Dr Anita Cosgrove and Dr April Reside

Thursday, 22 April 2018



Committee Secretary State Development, Natural Resources and Agricultural Industry Development Committee Parliament House George Street Brisbane QLD 4000 *Email*: sdnraidc@parliament.qld.gov.au

Dear Committee,

Concerning the Vegetation Management and Other Legislation Amendment Bill 2018

We, Dr Anita Cosgrove and Dr April Reside, are ecological scientists with the Centre for Biodiversity and Conservation Science at The University of Queensland, a \$48 million globallyrecognised research group. Together, we have written 35 peer-reviewed journal articles, seven book chapters, many technical reports and several articles in non-technical fora. Dr Cosgrove's expertise lies in understanding the impacts of habitat loss and fragmentation¹⁻³. Dr Reside is an expert in threatened species, climate change impacts and adaptation of biodiversity, and spatial modelling⁴⁻⁷.

We are also both members of the Black-throated Finch Recovery Team, providing scientific and analytical expertise to the team. The team's overall purpose is to halt the decline and facilitate the recovery of the Endangered Southern Black-throated Finch.

The Southern Black-throated Finch is an example of an endangered species (Nature Conservation Act 1992, EPBC Act 1999, Extinct in NSW) with a substantial reduction in range (estimated to have lost 80% of its former extent⁸). Habitat loss is the major threat to Southern Black-throated Finch. This habitat loss is ongoing and undermining recovery efforts, and has been facilitated by the weakened vegetation laws.

In addition, of the 121 terrestrial animal species listed as vulnerable or endangered in Queensland that use forest or woodland as part of their habitat, vegetation clearance is a key threatening process for 97 (80%) under Queensland and Australian threatened species legislation⁹⁻¹¹. Habitat loss is also implicated in the demise of half of the 10 extinct fauna species in Queensland¹⁰. We have reviewed the ecological consequences of Queensland's recent land clearing in our current paper¹². We are happy to speak to the Committee about our submission on the areas of our expertise.

We strongly welcome tighter regulation of vegetation management and believe the proposed Bill will go some way towards turning around Queensland's unsustainable land clearing rates.

We provide the following recommendations:

Protect of ecologically important regrowth vegetation

We are especially concerned that the Bill does not go far enough in protecting regrowth vegetation. It is important to conserve regrowth vegetation, particularly for Regional Ecosystems that are:

- Habitat for threatened species (such as the Southern Black-throated Finch)
- "Endangered" or "Of Concern"
- In riparian areas

Numerous environmental assessments for proposed developments have recorded Black-throated Finches in disturbed, regrowth habitat (e.g. EPBC referral 2017/8067 Maidment Land Pty Ltd/Residential Development/267 EP1719 and 257 SP253223/Queensland/Sanctum West Master Planned Community, near Townsville, Queensland). Some of this regrowth vegetation is used for foraging, nesting and breeding. The Black-throated Finch Recovery Team database¹³ demonstrates that both remnant and regrowth vegetation are valuable for the Southern Blackthroated Finch.

With so much of their remnant habitat lost, the future survival of the Southern Black-throated Finch will depend on maturing regrowth vegetation. Currently, regrowth vegetation contributes to the viability of some Southern Black-throated Finch populations. Therefore, Endangered species such as the Southern Black-throated Finch need regrowth to be protected in order to recover some of the habitat that has been lost.

In order to provide adequate protection, the definition of *high value regrowth vegetation* needs to include threatened species habitat, "Endangered" and "Of concern" Regional Ecosystems, vegetation in reef catchments, riparian areas, threatened species habitat.

Remove the thinning Self-Assessable Code

Important habitat for the Southern Black-throated Finch's habitat has been lost in the last five years through clearing as a result of Self-Assessable Codes¹⁴. The Queensland Herbarium's report¹⁵ outlines that "the thinning codes do not limit clearing to situations where thickening should be treated as a threatening process. This is because there is a well-supported view in the scientific literature that thickening is often an integral phase of the long term dynamics of natural vegetation." Therefore, the thinning Self-Assessable Code should be removed for the following reasons:

- 1. Thinning is often not undertaken in a manner in which it is beneficial for biodiversity,
- 2. It is often done using tractors or bulldozers, which is not how it is intended¹⁵,
- 3. Thinning is a threat to endangered species and ecosystems,
- 4. The self-assessed nature of the activity means that threatened species habitat is not provided adequate regulatory oversight.

Remove provisions that allow clearing for high value agriculture and high value irrigated agriculture

Important breeding habitat for the Southern Black-throated Finch has been approved for clearing through the High Value Agriculture provisions⁸. This loss of important habitat will threaten the persistence of the Southern Black-throated Finch across the region, yet it has been allowed to proceed. Therefore, we strongly support the removal of any provisions that allow clearing for high value agriculture and high value irrigated agriculture.

Provide stronger protections for riparian areas

Intact riparian vegetation is the main factor that influences the water quality and ecosystem health of Queensland's rivers^{12,16}. Land clearing impacts freshwater systems by increasing light, nutrients, sediment load, and water temperatures¹⁷. Over 90% of the sediment entering water storages and coastal environments in Queensland's major coastal catchments originated from erosion of stream banks and gullies¹⁸, primarily caused by degradation of riparian areas from land clearing and livestock grazing¹². In addition, riparian areas are important habitat for threatened species such as the Southern Black-throated Finch. Riparian areas also provide a drought refuge for woodland birds^{19,20} (woodland birds are currently undergoing assessment for listing as a Threatened Ecological Community under the EPBC Act²¹⁻²³). Regrowth vegetation near watercourses should be protected across all Great Barrier Reef catchments to reduce runoff and improve water currently, including northern catchments such as Cape York Peninsula. Therefore, Riverine Protection Permits should be reintroduced to provide regulation of damaging activities in riparian areas.

Protect important regrowth vegetation, including that designated as Category X

Regrowth vegetation that is currently marked "Category X", and is important for threatened species, particularly Southern Black-throated Finch, and Regional Ecosystems that are "Endangered" or "Of Concern", or over 15 years since last clearing, needs to be re-evaluated. Important vegetation that is currently Category X also needs protection in order to adequately conserve biodiversity. We support the amendment in the Bill that clarifies that landholders may seek to amend their property map of assessable vegetation (PMAV) to re-regulate clearing, but require that all important regrowth vegetation be assessed before clearing.

Yours sincerely,

Dr Anita Cosgrove and Dr April Reside

(Note that this is a submission from individuals. We are not speaking on behalf of The University of Queensland or the Black-throated Finch Recovery Team.)

References

- 1 Cosgrove, A. J. *Why are woodland-dependent avian insectivore populations vulnerable to declines in highly-modified landscapes?*, PhD thesis, University of Queensland, Brisbane, (2017).
- 2 Cosgrove, A. J., McWhorter, T. J. & Maron, M. Using individual-condition measures to predict the long-term importance of habitat extent for population persistence. *Conservation Biology*, online early, doi:10.1111/cobi.12903 (2018).
- 3 Cosgrove, A. J., McWhorter, T. J. & Maron, M. Consequences of impediments to animal movements at different scales: A conceptual framework and review. *Diversity and Distributions*, online early, doi:10.1111/ddi.12699 (2018).
- 4 Reside, A. E., VanDerWal, J., Garnett, S. T. & Kutt, A. S. Vulnerability of Australian tropical savanna birds to climate change. *Austral Ecology* **41**, 106-116, doi:10.1111/aec.12304 (2016).
- 5 Reside, A. E., VanDerWal, J. & Kutt, A. S. Projected changes in distributions of Australian tropical savanna birds under climate change using three dispersal scenarios. *Ecology and Evolution* **2**, 705-718, doi:10.1002/ece3.197 (2012).
- 6 Reside, A. E., VanDerWal, J. & Kutt, A. S. Assessing vulnerability to climate change: a comprehensive examination of Australian tropical savanna birds. *Austral Ecology* **Online early** (2015).
- 7 Reside, A. E., VanDerWal, J. & Moran, C. Trade-offs in carbon storage and biodiversity conservation under climate change reveal risk to endemic species. *Biol. Conserv.* 207, 9-16, doi:http://dx.doi.org/10.1016/j.biocon.2017.01.004 (2017).
- 8 Black-throated Finch Recovery Team. Recovery plan for the black-throated finch southern subspecies *Poephila cincta cincta.*, (Hurstville and Queensland Parks and Wildlife Service, Brisbane, 2004).

- 9 DEE.Department of the Environment and Energy (Australia)
 - https://www.environment.gov.au/land/nrs/science/capad/2014 2014.
- 10 DEE.Department of Environment and Energy Australia. http://www.environment.gov.au/cgibin/sprat/public/sprat.pl [accessed 12 September 2016], 2016).
- 11 DEHP. Department of Environment and Heritage Protection Queensland. http://www.ehp.qld.gov.au/wildlife/animals-az/ [accessed 12 September 2016], 2016.
- 12 Reside, A. E. *et al.* Ecological consequences of land clearing and policy reform in Queensland. *Pacific Conservation Biology* **23**, 219-230 (2017).
- 13 Black-throated Finch Recovery Team. (CSIRO, 2017).
- 14 Mula-Laguna, J. *et al.* Filling the gaps: A review of current knowledge on the endangered Blackthroated Finch southern subspecies (*Poephila cincta cincta*) and recommended research actions. *Emu* (*Provisional acceptance*).
- 15 Butler, D. W., Neldner, V. J., Eyre, T. J. & Guymer, G. P. Science supporting revision of codes for self-assessed vegetation thinning and fodder harvesting in Queensland: a summary for peer review. (Department of Environment and Science, Queensland Government, Brisbane, Queensland., 2018).
- 16 Bunn, S. E., Davies, P. M. & Mosisch, T. D. Ecosystem measures of river health and their response to riparian and catchment degradation. *Freshwater Biology* 41, 333-345, doi:10.1046/j.1365-2427.1999.00434.x (1999).
- 17 Allan, J. D. Landscapes and riverscapes: the influence of land use on stream ecosystems. *Annual Review of Ecology, Evolution, and Systematics* **35**, 257-284 (2004).
- 18 Bartley, R. *et al.* Relating sediment impacts on coral reefs to watershed sources, processes and management: A review. *Science of the Total Environment* **468**, 1138-1153 (2014).
- 19 Nimmo, D. G., Haslem, A., Radford, J. Q., Hall, M. & Bennett, A. F. Riparian tree cover enhances the resistance and stability of woodland bird communities during an extreme climatic event. *Journal of Applied Ecology* 53, 449-458, doi:10.1111/1365-2664.12535 (2016).
- 20 Nimmo, D. G., Mac Nally, R., Cunningham, S. C., Haslem, A. & Bennett, A. F. Vive la re'sistance: reviving resistance for 21st century conservation. *Trends in Ecology & Evolution* 30, 516-523, doi:10.1016/j.tree.2015.07.008 (2015).
- 21 Ford, H. A., Barrett, G. W., Saunders, D. A. & Recher, H. F. Why have birds in the woodlands of Southern Australia declined? *Biol. Conserv.* **97**, 71-88 (2001).
- 22 Ford, H. A., Walters, J. R., Cooper, C. B., Debus, S. J. S. & Doerr, V. A. J. Extinction debt or habitat change? - Ongoing losses of woodland birds in north-eastern New South Wales, Australia. *Biol. Conserv.* 142, 3182-3190 (2009).
- Fraser, H., Hauser, C. E., Rumpff, L., Garrard, G. E. & McCarthy, M. A. Classifying animals into ecologically meaningful groups: A case study on woodland birds. *Biol. Conserv.* 214, 184-194, doi:http://dx.doi.org/10.1016/j.biocon.2017.07.006 (2017).