

Connectivity, Corridors and Stepping Stones: Conservation Implications of Roe Deer Distribution on the Eastern Steppe

Kirk Olson¹, Peter Zahler² and Daria Odonkhuu³

¹University of Massachusetts Amherst, Amherst, Massachusetts, 01002, USA; email: kirko@forwild.umass.edu

²Wildlife Conservation Society, P.O. Box 485, Post Office 38, Ulaanbaatar 211238, Mongolia; e-mail: pzahler@wcs.org

³Department of Ecology, National University of Mongolia, 210646, Ulaanbaatar, Mongolia; e-mail: otto141@hotmail.com

Abstract

Information was collected on roe deer (*Capreolus pygargus*) distribution on the Eastern Steppe of Mongolia from 2000 to 2003. During this period, 65 roe deer were observed. Roe Deer were distributed throughout the Eastern Steppe region, but all sightings occurred in or adjacent to small woodland patches or riparian woodland. These woodland patches and riparian woodlands are likely to be critical roe deer habitat on the otherwise open grasslands of eastern Mongolia. From a management perspective, roe deer can function as an ecological focal species for preservation of these habitats, and conservation of roe deer and their woodlands can conserve a suite of other species also dependent upon this habitat and thus help conserve the biodiversity of Mongolia's Eastern Steppe.

Key words: *Capreolus pygargus*, connectivity, Mongolia, roe deer, steppe

Introduction

The extensive grasslands of the Eastern Steppes of Mongolia are well-known for their great herds of Mongolian gazelle (*Procapra gutturosa*). The gazelles on the Eastern Steppe number perhaps as many as three quarters of a million (Olson 2003, Zahler *et al.* 2004) and help define the landscape as well as serve as a flagship species for conservation efforts to preserve one of the last remaining stretches of pristine temperate grassland in the world (Schaller 1998).

Aside from domestic livestock, it is generally believed that Mongolian gazelle are the only ungulate to live in these grasslands. However, moose (*Alces alces*), red deer (*Cervus elaphus*) and roe deer (*Capreolus pygargus*) can all be found in small numbers in select locations. On the Eastern Steppe, moose may only be found along the rivers in Numrog Strictly Protected Area, while red deer are found only in a few remaining herds in scattered locales, mostly in protected areas such as Numrog SPA and Lhachinvandad Nature Reserve.

The Siberian roe deer (*C. pygargus*) is distributed throughout the north-central Asian region from the Caucasus to the Pacific (Hewison and Danilkin 2000). This small ungulate (around 40 kg) is considered to be a habitat generalist and can be found in forests, open woodland, scrub, or

agricultural land as long as there is cover and food (Danilkin, 1996). Although roe deer in Mongolia can be found in regions without woodland where cover in the form of rock gullies or tall grass occurs (Danilkin 1996), woodlands are preferred across their range as they provide not only cover but browse during winter when snow may obstruct grazing.

On several occasions at various time of the year, roe deer (*Capreolus pygargus*) were observed. These observations offer insights into the importance of smaller patches of habitat across the Eastern Steppe, their contribution to biodiversity, and the need to ensure their future protection.

Methods

The Eastern Steppe of Mongolia includes the aimags of Dornod and Sukhbaatar and the south-eastern half of Khenti (Fig. 1). Topography consists of gently rolling hills with elevations between 575 and 1,400 meters. There are three main rivers flowing through the region: the Ulz, the Khalkh, and the largest, the Kherlen River. There are numerous springs and freshwater ponds scattered throughout the steppe. Broad alkaline basins are common. Common grasses consist of *Stipa spp.*, *Cleistogenes spp.* and *Leymus chinensis*. Some common forbs are *Allium*, *Astragalus*, and