



annual abundance parameters positively correlated with air temperature in April ( $r_s=0.6$ ), and the duration of the birds' stay in the fields correlated with May temperatures ( $r_s=-0.5$ ), decreasing notably in warmer seasons. White-fronted Goose demonstrated a stronger correlation between abundance and April temperatures ( $r_s=0.8$ ). The time of massive arrival of the birds to the fields also correlated with the weather in April ( $r_s=0.7$ ). White-fronted Goose always departed later than Bean Goose. The time when the species' congestions fell apart did not depend on air temperature in May, but rather on forage resources. Both extensive burning of last year's grass in the fields and poaching in the territory of the 'Goose Sanctuary' negatively influenced the birds' numbers.



## **SPRING STAGING AREAS IN UPPER VOLGA REGION: CONSERVATION PROBLEMS**

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Field studies in the frames of the international "SPRING" project (MATRA, The Netherlands) are carried out in four regions of the Upper Volga area (Yaroslavl, Vladimir, Ivanovo and Kostroma Regions). The main aim of this project is to find key areas of spring concentration (MSA – major staging areas) of geese, as well as to explore more thoroughly their flyways. In the course of the project, new MSA were found and known ones were inspected. Weather conditions, food supply and disturbance, especially hunting, – are the main factors influencing MSA. Amateurishly organized hunting strongly damages



migrating populations of geese. Another factor destroying MSA and disturbing geese is grassland burning, which is common in European Russia.

Widespread degradation of feeding and staging habitats of geese is a common problem in Upper Volga region. Geese have lately concentrated nearby big cities and industrial centers, where soil fertilization creates good feeding conditions in spring time. Over the last 20 years, sown areas have decreased 1.7-2.5-fold in all four regions. This fact reflects the general situation in agriculture in European Russia. Decline of agricultural production and reduction of sown areas have impaired food supply for geese in spring.

Using individual colour neck-banding we proved that the flyway of geese of the West European population runs over the Russian Plain. In 2008-2009, we captured and marked 144 Greater White-Fronted Geese in Kologriv (Unzha River floodplain, Kostroma Region). The percentage of European resights of the geese banded in Kologriv was 80% in 2008 and 66% in 2009. The geese were observed in the Netherlands, Germany, Poland, Belgium and Denmark.

At present, the most topical goal is to work out and adopt an integrated master plan for migrating goose populations management. Such plan should be approved by all regional hunting departments.



## CALVING GROUNDS OF REINDEER

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It was proved that the reindeer populations have permanent calving grounds (Klein 1978; Valkenburg 2001; Russell *et al.* 2002). However,