

Demographic Characteristics of the Atlas Barbary Sheep in Amassine Nature Reserve, Atlas Range, Morocco: Implications For Conservation and Management

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Abstract : Population characteristics of Atlas Barbary sheep (*Ammotragus lervia lervia*) were investigated 20 years following the 1999 introduction of 10 individuals into the fenced nature reserve of Amassine, High Atlas range, Morocco, for promoting wildlife watching and tourism. Population age-sex structure and density were determined in late winter-early spring during four consecutive years (2016-2019) by direct observation before the dispersal of the herd. In this latter case, the line transect distance sampling was successfully applied. Population size increased from 37 to 62 animals during the four-year study period; the maximal population size being 82 individuals recorded in 2006. An estimated population density ranged from 0.25 to 0.41 Barbary sheep/ha during the study period. The adult sex ratio varied from 91 to 67 per 100 females. The apparent birth rate was 14 to 73/100 females. Juveniles and subadults comprised 27-43% of the population, adult males 26-31% and adult females 29-45%. The survival rate from birth to 1 year of age approximated 35%, for adult males was estimated to average 69%/year. The obtained results would be helpful for developing sustainable population management and habitat restoration plan and assessing the feasibility of potential reintroduction/restocking in other areas of the Atlas range.

Keywords : atlas mountains, barbary sheep, demography, management

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