Environmental Offsets

Linking into local biodiversity initiatives
Environmental Offsets:

• What makes a good offset?

• What makes a really good offset?
In 2012, Canberra released its EPBC Act Environmental Offsets Policy...

\[
\frac{\left(\text{net present value of adjusted gain in quality} \times \text{future area without offset}\right)}{10} + \frac{\left(\text{future quality with offset} \times \text{net present value of adjusted gain in averted loss}\right)}{10}
\]
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**Ecological Communities**

- Risk-related time horizon (max. 20 years)
- Start area (hectares)
- Risk of loss (% without offset)
- Future area without offset (adjusted hectares)
- Future area with offset (adjusted hectares)
- Confidence in result (%)
- Adjusted gain
- Net present value (adjusted hectares)
- % of impact offset

**Threatened species habitat**

- Time until ecological benefit
- Start area (hectares)
- Risk of loss (% with offset)
- Future area with offset (adjusted hectares)
- Future area without offset (adjusted hectares)
- Confidence in result (%)
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- Net present value (adjusted hectares)
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**Protected matter attributes**

- Number of features: e.g. Nest boxes, habitat trees
- Condition of habitat: Change in habitat condition, but no change in extent

**Information source**

- Cost ($) total
- Information source
The EPBC Offsets Policy relies very heavily on the concept and quantification of “Habitat Quality”... across both impact and offset sites.
In 2013, **Talison Lithium** submitted a referral for the clearing of 75 ha of Black Cockatoo habitat near Greenbushes, to allow for the continuation of its mining operations...

...and the search for offsets began
BC Habitat Quality

Rapid Assessment Tool:

- Developed using scientifically-relevant habitat attributes;
- Semi-quantitative;
- Used to screen offset options as a prelude to expert study.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Description</th>
<th>Value</th>
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<tr>
<td>Diversity and abundance of foraging species (including non-native)</td>
<td>Areas with high abundance of marri, many heavy with fruit. Occasional jarrah, she-oak, banksia, hakea. Multiple remnants dominated by non-forage species such as flooded gum and acacia. Some areas poor condition</td>
<td>NIL LO AV HI</td>
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<tr>
<td>Evidence of foraging</td>
<td>Multiple evidence (feeding residues from marri nuts at various states of decay).</td>
<td>NIL LO AV HI</td>
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<td>Suitable roosting sites</td>
<td>Remnants included significant marri trees considered suitable for roosting. Historical logging has removed most large trees.</td>
<td>NIL LO AV HI</td>
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<tr>
<td>Evidence of roosting</td>
<td>None observed</td>
<td>NIL LO AV HI</td>
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<tr>
<td>Suitable nesting sites</td>
<td>Remnants included significant marri trees considered suitable for nesting. No hollows observed. Historical logging has removed most large trees.</td>
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<tr>
<td>Evidence of nesting</td>
<td>No evidence of nesting observed</td>
<td>NIL LO AV HI</td>
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<tr>
<td>Proximity to water</td>
<td>Open water (mine drains, dams and lakes) present in surrounding area (1-3 km). No open water in expansion area.</td>
<td>NIL LO AV HI</td>
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<tr>
<td>Condition &amp; resilience</td>
<td>Condition varies; evidence of feral pigs; good representation of younger age-class marri (mostly seeded by the mining company in the 1990's) but relatively few older trees due to logging; isolated nature of stands offers some protection from fire.</td>
<td>NIL LO AV HI</td>
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<tr>
<td>Presence of competitors</td>
<td>No competing bird species (eg galahs) observed (general low abundance of birds). Potential for bees to be present but no hives observed (probably too cold to see activity)</td>
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What makes a good offset?

IMPROVEMENT + PROTECTION

HABITAT PROTECTION

HABITAT IMPROVEMENT

SAVING

IMPACT

35.9 ha
What else?

01 A real threat exists.
02 Good chance of success.
03 Equipped for the long-term.
04 Measurable progress.
Offset options that we looked at
Conserve & Enhance – 200 ha adjacent to State Forest
Replant and protect – 45 ha farmland adjacent to State Forest
Enhance and protect – 105 ha farmland with DRF & wetland areas
Enter the Blackwood Basin Group
Waterbird Open Day & Boardwalk Launch
Saturday, 10th June 9am—1pm
Schwenke’s Dam, Greenbushes

You are invited to join the Blackwood Basin Group for an informative and fun packed wrap-up of the BBG’s flagship WaterBird Project and the official launch of the new nature viewing boardwalk.
BBG issue: large areas of Jarrah-Marri open woodland – under pressure from increasing cattle grazing...

April 2000

Jan 2014

2016 Photopoint

April 2016
Offset site

- 123 ha of jarrah/marri of mixed age class
- Two large unfenced remnants on farmland used for cattle grazing
- Known utilisation by BC
- Contiguous with larger remnant.
Mechanism

1. **Landowner**, with assistance from BBG, constructs fence to specified standard, removes stock and enters into a 20-year maintenance agreement.

2. Offset program will be managed ‘on the ground’ by **BBG**, with annual inspections & reports provided to Talison.

3. Program entirely funded by **Talison Lithium**, with appropriate governance measures including legal agreements, external audits and regular meetings.
Offset assessment

01
A real threat exists.
Cattle causing physical damage to trees and soil
No recruitment
Good research

02
Good chance of success.
Simple and proven method (fencing + planting)
15-yr old recoveries next door
Good research

03
Equipped for the long-term.
Perpetual covenant
Farmer retains land
BBG has 25 yrs plus of experience
Talison retains obligations

04
Measurable progress.
Real indicators
Annual audits and condition reports
Baseline and periodic BC utilisation surveys

Equates to 107.7% of proposed impact.
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Outcomes

😊 Measurable benefit for the environment – active measures applied to susceptible areas.

😊 Benefits to the company: lower capital outlay; reduced business risk; less demand on staff resources.

😊 Benefits to local NRM: capacity building, stable funding source, and a transferable framework for similar projects.

😊 Benefits to the landowner: ‘cost neutral’ landscape and ecosystem protection & enhancement, ownership retained.
Work together to maximize the benefits of your offsets
With special thanks to:
Talison Lithium Limited
And
Blackwood Basin Group

Further details available – search for *EPBC Assessment 2013/6904*
Offset Management Plan available at [www.talisonlithium.com](http://www.talisonlithium.com)