

Progress Report SP 2012-038

Responses of terrestrial vertebrates to timber harvesting in the jarrah forest

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Project status as of Aug. 20, 2018, 11:17 p.m.

Update requested

Document endorsements and approvals as of Aug. 20, 2018, 11:17 p.m.

Project Team

granted

Program Leader

granted

Directorate

required

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Context

Understanding the impacts of timber harvesting on the terrestrial vertebrates of the jarrah forest is necessary for biodiversity conservation and development of ecologically sustainable forest management. This work is part of the Kingston Project and a complement to the FORESTCHECK monitoring program.

Aims

- Investigate the impacts of current silvicultural practices on jarrah forest ecosystems.
- Determine what factors contribute to observed impacts.
- Develop or modify silvicultural prescriptions to ensure the ecologically sustainable management of timber harvesting in the jarrah forest.

Progress

- potlight monitoring on three standardised transects was maintained with three repeat surveys per transect in spring 2017 and autumn 2018.
- Ngwayir (western ringtail possum) populations in the greater Kingston area remain extremely low having declined to almost undetectable levels between 2001 and 2012. Spotlight detections increased slightly 2012-2014, but have remained relatively stable 2015-2018 at less than 5% of the level typical of the pre-2000 era.
- Results and insights from this study were included in a book chapter recently published - Wayne, A. F. (2018). Insights from multi-species mammal monitoring programs in the Upper Warren, Western Australia. *Monitoring Threatened Species and Ecological Communities*. Ed.s Sarah Legge, David B. Lindenmayer, *et al.* Clayton South, Victoria, Australia, CSIRO Publishing:179-192.

Management implications

- The declines in the ngwayir numbers in the Upper Warren region (including greater Kingston area) contributed significantly to the recent elevation of its conservation status to Critically Endangered.
- Information on the impacts of timber harvesting on terrestrial vertebrates will lead to improved ecologically sustainable forest management practices and the conservation of biodiversity.
- The decline of multiple species of native mammals in the Upper Warren area is of serious concern requiring action, especially given the high conservation value of the area and the importance of the populations found within the area. Understanding the factors responsible for these population changes provides critical context for informing management of fauna in areas subject to timber harvesting and other management activities.

Future directions

- Data on the responses to timber harvesting of terrestrial vertebrates will be analysed and prepared for publication.