Threatened species, wind turbines and EIA

Can they coexist?

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Major Projects Assessments
Tasmanian State Government
Australia

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Overview of presentation

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1. Background
   - Tasmania and threatened species
   - Wind energy
   - EIA for wind energy projects
2. Case study
   - Heemskirk Wind Farm Project

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Threatened species

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Eastern Quoll - Dave Watts

- Australia is home to unique species
- Many at risk
- 50+ animal species and 60+ plant species extinct
- 290 animals and 1180 plants listed as threatened

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Wind energy worldwide

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- Most rapidly growing sector of energy industry
- Kyoto protocol
- 39,000 MW installed
- To reach 100,000 MW by 2008
- Tasmania's world class wind resource

A typical development

- 100+ turbines
- 60 to 100 m towers
- 60 tonne nacelle
- 70 to 90 m diameter rotor
- Blade tip moving at 200+ kmh

Environmental issues

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- Noise
- Visual and landscape
- Habitat loss
- Bird and bat collisions

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EIA for bird collisions

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1. Site surveys
2. Modelling to predict collision risk
3. Ecological significance
4. Monitoring, mitigation and offset if significant

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Case study - Heemskirk and the Orange Bellied Parrot

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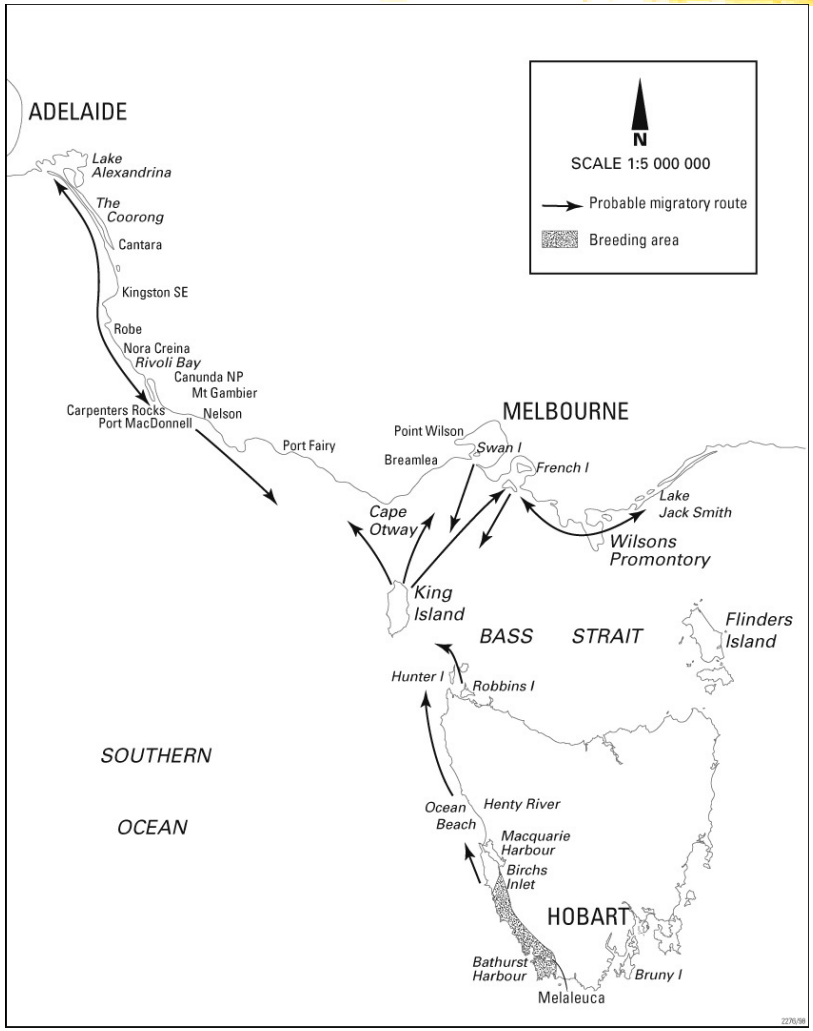

- West coast wind resource - roaring 40s
- Coincides with Orange-bellied Parrot migration

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The Orange-bellied Parrot

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- 150 to 200 individuals
- Critically endangered
- Breeds only in SW Tasmania
- Migrates along west coast
- Heemskirk project - 90 turbines across migratory path

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Assessment issues

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1. Site surveys
2. Collision risk modelling
3. Model verification
4. On-site mitigation
5. Offset program

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1. Site surveys

- Small birds
- Low numbers
- Moving rapidly through site
- Too small for tracking devices
- …no data obtained

2. Collision risk modelling

- Based on survey data
- Assumptions made in absence of data
- Long term average vs seasonal events
- …uncertainty in predictions

3. Model verification

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- Large vegetated site
- Small birds
- High predation
- ...so unable to detect mortalities
- Can monitor species population for dramatic declines

4. On site mitigation

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- No effective collision reduction measures identified
- Creation of turbine-free corridor
- Loss of project value

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5. Offset program

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- Indirect, off-site measures proposed
- Habitat protection vs mortalities
- Difficult to determine adequacy
- Other programs

Hydro Tasmania

EIA outcomes

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Decision to be made based on:

- No information on bird usage of site
- Modelling based on assumptions
- Model predictions cannot be verified
- No effective on-site mitigation
- Actual impacts cannot be measured
- Adequacy of offset program cannot be determined

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Issues

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- Has EIA helped the decision maker?
- Was the money spent on EIA justified?
- How to deal with cumulative impacts?