shpilernok

A demoiselle crane makes an aggressive display towards a saiga calf that has strayed too close to its nest.



Igor Shpilernok

see what effect this skewed sex ratio was having on mating behaviour. During endless days of camping out in harsh winds at -15°C, scanning the horizon, we finally found the herds but saw no sign of mating. We began to understand why no one has ever written about saiga mating behaviour, even when it was numerous. Experts suspect they do it at night.

At least the appearance of calves proves that mating does occur, even if we don't see it. For the first few days after birth, the calves hide motionless in the grass. Their mothers only feed them briefly in the morning and late afternoon, possibly to avoid attracting predators. This behaviour enables us to monitor the new population closely by walking through the herds and counting the calves and placentas. Saigas often give birth to twins, occasionally even triplets. Juvenile females born in May can already mate in December, so some mothers are barely a year old. Much like turtle nesting, where thousands of individuals reproduce together, the saiga's extremely short and spatially concentrated calving season is

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thought to be an anti-predator adaptation. Wolves, foxes and eagles can only kill and eat so many young and, after just a week, the calves are on their feet and the herds have moved off towards their summer pastures.

Wherever we went, locals would recount stories of the old days before poaching when the hooves of hundreds of thousands of saigas on the move stirred up so much sand it looked like a sandstorm approaching. The herds were not so wary then and would sometimes run right through villages on their migrations. Such tales, coupled with the ancient trails across the land, are mementos of what was

once a migration as dramatic as that of the wildebeest of the Serengeti.

The collapse of the Soviet Union changed everything. As collective farms were disbanded, millions of people lost their livelihoods and desperate times ensued. With winter temperatures falling to -40°C and no wages coming in, people had to find other means to feed their families and heat their homes. After selling their livestock, they began to hunt saigas. They had no choice.

### COLLAPSE OF THE SAIGA HERDS

At the same time, the wildlife law enforcement system collapsed and the border to China opened, enabling horn to be exported there for the first time in 70 years. The trade made some people rich. We met a poacher in a small village in Kazakhstan in the late 1990s who had already saved up enough to send his family to live in Kaliningrad (Russia) and buy himself all the electrical goods he needed. Inevitably, such heavy poaching took its toll, and saigas declined by 95 per cent within a decade.

However, it is not the first time that saigas have been on the brink of extinction. At the beginning of the 20th century, they had almost vanished from the steppe due to hunting by the Russian empire. Numbers were so low that a gadfly that lived off the saigas became extinct. But saigas are very resilient mammals, accustomed to living in a harsh environment with severe winters and summer droughts. Their early female maturity and propensity to give birth to twins enables them to bounce back from population crashes. The formation of the Soviet Union in the 1920s meant strong controls on hunting, which allowed the species to increase to over a million individuals within 30 years. The saiga has recovered once; our hope is that, with a little help, it will do so again.

## FACTSHEET

# SAIGA ANTELOPE

*Saiga tatarica*

### THE BASICS

- » **DESCRIPTION** In summer, the saiga's coat is a rich chestnut colour and its belly and legs are pale. In winter, it has a thick, pale buff coat and the males' noses swell for the rut
- » **HABITAT** Arid Eurasian steppe
- » **HEIGHT** Roughly the size of a goat, measuring about 70cm tall
- » **WEIGHT** Males weigh about 41kg and females about 28kg
- » **DIET** Grasses, herbs and shrubs
- » **PREDATORS** Wolves, foxes and eagles take calves
- » **MATING** A male defends a harem of up to 30 females and mates with them over a 10-day period in early to mid-December
- » **GESTATION** 140-150 days
- » **NUMBER OF YOUNG** First-year females typically have one calf, older females have twins or, occasionally, triplets
- » **STATUS** Listed as Critically Endangered on the IUCN Red List due to decline from a million in early 1990s to just six per cent of that by 2005.



Priscilla Barnett

### DISTRIBUTION



THE SAIGA ANTELOPE has two subspecies: *Saiga tatarica tatarica* lives in Russia, Kazakhstan, Uzbekistan and, in extremely cold winters, Turkmenistan. *Saiga tatarica mongolica* lives in Mongolia.

Jean-Francois Lagrot



An anti-poaching patrol in the Chernye Zemli Biosphere Reserve, Kalmykia.

## HOW TO SAVE THE SAIGA

The biggest threat today is poaching by local people.

WITH FEW DOMESTIC animals on the steppe following the collapse of the region's livestock industry, the pasture is in good shape. But the saiga will only return if poaching can be stopped. To achieve this, anti-poaching patrols must be active in all weathers, providing a visible presence and making it clear that the law will be enforced. This is no easy task, given the huge area to be covered. In addition, the saiga's nomadic lifestyle makes protection difficult – they wander out of 'fixed' nature reserves. So mobile reserves of the sort that the Soviets once employed is the answer; wherever the saigas happen to congregate should be made a temporary protected area.

Matthias Rossbach

At the same time, there is a need to engage with rural people and offer them realistic alternatives to saiga poaching. Young men with motorbikes and no employment must be helped to make their living through livestock herding without recourse to unsustainable saiga hunting. Feelings of hopelessness and disempowerment need to be turned around so that people feel that they as individuals can make a difference to the fate of this symbol of their nomadic heritage.

Saiga horns exported to China for use in medicine.



## STUDYING SAIGA ON THE STEPPE

How you can help monitor saiga numbers.

OUR TEAM, from Imperial College London, is co-ordinating an international group of scientists to establish a long-term saiga monitoring programme. At the same time, we are working to improve the livelihoods of local people so they don't need to poach the animals.

We work with non-governmental organisations and schools to promote the saiga as a symbol of the region's nomadic heritage. We are currently looking for volunteers to help with our field work and establish links between the UK and Kalmykia. Saiga sightings are guaranteed and you will get to experience

life on the steppes for yourself. To find out more about our work and how you can apply to join us, visit the Imperial College Conservation Science website (see right).



Aline weighs a calf as part of the ongoing monitoring of the remaining saiga herds.

### FIND OUT MORE

» For details on EJ and Aline's work, visit [www.iccs.org.uk](http://www.iccs.org.uk)  
 » Saiga appear in *Saving Planet Earth* on BBC Four (part of the *Planet Earth* series) this autumn. Check *Radio Times* for details.

Jean-Francois Lagrot