Amy Selvaraj (DELWP)

From: Angie Stefanatos [redacted]
Sent: Wednesday, 30 June 2021 4:59 PM
To: Fingerboards Inquiry and Advisory Committee (DELWP)
Subject: Requested extra information by IAC

To whom it may concern,
My name is Angelique Stefanatos (submission 319) and I spoke yesterday at the IAC Hearing. I was asked to send you the documents below, that I referred to yesterday about nest-box failure as offsets of removing mature trees:

The anatomy of a failed offset:

Author links open overlay panel: David B.Lindenmayer[ab] MasonCrane[ab] Megan C.Evans[c] MartineMaron[c] PhilipGibbons[b] SarahBekessy[d] WadeBlanchard[a]

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Highlights

- Biodiversity offsetting is widely applied but its effectiveness is rarely assessed.
- We evaluated a nest box program intended to offset clearing of hollow-bearing trees.
- The offset targeted 3 threatened species but low rates of nest box use were observed.
- The offset program did not counterbalance the loss of hollow-bearing trees.
- We suggest improving future offset programs with greater compliance and offset ratios.

Abstract

Biodiversity offsetting is widely applied but its effectiveness is rarely assessed. We evaluated the effectiveness of a nest box program intended to offset clearing of hollow-bearing trees associated with a freeway upgrade in southern Australia. The offset targeted three threatened vertebrates: squirrel glider (*Petaurus norfolcensis*), brown treecreeper (*Climacteris picumnus*) and superb parrot (*Polytelis swainsonii*). Clearing led to the loss of 587 tree hollows

and the offset was the placement of an equivalent number of nest boxes in nearby woodland (1:1 ratio). Of these, we monitored 324 nest boxes in six sample periods between 2010 and 2013, yielding 2485 individual checks of nest boxes.
For the three target species, we found: (1) no records of nest box use by the superb parrot, (2) two records of the brown treecreeper (0–0.76% of accessible nest boxes used per survey period), and (3) seven records of use of nest boxes by the squirrel glider (0–2.1% of accessible nest boxes used per survey period). Rates of nest box use by the superb parrot and squirrel glider were markedly lower than rates of use of hollow-bearing trees observed in other investigations. Low levels of use by target species coupled with the extent of nest box attrition suggest the offset program will not have counterbalanced the loss of the hollow-bearing trees.

We make suggestions for improving future offset programs including a greater emphasis on: (1) avoiding impacts on hollow-bearing trees; (2) offset effectiveness as a measure of compliance; and (3) using realistic offset ratios.

Hume Highway duplication project failed to protect threatened species, ANU study finds

ABC Riverina
/ By Benjamin Shuhyta
Posted FriFriday 19 MayMay 2017 at 12:18pm, updated SatSaturday 20 MayMay 2017 at 10:16am

Half of nest boxes are used by possums or non-native rats, not the animals they were set up to help.*(Supplied: Mason Crane)*

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- A review of a $200,000 effort to protect animals impacted by a major roadworks project in southern NSW has found its attempts to assist the survival of threatened species have failed.

Key points:

- Project designed to help threatened animals affected by the Southern Hume Highway Duplication project
- Four-year study of the project concluded the project failed
- RMS says environmental obligations were still met

Researchers spent four years assessing the Southern Hume Highway Duplication project's effectiveness in helping three species affected by land clearing between Holbrook and Coolac.

Australian National University Professor David Lindenmayer said the assessment found that the project failed.

"There will be some populations of these species that basically won't do well now because they won't have the nesting resources and they won't have those resources for the next 200 to 300 years," Professor Lindenmayer said.

"We need to make sure we don't make those mistakes again."

The study, published in the journal Biological Conservation, looked at 587 boxes designed to attract the superb parrot, the brown treecreeper and the squirrel glider — animals considered threatened or in need of assistance as a result of tree clearing.

Researchers conducted 3,000 checks of nest boxes along the Hume Highway in southern NSW.*(*

Supplied: Daniel Florance)

The study found no evidence that the boxes had been used by the superb parrot and on only seven occasions where utilised by the other target animals, across 3,000 checks.

About 8 per cent of boxes had fallen from their tree.

"Given that trees are usually 80 to 120 years old before they form tree hollows, it is fair to assume that most of the nest boxes would fail before any replacement plantings could provide a suitable habitat," Professor Lindenmayer said.

The Southern Hume Highway Duplication project has been estimated to have cost the Federal Government $800 million.

Part of the environmental conditions included installing a nest box for each of the 587 hollow trees felled in the roadworks.

NSW Roads and Maritime Services (RMS) commissioned both the nesting boxes and the study of their effectiveness.

It said the success of nest boxes would depend on a range of factors including the number of natural hollows nearby, the rarity of the target species, competition from more common species and the design of the nests.

"The project to duplicate the Hume Highway, including between Coolac and Holbrook, complied with NSW and Australian Government environmental conditions of approval," the RMS said in a statement.

The Hume Highway near Tarcutta during a community inspection in 2011.*(Supplied: NSW RMS)*

One of the report's co-authors, University of Queensland Postdoctoral Research Fellow Megan Evans, believes the compliance requirement was part of the problem.

"To satisfy the conditions of the offset, the proponent only had to erect the nest boxes even if they completely failed to provide habitat for threatened species," Ms Evans said.

RMS said it will take the results into account when planning future environmental offsets.

Posted 19 MayMay 2017, updated 20 MayMay 2017

https://www.abc.net.au/news/2017-05-19/hume-highway-duplication-failed-to-protect-threatened-animals/8540406?utm_campaign=news-article-share-control&utm_content=mail&utm_medium=content_shared&utm_source=abc_news_web