



Joining an expedition to find evidence of snow leopards living in Russia's remote Altai Republic, **Tessa McGregor** experiences the challenges of tracking and protecting these vulnerable big cats

Fade to WHITE

The clouds gathered as I followed a marmot trail up the wild valley. Steep slopes rose on either side to craggy boulders and high ridges. Finding signs of snow leopard in this vast landscape was going to be a Herculean task. There was so much ground to cover and so little time. Luckily I was not alone – I had a team of Russian helpers and international volunteers from Biosphere Expeditions to help me with the research.

We had travelled to the Kosh Agach region of the Altai Republic, bordering Mongolia and Tuva, to survey snow leopards and other wildlife. Although it was early August, a bitter wind reminded me that autumn was not far off. Haymaking was in full swing across the steppe. In a couple of weeks, the semi-nomadic herders would dismantle their yurts and move back to their winter villages. We would be hot on their heels, leaving before the snows.

FIRST SIGHT

Over the last weeks I had found signs of lynx, bear and musk deer, and I had seen wolves, ibex, argali, musk deer, maral, marmot, wolverine, pika, ground squirrels, northern red squirrels, corsac fox and more, but there was no sign of the elusive snow leopard. My previous research had proved the area was an important snow leopard corridor, but I also knew the resident female and her two cubs had been shot that winter. I scanned the ridges for the 100th time and held my breath. I spotted movement and recognised the posture of a big cat. It was very distant. Infuriatingly clouds closed in and obscured my view, before briefly lifting, allowing me to see the fluid movement of the snow leopard as it disappeared over the ridge. I kept looking, shaking with adrenalin, my heart pounding. Was it resident or just passing through? Male or female? That's what I was here to find out.

Our scientific expedition had brought us to the 'Golden Mountains of Altai', one of the most beautiful and biodiverse parts of the world and home to a number of endangered and endemic species, including the snow leopard, argali and Siberian ibex we had come to survey. This is the snow leopard's last stronghold in Russia, which has been an official UNESCO World Heritage Site since 1998. These mountains, stretching across Central Asia and straddling the borders of China, Mongolia, Kazakhstan and Russia, span several natural zones and cultures. The landscape varies from semi-desert to alpine peaks, from grassland to forest, from rivers and lakes to glaciers. Not many foreigners get this far.

Our base camp lay at the foot of the Tapduair massif, in a sheltered valley, below the woods and next to a small





Clockwise from top left: snow leopard; a convoy travels the rough roads to base camp; surveying in snow leopard country; looking for signs of wildlife in the Altai mountains



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river. Our research area led from open steppe, where Demoiselle cranes danced, up to craggy ridges and snow-covered peaks, above which soared vultures, eagles and lammergeyer. River valleys split the mountains. The lower slopes and valleys were covered with dwarf birch, willow, and juniper and dotted with wild rhubarb, onions, herbs and berries; all relished by people and wildlife alike. The profusion of summer flowers was a botanical dream. The daily mewling cry of a black-eared kite mingled with the calls of choughs as they flew off to forage. The age of volunteers ranged from 17 to 70. They came from a wide variety of backgrounds, professions and nationalities. Their motives for joining the expedition also varied. The one thing everyone had in common, though, was a desire to make a difference and to play an active part in conservation.

Although the Altai's big mammals are hard to see, the sightings we did get were unforgettable. All our efforts were instantly rewarded when we caught glimpses of ibex, argali or maral. Sometimes we could observe them for longer periods through our spotting scope and could record their colouring, age, sex and behaviour, gathering precious data for our ungulate surveys. Occasionally we had close encounters, such as the day we bumped into a large wild boar while collecting mushrooms at the end of a long survey. We were so engrossed we didn't notice him, and it was hard to know who was more startled. We watched the boar bolt up the slope and then slow down, exhausted, before disappearing over the ridge we had descended earlier. The fact he was invisible among dwarf scrub half his height showed how well camouflaged he

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was, while the freshly disturbed earth he left behind told us he was as partial to mushrooms as we were. Later, as we made our way back to camp at dusk, a male wolf stood on the track, as if waiting for us, meeting our awestruck gaze before melting into the woods.

ANIMAL ANTICS

Thankfully Altai's small mammals and birds were not so shy. The steppe grasslands and lower slopes were alive with ground squirrels. Their cute looks and extravagant antics kept us entertained for hours. However, their predilection for stealing socks and bits of yurt felt were not so endearing. Marmots, which are important snow leopard prey, were shy but also abundant. Large, golden-furred and extremely smelly (team members learned to identify their droppings very fast!), they were nervous above ground, except for one courageous marmot that we named Boris, who occasionally came out to feed near base camp, even posing for our cameras.

Local avian life was impressive and our bird inventory grew daily. We became almost blasé about our frequent sightings of golden eagles, steppe eagles, imperial eagles, long-legged buzzards, saker falcons, gyrfalcons and rare cinereous vultures. Game birds flew out from under our feet in the mountains and we had wonderful sightings of Altai snowcock. We witnessed Demoiselle cranes court, feed and breed, and watched velvet-headed chicks follow them across the steppe. Rose-coloured starlings and hoopoes added exotic touches, while ruddy shell duck, divers, terns and waders gathered in the remote lakes.





Clockwise from top, far left: preparing a hide; the Altai landscape features mountain steppe, grassland, desert and coniferous forest; ground squirrels visit base camp; birds of prey are regularly sited; semi-nomadic herders graze their livestock

Although our research area was wild, we were not alone. We shared it with families of semi-nomadic herders whose pale felt yurts dotted the steppe. They return here every summer, to graze their livestock; sheep, goats, cattle, yaks and horses. At the time of our visit the herders were busy shearing, milking, making dairy products, spinning, felt-making, herding and haymaking; activities that would help sustain them through the hard winter. Interviewing them was an important part of the survey work. Drinking tea and eating with them in their cosy yurts, surrounded by children, pet lambs, cats and elderly relatives, we communicated in Russian, Kazakh, Altai, English, German, sign language and drawings. We forged friendships and gained mutual trust with many families. We benefited from their indigenous knowledge and learnt how bad the poaching really was. That knowledge gave added urgency to our work. We collaborated with local experts and non-governmental organisations (NGOs) and were joined by Chagat Almashev, the founder and director of Foundation for the Sustainable Development of Altai (FSDA).

The weeks flew past and the research efforts intensified. Team members were transformed by their experiences of surveying in heat, rain, sleet and snow, crossing rivers and climbing mountains. They had



RUSSIA'S SNOW LEOPARDS

Counting the cost of poaching and retaliatory killing in the Altai-Sayan eco-region

The snow leopard, *Panthera uncia*, is perfectly adapted for life at high altitudes. It has enlarged sinuses to warm cold air before it enters the lungs, a thick coat to keep it warm and colouring that camouflages it among the rocks. Its well-developed chest muscles make it a powerful climber. There are currently estimated to be between 3,000 and 6,000 snow leopards left living in the mountainous regions of Central Asia and they are endangered throughout their range, which includes Afghanistan, Bhutan, China, India, Kazakhstan, Kyrgyzstan, Mongolia, Nepal, Pakistan and Russia. Russia is at the northern edge of their range and they are found at lower altitudes here than anywhere else.

Russian scientists have been conducting extensive surveys over the last three years to understand snow leopard distribution and ecology in Altai. Over 40 camera traps were deployed and the first camera-trap photos of

snow leopard in Altai were obtained in 2011, thanks to support from The Altai Project, State University of New York Environmental Science and Forestry, and Snow Leopard Conservancy who also supported anti-poaching expeditions and the installation of anti-poaching monitoring devices.

The Russian snow leopard population has declined dramatically. It is estimated fewer than 100 snow leopards remain, mostly in the Altai-Sayan eco-region. Snares and other poaching methods are the biggest threat followed by retaliatory killing by herders. Development, such as the proposed gas pipeline to China, brings added pressures.

Snaring is sometimes the only source of income for local families. Solutions lie with projects such as Biosphere Expeditions' Altai Snow Leopard project, which bring economic benefit from wildlife conservation to the local communities living in snow leopard habitat.



