Spring 2009 Mongolian Argali Population Parameters

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Introduction

The most recent monitoring of Mongolian argali populations was conducted in 2002 (Frisina et al. 2007). Because about 7 years have passed since the last reported surveys we conducted checks for production and population status at 8 locations during April 2009. These data were collected as a precursor to a more intensive range-wide survey to be conducted during late fall 2009. The statistics reported in Table 1 are for locations described in Figure 1. In order to provide this information in a timely manner to the United States Fish and Wildlife Service, we have intentionally made this report brief. A more detailed report describing Mongolian argali population trend and status with recommendations regarding sustainable use will be provided following our 2009 fall survey.

Methods

Methods used for locating, surveying, and classifying argali follow protocols described by Frisina et al. (2007). From April 24 through April 28 we collected argali observations at 8 locations (Table 1, Figure 1). We originally intended to include sampling sites in the West Zone (Figure 1) but difficult weather conditions made observing argali in the Altai impossible during the allotted field time. The West Zone will be surveyed during the 2009 fall survey. Most recent taxonomies by scientists classify argali at locations covered by this report as *Ovis ammon darwini*. Some trophy hunting records consider those sheep in locations 1, 4, 5, 6, 7, and 8 as the Hangai trophy type (Mitchell and Frisina 2007). The first author oversaw the overall project to ensure consistency with earlier sampling (Frisina and Boldbaatar 1998, Frisina and Gombosuren 1999, Frisina and Gombosuren 2000, Frisina and Onon 2000, Frisina et al. 2004, Frisina et al. 2007) and the second author who is fluent in English oversaw the field effort to ensure accuracy of reporting and translation.

Conclusions

- During the April 2009 survey 5 days were spent observing argali (4/23, 4/24, 4/25, 4/27, 4/28). A total of 1,159 argali were observed (Table 1) which amounts to about 232 argali observed per observation day. While this information does not establish trend it does indicate that argali were abundant at the 8 areas surveyed. The average number of argali observed per observation site for the 8 sites surveyed was 145 (range 42-286, SD = 93.6). The range-wide survey planned for fall 2009 will be directly comparable to the survey reported by Frisina et al. (2007) and will be used to establish trend between 2002 and 2009. Argali are more observable during the November rutting season than in April when ewes are preparing to give birth and therefore more secretive and scattered. Thus, the data from this survey is not directly comparable with information reported by Frisina et al. (2007).
- A total of 608 adult ewes and 285 lambs were observed yielding an observed ratio of 47 lambs per 100 ewes. It is important to keep in mind that the lambs reported here were born in May of 2008; the ratio represents the portion of recruitment that survived the 2008-2009 winter. These lambs will be classified as yearlings once the 2009 lambing season is completed in early June. That considered, this ratio of 47 lambs per 100 ewes represents not only good reproduction by also good overwinter survival of lambs. Frisina et al. (2007) reported an observed ratio of 29 lambs per 100 ewes for November 2002 (prior to any winter mortality). The data reported here indicate a significant improvement in lamb production and survival compared to 2002. In a synthesis of information Frisina et al. (2002) reported a range of 10 to 63 lambs per 100 ewes observed for earlier surveys, all of which were measured prior to winter mortality occurring.
- A total of 1,150 argali were classified; of these 96 or 8.4% were Class 4 or trophy rams (Table 1.) Of all rams observed (257) 187 or 73% were >5 years of age (Class 3 and Class 4), amounting to an observed ratio of about 31 breeding age rams per 100 adult ewes (1 breeding age ram per 3 ewes). These data indicated that adequate numbers of breeding age rams are being maintained in the population for natural reproductive processes to be maintained. The relatively high proportion of trophy males (37% of males observed) and relatively high proportion of Class 3 rams (35 % of observed males) indicates a significant portion of rams are surviving into the older age classes. The

data also indicate that there are significant numbers of Class 3 rams available to replace Class 4 males as they die of natural causes or are removed from the population through legal harvest. These data indicate that trophy harvest has not been excessive and that poaching has not significantly inhibited maintenance of adequate numbers of mature rams for breeding or harvest.
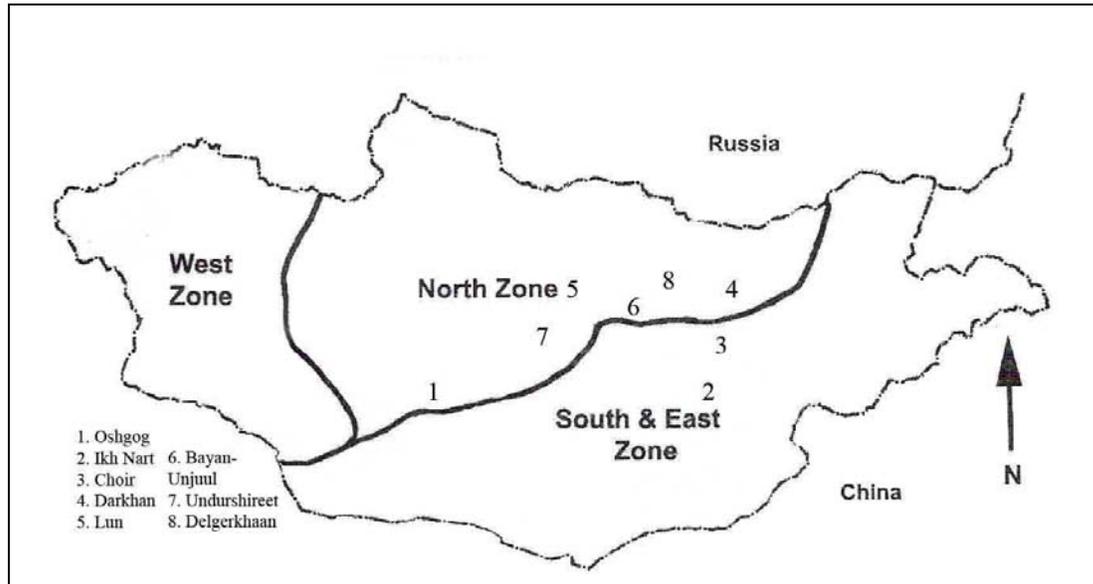
- It will not be possible to make a definitive judgment on population trend between 2002 and 2009 until we complete the range-wide survey scheduled for this fall. However the data collected during this April survey for the North Zone and South & East Zone indicate things may have improved for argali since 2002.
- These data indicate existing trophy hunting quotas for the 2 zones surveyed (Figure 1) have not been excessive.

Table 1. Argali observations from ground surveys conducted from April 23 through April 28, 2009.

Location[1]	Total	Female	Lamb	Rams	Uncl.	Rams Class 1	Rams Class 2	Rams Class 3	Rams Class 4
1	216	125	64	18	9	3	7	1	7
2	230	154	56	20	0	1	8	11	0
3	42	26	5	11	0	0	2	2	7
4	95	53	18	24	0	0	0	5	19
5	72	19	13	40	0	5	6	27	2
6	286	132	89	65	0	0	5	19	41
7	173	85	32	56	0	8	10	20	18
8	45	14	8	23	0	8	7	6	2
Totals	1,159	608	285	257	9	25	45	91	96

[1]For locations see Figure 1.

Figure 1. Locations of argali survey sites visited from April 24 through April 28, 2009. The three zones are from Frisina et al. (2007).

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