Brown bear winter feeding ecology in the area with supplementary feeding – Eastern Carpathians (Slovakia)

Jozef ŠTOFÍK 1, Ján MERGANIČ 2,5, Katarína MERGANIČOVÁ 2,5,6, Jozef BUČKO 3 and Miroslav Saniga 4

1 State Nature Conservancy of Slovak Republic, Administration of the Poloniny National Park, Mieru 193, 067 81 Stakčín, Slovak Republic, EU, *e-mail: stofik@sopsr.sk (corresponding author)
2 Technical University in Zvolen, Faculty of Forestry, T.G. Masaryka 24, 960 53 Zvolen, Slovak Republic, EU, e-mail: merganic@tuzvo.sk, merganiciova@tuzvo.sk
3 National Forest Centre of Slovak Republic, Sokolská 2, 960 52 Zvolen, Slovak Republic, EU, e-mail: Jozef.Bucko@nlcsk.org
4 Institute of Forest Ecology of the Slovak Academy of Sciences, Štúrova 2, 960 53 Zvolen, Slovak Republic, EU, e-mail: saniga@savzv.sk
5 Czech University of Life Sciences, Faculty of Forestry and Wood Sciences, Department of Forest Management, Kamýcká 129, 165 21 Praha 6, Czech Republic
6 FORIM – Forest research, inventory and monitoring, Huta 14, 96234 Železná Breznica, Slovakia, e-mail: k.merganicova@forim.sk

INTRODUCTION

Seasonal variation in bear diet is largely a result of food availability in the environment (Elgmork and Kaasa 1992, Vulla et al. 2009, Bojarska and Selva 2012, Saladié et al. 2013). However, currently supplementary feeding has also started to play an important role in bear feeding ecology, because it is quite common almost in the whole Europe (e.g. Slobodyan 1974, Hell et al. 1983, Große et al. 2003, Anonymous 2005, Dečak et al. 2005, Rigg and Gorman 2005, Huber et al. 2008, Jerina 2012, Bojarska and Selva 2013, Kavčič et al. 2013, Štofík et al. 2013b, Selva et al. 2014) excluding Sweden, where supplementary feeding is prohibited (Bischof et al. 2008, Elfström et al. 2014a). Habitat modifications and supplementary feeding can cause aggregation of animals (Forrístal et al. 2012). High behavioural flexibility of some species, e.g. wild boar (Podgórska et al. 2013), increases their capacity to adapt to a changing environment (Coppens et al. 2010), particularly if it is coupled with new easily accessible food sources provided by humans. This ability to adjust the behaviour to changed living conditions may explain recent rapid demographic expansion of wild boar in Europe (e.g. Geisser

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ABSTRACT

We performed snow tracking of brown bear (Ursus arctos) in the area of the Eastern Carpathians affected by supplementary feeding during the winter periods from 2007 to 2013. On each snow track we recorded all food habits and collected all scats. From these data we calculated occurrence frequency of food habits on snow tracks, occurrence frequency, volumetric proportion and energy values of food items in scats. We revealed that: i) the most frequent food source on snow tracks was corn from supplementary feeding places for ungulates (FOST = 64%); ii) crops for ungulates was the most important food group found in scat samples of bears (EDEC = 61%, EDECST = 53%); iii) the analysis of the inter-seasonal (late autumn, winter and early spring) changes in winter bear diet based on scat analyses revealed decreasing importance of hard mast and fruit, and increasing importance of invertebrates, herbs and wood biomass and crops for ungulates from autumn to spring; iv) bears searched for food at lower elevations in comparison to the location of their beds which are situated at higher elevations. Winter bear activity and bear diet was affected by supplementary feeding for ungulates.