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Satellite techniques use in study of ecology and migration of animal in Yakutia (Northeast Asia)

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Abstract

PTT (Platform transmitter terminal) was first used in Yakutia in 1992 to reveal routs and speed of migrations, important transit stops and wintering grounds of the endangered Siberian crane *Grus leucogeranus* Eastern population. These and subsequent satellite monitoring of Siberian crane (19 PTT), Spectacled eider *Somateria fischeri* (10), Sandhill crane *Grus canadensis* (2), Whooper swan *Cygnus sygnus* (10) and banding (1992-2008) were held with participation and financial support of foreign partners - Fish and Wildlife Service, International Crane Foundation, Science Centre of Wild Birds Society and Japan Swan Society, China Bird Banding Center. PTT and field studies helped to create International Network of specially protected territories of Siberian crane breeding sites and migration and wintering areas in North-Eastern Asia. In 2010, for the first time in Russia satellite telemetry use began to track large-scale migrations of the wild reindeer *Rangifer tarandus*. Satellite collars (Argos system) were put on 48 deer of Lena-Olenek population (Western Yakutia) for the last three years. The population numbers is about 95,000 deer and is actively harvested. Significant changes in routes and terms of deer migrations to winter pastures were revealed in comparison with the 80ties of the last century. Deer wintering areas has moved more than 100 km to the south. Migration barriers were identified because of the diamond-mining company "ALROSA" (roads, industrial pipelines, quarries). In subsequent years these works were expanded and satellite collars "Pulsar" were put on musk oxen, brown bears and wolves to reveal using of the territory by these species.