Snow Leopard Conservation Grant Program

FINAL PROGRESS REPORT: CAMERA TRAP SURVEY OF SNOW LEOPARDS IN UZBEKISTAN

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1. EXECUTIVE SUMMARY: NO MORE THAN 750 WORDS. PLEASE DESCRIBE THE ORIGINAL GOALS AND THE FINAL RESULTS OF YOUR PROJECT. THIS MAY BE USED IN PRESS RELEASES AND OTHER PUBLICITY MATERIAL ABOUT THE GRANTS PROGRAM, SO PLEASE WRITE IT FOR THE GENERAL PUBLIC WHO MAY NOT HAVE SCIENTIFIC BACKGROUND.

A camera trap presence-absence study was carried out in 2013 and 2014, to detect snow leopards in Uzbekistan's Gissar Nature Reserve, the world's westernmost snow leopard habitat.

A secondary (but critically important) goal was to train local wildlife workers in camera trap use and modern monitoring techniques (using computers, cameras, and scat collection for DNA analysis). Collected scat was analyzed in New York.

With help of the SLN Conservation Grants program I was able to conduct 4 field seasons in 2013 and 2014, and the local wildlife workers were trained, and were able to continue camera trapping in my absence. During the first season in November and December of 2013, we obtained the first-ever camera trap images of snow leopards from Uzbekistan.

Additionally, many other animal species were detected, giving a good overall picture of the faunal composition of the study area.

To date, we were able to obtain 6 photo-captures of at least two, but likely more, individual snow leopards. We did not obtain positive DNA results at this time, but as with camera techniques, the more pertinent result is that local workers are now comfortable with collection techniques, and are collecting scats for future analysis.

My colleagues and I were able to lay the groundwork for future studies, and the seed money provided by the SLN Conservation Grants program was enough to train a corps of local workers who are able to work with minimal supervision.

2. OBJECTIVES: WHAT WAS THE PURPOSE OF THE PROJECT? HOW WAS IT EXPECTED TO CONTRIBUTE TO THE KNOWLEDGE OR CONSERVATION OF SNOW LEOPARDS, THEIR PREY, OR HABITAT?

This is meant to be a short-term study aimed at detecting snow leopards, and making local scientists comfortable with using camera trap equipmentιο

The primary study goal was to determine the presence or absence of snow leopards in Uzbekistan's Gissar Nature Reserve. This reserve is known as the largest protected area containing snow leopards in Uzbekistan, with an expert estimate of 20-25 individuals

reported in literature. Two other protected areas in the country are estimated to have 2-5 individuals each.

However, all estimates are based on traditional sign counts only, and on twice-yearly transect surveys conducted in each protected area using old Soviet methodology. Although consistent and long-term, these surveys ignore the modern research methods that have been developed in recent years. Additionally, the traditional methods are meant to detect all animal signs, and are not targeted to snow leopards. It was important, therefore, to update scientific knowledge of this area using current technology.

The secondary goal was to introduce local scientists to camera trapping methodology. As such, it was my goal to select several rangers and a scientist to fully train in the use of camera equipment, in order to enable them to conduct research on their own, or collaborate on future international studies.

3. METHODS: DESCRIBE THE METHODS YOU USED IN DETAIL, SO THAT SOMEONE ELSE COULD REPEAT THE WORK, OR, AVOID THE PROBLEMS THAT YOU ENCOUNTERED.

A team of local wildlife workers (one senior scientist, one scientist, one technician, and 6 rangers) received training in basic camera trap use and set-up. After the initial training, they often worked independently, since foreign scientists are not allowed into all parts of the reserve.

Fecal samples were collected opportunistically for genetic analysis. Over the course of the study, we were able to collect a total of 6 samples. They are currently undergoing analysis at the American Natural History Museum's Center for Conservation Genetics in New York. DNA analysis is conducted as part of the "Global Felid Genetics Program" in collaboration with Panthera.

In November 2013, 39 cameras were placed in the Kizilsu sector of the reserve. We attempted to place them in pairs along natural trails, spaced 5 km apart, although that was not always possible. The cameras remained deployed for 3 weeks.

In winter 2013-2014, the local workers continued to use camera traps without supervision, changing batteries and moving cameras as snow cover changed.

In May 2014 I returned for another field season, and we set 36 camera traps in the Kizilsu, Tanhaz, and Miraki sectors of the reserve.

In the summer of 2014, the local scientists and rangers again worked on their own, choosing sites and placing cameras independently.

In October-November 2014 I returned for another season and we placed 40 traps, this time in a wider area, because we were able to split into 3 groups working simultaneously, with the local workers already experienced in camera use and placement.

4. RESULTS: PLEASE DESCRIBE IN DETAIL THE RESULTS OF YOUR PROJECT. PLEASE ILLUSTRATE CLEARLY HOW YOUR STATED GOALS AND OBJECTIVES COULD BE MET. YOU MAY WISH TO INCLUDE TABLES OR GRAPHS IN THIS SECTION IF APPROPRIATE. THIS SECTION WILL BE VERY IMPORTANT TO EXPLAIN THE VALUE OF THESE GRANTS TO FUNDERS OF THE SNOW LEOPARD CONSERVATION GRANT PROGRAM. PLEASE BE CLEAR, CONCISE, AND THOROUGH.

My team was the first to try using camera traps to study SLs in Uzbekistan.

We indeed detected the presence of snow leopards in Uzbekistan's Gissar range, in the Kizilsu and Tanhaz sectors of the reserve.

We have collected a total of 6 scat samples, which have not been analyzed yet. They are currently being evaluated by the Sackler Institute at the American Museum of Natural History. The number of samples is small, but the local scientists have now been trained in collecting scat for DNA analysis, and the can keep collecting more, perhaps during the course of their regular twice-years transect surveys.

The training and capacity goals of the proposal have been largely met. Because of our initial success during the first field season, my Uzbek colleagues and I decided that they would conduct extra field seasons in my absence. I left the cameras in their possession and they have set them independently while I was out of the country in February-April 2014 and in June-August 2014. As a result, we obtained four more snow leopard shots, as well as many other animal pictures.

A team of local wildlife workers (one senior scientist, one scientist, one technician, and 6 rangers) received training in basic camera trap use and set-up, setting up the potential to establish long-term monitoring in the reserve.

As a follow-up, they will be taught basic data management skills at an upcoming workshop in spring 2015 (not funded by SLN Grant program).

5. DISCUSSION: PLEASE EVALUATE YOUR OWN WORK. WHAT DID YOU LEARN THAT COULD HELP OTHERS WISHING TO DO SIMILAR PROJECTS? HOW DO YOU SEE THE RESULTS BEING APPLIED TO CONSERVATION? WHAT ADDITIONAL WORK IS NOW NEEDED BASED ON YOUR FINDINGS?

Prior to the start of this project, local wildlife workers neither used camera traps nor conducted DNA analysis, although they reported that they knew about these techniques and wanted to try them, but lacked the opportunity. Thus I feel that although this is a short-term project, it gave very positive results in terms of capacity training and science.

I feel that the basic goals which I set out to do in my original proposal have been reached.

I will return to Uzbekistan this spring to collect the camera traps which are currently deployed- this will complete the short-term study which I received funding for from the SLN Grants.

Ideally, this work would lead to a long-term monitoring project, and I am looking into ways to make that a reality. Populations would be expected to reflecting climate change and land use change, as well as changes with respect to local military land use and border protection schemes. Being able to quantify whether or not these changes have an effect on the snow leopard population would be very useful with respect to conservation planning. Such a long-term study is contingent on political and financial factors.

6. PHOTOGRAPHS: IF YOU HAVE GOOD PHOTOGRAPHIC (PREFERABLY DIGITAL) IMAGES OF YOUR PROJECT THAT WE COULD USE TO ADVERTISE THE GRANTS PROGRAM, PLEASE SUBMIT THEM AT THIS TIME. PLEASE BE SURE TO INCLUDE A BRIEF DESCRIPTION OF THE PHOTO AND PROVIDE THE CREDITS FOR THE PHOTOGRAPHER.