



Collaboration for Environmental Evidence

Systematic Review No. 33

Effectiveness of African wild dog (*Lycaon pictus*) re-introductions in South Africa

Review Summary

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Cover Sheet

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Systematic Review Summary

Background

Our ability to evaluate the effectiveness of conservation interventions is primarily reliant on and often limited by the available evidence. As claimed conservation success (or failure) might merely be an artefact of the quantitative approach used for evaluation, both in terms of locating and analysing data, cross-validation of results may be important. We thus re-evaluated the effectiveness of African wild dog (*Lycaon pictus*) re-introductions in South Africa using a systematic review approach, which included comprehensive data searching and meta-analysis not employed in the original assessment.

Objective

The objective of this study was to cross-validate the management recommendations of a previous evaluation of an endangered species recovery programme using a systematic review approach.

Search strategy

Data on the survival of re-introduced wild dogs and their offspring as well as on covariates potentially impacting survival were available from all wild dog re-introductions and translocations known to have been attempted in South Africa since 1995. To assess whether any additional survival data existed, relevant people and organisations involved in wild dog re-introductions and translocations were contacted, and literature databases and internet search engines were searched using keywords.

Selection criteria

References captured by the above search were deemed relevant if all of the following were present: subject (African wild dog or *Lycaon pictus*), intervention (re-introduction or translocation) and outcome of interest (qualitative or quantitative reporting of re-introduction success). As in the original assessment, 40 covariates that vary among re-introduction sites and release events were identified as potential factors that may explain heterogeneity in the survival of re-introduced wild dogs.

Data collection and analysis

Raw data on survival and covariates potentially impacting survival were extracted from the original assessment. Meta-analysis of outcome measures (i.e. survival rates) was used to generate effect sizes via analysis of risk ratios based on a modified Cohen's *g* metric. Univariate random effects meta-regression for all categorical and continuous covariates was used to examine heterogeneity in the survival of re-introduced wild dogs.

Main results

The original dataset was confirmed to be complete by an exhaustive search to locate additional data. Both evaluations suggested that wild dog re-introductions are successful in the short-term, with high survival rates of the released animals and their offspring. The meta-analysis of all the available evidence corroborated the importance of pre-release socialisation in promoting post-release survival at the pack level. In contrast, the original assessment found additional covariates affect the survival of re-introduced wild dogs at the individual level.

Conclusions

The available evidence suggests that wild dog re-introductions in South Africa are an effective conservation tool, the success of which is largely determined by pre-release socialisation. This study emphasises the importance of cross-validating management recommendations in endangered species recovery programmes with different quantitative methods to assess and communicate the reliability of results.