



2020 Mongolia Camera Trap Survey Report March 2021

Snow Leopard Trust and our Mongolia partner, Snow Leopard Conservation Foundation (Ulaanbaatar), give our most heartfelt thanks to Zoo Basel for its incredible support of our snow leopard camera trap surveys in southern Mongolia.

We are grateful to Zoo Basel for establishing a four-year (2018-2021) Memorandum of Understanding between Zoo Basel, Snow Leopard Trust and Snow Leopard Conservation Foundation and have been honored to be in partnership with you.

Thank you to everyone at Zoo Basel for three years of support through annual grants of €25,000 received on July 24, 2018, June 27, 2019, and April 2, 2020, respectively; the impact of which has been significant.



Snow leopard, photographed by a trap camera, Tost Nature Reserve, South Gobi, Mongolia, October 2020.

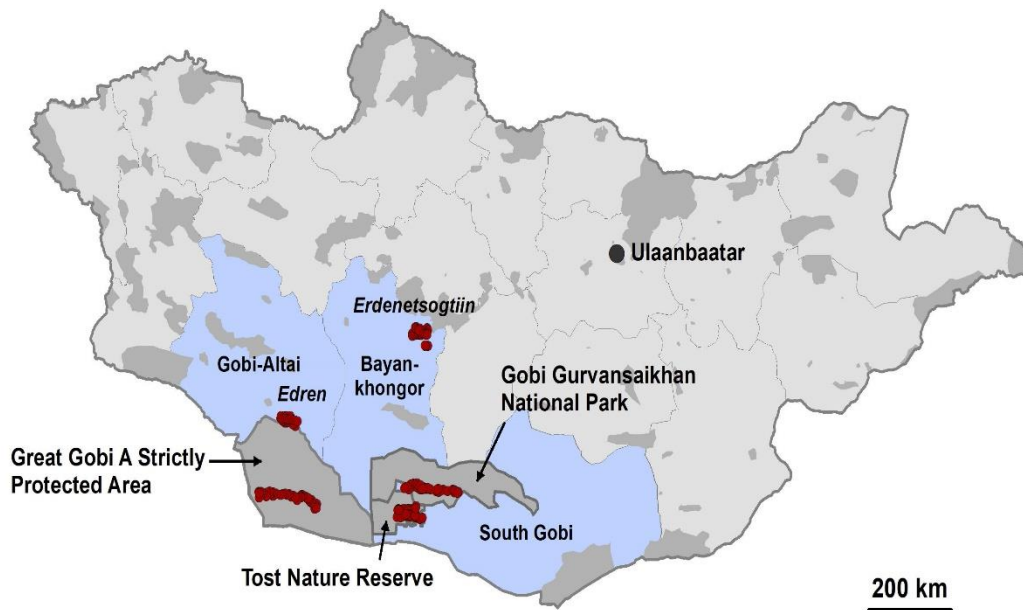
Background

The snow leopard (*Panthera uncia*) is an iconic big cat found in 12 countries in Asia. Although exact numbers are unknown, the global snow leopard population is estimated at 3,500 to 6,500 with declining numbers throughout their range. Critical threats to snow leopard survival include retaliatory killing in response to livestock depredation, habitat degradation, loss of natural prey, poaching and illegal trade in pelts and bones, and lack of conservation awareness.

2020 Report

Since 2008, Snow Leopard Trust has been conducting a Long-Term Ecological Study of wild snow leopards in the mountains of southern Mongolia—the first ever long-term study of its kind. Study components include snow leopard population surveys using camera traps, snow leopard and ibex GPS collaring, and wild prey surveys. By using camera traps, we can estimate snow leopard populations in important snow leopard habitats.

During periods in 2020, when Covid-19 restrictions in Mongolia were temporarily relaxed, we were able to complete five camera trap surveys covering 7,000 km² in three provinces of southern Mongolia: South Gobi, Gobi-Altai and Bayankhongor. The areas surveyed include: Nemegt Mountains in Gobi-Gurvansaikhan National Park, Great Gobi A Strictly Protected Area (GGASPA), Erdenetsogtiin and Erden Mountains, and the Tost Nature Reserve (see map below).



Location of camera-traps (red) for 2020 snow leopard monitoring in Mongolia. Also highlighted are protected areas (dark gray), the provinces of Mongolia where camera-trap surveys took place (blue), and Mongolia's capital, Ulaanbaatar.

One of our long-term research goals is to assess snow leopard abundance throughout Mongolia in collaboration with Snow Leopard Conservation Foundation, Mongolia wildlife specialists, and the Mongolia branch of WWF. We aim to provide reliable snow leopard population data for Mongolia as part of a multi-year global assessment called “Population Assessment of the World’s Snow Leopards” or PAWS. All 12 snow leopard range countries are participating in this assessment under the aegis of the Global Snow Leopard and Ecosystem Protection Plan (GSLEP). To reach an accurate estimate of the snow leopard population throughout Mongolia’s potential snow leopard habitat, we need to consider areas of both high and low density. Estimates will be biased high if using data only from high density areas, which are the places most often surveyed.

GGASPA, Erdenetsogtiin Mountain and Edren Mountain are new survey-areas for us and are considered to be areas of low density. With Zoo Basel’s incredible support in 2020, we were able to complete the first-ever snow leopard surveys (using camera traps) in these regions.

At the time of writing, we are pleased to report that we have completed Nemegt, GGASPA, Erdenetsogtiin Mountain, Edren Mountain and Tost Nature Reserve surveys. All surveys could not have been possible without the incredible dedication and support of park rangers and community rangers. They have been trained to set up cameras and document locations using GPS. After the cameras remain in the field for three months, the rangers retrieve them and send memory cards to Snow Leopard Conservation Foundation (Ulaanbaatar).

We are in the process of analyzing images from Nemegt, GGASPA, and Tost Nature Reserve, and can report on initial findings. Images from Erdenetsogtiin and Edren Mountains will be reviewed later in 2021, and we will include our findings in our next report to Zoo Basel.

Nemegt:

We surveyed 1,700 km² of Nemegt (including the Altan and Gilbert mountains) in the Gobi-Gurvansaikhan National Park in summer 2020. We have been surveying this region of relatively high density for snow leopards since 2013 and have found a minimum of 17-20 adult snow leopards, with density estimates at 0.5-0.96 snow leopards/100 km². Snow leopards share Nemegt habitat with herder families who report significant livestock losses to snow leopards and wolves. Conflict situations with herders are a possible threat to snow leopards in the region.



Tailless snow leopard Nemegt Mountains, Mongolia, August 2020.

Thanks to our annual research presence in the area, we have been able to engage with herders and discuss ways we can help them live alongside snow leopards more peacefully.

We aim to collaborate with Nemegt herders by starting a livestock insurance program there in 2021, one of the most important ways SLT can promote coexistence.

We are finalizing analysis of snow leopard images from our 2020 Nemegt survey but can share that there is evidence of female snow leopards with cubs, as well as a remarkable image of a tailless snow leopard (above). Although we will never know how the cat lost its tail, our researchers say that the cat looks healthy and appears to be able to hunt without the stabilizing help of a long, signature tail. This image quickly became our symbol of resilience for 2020.

Great Gobi A Strictly Protected Area:

The protected area covers a vast ~50,000 km² region of desert-steppe landscape that borders China. With the invaluable help of five GGASPA rangers, our team surveyed a 2,629 km² area of the mountainous part of GGASPA, at an altitude of 1,200 – 2,000 meters, using 44 cameras.



Extremely rare Gobi bear, Great Gobi A Strictly Protected Area, Mongolia, August 2020.

While setting up the cameras, we found evidence of snow leopards (scat, pugmarks, rock scrapings) but the signs of the cats were far apart. Although we know that snow leopards use the area, we only found evidence of one snow leopard from our initial analysis of thousands of camera images, which leads us to believe that they are occurring at low densities.

However, we did find multiple images of two critically endangered species: Gobi bear (including one cub), and the wild Bactrian camel. The Gobi bear is the only bear species that can survive in a desert landscape, with roughly 50 adults thought to remain in the wild.

Evidence of these rare animals gives us a more complete picture of the biodiversity in snow leopard habitat. In 2021, we will survey an additional area of GGASPA to further explore whether there might be resident snow leopards in another part of this protected area.

Tost Nature Reserve:

Tost was the first area surveyed as part of our Long-Term Ecological Study in Mongolia and is considered high density snow leopard habitat. From surveys conducted from 2009 – 2018, analysis shows the region has 13-15 adult snow leopards, with density estimates at 0.85-1.25 snow leopards/100 km².



From analysis of 2019 Tost camera trap images made available in 2020, we identified at least five female snow leopards with a total of 12 first-year cubs, including previously collared Dagina and Anu, both 10 years old in 2019. Five females with cubs are the most we have encountered since we began surveying Tost in 2009.

Snow leopards, Tost Nature Reserve, Mongolia, October 2020.

From initial review of the 2020 camera trap survey (September – December 2020), we have seen multiple images of two or three snow leopards, most likely a female and cubs. All the cats are grown—i.e. the cubs are second year, full grown juveniles.

Since cubs follow their mothers for almost two years and females give birth only every second year, we are not surprised to see females with grown cubs, with no images yet detected of females with small, first-year cubs.

Edren and Erdenetsogtiin Mountains:

We surveyed roughly 1,000 km² of a mountainous region in Edren Mountains in the central Gobi-Altai province and about 1,000 km² of a mountainous region in Erdenetsogtiin Mountains in northern Bayankhongor province that are both considered low density for snow leopards. Since it is our first time surveying these two areas, we are excited to see whether the cameras catch images of snow leopards.

The Pallas's cat

Along with the snow leopard, its small "cousin," the Pallas's cat, also ranges in mountainous regions of southern Mongolia. Snow Leopard Trust is providing its camera trap images of the Pallas's cat to support research on this little wild cat through the Pallas's Cat International Conservation Alliance (PICA, <http://pallascats.org/>). With access to the Trust's Mongolia camera images, PICA can learn more about the Pallas' cat range.

From our 2020 camera trap surveys, we have found images of Pallas's cats in Nemegt (two cameras) and Tost Nature Reserve (three cameras).



Pallas's Cat, caught on camera trap, October 2020, Tost Nature Reserve, South Gobi, Mongolia.

Acknowledgement

Snow Leopard Trust and Mongolia partner, Snow Leopard Conservation Foundation, give their sincere thanks to Zoo Basel and we are pleased to continue this fruitful partnership. Thank you for helping us advance our understanding of snow leopards necessary for their continued survival in the wild. If you have any questions about our end-of-year 2020 report, please contact Jennifer Snell Rullman, Field Connections Manager (jennifer@snowleopard.org).



The Snow Leopard Trust is a 501(c)3 non-profit organization, EIN 91-1144119.