INTERPRETING AND APPLYING HOME RANGE DATA: A CASE STUDY WITH BLACK RHINOCEROS

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Home range ecology features prominently in the management of many species. Wildlife managers sometimes use home range size as a proxy for habitat condition and to determine overall carrying capacity. Hluhluwe-iMfolozi Park (HiP), South Africa, is a strategic donor population for black rhinoceros meta-population management.

Some report a 67% increase in range size from 7.55 km2 to 23.02 km2 as evidence for declines in habitat quality, which they attribute to over-population and use as evidence for increased harvesting. We present home range estimates for the largest cohort of black rhinoceros (n=22) to date fitted with VHF radio-transmitters in HiP.

Rhino were regularly located in a random stratified fashion to estimate seasonal [mean wet season: male, 8.16 km2 ± 2.37 SE; female, 6.24 km2 ± 1.79 SE/ mean dry season: male, 4.20 km2 ± 0.63 SE; female, 9.07 km2 ± 0.99 SE] and annual home range sizes [male, 8.22 km2 ± 0.80 SE; female, 9.35 km2 ± 1.25 SE]. Both annual and

seasonal home range estimates are over 60% smaller than recent values and similar to estimates to published in the 1960's from the same reserve. The reasons why other contemporary estimates differ so much from ours is a useful reminder of how not to conduct and construct home range studies. Our results also indicate that home range

sizes have not changed. Further, we discuss these results in the context of the researcher-management relationship and how over-interpreting poor quality data can mislead the management of a critically endangered species.

Notes