

Supplementary Material

Processes underpinning natural capital account compilation highlight the potential for low-input grazing to mitigate farm carbon emissions while also improving biodiversity outcomes

Rachel Lawrence^{A,}, Sue Ogilvy^{B,C}, Danny O'Brien^C, Mark Gardner^D and Sue McIntyre^B*

^ABush Heritage Australia, Melbourne, Victoria 3000, Australia

^BFenner School of Environment and Society, Australian National University, Canberra, ACT 2600, Australia

^CIntegrated Futures, Gundaroo, NSW 2620, Australia

^DVanguard Business Services, Dubbo, NSW 2875, Australia

*Correspondence to: Email: rachel.lawrence@bushheritage.org.au

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Table S1. Grassy Woodland State and Transition model categories used to develop the case studies. States were used to communicate the degree of anthropogenic disturbance and intensification for different EAs on the farms. Transitions between states were also applied to individual ecosystem assets. The model used was adapted from the simplified Box Gum Grassy Woodland State and Transition model in Whitten *et al.* (2010) (originally adapted to incorporate trees from McIntyre and Lavorel 2007).

Code for 'State'	Brief description	Detailed description
1A	Grassy woodland with a very diverse native groundlayer	Tree (canopy) cover >50% and the ground-layer has a high diversity and cover of native species (> 30 species and >70% groundcover of native species). Never fertilised or fertiliser use ceased 3–4 decades previously.
1B	Derived native grassland with a very diverse native groundlayer	There is low tree canopy cover (<5%), but the groundlayer has a high diversity and cover of native species (>30 species and >70% groundcover of native species). Never fertilised or fertiliser application ceased 3 to 4 decades previously.
2A	Grassy woodland with a diverse native groundlayer	Tree canopy cover is slightly lower than 1A (20–35%) and the ground-layer has a slightly lower diversity and cover of native species compared to 1A (16–29 species and 50–69% groundcover of native species). Rarely fertilised or fertiliser application ceased 2 to 3 decades previously.
2B	Derived native grassland with a diverse native groundlayer	There is low tree canopy-cover (>5%), but the groundlayer has a good diversity and cover of native species (16–29 species and 50–69% groundcover of native species). Rarely fertilised or fertiliser use ceased 2 to 3 decades previously.
3A	Some mature remnant trees present and a moderately diverse, mainly native, groundlayer	Mature remnant eucalypts present but with no tree regeneration. The groundlayer has a moderate diversity of native species (8–15 species) and 30–49% native-ness of the ground-layer. Some exotic species are present. Historically low-moderate fertiliser application. Most recent fertiliser application may have been within last five years.
3B	A moderately diverse and mainly native grassland with few trees	Few mature eucalypts present (but with no tree regeneration). The groundlayer has a moderate diversity of native species (8–15 species) and 30–49% native-ness of the ground-layer. Some exotic species are present. Historically low-moderate fertiliser application. Most recent fertiliser application may have been within last five years
4	Grassland with a mix of native and exotic species and occasional scattered trees	Grassland with 4–7 native species, <30% cover of native species and the occasional remnant tree with no natural tree regeneration
5	Predominantly exotic grassland with a few native species. No remnant trees present.	No remnant trees remaining and no natural tree regeneration. Pastures are predominantly exotic with <3 native species and <10% cover of native species. There has been frequent fertiliser application until present day.

McIntyre, S., & Lavorel, S. (2007). A conceptual model of land use effects on the structure and function of herbaceous vegetation. *Agriculture, Ecosystems & Environment* **119** (1–2), 11–21.

Whitten, S. M., Doerr, E., Doerr, Veronica., Langston, A., & Wood, A. (2010). Multiple Ecological Communities Conservation Value Metric. Final Report for the Australian Government Department of the Environment, Water, Heritage and the Arts. CSIRO Sustainable Ecosystems.