Conserving wild dogs (*Lycaon pictus*) outside state protected areas in South Africa: ecological, sociological and economic determinants of success

by

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Summary

The restricted geographic range and tenuous conservation status of wild dogs in South Africa were the motivating factors behind this study. Wild dogs have been extirpated from most of their historic range in South Africa, and now occur in three limited distributions: a) one viable population in Kruger National Park; b) a protected meta-population, consisting of 11 packs in six sub-populations (four on state owned reserves - Hluhluwe-Umfolozi Park, Madikwe Game Reserve, Marakele National Park, Pilanesberg National Park, and two on privately owned reserves - Karongwe Game Reserve, and Venetia Limpopo Nature Reserve), and; c) ~ 76 unprotected individuals in 17 packs and dispersing groups occurring outside protected areas, primarily in the game ranching areas of the extreme north and north east.

Prior to the establishment of the proposed transfontier parks, the best prospects for range expansion likely exist on private land. My study investigated some of the ecological, sociological and economic issues associated with wild dog conservation on private land under various scenarios.

Over the last few years, the focus of conservation efforts and donor funding expenditure (72.6% of funding) has been the establishment of the meta-population. This been effective - the target size (nine packs) of the meta-population has been exceeded in six years, four years less than the targeted schedule (10 years). From here, there are two ways in which donor funding might be used to achieve further range expansion outside state protected areas, through expansion of the meta-population by reintroducing wild dogs onto private nature reserves, and through the conservation of wild dogs *in situ* on ranchland. For either strategy, an estimated minimum area of 158.5 km^2 is required to support the predation requirements of a pack of 12 wild dogs in northern South Africa, 172.8 km^2 in eastern South Africa, and 354.2 km^2 in northeastern South Africa.

Private reserve owners may not be willing to accept the costs of predation by wild dogs in the absence of compensation. Compensation for predation ($9,563 - $101,762 / year), in addition to the high start up costs of wild dog reintroductions ($36,880) would increase annual donor funding requirements by 1.3 - 4 times, and reduce the cost efficiency of this strategy below that of alternative conservation options. However, there is potential to generate substantial revenue from wild dog-based ecotourism ($11,000 - $60,000 / pack / year), and given careful reserve selection, tourism benefits can exceed the costs.

Consequently, private reserve owners might be encouraged to reintroduce wild dogs at their own cost. In line with this, the Wild dog Advisory Group-SA has received enquiries from several private reserve owners interested in reintroducing wild dogs onto their properties. The expansion of the meta-population should be limited to state-owned reserves and private reserves willing to carry the costs.

There are more wild dogs occurring outside protected areas than previously recognised. Potentially important founder populations occur in game ranching areas in eastern (1 – 3 resident packs and dispersing groups), northern (1 – 5 resident packs and dispersing groups) and western Limpopo (1 – 5 resident packs and dispersing groups), and large areas (88,750 km^2) of potentially suitable habitat for range expansion are currently available. Persecution by landowners remains a significant problem, however, and until this is controlled, range expansion is unlikely to occur. Negative attitudes (47.7% of ranchers) are typically based upon perceived or real economic costs associated with wild dogs, and the removal of cost burdens from landowners is the most direct way in which attitudes might be improved. Despite the high annual costs associated with predation by wild dogs on ranchland ($11,942 - $115,761), the low logistical costs ($3,572 initially, and then $15,382 annually thereafter) associated with conserving wild dogs *in situ* on ranchland render this option more cost efficient than the reintroduction of wild dogs onto private reserves (14 – 27 packs conserved / $100,000 cf. 3 – 19 packs / $100,000). Furthermore, tourism revenue from wild dogs has the potential to offset the costs of their predation on ranchland under most scenarios, and promoting the conservation of wild dogs *in situ* on ranchland by assisting ranchers in establishing wild dog-ecotourism

operations should be the focus of future conservation efforts. A substantial proportion of ranchers (52.3%) are positive towards wild dogs, and private landowners are potentially important facilitators in the conservation of the species in South Africa.

The focus of future conservation efforts involving wild dogs in South Africa should be to establish wild dog populations in the proposed Limpopo / Shashi and Lubombo transfrontier conservation areas as soon as they are established, to encourage private reserve owners to reintroduce wild dogs at their own expense, and to promote the conservation of naturally occurring wild dogs *in situ* on ranchland, by encouraging and assisting ranchers to establish wild dog-ecotourism programmes.

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