Using Dogs in Wildlife Research

Emma Bennett

Elmoby Ecology


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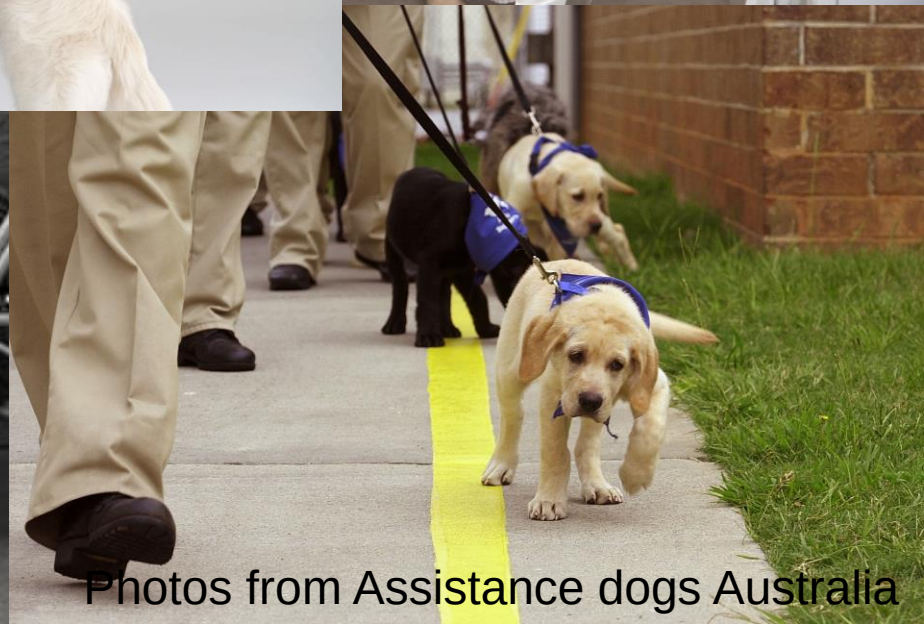

Photos from Assistance dogs Australia


No one is above suspicion.
CUSTOMS
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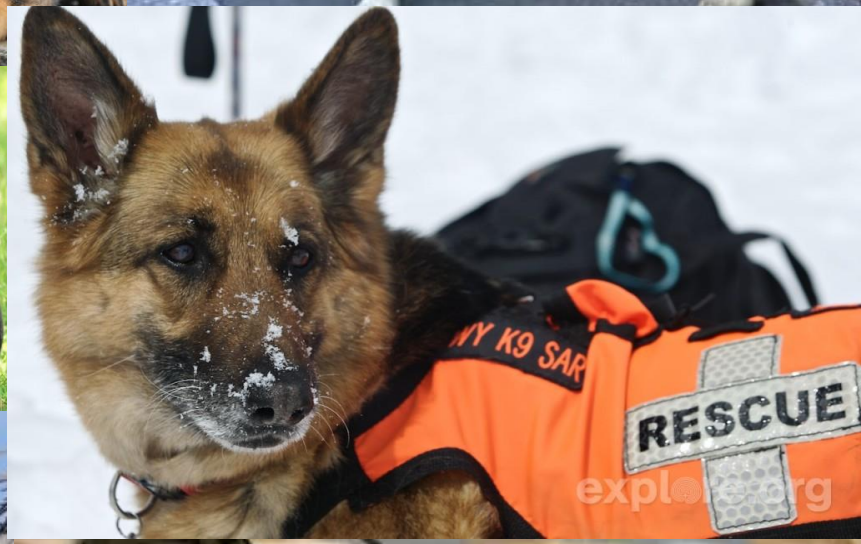

RESCUE

Photos from US Army


Photo Lauren Koehler

Photos from www.doc.govt.nz

Photos Gary Jackson

Proven Success – Scat Detection Dogs

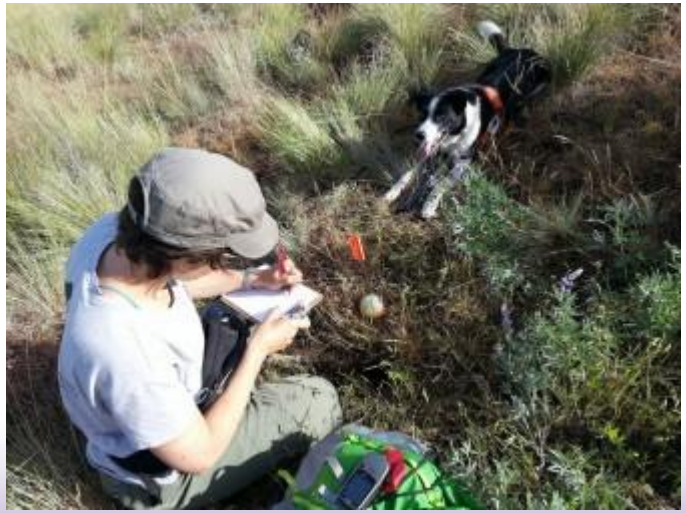
Photo Gary Jackson

- Decrease detection bias and increase sample size compared to human searchers (Wasser et al 2004)
- 10x more detections than other non invasive methods -motion cameras, hair snares and scent stations (Harrison 2006)
- Most cost effective survey method (Long 2007)
- Mia – trained on Koala scats and her human

Fauna *and flora* detection

- Rogue the dog (left) trained to detect the rare Willamette Valley plants for the benefit of an endangered butterfly program (Photo by The Nature Conservancy)

- Seamus (right) trained to detect an invasive plant called dyer's woad. After a decade of unsuccessful efforts to decrease the plant's population, dogs helped to reduce it by almost 60 per cent in just four years. (Photo by Working dogs for Conservation)



Bird and bat detection dogs

In 2006 Ed Arnett (USA)

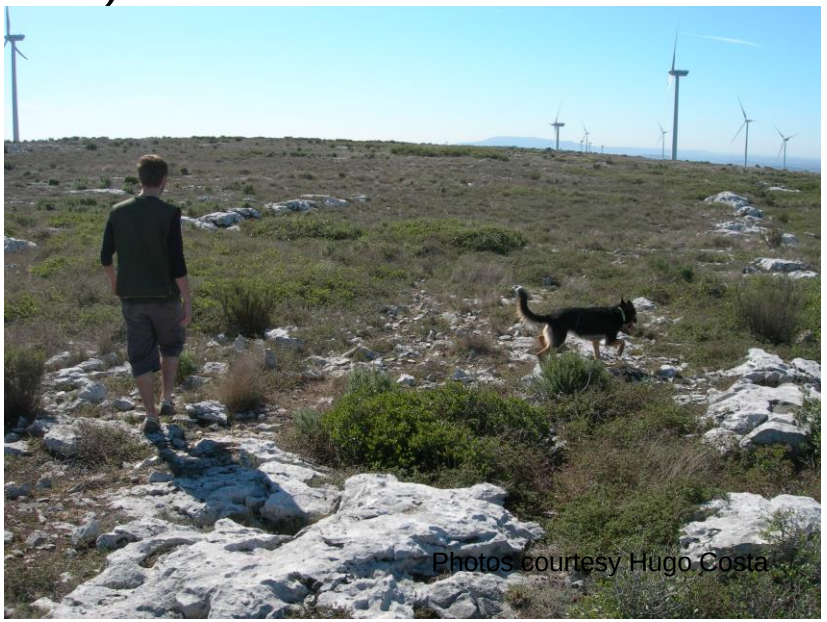
"*A Preliminary valuation on the Use of Dogs to Recover Bat Fatalities at Wind Energy Facilities*"

Photos courtesy Ed Arnett

Bird and bat detection dogs

In 2011 from Portugal

"*Dogs as a tool to improve bird-strike mortality estimates at wind farms"* (Paula et al)



Photos courtesy Hugo Costa

Bird and bat detection dogs


Photo ourdogs.co.uk

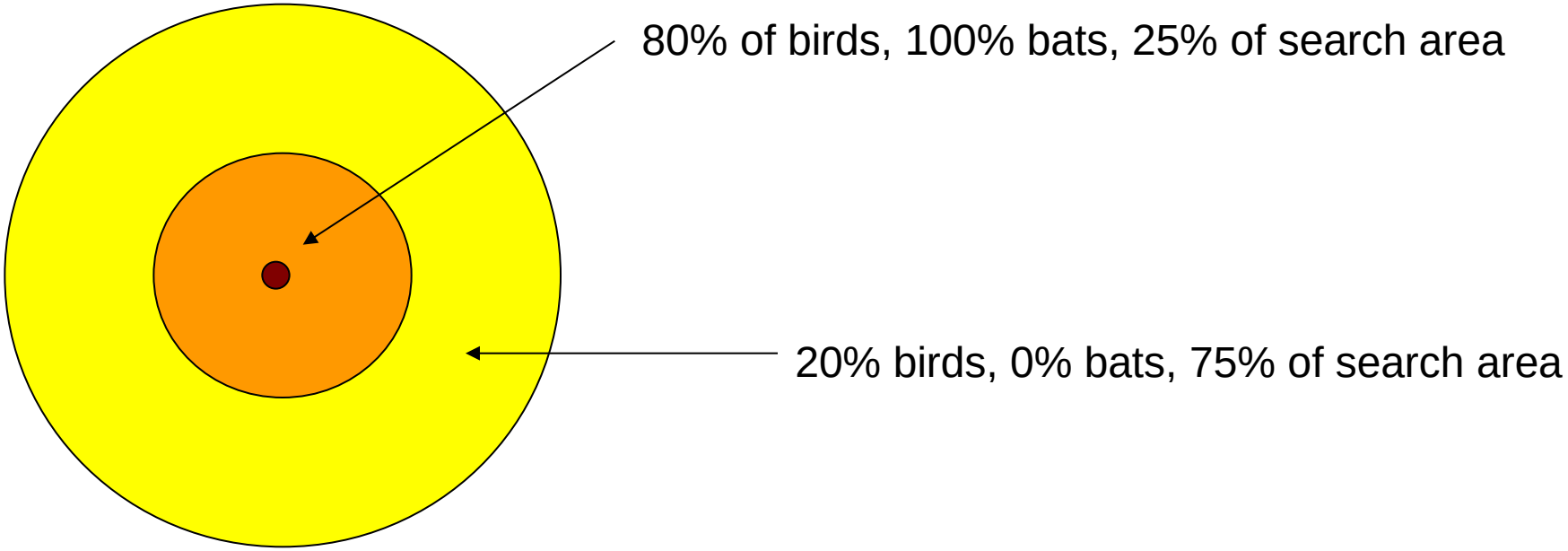
In 2013 from the UK

"*Effectiveness of search dogs compared with human observers in locating bat carcasses at wind-turbine sites: A blinded randomized trial"* (Mathews et al)

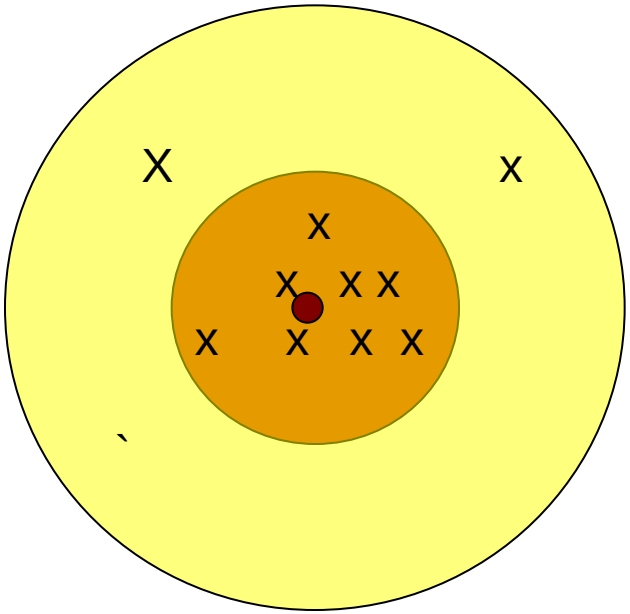

Photo Fiona Mathews

Good analysis needs enough data

- Waubra Wind Farm: 1027 surveys to 100m, 2426 to 50m



Survey Effort



- 10 carcasses per turbine
- 1 turbine searched 100m
  - Dogs 8 out of 10
  - Humans 2 out of 10
- 3 turbines searched 50m
  - Dogs – 18-24 out of 30
  - Humans – 3-6 out of 30
- Same time effort
  - Dogs 54-72, 9 turbines searched
  - Humans 3-6, 3 turbines searched

Why aren't we all using dogs?

- Common misconceptions
  - Never work with children or animals
  - Unreliable
  - Too expensive
  - Too difficult
  - Unpredictable
  - There is threatened fauna on site

Australian Conservation K9 Society

- *A philanthropic Society which can provide a platform to fund conservation canine work specifically, providing resources which are otherwise not available.*

- Established in response to threatened species management
- Riding on the success of Oscar (left) and Mia the Koala detection dogs
- In association with the Australian Ecosystems Foundation Inc

Working together

- Working collaboratively to achieve greater outcomes
- Developing standards of dog/handler assessments and survey protocols
- Utilising economies of scale and sharing dog/handler teams among nearby wind farms and across consultancies.

In Summary

- There is abundant literature on the use of conservation dogs
- Dogs have a greater detection percentage and work faster than humans – *they are more efficient*
- Efficiency in detection is important for robust analysis particularly where sample sizes are small.
- Assessment protocols and standard procedures need to be developed for industry consistency
- Working collaboratively provides the best opportunities for cost efficiency and in understanding the impacts of wind farms on bird and bat populations at a landscape level.

References

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Acknowledgements

- Laura Hollarbach
- Gary Jackson
- Jim Shields
- Karen Vincent
- Fiona Mathews
- Ed Arnett
- Hugo Costa
- Australian Conservation K9 Society

Australian Ecosystems Foundation Inc.

Department of Conservation
Te Papa Atawhai