Evaluating recovery planning for threatened species in Australia

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Abstract

Loss of biodiversity is a major environmental issue in Australia. In response the Commonwealth Government has developed a national list of threatened species and prepared *recovery plans* under the provisions of the Commonwealth Environmental Protection and Biodiversity Conservation Act 1999 (EPBCA). However, knowledge on the appropriateness and effectiveness of those conservation and management schemes is limited. The aim of the thesis was to conduct an evaluation of recovery planning to assess its appropriateness as a conservation and management instrument, and investigate how legislative, institutional and organisational factors influence its implementation. Four research questions were addressed: 1) How does recovery planning operate in regard to legislative, jurisdictional and institutional aspects? 2) Do recovery plans comply with legislative requirements and coherent conservation planning? 3) What management factors have most influence on implementation of recovery plans at state level? and 4) What modifications could be made to the management system to improve implementation of recovery plans? The major approaches considered in this study were policy evaluation and systems analysis. Both approaches were incorporated in a framework of the thesis to construct a conceptualisation of the threatened species management system as a model. This allowed examining its structure, key elements and dynamics, and evaluation of its performance and effectiveness. Methods comprised interviews, content analysis of program documentation, qualitative and quantitative analysis of recovery plans, experts' workshops, and systems analysis and modelling. The major set of quantitative data came from a database which incorporated content attributes of 236 recovery plans. Taking into account the Australian legislative requirements for preparing recovery plans, key content attributes were selected for assessing the degree of compliance. Internal consistency of plans was also assessed as a complementary measure of coherent management planning. Measures of internal consistency were: consistency between gaps of scientific information versus prescribed actions calling for research; consistency between major threatening processes versus prescription of threat abatement actions; and consistency between recovery objectives versus performance criteria for measuring achievement of objectives. Another component of the thesis was the construction of a model of the management system of threatened species. This theoretical model was conceptualised from opinions of experts and stakeholders occupying key roles in threatened species management. The model incorporated social aspects of management such as institutional and organisational factors influencing planning and the implementation of recovery plans. The model was built using a Bayesian belief network to assess the most influential components (*issues*, *recovery strategies*, and

management requirements) on the likely outcomes. Expert opinions also assisted to identify gaps in the management system and formulate new management strategies. Finally, modelling allowed assessing different management scenarios and identified the key components that would improve recovery planning. Major findings of the investigation revealed that: 1) Although the three levels of government in Australia (Commonwealth, state/territory and local) are involved in recovery planning, it is the states/territories that have the most active role in preparing and operating recovery plans. State and territory-based legislation, policy and conservation strategies shape the form in which recovery planning is performed nationwide, as they are responsible for implementing 89% of national plans; 2) Overall compliance of plans with legislative requirements was adequate; although improvement is required in establishing a monitoring and evaluation framework. Overall, internal consistency of plans was also adequate in addressing threats and formulating research for knowledge gaps; but consistency was poor regarding the response to some threatening processes and the establishment of recovery criteria; 3) According to experts/stakeholders, the most influential issues relevant to the implementation of recovery plans are: coordination across Commonwealth, state and territory agencies, inconsistency of strategies and programs across jurisdictions, addressing management of threatened species on private land, incorporation of science into recovery planning, prioritising schemes for conservation action, and funding for the implementation of plans; 4) The recovery planning strategy may be improved by establishing mandatory monitoring and review reports; creating a national forum on threatened species; designing an appropriate insurance regime for volunteers; and establishing a national management information system.

Keywords

Threatened species management, recovery planning, biodiversity conservation