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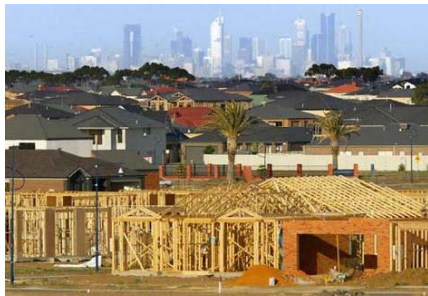
## Strategic landscape planning



Kirsten Parris and Sarah Bekessy

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## Strategic impact assessments

“The next generation of planning for ESD”

However:

- “changes are required to ensure that greater use is made of regional approaches”
- “safeguards need to be created to ensure that plans are robust and fit for purpose”

Commonwealth of Australia (2009) *The Australian Environment Act – Report of the Independent Review of the EPBC Act 1999*, p. 79.

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## Strategic impact assessments

Recommended steps for SIAs under the EPBC Act:

- Gather data & identify gaps
- Create habitat models
- Identify alternative options
- Measure the impacts and benefits of each option
- Describe management actions to reduce impacts

Parris (2009) What are strategic impact assessments?  
*Decision Point 32*, 4-6.



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## Strategic impact assessments

Recommended steps for SIAs under the EPBC Act:

- Outline the expected costs of management
- Allow for the unexpected
- Give adequate time for public consultation
- Document the process clearly

Parris (2009) What are strategic impact assessments?  
*Decision Point 32*, 4-6.



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Priority areas for grassland conservation outside Melbourne's new UGB

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Best 12,000 ha outside new UGB (land parcels)

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Impacts of roads

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Impacts of traffic noise on acoustic communication

Parris et al. (2009) Frogs call at a higher pitch in traffic noise. *Ecology & Society* 14

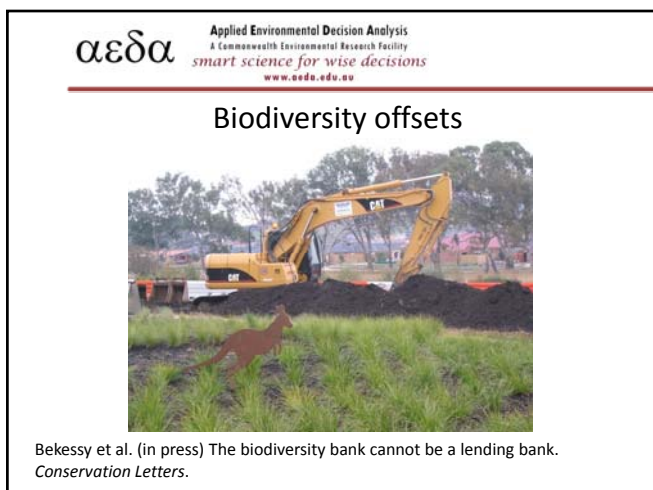
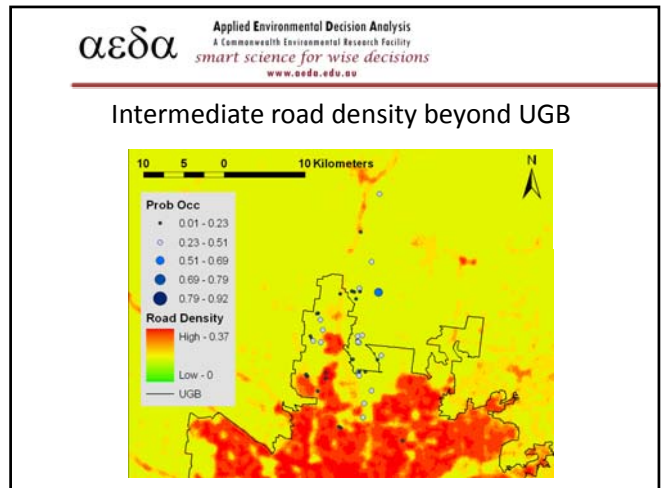
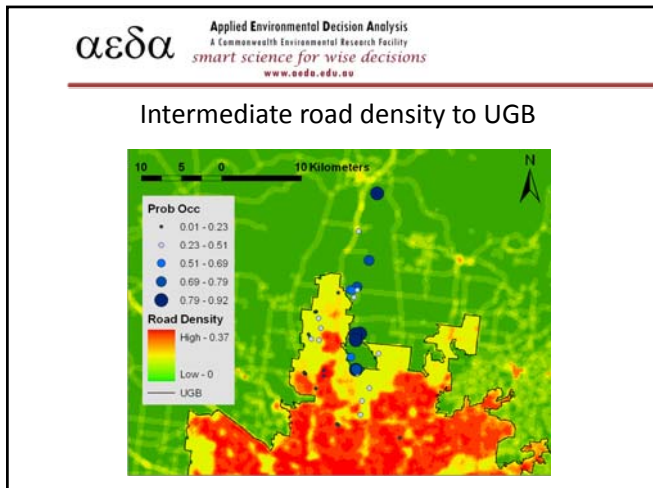
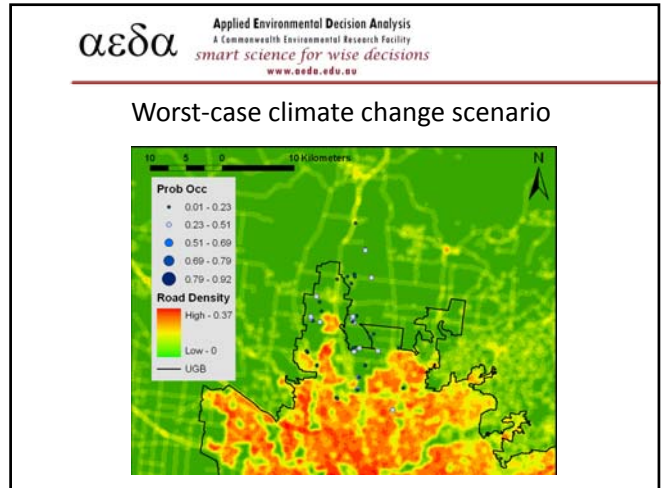
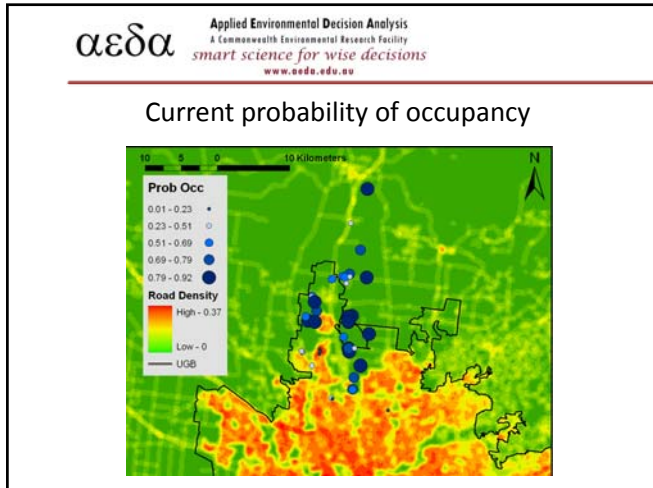
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Growling grass frog *Litoria raniformis*  
Dominant frequency of call = 1200 Hz  
Audible distance of call (no noise) = 320 m  
in 60 dB traffic noise = 195 m  
in 77 dB traffic noise = 31 m

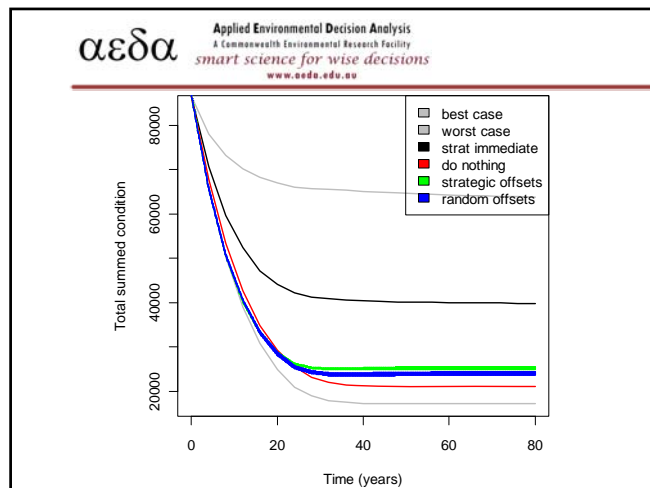
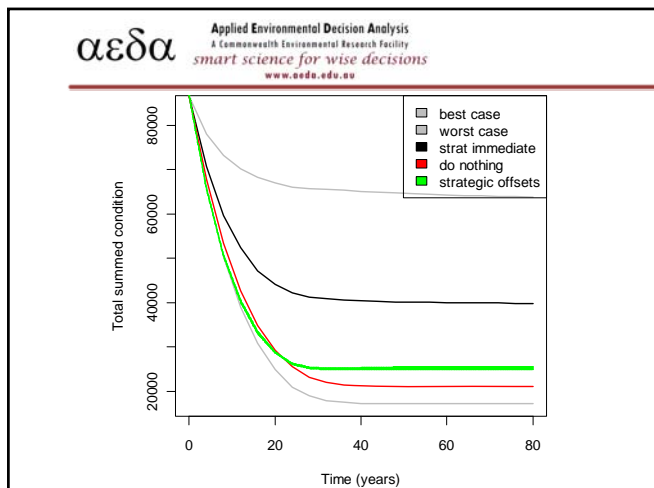
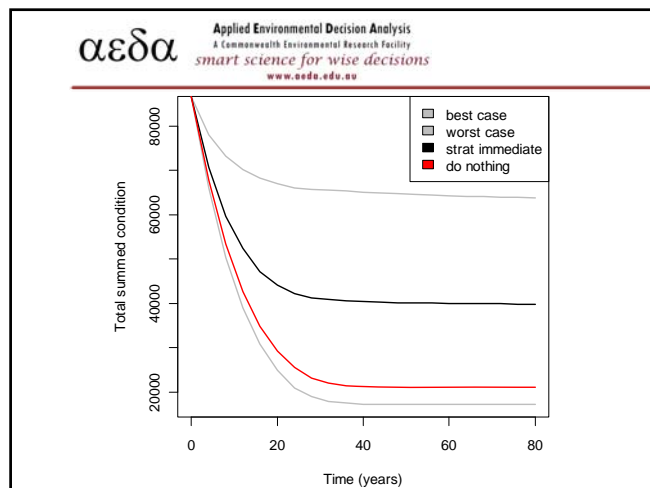
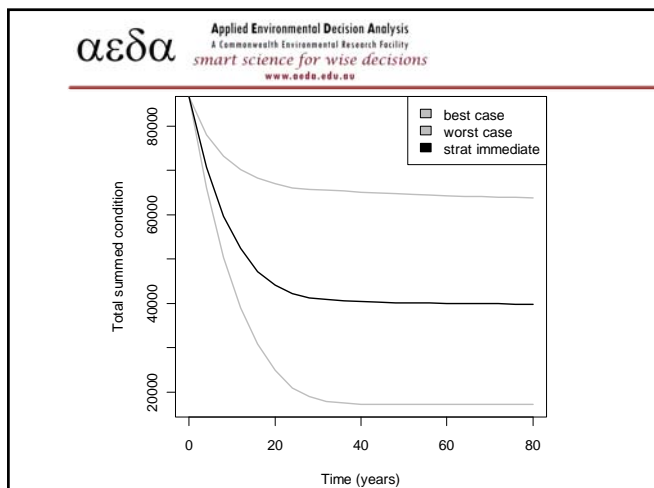
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Impacts of climate change & urbanisation on the spotted marsh frog

Wilson et al. (in prep.) Impacts of climate change and urban development on the spotted marsh frog (*Limnodynastes tasmaniensis*).



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- ### Modelling a range of offset policies
1. Development without offsets (worst case)
  2. Do nothing
  3. Random offsets
  4. Strategic offsets
  5. Strategic offsets, implemented immediately
  6. All grassland managed and reserved (best case)
- Gordon et al. (in prep.) Evaluating biodiversity offset policies, a case study in Melbourne, Australia.



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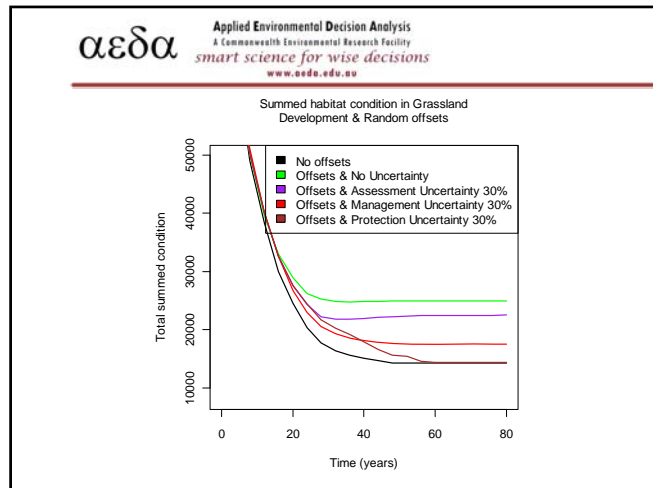
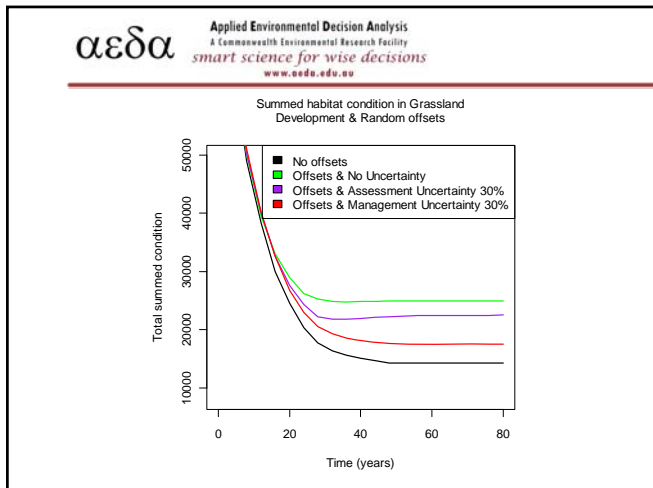
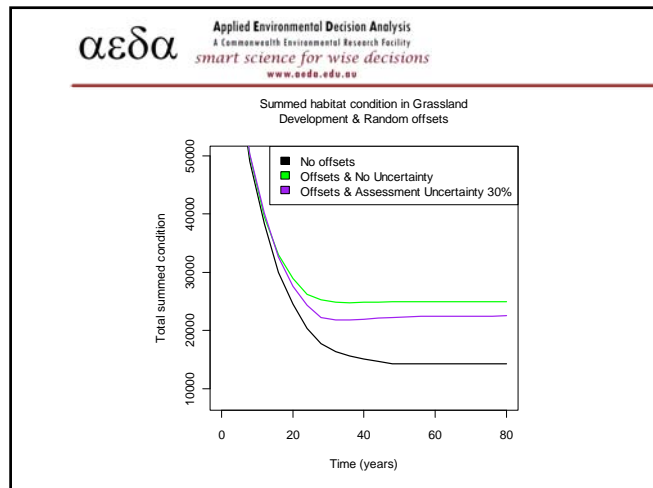
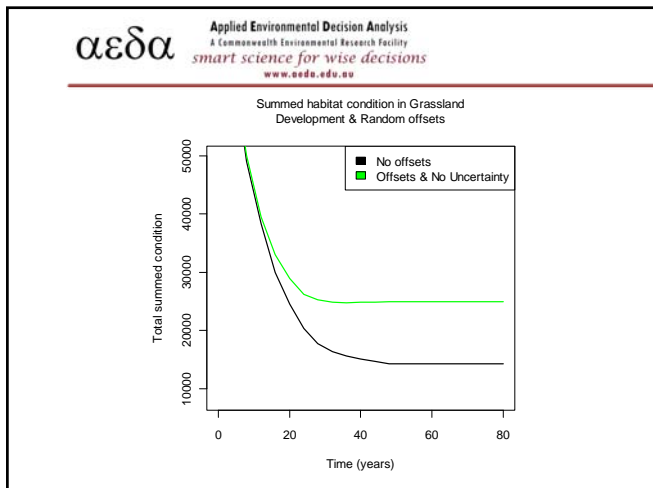
### Animations of sequential model

- [Random offsetting](#)
- [Strategic offsetting implemented immediately](#)

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### Biodiversity offsets – dealing with uncertainty

Langford et al. (2009) When do conservation planning methods deliver? Quantifying the consequences of uncertainty. *Ecological Informatics* 4: 123-135



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### Key Outputs – Media

“More loss than gain in encroaching urban sprawl on threatened open plains” *The Age* (May 2008)




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### Key Outputs – Media

“Traffic noise ruins sex life of frogs” 270 media reports including *Nature News*, 12 radio interviews, international newspapers & online news services (August 2009)

“Birds raise pitch to beat traffic noise” *The Age* (October 2009)



### Key Outputs – DP articles

- Bekessy (2008) Biodiversity on the fringe: Biodiversity, 2020 and beyond. *Decision Point* 19.
- Bekessy (2008) Hitching biodiversity to the carbon bank. *Decision Point* 20.
- Bekessy (2008) Biodiversity on the market: What's at stake? How can it be improved *Decision Point* 21.
- Garrard (2009) Detectability, search effort, needles & haystacks. *Decision Point* 34.

### Key Outputs – submissions

- Parris, K. M. et al. (2009) Requirements under the EPBC Act and Victorian legislation. Submission to the Growth Areas Authority on the SIA report for the proposed expansion of Melbourne's urban growth boundary.
- Parris, K. M. et al. (2009) Strategic assessments and bioregional planning, with special reference to the SIA for the proposed expansion of Melbourne's urban growth boundary. Submission on the Interim Report for the Independent Review of the EPBC Act 1999.

### Key Outputs – publications

- Bekessy et al. (in press) Transparent conservation planning in the urban fringe. *Landscape and Urban Planning*.
- Bekessy S, Wintle B (2008) Using carbon investment to grow the biodiversity bank. *Conservation Biology* 22, 510-513.
- Bekessy & Gordon (2007) Nurturing nature in the city. In *Steering Sustainability in an Urbanizing World: Policy, Practice and Performance*. Ashgate, Great Britain, pp. 227-238.

### Key Outputs – publications

- Garrard et al. (2008) When have we looked hard enough? A novel method for setting minimum survey effort protocols for flora surveys. *Austral Ecology* 33(8) 986-998.
- Gordon et al. (2009) Integrating conservation planning and landuse planning in urban landscapes. *Landscape and Urban Planning* 91, 183-194.
- Parris and Schneider (2009) Impacts of traffic noise and traffic volume on birds of roadside habitats. *Ecology & Society* 14.

### What's next?



### Quick access to AEDA information

- Homepage: [www.aeda.edu.au](http://www.aeda.edu.au)
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