



suggests that some other factors than the spatial arrangement of seasonal habitats were more likely to cause differential movement patterns. The local density of breeding yearling females may depend on breeding success over a large area the previous year.



## **EXPERIENCE OF USING HUNTING DOGS IN THE STUDY OF WINTERING AND BREEDING OF LADOGA RINGED SEAL**

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Using hunting dogs in counts of various animal species is an old, traditional method of zoological research. This method has proven effective also in the study of the biology of some marine mammal species, first of all pinnipeds.

On the ice of the Canadian Arctic, researchers employed dogs to find ringed seal breathing holes hidden under snow (Hammill and Smith 1990). Zheglov and Chapskiy (1971) used dogs in similar studies in bays of the Baltic Sea. Dogs were involved in surveys of the White Sea ringed seal on land-fast ice of Solovetsky Islands in the 1970s (Lukin et al. 2006). Finnish researchers have attempted to use dogs in studying the wintering of the Baltic ringed seal on the Gulf of Bothnia ice (Kunnasranta, oral communication).

The patterns of wintering and breeding of the Ladoga ringed seal were first investigated with the help of dogs in the northern part of the lake in the first half of April 2009. The technique we have used previously was employed (Kunnasranta et al., 2001). In addition, we brought hunting dogs in to find seal lairs in the spring of 2009. We used



two Finnish spitzes. Owing to remarkable agility and supreme hunting qualities, these small, lightweight dogs are especially commendable in the search for seal lairs in deep snowdrifts. The dogs would smell these lairs out, dig them out and bark to draw the researchers' attention.

In a cold, delayed spring, when the lairs' snow roofs remain intact, it is hunting dogs that help find the lairs. Involvement of hunting dogs can be recommended for the study of wintering of pinnipeds (ringed seal).

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## **WINTERING AND BREEDING PATTERNS IN LADOGA RINGED SEAL (*PHOCA HISPIDA LADOGENSIS*) IN THE NORTHERN PART OF THE LAKE UNDER THE EFFECT OF ABRUPT CLIMATIC FLUCTUATIONS**

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The most important periods in the life of the Ladoga ringed seal – wintering, breeding and molting, are directly connected with the ice cover.

The animals begin making snow-ice lairs as early as in December. To this end, the animals use snow drifts near shore cliffs or small rocky islands in the northern skerried part of the lake, or pack ice in southern Ladoga.

Ten years ago, in 1996-99, we thoroughly studied wintering of the Ladoga seal in the northern part of the lake (Kunnasranta et al. 2001; Medvedev et al. 2002; Sipilä et. al. 2002). Given the abrupt climate fluctuations of the past years repeating such studies in the area and comparing new results with the data obtained ten years earlier appeared interesting.