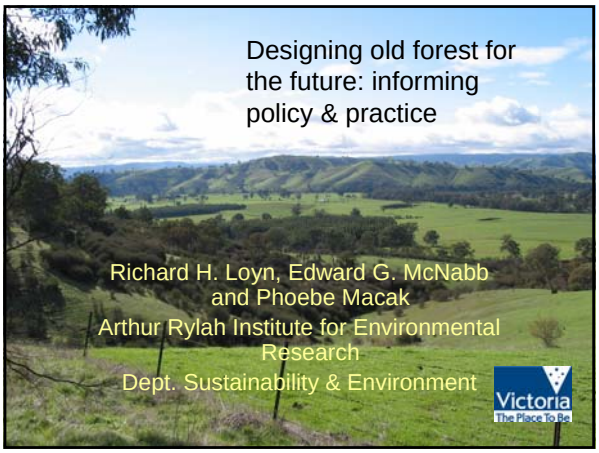


Strategic questions

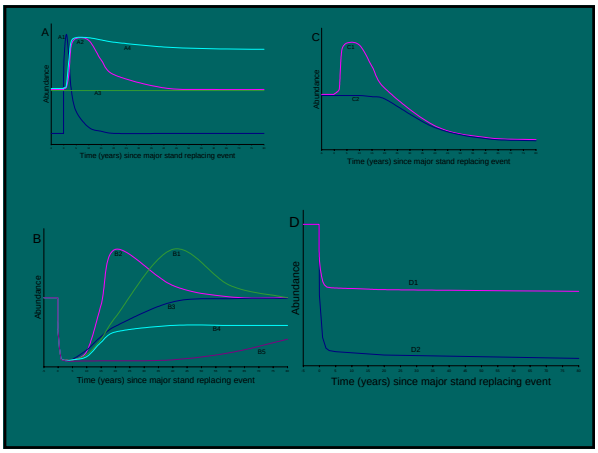
- Integrate or segregate?
- At what spatial scale?
- Retain & regrow scattered trees or patches among regrowth?
- Small or large patches?
- Fine or coarse grained mosaics?
- Extreme segregation: plantations on cleared land?

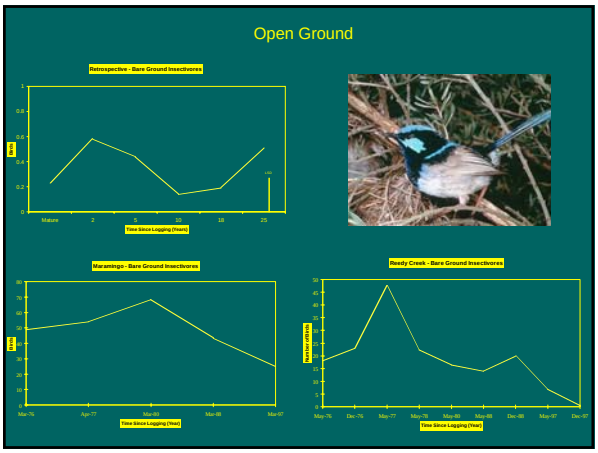
Forest research approaches

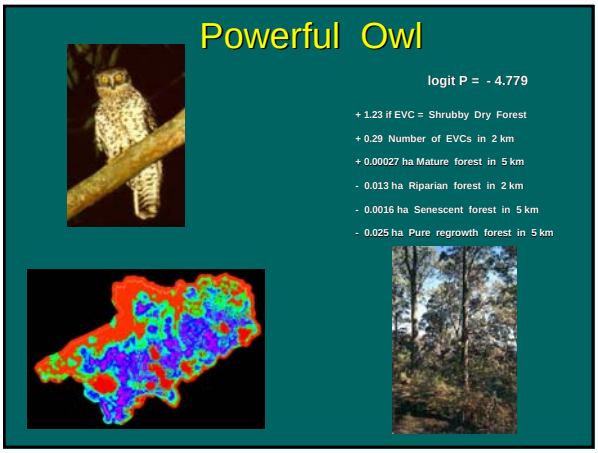
- Experimental (before-after)
- Retrospective (space for time)
- Habitat analysis
- Modelling, across tenures

Case studies

- Retrospective studies (effects of time)
- Habitat modelling (RFA)
- Old trees
- Edge effects
- Patch size
- Plantations
- Conclusions


A
Abundance
A1
A2
A3
A4
Time (years) since major stand replacing event
C
Abundance
C1
C2
Time (years) since major stand replacing event
B
Abundance
B1
B2
B3
B4
B5
Time (years) since major stand replacing event
D
Abundance
D1
D2
Time (years) since major stand replacing event


Open Ground
Retrospective - Bare Ground Insectivores
Mature
Time Since Logging (Years)
Maramingo - Bare Ground Insectivores
Mar-76
Apr-77
Mar-88
Mar-97
Time Since Logging (Year)
Reedy Creek - Bare Ground Insectivores
May-76
Dec-76
May-77
May-88
Dec-88
May-97
Dec-97
Time Since Logging (Year)


Powerful Owl
logit P = - 4.779
+ 1.23 if EVC = Shrubby Dry Forest
+ 0.29 Number of EVCs in 2 km
+ 0.00027 ha Mature forest in 5 km
- 0.013 ha Riparian forest in 2 km
- 0.0016 ha Senescent forest in 5 km
- 0.025 ha Pure regrowth forest in 5 km

Sooty Owl

logit P = - 12.96

+ 1.31 if EVC = Herb-Rich Foothill Forest

+ 0.43 Number of EVCs in 500 m

+ 3.76 if growth stage = Senescent/Mature

+ 0.17 ha Mature forest in 500 m

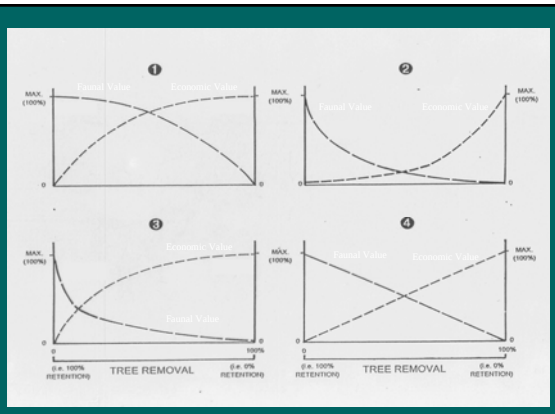
+ 0.0018 ha Senescent forest in 5 km

- 1.56 if EVC = Montane Dry Woodland

- 2.37 if EVC = Grassy or Heathy Dry Forest

- 0.077 ha Drier forest in 500 m

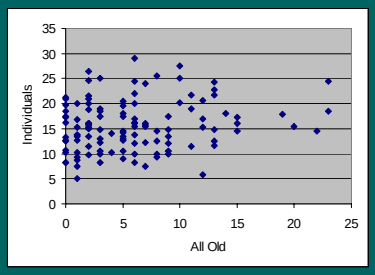
- 1.44 if growth stage = Regrowth/Mature



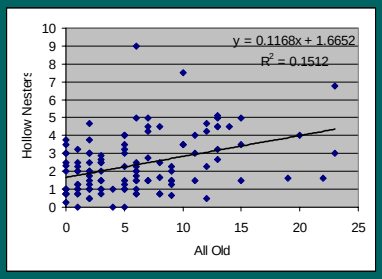
Faunal responses

- Convex: Leadbeater's Possum
  - scattered trees among regrowth if pos
- Concave: Yellow-bellied Glider, Sooty Owl
  - large patches if possible
- Straight: Yellow-tailed Black-Cockatoo, many birds
  - quality & number of trees more important than distribution

Bird abundance vs old trees in ash forests



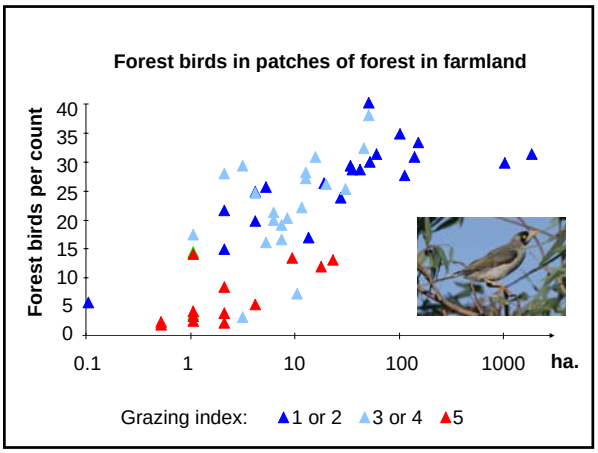
Hollow-nesting birds vs old trees in ash forests



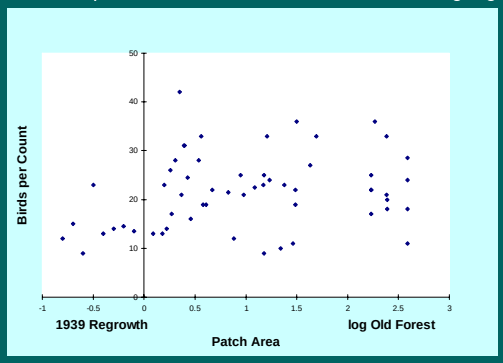
Guild responses in ash

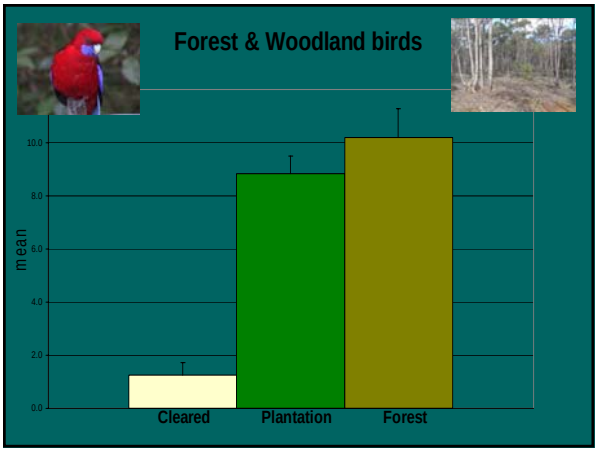
Hollow nesting birds
= 0.0646 tree size (dbh) **
-0.000329 dbh^2 **
+0.0108 old trees per ha ***

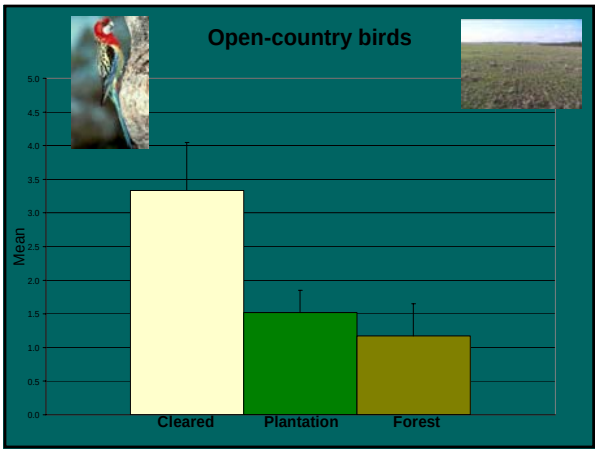
r^2 = 23%

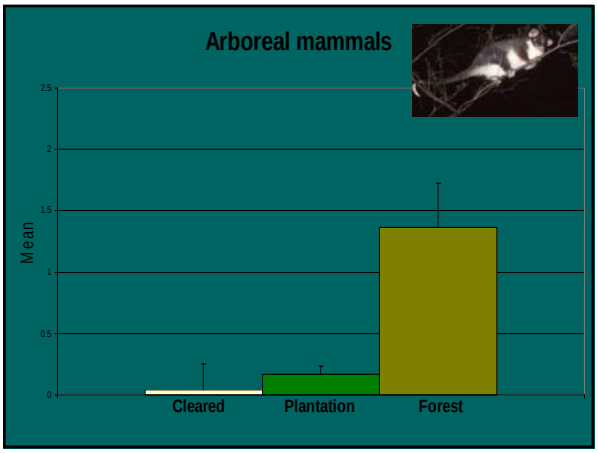


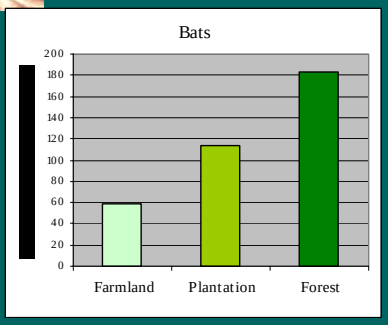
Forest birds in patches of old Mountain Ash forest among regrowth





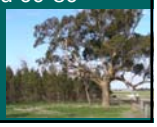






Fauna in Plantations

- Plantations can provide habitat for many but not all species
- Shrub-foragers use young eucalypts as if they were shrubs
- Bark-foragers prefer rough-barked eucalypts
- Little difference young commercial vs young reveg
- Hollows common in Sugar Gums aged 60-80 years
- Embedded remnants; work continues



Conclusions

- Research is needed to inform strategic policy & adaptive management
- Strategic research is most helpful
- Think long-term: retrospective studies
- Mixed-species foothill forests (70% x 7m =5m ha) neglected
- Monitor outcomes and adapt!

Acknowledgments

- Funding agencies (DSE, SFES, EA, JVAP, NHT, DPI, etc)
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- Simon Kennedy, Ryan Incoll, Josephine MacHunter, Wendy Wright.
- Other colleagues, landholders, etc

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