



Evaluation of forestry surveys and modelling in NSW

This note summarises a research project to evaluate the effectiveness of pre-harvest survey and modelling conditions and practices used in the Coastal IFOA. These surveys and modelling are used to identify and protect species and habitat of importance.

This evaluation was led by Dr Sarah Munks, a forest ecologist and Adjunct Senior Researcher at University of Tasmania, and Dr Phil Bell, a Principle Ecologist at Biodiversity Maintenance Australia, a Research Associate, School of Natural Sciences and an Affiliated Researcher, ARC Centre for Forest Value at the University of Tasmania.

The evaluation was delivered under the [Coastal IFOA Monitoring Program](#).

A landscape approach to protect species

In 2018, the Coastal IFOA adopted a new multi-scale, landscape approach to protect threatened species and their habitats from the immediate short-term impacts from forestry operations. Included in this approach was a stronger emphasis on monitoring species and the effectiveness of landscape-scale protection measures.

However, the CIFOA still requires pre-harvest surveys for some species and habitat features using specified protocols. This evaluation assessed the effectiveness of these surveys and supporting models.

CIFOA surveys and modelling are reasonably effective but there are areas to improve

Overall, the review found that Coastal IFOA species and habitat surveys and associated models were reasonably effective in identifying the presence of the focal species and associated habitat features. The researchers found the surveys were implemented through effective planning and field procedures.

However, the methods for some species would benefit from further review and improvement. Species such as the Marbled Frogmouth, Albert's Lyrebird, Rufous Scrub-bird and a particular frog genus (*Philoria*) were identified by the researchers as requiring immediate attention.

The review also found that a lack of a historical program to monitor outcomes had led to uncertainty around the effectiveness of protections and management actions. However, the researchers found recent initiatives under the Coastal IFOA Monitoring Program, in particular the fauna monitoring program, should address this issue for some of the target species, including koalas and large forest owls.

The fauna monitoring program is assessing the effectiveness of the protective measures delivered through the Coastal IFOA in maintaining species more broadly across the landscape. Species specific monitoring plans are also in place for a range of species, including the greater glider, koala and southern brown bandicoot.

Improvements are now underway

The review identified over 70 recommendations to improve models, methods, training and for further research and monitoring. Some recommendations are discrete tasks that have been initiated, such as expert reviews for identified priority species noted above. The researchers also recommend broader actions, such as the need for cross-tenure monitoring to inform the overall effectiveness of pre-harvest surveys in contributing to conservation outcomes.

Positively, some recommendations are already being implemented, or relate to ongoing Coastal IFOA monitoring activities, including those listed in the figure below.

The remaining recommendations will undergo a prioritisation process with a cross agency technical working group led by Dr Munks, which will then inform an implementation plan to guide future actions.



Hastings River mouse – replacing the existing model with the more recent Department of Primary Industries model for this species



Koala (northern region) – reviewing and improving the 'browse prescription model' and koala browse tree definition using new information on occurrence of food trees in Coastal IFOA regions



Monitoring and review – conducting regular, consistent surveys/ monitoring as a basis for adaptive management and to counter the diminishing record dataset resulting from the 20-year invalidation period



Monitoring and review – using historic records and records from ongoing surveys, projects and the biodiversity monitoring programs



Koala (all regions) – trialling alternative survey methods such as acoustic recorders, detection dogs, thermal cameras, and drones to supplement the methods already used in pre-harvest surveys



Broad habitat assessment – exploring the use of LiDAR for habitat modelling (for example, hollow-bearing trees) to further increase efficiency of the broad area habitat searches

Evidence base continues to build

This evaluation forms part of the CIFOA monitoring program, required under Chapter 8 of the CIFOA conditions and Protocol 38.3 of the CIFOA protocols. It considered the appropriateness, effectiveness and efficiency of the pre-harvest species and habitat surveys, and associated models and record-keeping.

Specifically, the evaluation investigated:

'Are the species and habitat survey and modelling conditions and practices effective in identifying the presence and location of native species and habitats in the area covered by the CIFOA?'

'Do the species and habitat survey and modelling conditions and practices contribute to ensuring that protections and management actions are implemented to reduce the impact of the forestry operation?'

More information

The report detailing the findings and the evaluation method, can be found on the [Commission's website](#).

