Study tour to the areas of Great Snipe breeding habitats

June 29 to July 4, 2005
Norge

Report by regional coordinator of the LIFE Nature project "Restoration of Latvian floodplains for EU priority species and habitats" Ainars Auniņš

Background

One of the target species of the Project is Great Snipe, which is 'Near Threatened' according to IUCN criteria and SPEC1 ("European species of global conservation concern") according to Birdlife criteria. Latvian population of the species has been rapidly declining during the whole 20th century and currently occurs only in several, isolated floodplain meadow areas (Auniņš 2001a), majority of which are Project Areas. Although during the Inventory of the Great Snipe (1999-2001) attention to the species habitat requirements has been paid as well, only very general habitat affinities have been revealed during the study (Aunins 2000, Auniņš 2001a). Important questions related to needs and use of various microhabitats during different periods of the life cycle of the species is still unknown. This causes threat of not achieving one of the project goals because general habitat management for restoration and maintaining floodplain meadows may not be effective to

restore this habitat also as a breeding habitat for Great Snipe. There is a risk that some of the features of some microhabitats may be not restored in adequate proportion giving preferences to other features. Due to this there is a need for more detailed knowledge of habitat use of the species

There have not been detailed studies on species-habitat requirements in the Eastern European population of this species (i.e. Baltic States, East Poland, Belarus, Ukraine and Russia). Scandinavian population of the species has been studied very well during last decades including species-habitats relationships (Løfaldli et al. 1992, Kålås et al. 1996). Much attention has been paid to species lekking behaviour in relation to its conservation (Hoglund et al. 1990, Hoglund 1996). Although the Scandinavian population of Great Snipe breeds in different habitat types than East European population of the species – base-rich open habitats along the tree line, the elements and features of microhabitats within these general habitat types are similar. Thus visiting these areas provides an opportunity to analyze similarities and dissimilarities between habitats in different parts of species distribution range thus getting better understanding of species requirements in fine scale and feature level.

Action F.2 of the Project requires monitoring of the effects achieved by the management actions. In this regard it was important to discuss issues regarding establishment of monitoring system and the estimation of Great Snipe lek size with acknowledged authority on the topic (John Atle Kålås from the Norwegian Institute of Nature Research).

Organization of the trip

The trip of the participants of the study tour to the areas of Great Snipe breeding habitats took place from June 29 to July 4, 2005. The aim of the trip was to gain a better knowledge on habitat requirements of the species and other aspects of the species ecology and behaviour thus allowing better habitat management for the species in our Project Areas. During the trip we visited Dovrefjell region in the central Norway. On June 30 we made a trip to southeastern part of Sør-Trøndelag province where we visited 5 different Great Snipe lekking areas (4 unmanaged places and 1 managed). Two of these lek areas we visited also during the active lekking period at night. On July 1 we once again visited the managed lekking area to discuss the management practices and targets. Then made a trip to northwestern part of the Hedmark province and southwestern part of the Sør-Trøndelag province where we visited 6 different lekking areas (2 of them were located in the floodplain area of a river thus their conditions were slightly similar to those in our Project Areas) in the Dovrefjell National Park. At the end of the day we arrived in the field station of the Norwegian Institute of Nature Research in Gåvalia where long-term Great Snipe studies are being conducted. We stayed in the field station until 3rd of July and during our stay we had a chance to study in detail 3 of the surrounding leks, including observation of 2 of the leks during the active lekking period at night from special elevated hides and participating in data collection for the detailed population study using capturing of the individuals and obtaining biometric measurements and blood samples for studies of population genetics and parasitism. Discussions on interactions of population dynamics with habitat structure, spacing of leks and dispersal of individuals were conducted. On July 3 we made a trip back to Trondheim paying attention on areas not suitable for Great Snipes and factors making them such. On the last day (July 4) we visited the Norwegian Institute of Nature Research where we discussed the lessons learnt during the field part of the study tour.

Participants

Regional coordinators of the LIFE Nature project "Restoration of Latvian floodplains for EU priority species and habitats" Ainars Aunins and Janis Reihmanis, a representative of the project partner North Vidzeme Biosphere reserve Aldis Liepins and the manager of the co-financer UNDP/GEF project "Conservation of Biological diversity in North Vidzeme Biosphere reserve" Otars Opermanis participated in the study tour to the breeding areas of Great Snipe in Norway. John Atle Kålås from the Norwegian Institute of Nature Research accompanied the Latvian team for the study tour.

Lessons learnt

1. Habitat requirements of the species.

Good feeding conditions is the main requirement for the habitat to be suitable for the Great Snipe while the vegetation cover and structure only indicates these conditions. As the species feeds almost exclusively on earthworms, good feeding is dependent on the soil conditions. Such conditions are characterised by humid mineral soil and it has been proven that humid mineral soil holds higher earthworm densities than any other types and conditions of soil. Presence of such conditions is indicated by plant species requiring rich soil. In Norway conditions they are low *Salix* bushes in unmanaged fen areas on base-rich bedrock. Most typically they are located on gentle mountain slopes and humidity in the soil is maintained by snow melting waters during most of the vegetation season. Steeper slopes are not suitable as melting waters wash down the soil or form creeks in such areas and thus soil conditions are not suitable for Great Snipe feeding. On the other hand also flat areas are not suitable as peat layer is forming there. Peaty soils have lower pH than mineral soils and thus are not suitable for Great Snipes as they hold very low densities of earthworms. Comparing the Norwegian Great Snipe habitats with those in our Project Areas regarding soil conditions we have to conclude that conditions of rich mineral soil are indicated by *Filipendula ulmaria* while the areas covered with *Carex* species are too wet and acid to hold high densities of earthworms. This is very important lesson as previously there was a misconception that these *Carex* areas play important role as the feeding habitats of the species in Baltic conditions.

2. Impact of vegetation structure on Great Snipe leks.

As explained above, soil conditions are the main prerequisite for an area to be suitable for lekking Great Snipes while vegetation only reflects these soil conditions. Nevertheless, vegetation structure can play role on choosing the lekking and feeding sites by the species. In Norwegian conditions Great Snipe leks in unmanaged sloping fens were most typically located on the edge of areas covered with low *Salix* bushes. Leks were not found in places where the bushes were either too dense or too high. The soil conditions could be equally good in such places thus the vegetation structure was the limiting factor in these cases. It has been proven that Great Snipe avoids using too dense areas for feeding and the reason of this seem to be reduced visibility. Being a species with cryptic plumage and behaviour, it is very important for the Great Snipe to see the predator before it sees him to be able to hide. Reduced visibility lowers the chance of seeing the predator at a safe distance and this might be the reason of avoiding the dense areas with reduced visibility. Due to very short vegetation period in the areas we visited, there is almost no risk of these low shrub areas turning unsuitable for the species thus these habitats are not in the transition stage and can maintain themselves without any management activities.

Comparing with the Latvian conditions, it has also been observed in our Project Areas that Great Snipe leks may occur on areas covered with low *Salix* shrubs and sometimes even prefer them to open areas, while the species avoids densely overgrown areas or areas effectively fragmented with higher shrubs. The lesson learnt regarding the optimal vegetation structure in our Project Areas is that low shrubs are not required by the species per se, they are only indicating the most rich (= most suitable for the species) soil conditions, being the first places where overgrowing takes place. As the vegetation period in Baltic is significantly longer than in Norway, low shrubs are only a transitional stage to high and dense shrubs (eventually leading to forest), which are not suitable. Thus high shrubs indicate the areas that have lost their suitability as the feeding areas for the species. Removal of the small shrubs is necessary to stop further overgrowing and it will not decrease the value of the place for Great Snipe. Removal of larger and denser shrubs will make the most suitable areas regarding soil conditions available for feeding Great Snipes.

3. Estimation of Great Snipe lek size

Size of Great Snipe leks is not constant during the breeding season. There is also no straightforward rule for changes in lek size during the season. Our Project experience shows and was confirmed by Norwegian experience that leks may decline in numbers or even disappear as the breeding season proceeds and, in contrary, new leks may build up or the size of existing leks may increase during the course of the season. As success of the management activities carried out by our Project is being measured by changes in populations of the targeted species, it was crucial to establish monitoring scheme that would allow measuring these changes. In situation with lek size being unstable during the breeding season there is a risk to underestimate or overestimate lek size in the Project Areas. John Atle Kålås from the Norwegian Institute of Nature Research has previously made efforts to standardise monitoring of the Great Snipe to make it compatible between the range states of the species (Kålås 2000). In the discussion analysing experiences from both countries and other range states we agreed that there have to be at least two visits to the lek during the main breeding lekking period (in Latvian conditions it will be from 2nd decade of May until beginning of the 3rd decade of June) to account for changes in the lek size. Knowledge gained during the detailed population studies in the Norwegian study areas on lek establishing as well as male and female affinity to certain leks and ecological and behavioural factors affecting it, were used to support this decision.

4. Population viability of Great Snipe regarding to lek size

Most of the leks in Latvian conditions are between 3 and 15 lekking males. Larger leks are very rare (Auniņš 2001a). In Norwegian conditions most leks are larger, holding 15 to 30 lekking males. In suitable areas leks are spaced in 1 km distance that is close to distance observed in Latvian conditions in the most optimal places. The detailed studies of the Norwegian Great Snipe population show that such distances are important to ensure exchange of lekking males as well as females between the neighbouring leks during the same breeding season or between different breeding seasons. Discussion on the factors underlying these patterns and the observed differences between Latvian and Norwegian populations allows setting justified targets for management actions carried out in our Project Areas to ensure viable populations of the species.

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