Sapphire wind farm- Regent honeyeater and Swift Parrot biodiversity offset report

Spring 2019

SWIFT PARROT

HABITAT MODELLING AND MONITORING

- A high resolution habitat suitability map has been constructed for New South Wales (Fig 1).

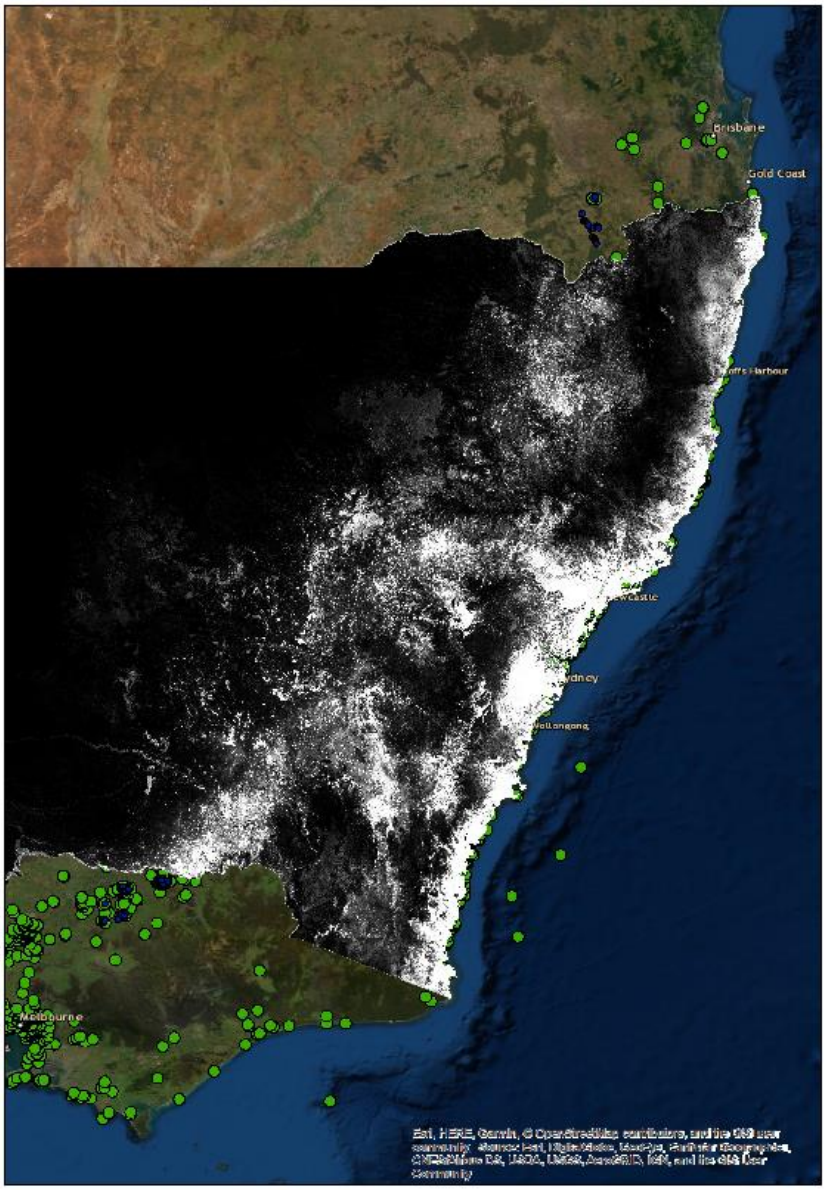

Figure 1. Swift parrot habitat suitability model for New South Wales. Lighter colours indicate higher swift parrot habitat suitability.

- This map is currently being ground tested to help establish a winter monitoring program for swift parrots.
- Construction of a similar habitat model for Victoria and southern Queensland is ongoing.
- Round 1 of swift parrot and regent honeyeater surveys were completed by mid October.
- Swift parrots were detected at sites in the Lower Hunter, Capertee and Widden Valleys and in northern Victoria. No swift parrots were detected in the NSW northern tablelands due to a widespread lack of blossom resulting from drought conditions.

FUTURE RESEARCH PLANS

- Continue to collaborate with BirdLife Australia to establish a range-wide winter monitoring program for the swift parrot.
- We are currently compiling a collision risk database of parrot species and other migratory bird species to help quantify collision risk as a surrogate for a lack of available empirical data for swift parrots.

REGENT HONEYEATER

HABITAT ASSESSMENT

- We have completed a standardised habitat assessment of all national regent honeyeater monitoring sites. These data will be crucial for modelling the occurrence of regent honeyeaters, swift parrots and other taxa throughout their ranges, an in particular with respect to the Sapphire Wind Farm and other wind farms within the species' ranges.
- A 10 day habitat scoping project for other areas of potential regent honeyeater breeding habitat within the NSW northern Tablelands was conducted in May.

MONITORING

- 17 additional regent honeyeater and swift parrot monitoring sites have been established in the vicinity of Sapphire Wind farm, primarily along Kings Plains and Wellingrove Roads in high quality white box, mugga ironbark, stringybark and yellow box woodland patches.
- A key outcome of the habitat scoping was to search further for regent honeyeaters in the Moogem Valley, east of Glen Innes. Severe fires have prevented us from implementing these searches to date.
- The 2019 regent honeyeater field season is ongoing. A summary of the 2019 data to date is as follows:
- A pair of regent honeyeaters were detected during range-wide monitoring near Bundarra in mid October (approximately 80 Km south-west of Sapphire wind farm). No nesting activity was detected.
- This or a different pair were reported two weeks previously, approximately 10km north of Bundarra and 70 Km from Sapphire wind farm.
- A single male was reported to BirdLife near Bingara (approximately 90 Km WSW of Sapphire wind farm).
- These 3-5 birds represent the closest 2019 spring records to the Sapphire wind farm, with all other spring records >100 km from the site.

- Severe drought conditions have impacted the number of regent honeyeaters present in the Glen Innes- Inverell-Severn River area. In many areas there is widespread Eucalyptus and Casuarina mortality due to the drought.
- The remainder of regent honeyeater breeding activity has been within the greater Blue Mountains.
- Approximately 30 birds have been detected in the Capertee Valley, 12 birds in the Goulburn River area, 3 birds in the Wolgan Valley and at least 2 pairs nesting in western Sydney.
- As of 19/11/2019, 10 juveniles are known to have fledged. A further 9 nests are currently active.

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- Nest protection measures in the form of trunk guards to prevent possums accessing nest trees and localised culls of noisy miners are being implemented.
- We are working closely with northern tablelands Local Land Services to provide scientific advice on where best to direct funds for habitat restoration to maximise conservation benefit for regent honeyeaters. Much of these funds will be directed into habitat restoration around the Severn River, where we have detected regent honeyeaters nesting in 2016 and 2017.

RESEARCH OUTPUT

- Our study into the population genetics of regent honeyeaters has been published. The paper can be accessed here https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0223953 and is also attached.
- We show that the birds in the north of the range were, and still are, closely genetically related to the birds in the south of the range. This suggests that long distance movements of regent honeyeaters throughout their range are still occurring.
- Our second paper into the effectiveness of culling noisy miners at a regent honeyeater nesting site is currently in revision

FUTURE RESEARCH PLANS

- Continue to collaborate with BirdLife Australia to establish a range-wide winter monitoring program for the swift parrot.
- Conduct surveys for nest predators at known regent honeyeater nest locations to determine if spatial variation in nest predator abundance predicts spatial variation in regent honeyeater nest survival.
- Continue to expand/refine the national regent honeyeater monitoring program.
- Conduct a population viability analysis with the demographic data we have gathered on regent honeyeaters over the past 5 years. Evaluate the potential impact of successful nest protection on the regent honeyeater population growth rate.
- Establish a bird collision database from the BBAMP to model bird strike probability for swift parrot and regent honeyeater.
- Use the regent honeyeater national monitoring data in combination with data on noisy miner culling to identify priority areas for future noisy miner suppression under a structured decision-making framework.

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