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Mongolian Saiga in Sharga Nature Reserve: Are Domestic Dogs a Threat to Saiga?

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Absract

Dogs (*Canis familiaris*) are recognized as one of the most numerous carnivores in the world. They have direct and indirect impacts on a diverse range of animal species. In Mongolia, there are shepherd families within Mongolia saiga (*Saiga tatarica mongolica*) range and shepherd dogs are suspected to cause saiga mortalities. However, quantitative information on the effects of dogs on saiga is lacking. In August 2008 and April 2009, we estimated abundance of dogs in Sharga Nature Reserve by compiling existing data and interviewing local people to understand public perceptions regarding impacts of dogs on saiga. Interviews revealed that the majority of local herders believed dogs have only a minor impact on saiga due to the low density of domestic dogs and the lack of feral dogs in the reserve. However, dogs are believed to have greater impacts on saiga in harsh winters, when saiga are in poorer health and are more likely to use areas where dogs are present. Thus, domestic dogs in the study area appear to have no regular detrimental impact on the local saiga population, but may act as a source of additive mortality in years with harsh winter conditions.

Key words: feral and free-roaming dogs, *Saiga tatarica mongolica*, Shargyn Gobi, Mongolia

Introduction

The saiga antelope (*Saiga tatarica*) is categorized as Critically Endangered on the IUCN Red List (IUCN, 2009), and listed within CITES & CMS conventions. There are two distinct saiga subspecies (Kholodava *et al.,* 2006): *S. tatarica tatarica*, distributed in the pre-Caspian region countries including Kazakhstan, Russia, Uzbekistan, and Turkmenistan and *S. tatarica mongolica,* distributed in western Mongolia. The Mongolian saiga (*S. tatarica mongolica)* has been isolated from main populations in the pre-Caspian region by the massive Altai Mountains. The number of saiga in Mongolia fluctuated between c. 750 – 5.000 individuals in the last decade (Amgalan *et al.,* 2008). The most recent population estimate using distance sampling showed that over 7000 saiga occupied the area in and around Sharga Nature Reserve in western Mongolia (Fig. 1; Young *et al.,* in press). In Mongolia, saiga have been legally protected since 1953, and are included in the Mongolian Red Book Data. The major factors limiting Mongolia's saiga population include poaching, recurrent harsh winters, pasture degradation by excessive livestock, and possibly predation including by domestic dogs (*Canis familiaris*; Nyambayar & Amgalan, 1999; Lushchenkina *et al.,* 1999; Clark & Javzansuren, 2006; Young, 2008).

Dogs are recognized as the most numerous carnivore in the world today (Daniels &| Bekoff, 1989); at approximately 500 million worldwide, dogs outnumber all other canids (Veitch, 2002). They have direct and indirect impacts on a wide variety of endemic species in several ways. First, dogs have evolved as top predators in many ecosystems and hunt a wide range of fauna (e.g. Macdonald & Sillero-Zubiri, 2004; Nelson & Mech, 1986; Linnell *et al.,* 1995; Butler & Bingham, 2000). Second, dogs can interbreed with wolves and produce fertile offspring (Vila & Wayne, 1999), which dilutes the genetic stock of wolves and further imperils their survival (Laurenson *et al.,* 1998). Third, disturbance caused by dogs alters behavior of wildlife by increasing flight distance (Yalden & Yalden, 1990; Mainini *et al.,* 1993), decreasing foraging time (Childress