Contents

LECTURE Two Wildlife Survey and Monitoring

Today's lecture – main points

- Wildlife surveys vs. monitoring
- Australian Bioregions (IBRA) and protected areas
- Animal ethics approvals and scientific licences
- Stratified sampling effort
- Vegetation types and current extent of cover
- Scales of biodiversity
- Habitat assessment and wildlife detection
- Population indices and occupancy
- Adaptive management

Wildlife vs Monitoring

MONITORING

- Access the change or trend in 1 or more resources
- Requires repeated sampling over time
- Sampling must *distinguish* change or trend *from* random variation and measurement error

Monitoring studies

- Assessment of change in status of a recourse over time
    - *(c.f.* inventory study*) inventories* are conducted to determine the distribution and composition of wildlife and wildlife habitats in areas where such information is lacking, and *monitoring* is typically used to understand rates of change or the effects of management practices on wildlife populations and habitats
- Importance of identifying specific objectives
    - Species, area, and time periods
        - Sampling strategy, sample size and analytical methods
- What parameters to measure?
- What is the ideal: birth rates, survival ('vital' rates), but often difficult or non-feasible
- Practical: habitat structure, population indices, presence/absence (occupancy), abundance, and density

Structure based monitoring

- Presence or absence of key habitat features known to be closely linked with presence
    - E.g. large old, hollow-bearing trees, rock outcrops, saves, creek lines
- Advantages: Not reliant on detecting the species

Inventories (fauna surveys)

Assess the state or status of 1 or more resources

- Key 1st step in management of *wildlife* and *habitat*, *conservation*, and *impact assessment*

To describe the fauna of a new area, or the presence of a specific species e.g. threatened species

- conservation under *Australia's Strategy for the National Reserve System 2009-2030*