Sapphire wind farm- swift parrot and regent honeyeater report

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Swift parrots:

Range-wide bioclimatic modelling of swift parrot winter habitat is now complete (Figure 1). We have field-validated the location of approximately 1200 swift parrot winter monitoring sites throughout Victoria and New South Wales. We expect to add another 800 sites over the coming 6 months, after which time a standardized, range-wide winter monitoring program will be ready to implement from autumn 2021. A manuscript describing the bioclimatic modelling process will be submitted for publication in due course.

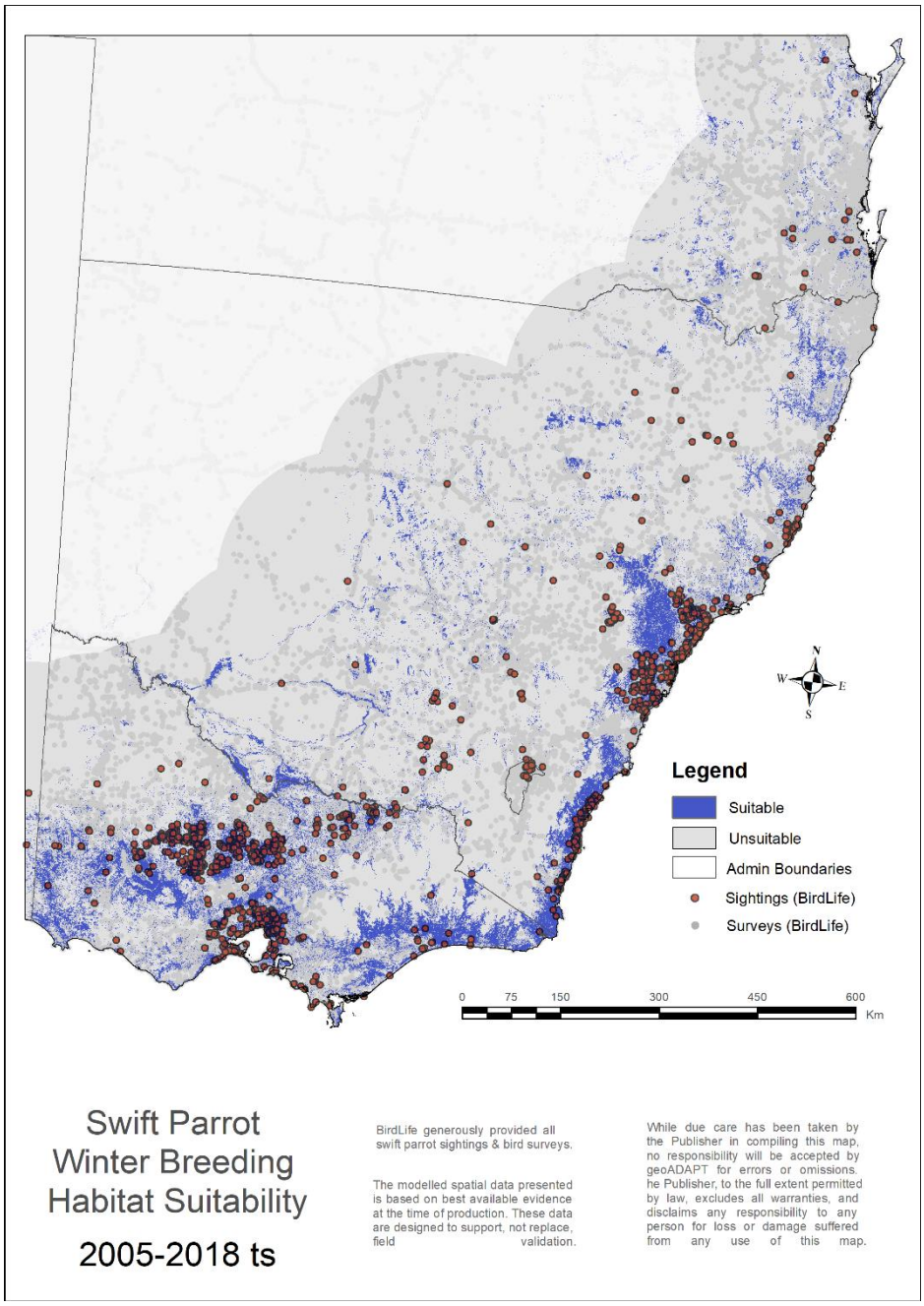

Figure 1: Time-sliced swift parrot habitat suitability model.

Regent honeyeaters:

Range-wide monitoring: The 2019 regent honeyeater field season was completed by December. The season was substantially disrupted by bushfires, however we located 20 nests, primarily within the Greater Blue Mountains. In Northern New South Wales in proximity of Sapphire Wind Farm, regent honeyeaters were sighted in Bingara, Bundarra and Barraba. Due to severe drought conditions, no nesting activity was detected on or near known breeding grounds near the Severn River. At the time of writing this report, however, a pair of regent honeyeaters are present at the Severn River. Preliminary surveys in July 2020 indicate conditions around the Severn River are good and we anticipate finding more birds and nests in the coming months.

Bushfire impacts: We are using the range-wide population monitoring datasets we have acquired over the past 5 years to estimate the impact of the 2019 bushfire season on regent honeyeaters. This work has helped inform the federal government response in terms of conservation investment.

Nest predation: An honours project has recently been completed looking at the abundance and distribution of nest predators in regent honeyeater breeding habitat. The study found that regent honeyeater nest predators are abundant and widespread throughout the species core breeding habitat and that nest survival is only 31%. The information gained from this study shows that efforts to protect regent honeyeater nests from predation need to account for threats posed by the entire predator community, rather than single species such as noisy miners and pied currawongs.

Noisy miner management: We continue to work closely with private landowners in the Blue Mountains to implement targeted noisy miner eradication programs in known regent honeyeater breeding habitat. To date we have removed noisy miners from properties on the Goulburn River and the Widden Valley. We plan to expand the program into Goulburn River National Park, however bushfires and heavy rain have delayed the commencement of work in this new area. We have also been working closely with northern Tablelands Local Land Services to help them inform where they can implement regent honeyeater funding through the National Landcare Program to most benefit regent honeyeaters in Northern New South Wales. Similarly, we are working closely with researchers at the University of New England to help them identify locations where experimental noisy miner suppression can be of most benefit to regent honeyeaters.

Captive-breeding research: We are starting a new PhD project in collaboration with Taronga Zoo that aims to increase the post-release fitness of captive-bred birds. Our research has found that songs of captive-bred male regent honeyeaters are substantially different from those of their wild counterparts. The project will aim to use playback experiments and wild tutors to teach juvenile captive-bred male regent honeyeaters to sing more like the wild birds. We hope this will increase the frequency of wild-captive pairings of reintroduced birds.

Sapphire wind farm monitoring: Fieldwork for swift parrot and regent honeyeater surveys on or near Sapphire wind farm has been disrupted by Covid-related travel restrictions. We will endeavour to increase survey effort on the property as soon as is safely and practically feasible.

Publications:

Crates, R. *et al.* 2020. Sustained and delayed noisy miner suppression at an avian hotspot. *Austral Ecology* (attached).

Crates, R. *et al.* Under review. Loss of vocal culture has fitness costs in a critically endangered songbird.

Gautschi, D. *et al.* Under review. Landscape-scale distribution of nest predators and their impact on regent honeyeater nest success.