

# Camera trap methods for estimating densities of deer and poorly-marked species



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<sup>1</sup> NSW DPI, Vertebrate Pest Research Unit

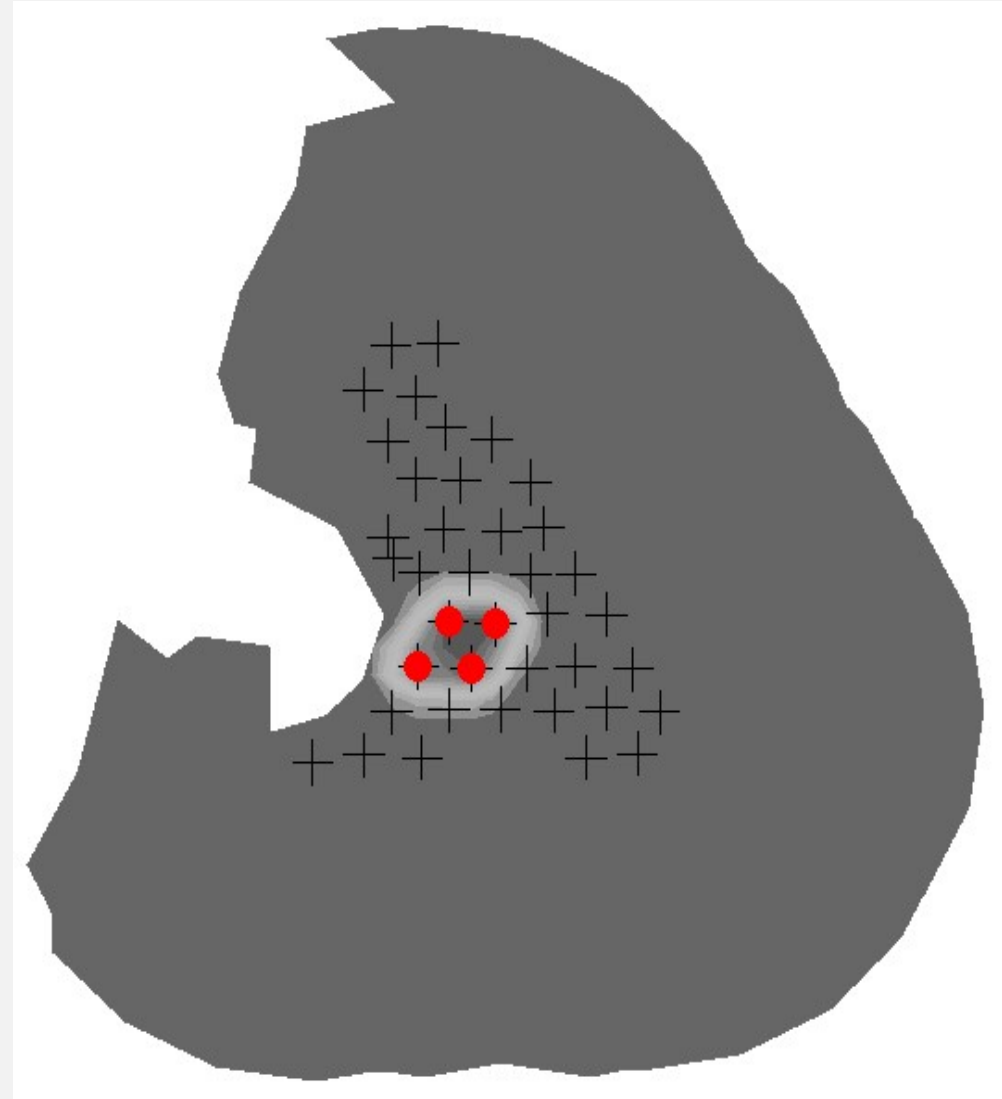
<sup>2</sup> Arthur Rylah Institute for Environmental Research



Department of  
Primary Industries

# Spatial CR Models

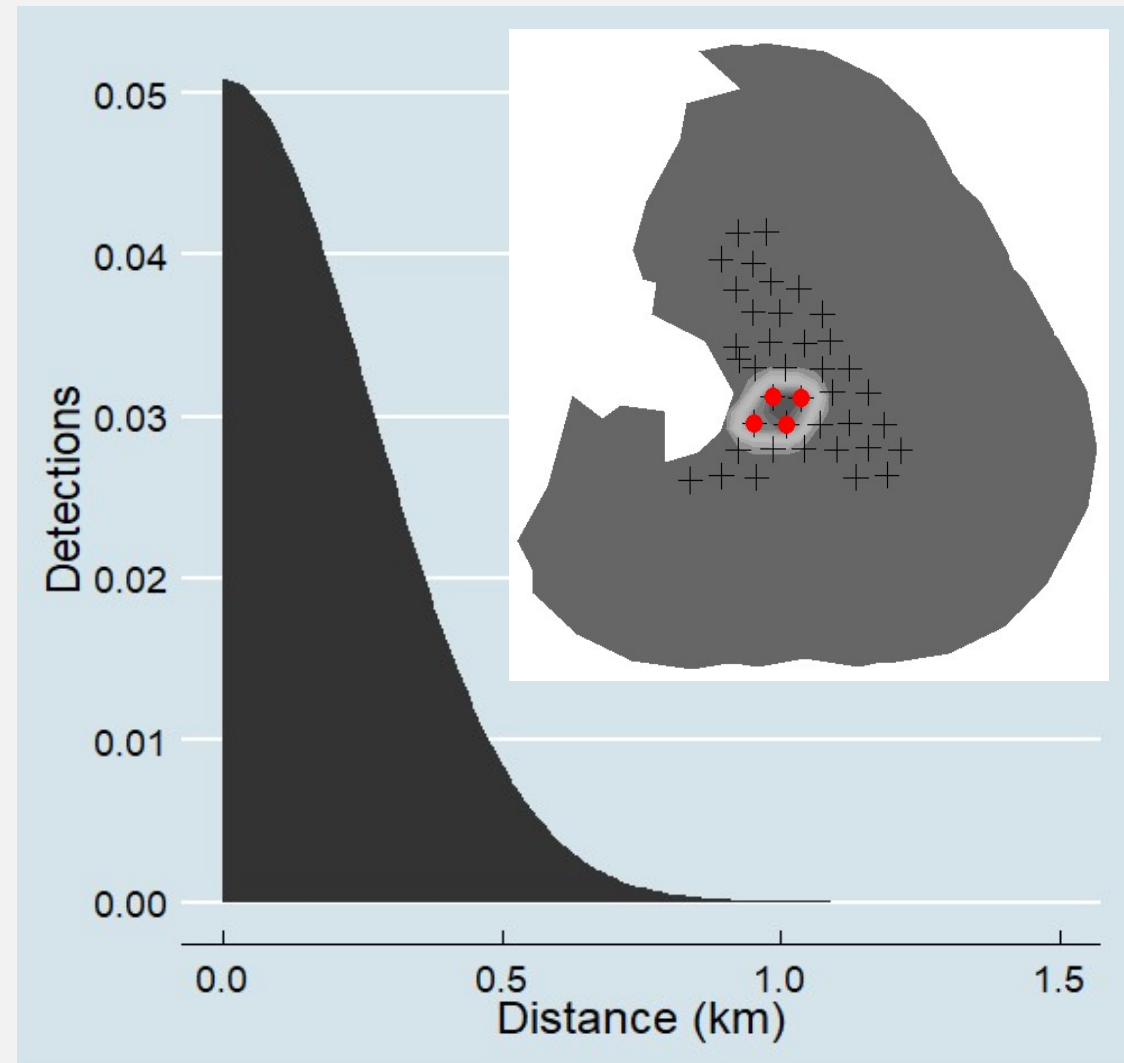
- Spatial Capture
- Marked, Unmarked, 1/0





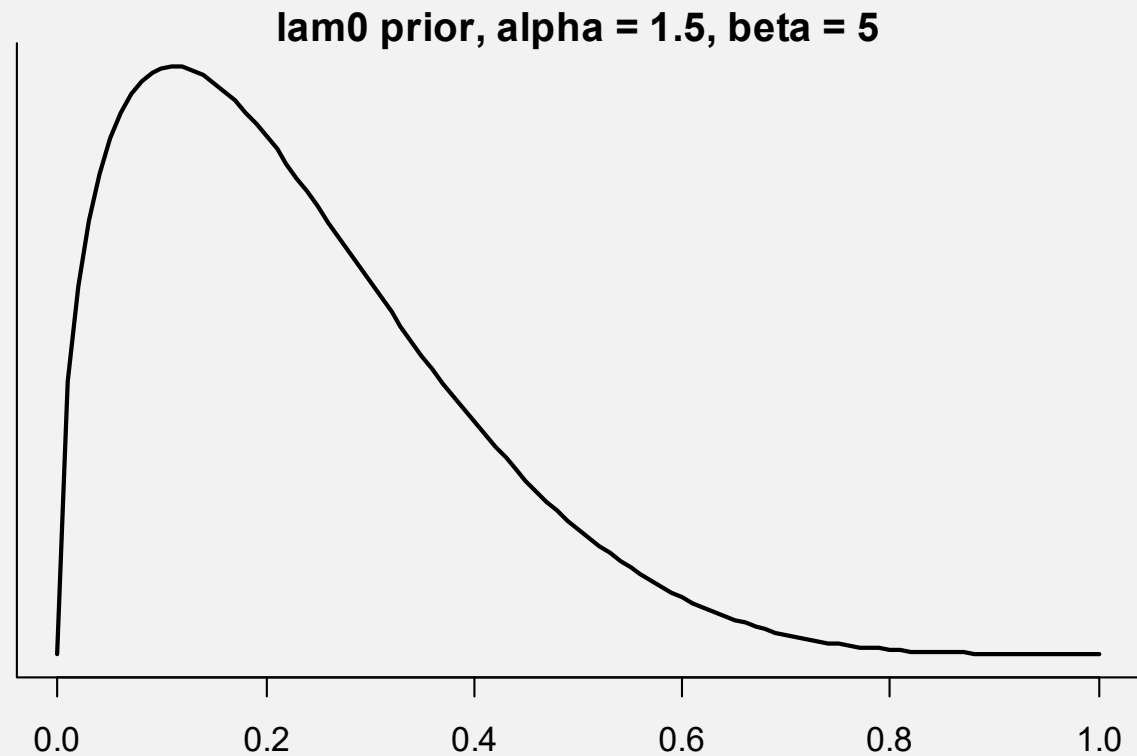
# Spatial CR Models

- Spatial Capture
- Marked, Unmarked, 1/0
- Bayesian, ML



# Spatial CR Models

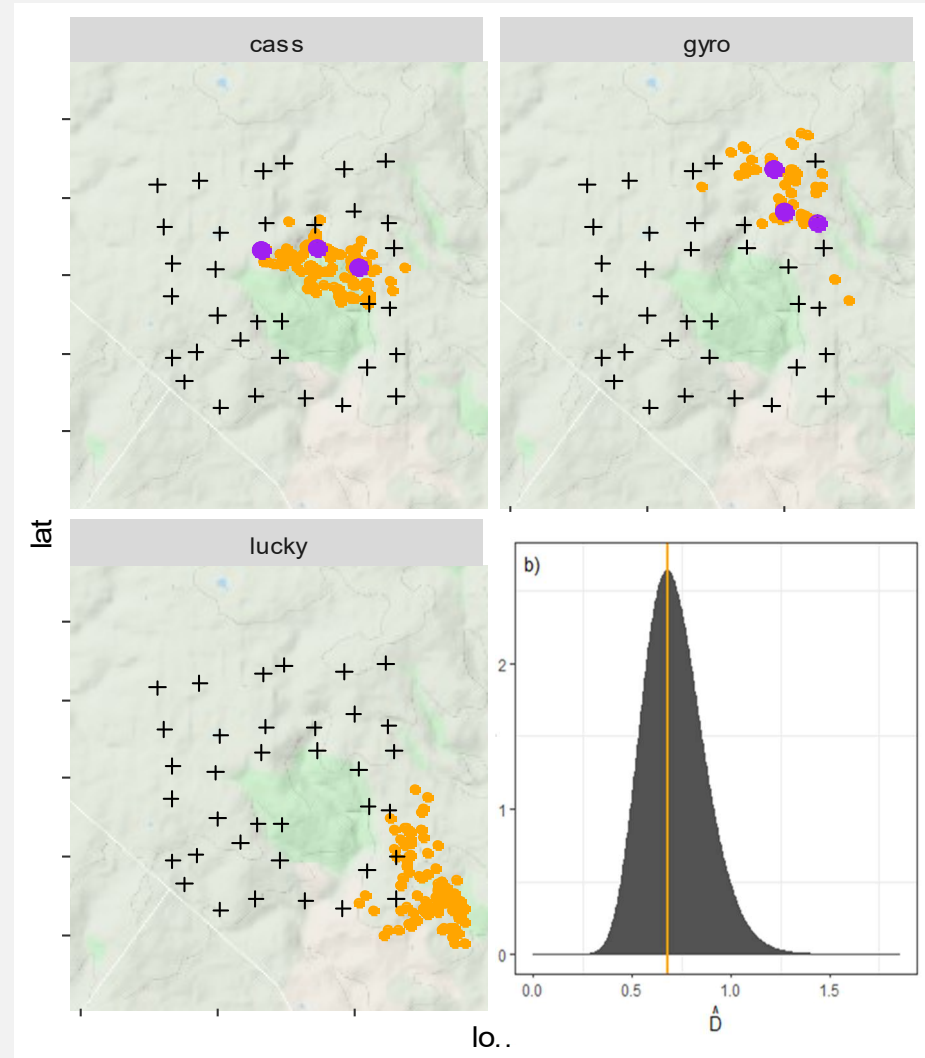
- Spatial Capture models
- Marked, Unmarked, 1/0
- Bayesian, ML
- Extra info:
  - Prior expectations



# Spatial CR Models



- Spatial Capture models
- Marked, Unmarked, 1/0
- Bayesian, ML
- Extra info:
  - Prior expectations
  - Telemetry



# Camera surveys

11 Sites, 5 deer spp +1

## Melbourne Water

Tim Sanders

## NSW DPI

Troy Crittle

## NSW OEH

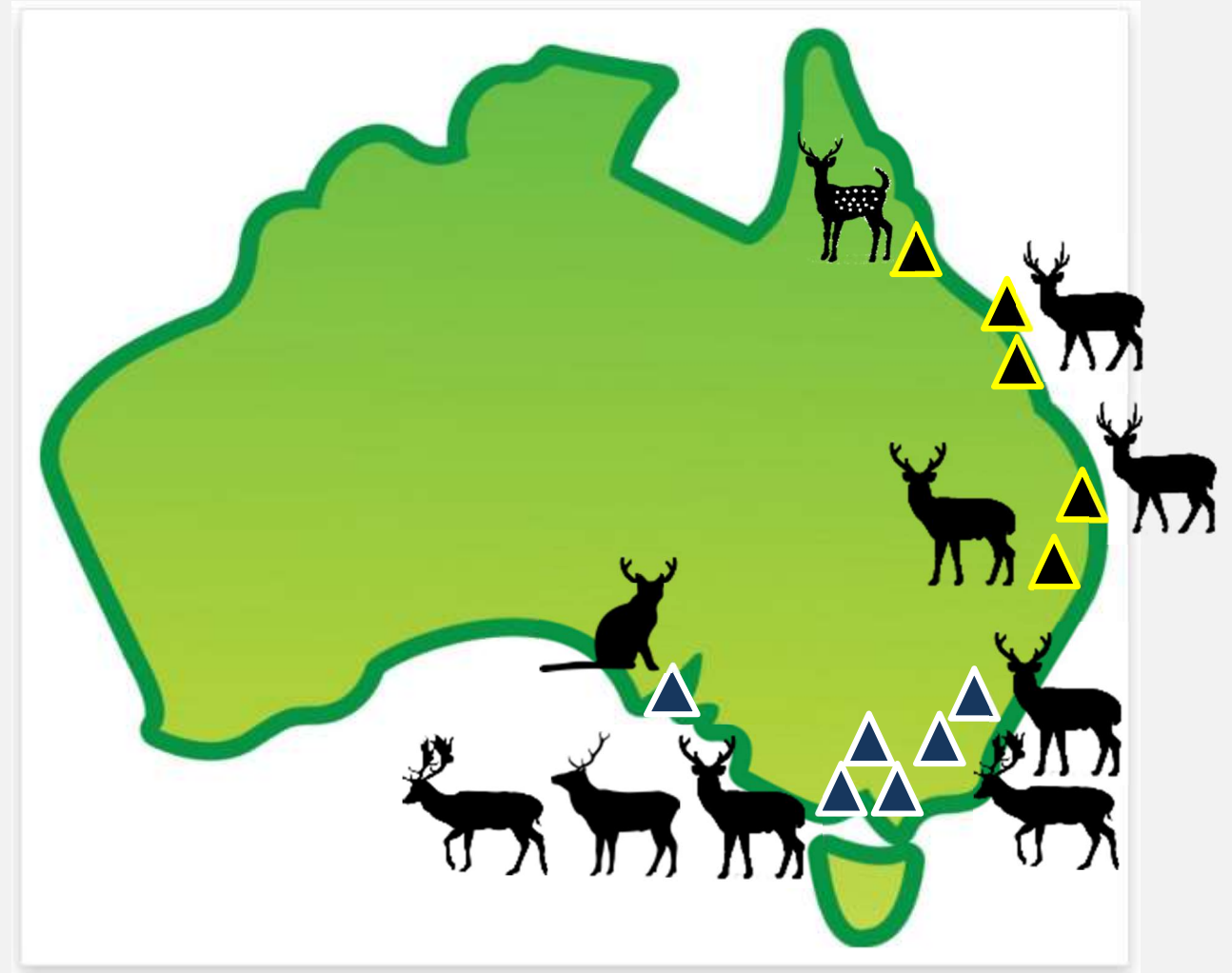
Andrew Claridge

## QDAF

Tony Pople, Matt Amos, Mike Brennan

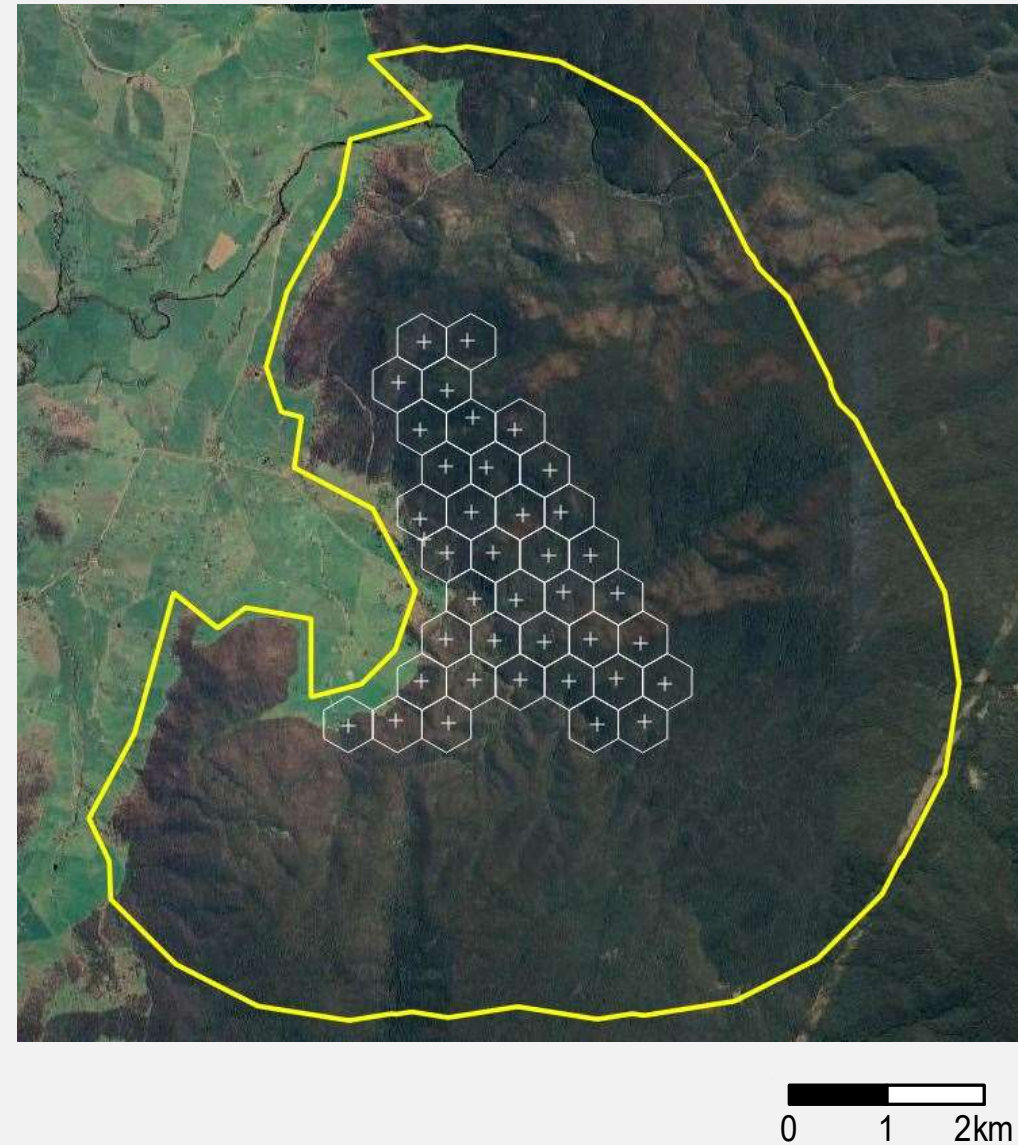
## KI NRM

Pip Masters, John Butler



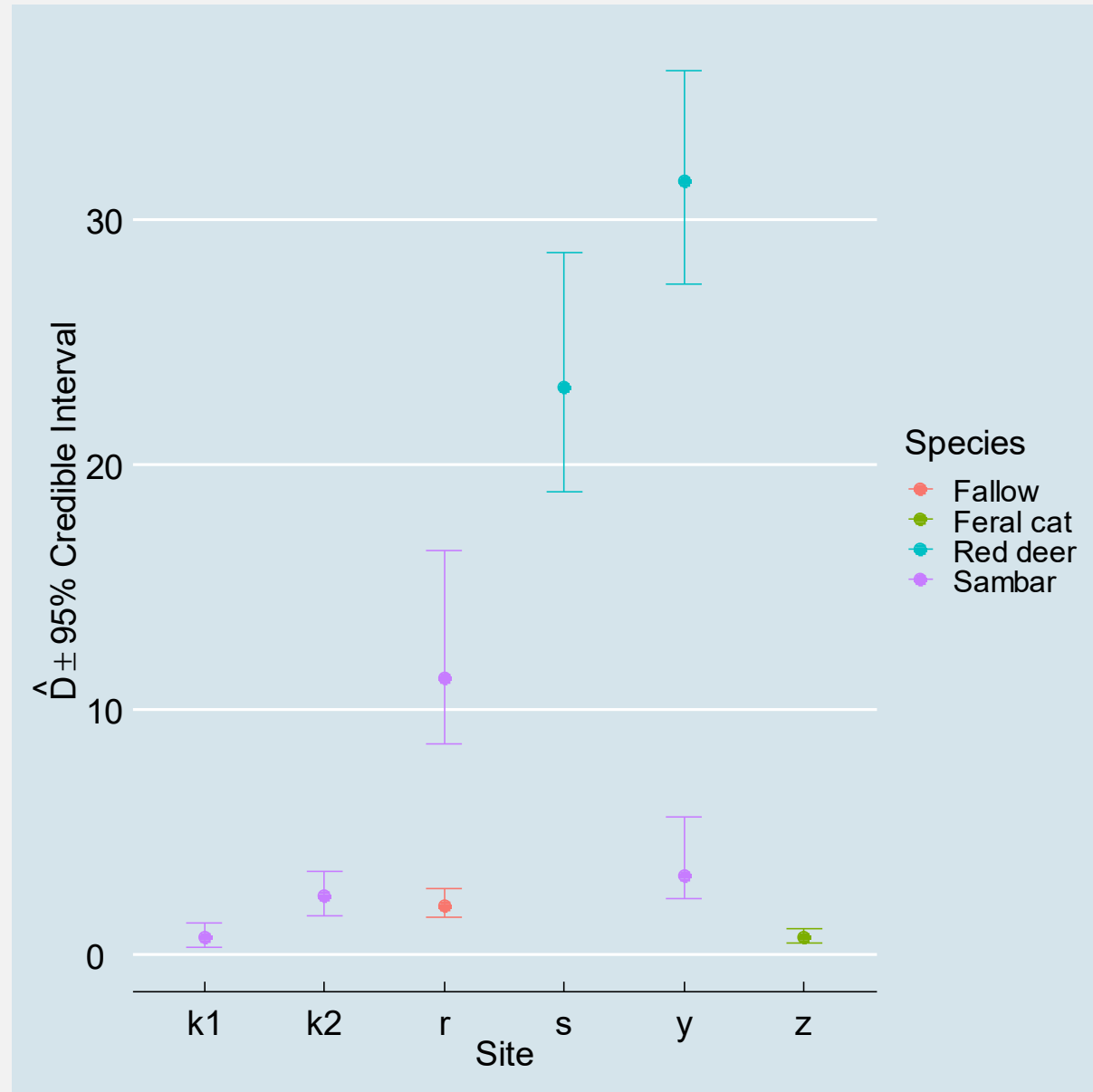
# Camera surveys

- Systematic grid: 300 – 800m
- 3.5 to 14.5 km<sup>2</sup>
- 3 months



# Results

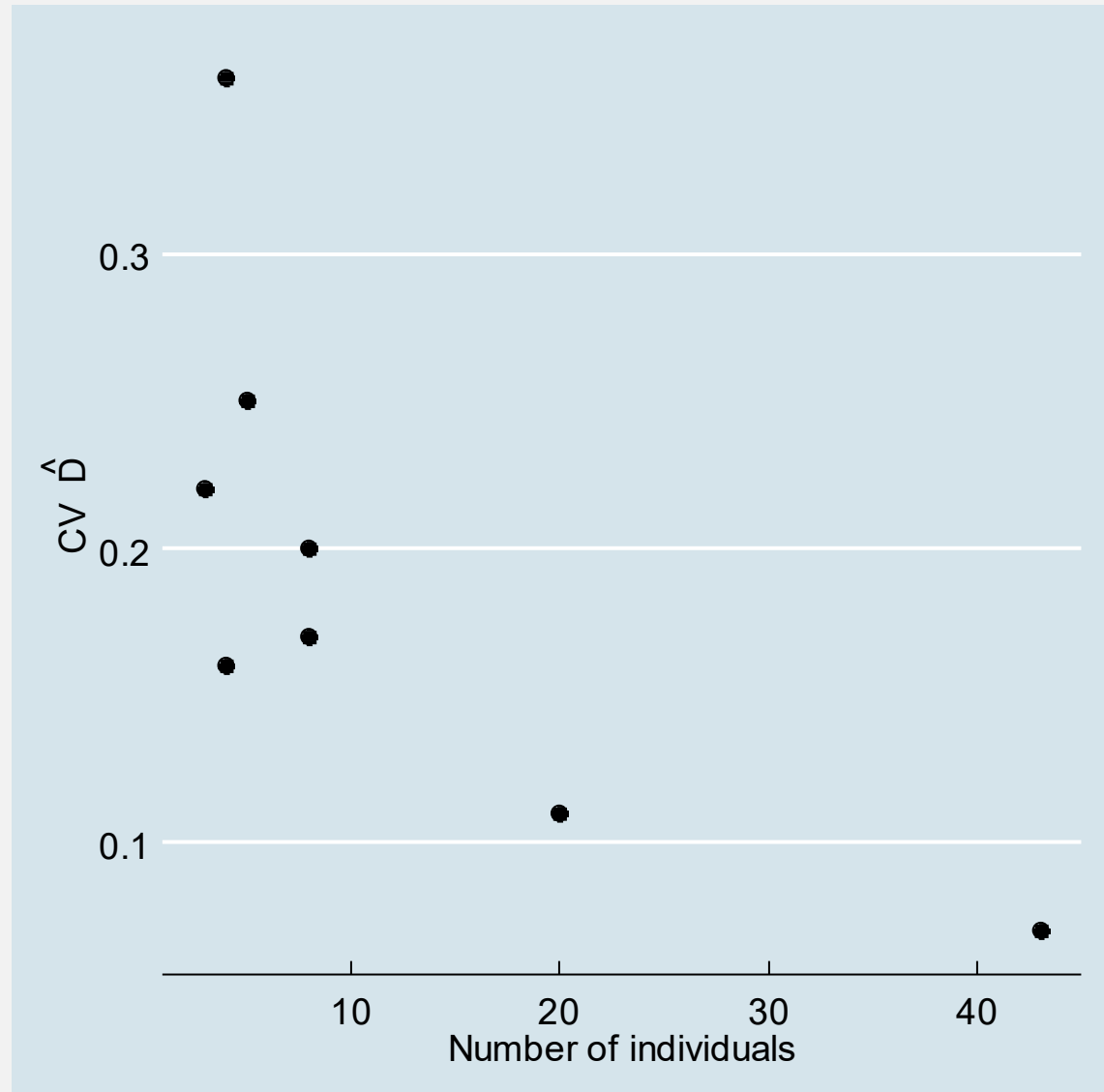
- Plausible estimates
- Good precision





# Results

- Plausible estimates
- Good precision
- Precision  $\sim$  indivs



# Take homes

- Can be powerful
- Flexible
- Limited scale
- Time intensive
- Good method to have in your pouch

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