Sourcing biodiversity offsets within a market-based system

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Overview

- Evolving nature of offsetting policy and practice in NSW
- Current offsetting mechanisms and approaches
- Some case studies to demonstrate:
  - the potential contribution of land owned by infrastructure agencies to offsetting programs
  - some of the challenges involved in working within a developing offsetting market
  - the potential for early offsetting planning to inform decisions about route options
- Lessons learnt
### Policy for offsetting infrastructure impacts in NSW

<table>
<thead>
<tr>
<th>Year</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mid 1990’s</td>
<td>Ad hoc compensatory habitat/offset requirements</td>
</tr>
<tr>
<td>2007</td>
<td>The NSW Biodiversity Banking and Offsets Scheme</td>
</tr>
<tr>
<td>2008</td>
<td>Office of Environment and Heritage (OEH) principles for Biodiversity Offsetting</td>
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<tr>
<td>2012</td>
<td>Policy requirements introduced</td>
</tr>
<tr>
<td>2012</td>
<td>EPBC Act offset policy and assessment guidelines</td>
</tr>
<tr>
<td>2013</td>
<td>Fisheries NSW Policy and Guidelines for Fish Habitat Management</td>
</tr>
<tr>
<td>2014</td>
<td>Biodiversity offsets policy for major projects</td>
</tr>
<tr>
<td>2015</td>
<td>Environment Protection and Biodiversity Conservation (EPBC) Act assessment bilateral</td>
</tr>
<tr>
<td>2016</td>
<td>Legislative requirements introduced</td>
</tr>
<tr>
<td>2016</td>
<td>Biodiversity Conservation Act and Biodiversity Offsets Scheme</td>
</tr>
<tr>
<td>2017</td>
<td>Notice of intention to revise NSW EPBC Act assessment bilateral</td>
</tr>
</tbody>
</table>

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- **2007** - Ad hoc negotiated
- **2012** - Mandated, metrics based, integrated
- **2016** - Law based, integrated?
## Evolving practice of biodiversity offsetting in NSW

Based on DP&E approval conditions for major road infrastructure since 2000

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<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>Calculation method</td>
<td>As agreed</td>
<td>1:1</td>
<td>2:1</td>
<td>2:1</td>
<td>1:1</td>
<td>EOAM</td>
<td>Hectare target</td>
<td>Hectare targets</td>
<td>As agreed</td>
<td>BBAM</td>
<td>4:1</td>
<td>FBA</td>
<td>FBA</td>
</tr>
<tr>
<td>Like for like</td>
<td>No</td>
<td>No - 2</td>
<td>No – 1</td>
<td>Mangrove</td>
<td>Similar veg community</td>
<td>EEC &amp; T species</td>
<td>Similar veg and habitats</td>
<td>Similar veg and habitats</td>
<td>EEC &amp; T species</td>
<td>EEC &amp; T species</td>
<td>EEC &amp; T species</td>
<td>EEC &amp; T species</td>
<td></td>
</tr>
<tr>
<td>Mechanism</td>
<td>NPWS</td>
<td>NPWS</td>
<td>NPWS</td>
<td>Rehab</td>
<td>NPWS</td>
<td>On-title + contract</td>
<td>NPWS</td>
<td>NPWS</td>
<td>On-title + contract</td>
<td>Biobank</td>
<td>Biobank</td>
<td>Biobank</td>
<td></td>
</tr>
<tr>
<td>In place before impacts</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes – 1</td>
</tr>
</tbody>
</table>

* Major project approvals with biodiversity offsetting. Only those years where approval involved offsetting included. EOAM = Environmental Outcomes Assessment Methodology. BBA= BioBanking Assessment Methodology. FBA= Framework for Biodiversity Assessment. NPWS = National Parks and Wildlife Service.
Offsetting mechanism

- RMS now heavily reliant on purchasing biodiversity credits
- Calculated using a metric developed by OEH
- Credit pricing accommodates
  - ongoing funding for management
  - opportunity costs
  - profit margin
- Agreements noted on title and compliance occurs within a formal statutory compliance framework
- Mechanism establishes biodiversity conservation as a potentially profitable enterprise and therefore attracts entrepreneurial interest
- However, no formal system of brokers in place!
Current offsetting approach

Focussed on securing offsets early

Using our own residual land as Biobanks

Sponsoring landholders to participate

Two major public Expression of Interest processes undertaken

• Pacific Highway Upgrade Biodiversity Offset Program
• Western Sydney Infrastructure Biodiversity Offset Program
Case study 1: Using left-over RMS land as a biodiversity offset

- Suitability assessment of residual Roads and Maritime Services land
  - biodiversity values
  - planning constraints / opportunities
  - long term management framework
  - cost benefit
- Stage 1
  - 618 ha assessed at 30 sites
  - Estimated over 57,000 credits with market value of over $17 million
  - 3 biobanking agreement applications now lodged

Roads and Maritime Services residual land biobanking site at Murray’s Beach
Case study 2: Pacific Highway Upgrade – Woolgoolga to Ballina

• Offset requirement of 3474ha  4:1
• 2015/16: Expression of Interest and rapid assessment
• 2016/17: rapid assessment of shortlisted properties
• Feb 2018 completed:
  • 31 properties assessed, 16 private and 15 RMS
  • BioBanking applications for 17 properties: 13 private and 4 RMS
  • 4 NPWS land transfers
  • 1 potential State Forest Flora Reserve
• 5165ha achieved, credit surplus being determined
Case study 3: Western Sydney Infrastructure Plan

Using relative offset costs to inform route selection planning
# Comparison of options

<table>
<thead>
<tr>
<th>Route Option</th>
<th>A0</th>
<th>A1</th>
<th>A2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Upgrade existing road</td>
<td>300m corridor</td>
<td>300m corridor</td>
</tr>
<tr>
<td>Vegetation within corridor</td>
<td>50.2</td>
<td>35.9</td>
<td>67.1</td>
</tr>
<tr>
<td>(Hectares – worse case)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimated Ecosystem credits</td>
<td>2008</td>
<td>1436</td>
<td>2684</td>
</tr>
<tr>
<td>(40 credits / ha)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimated cost</td>
<td>$30,120,000</td>
<td>$21,540,000</td>
<td>$40,260,000</td>
</tr>
<tr>
<td>($15,000 / credit)</td>
<td></td>
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</tbody>
</table>
### Lessons learnt

1. **Offsetting planning needs to start early, preferably at the route option stage**
2. **Estimating likely offsetting costs can bring relative biodiversity impacts into focus and assist with budget planning**
3. **Securing offsets requires active landholder engagement programs**
4. **Expertise provided by land valuers and conveyancing experts is essential**
5. **Set transparent assessment criteria and open opportunities to all landholders**
6. **Build landholder understanding of their obligations under the agreement**
Summary

Allow time for landholders to consider the impact of the agreement on their land

Provide timely feedback to all landholders and build in redundancies

Be transparent in how you make offers

Accredited ecological consultants play a vital role in the integrity of the system and more work is required to standardise management actions and costings.
Thank you
Like for like over the years

…….. pattern on increasing precision in matching like for like

Options to match

Pre-2001

Now

Vegetation Formation

Vegetation Class

Vegetation Type

Threatened species

Vegetation Type with particular features

More

Less