

This note lists follow-up questions and answers to *Webinar 2 – Fauna Monitoring in NSW state forests* held on 4 December 2023 – 3:00-4:00 pm

Question	Answer
What does presence/absence tell us about abundance or population health?	<p>Occupancy, or presence/absence surveys with remote acoustic recorders and cameras are a cost-effective way to track spatial distribution and detect trends of species over time and at large scales across the landscape. Field surveys of abundance are more expensive and impractical over regional scales.</p> <p>Occupancy can be used as a proxy measure for abundance because these two variables are related. Occupancy can provide insights into the probability of a species' persistence or potential extinction over time. For a good discussion see Noon et al. (2012).</p> <p>See also Jones et al. (2021) for an example of using occupancy to track population changes. https://zslpublications.onlinelibrary.wiley.com/doi/10.1111/acv.12697</p> <p>In addition, evaluating changes in the spatial pattern of occupancy over time may provide insights into causal relations between changes in distribution and land use, including management practices. Rates of change in occupancy can be linked to changes in habitat through measures of environmental covariates, such as fire disturbance, elevation, rainfall, harvesting, vegetation clearing etc.</p>
How does the method account for detecting female species?	<p>The Commission assumes this question refers to koalas because acoustic surveys for koalas are only effective in routinely detecting males.</p> <p>The application of the method to estimating koala abundance assumes an equal sex ratio. Koala sex ratios can be independently determined using microsatellite markers and genetic sex determination of koala scats as was done for the Commission's recent Koala Research Program.</p> <p>A paper on assessing sex ratio and density of koalas has been written to be submitted for publication in a peer-review journal by researchers from University of Queensland, Western Sydney University, Federation University Australia and the Forest Science Unit, NSW Department of Primary Industries.</p>