

The demographics and use of space of the black rhino population of the Sweetwaters Game Reserve, an enclosed reserve in Kenya



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Abstract

Photo-identification was used to confirm the black rhino (*Diceros bicornis*) population of Sweetwaters Game Reserve, Kenya. Despite being an enclosed area, from the photographs taken of individuals, the rhino population at the end of May 2005 was found to be 43 and not 40 as had been previously recorded. Three rhinos were photographed which had not been previously identified as different but which had been confused with other individuals. By analysing GPS location fixes collected on foot by rhino patrols and from additional vehicle patrols, the space covered by each of the 43 rhinos, their spatial relationship with each other, and the natural relocation of individuals from one area to another in the Reserve over a four year period was noted. Adult females, in groups of two to four, were found to use similar areas while adult males seemed largely to be territorial. On becoming independent of their mothers, most young (juvenile or sub-adult) rhinos stayed in their natal area but formed an association with another independent young rhino for around three years. Prior to having their first calf, females appear to move away from the area they had been regularly using although this may only be to a short distance to an area adjacent to it. Immature males aged around 8 to 10 years are likely to move the longest distances in search of an area safe from territorial males.

Additional key words: dispersion, dispersal, home range, territory, territorial, natal range

Introduction

The Black Rhino Conservation Strategy and Management Plan, instituted by the Kenya Wildlife Service in 1993, contained policies to guide management for five years until the end of 1998. While the protection of black rhino populations was largely achieved through this management plan, the anticipated growth in their numbers was achieved to a lesser extent. This is because the remaining rhino populations were not, to a large extent, managed for maximum sustained growth through the application of active biological management principles (KWS 2003).

The guiding policy in biological management is that emphasis should be