

Bird biodiversity in forestry plantations across Southern Australia

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Introduction and Aims

- Hardwood plantations can be important refuges for wildlife in fragmented landscapes.
- We're working with **PF Olsen Australia** to monitor bird diversity on hardwood plantation properties in 3 areas.
- **Aims:**
 1. Ensure bird diversity is **maintained/enhanced**
 2. Inform best harvest cycles & management for birds

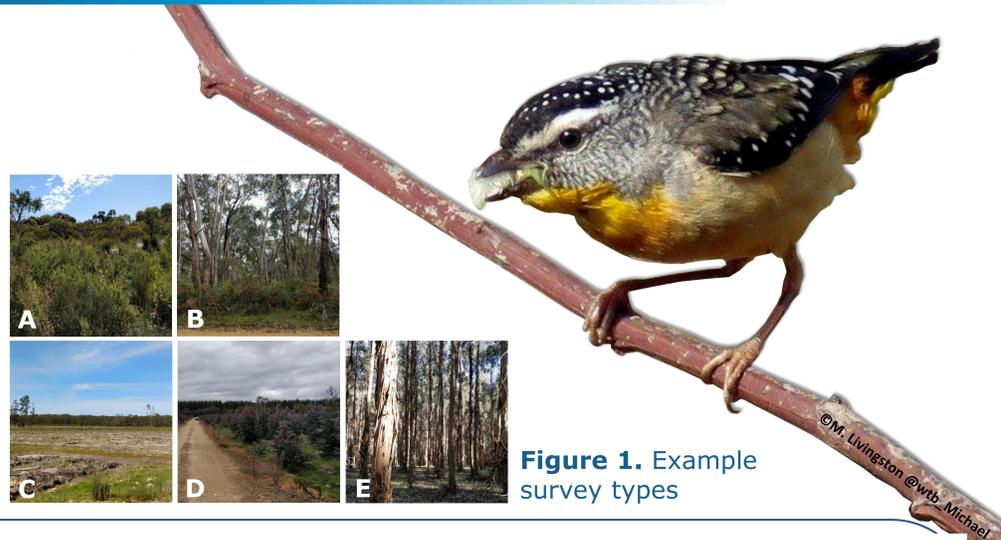


Figure 1. Example survey types

Methods

- Three survey areas: Green Triangle VIC, Kangaroo Island SA & South Western WA. **454 transect sites.**
- Four years of data collected in Victoria, two years in WA.
- 20 minute timed surveys in 2ha transects recording all observed species & individuals seen/heard.
- Three main survey types:
 - plantation stands** (Fig1C-E)
 - remnant habitat** patches in plantations (Fig1B) & **control sites** in nearby national park (Fig1A).
- Range of plantation stand ages sampled in VIC and WA (Fig1C-E), from newly planted to mature (>15 years).



Results 14,579 individual birds counted, 154 bird species seen

- Only 4 plantation surveys recorded no birds present
- Intermediate age stands had higher diversity (VIC only)
- Plantation stands have lower bird diversity ($P < 0.00$)
- Diversity in remnant habitat within plantations is as good as at control sites (Fig 2, $P > 0.05$)
- Diversity is being maintained across years (Fig 2, $P > 0.05$)

Next steps: Comparison with BirdData counts from surrounding landscape.

Analysis of community assemblages.

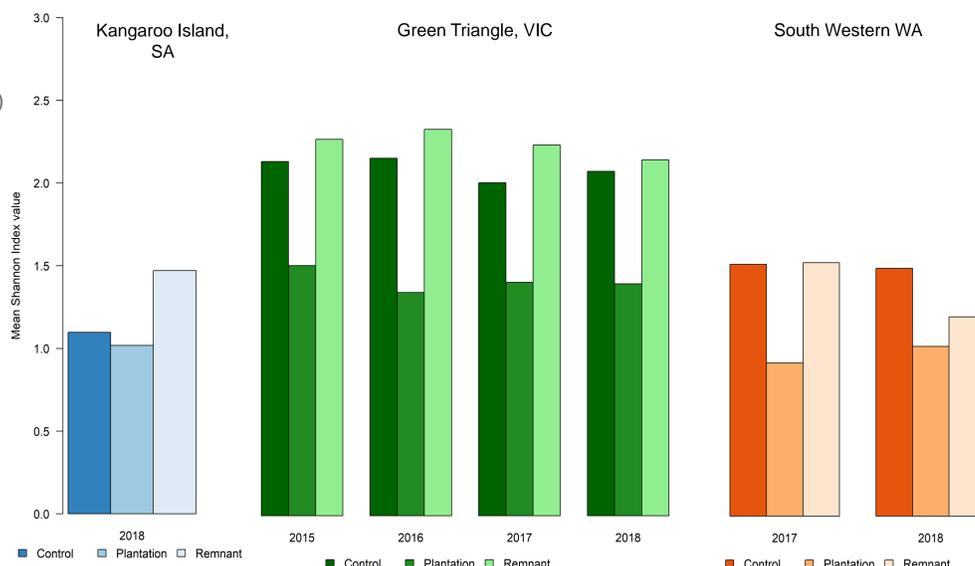


Figure 2. Mean Shannon Diversity indices for the three treatment types, across the three study areas. GLMM finds no differences between years.

Conservation Priority Species in Plantations:

- VICTORIA**
- Red-tailed Black Cockatoo
 - Brolga
- WESTERN AUSTRALIA**
- Baudin's Black Cockatoo
 - Carnaby's Black Cockatoo
 - Forest Red-tailed Black Cockatoo

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