Project Update: September 2015

<u>Objectives</u>

1. Collect habitat and forest structure data

Fully achieved - The first field season has been carried out. 295 sampling points have been documented.

2. Create local and regional habitat models

Partially achieved - The modelling has not been finalised due to increased time needed for data digitalisation and interpretation. We expect to obtain results by the end of the year.

3. Delineate most suitable Siberian grouse habitat patches

Partially achieved - The modelling has not been finalised due to increased time needed for data digitalisation and interpretation. We expect to obtain results by the end of the year.

4. Model the change in Siberian grouse distribution

Not achieved - More historical and empiric data is needed to adequately accomplish this task. Following field seasons in 2015 and 2016 will contribute to achievement of this objective.

5. Improve local knowledge about the species

Partially achieved - Materials will be shared with local stakeholders as soon as the data processing is accomplished.

<u>Difficulties</u>

1) The field team consisted of Dr Tobias Ludwig (Albert-Ludwig's University Freiburg, Germany), Dr Ralf Siano (Dresden, Germany) and Professor Alexander Andreev (Magadan, Russian Federation). Due to an acute disease I could not attend the fieldwork personally. Dr Siano has been invited to take my place in the team. Dr Siano specializes in Tetraonidae birds and has been working extensively on hazel grouse. His expertise allowed us to add one more important research objective to our list.

It has been suggested that Siberian grouse and hazel grouse populations might be interacting indirectly via common predators. Expanding populations of hazel grouse might attract predators that later switch to Siberian grouse. This can occur in case both species share the same habitats. During the field trip the two species were mapped simultaneously to check if their habitats overlap.

2) The initial sampling strategy that was designed based on random points spread across several land cover types was altered to opportunistic sampling along the transects. This decision has been taken due to logistic difficulties. The team has not been able to rent a car for the field season and has been restricted to public transportation. The geographical scope of the fieldwork has greatly shrunk.

Without a vehicle the initial sampling plan could not be carried out. Instead both of the sampling regions have been sampled by foot. Transects were situated along the forest roads as well as off-road. Random points at 200 m intervals along transects have been described. The team documented forest structure and signs of species presence. Ground truth data for land cover classification of satellite images was obtained by taking 360-degrees panorama pictures at the sampling points.

<u>Outcomes</u>

1) The first phase of the project has built up a capacity for following work in the Russian Far East and provided necessary insider knowledge on the fieldwork conditions, environment and economy in the region.

2) The project team has established a good connection to researchers and NGOs in Khabarovsk. This ensures that the knowledge generated by the project will be available for local communities.

3) A first empirical data set describing the habitat conditions of the forest grouse has been collected. With 295 sampling points and a finding rate of 10% we will be able to build the first empiric habitat model for Siberian grouse and compare it to current state of knowledge on species requirements.

<u>Future</u>

The project will run over the next 2 years under supervision of Dr Tobias Ludwig, Freiburg University, Germany. This summer another fieldwork is taking place. The number of study sites will increase from two to four within the next 2 years. Further observations will be added to the data set to enable a more rigorous modelling. Cooperation with WWF, local ornithologists and biology students are considered to facilitate data collection.

Stakeholder involvement. The project would strongly profit from involvement of more local people in data collection. This could be efficiently achieved by reaching out to local university students and research organisations. This step would help us to reach two objectives: increase the outreach of the project and data speed up field data collection. Moreover, locals may be more successful in obtaining historical data from the forestry departments and regional authorities. Consequently, the strategic objectives of the project would be achieved within a narrower time frame.

Designing a suitable sampling system. The project team faced difficulties applying the stratified random design based on classified satellite data. The main reasons were: 1) difficulty of access and orientation in an unknown area, 2) increased amount of time needed to approach and the proposed sampling points. A sampling design to be employed in the next field seasons should be better tailored to balance the demands for sufficient coverage of the forest types and time/labour intensity of the sampling effort.

Results will be presented in two peer-reviewed publications and shared in research and NGO network of the region via our local contacts (Professor Andreev, WWF and research department of Bureinski Nature Park).