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Habitat selection of African elephants (Loxodonta Africana) after reintroduction in Dinokeng Game Reserve

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ABSTRACT

Conservation has led to African elephants (*Loxodonta africana)* being reintroduced to small game reserves. However, only a few studies have been done on how elephants react to their new environment after a translocation. Dinokeng Game Reserve introduced a herd of 10 elephants *(Loxodonta Africana)* in October 2011. Using Global Positioning System collar locations of one female elephant, I aimed to determine whether an elephant's exploration resulted in an expansion of its home range as the elephant settled in its new environment. Secondly, I aimed to determine how the use of resources and conditions in an elephant's environment changed from release to the end of the study period. To achieve my first objective, I calculated the elephant's daily distance movement distances and home ranges over 16-day and seasonal periods. I used logistic regression to assess the habitat selection of the elephant over the study period. The results of the research demonstrated that the elephant slowly explored its new environment, which resulted in an expansion of its home range over time. However, it took almost two years before the elephant displayed signs of settling in its home range. The elephant used habitats further away from buildings, closer to fence boundaries and water sources, with low elevation and high greenness at the start of the study. Over time, the elephant's habitat selection was no longer constrained by buildings and it demonstrated stronger evidence of using habitats with lower elevation towards the end of the study period. The findings suggest that elephants do not necessarily explore extensively before finding an area to remain in, and it may take longer than a year for them to settle. Furthermore, human settlements seem to limit elephant's habitat selection a translocation, but this influence decreases as the elephant settles in its new environment.

Keywords: elephant, translocation, exploration, movement, habitat selection, habitat use