

WA Environmental Offsets calculator

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Produced by:

The Department of Water and Environmental Regulation (DWER) in consultation with stakeholder working groups

Purpose:

Use the WA Environmental Offsets calculator in conjunction with the *Environmental offsets metric: Quantifying environmental offsets in Western Australia* guideline. Together, they form a supplement to section 4 of the *WA Environmental Offsets Guidelines* and provide information to help decision-makers, government officers, industry and the community to quantify environmental offsets.

Data currency:

The correct application of the WA Environmental Offsets Calculator relies on access to current datasets (such as vegetation extent and land tenure).

Process for using the WA Environmental Offsets Calculator

Step	Worksheet	Component
Step 1: Determining conservation significance	Step1_ConservationSignificance	Conservation significance determination
		Combined <i>area/feature</i>
Step 2: Calculating significant residual impact	Step2_SignificantResidualImpact	Part A: Significant impact calculation
		Separate <i>area</i> or <i>feature</i> calculations
		Part B: Rehabilitation credit calculation
		Separate <i>area</i> or <i>feature</i> calculations
Step 3: Calculating offsets	Step3_Offsets	Part C: Significant residual impact calculation
		Separate <i>area</i> or <i>feature</i> calculations
Step 3: Calculating offsets	Step3_Offsets	Offsets calculation
		Separate <i>area</i> or <i>feature</i> calculations
Rationale for scores used in the Offsets Calculator	Rationale	All

WA Environmental Offsets Calculator

Step 1: Determining conservation significance

Key:

- Data to be entered
- Drop-down selection
- Automatically-generated scores
(Or, if appropriate, manual data entry permitted)

Area / feature (Impact site)

Conservation significance determination for the environmental value impacted									
Conservation significance	<table border="1"> <tr> <td>Description</td> <td>Carnaby's cockatoo foraging habitat</td> </tr> <tr> <td>Type of environmental value</td> <td>Species (flora/fauna)</td> </tr> <tr> <td>Conservation significance of environmental value</td> <td>Rare/threatened species - endangered</td> </tr> <tr> <td>Conservation significance score</td> <td>1.2%</td> </tr> </table>	Description	Carnaby's cockatoo foraging habitat	Type of environmental value	Species (flora/fauna)	Conservation significance of environmental value	Rare/threatened species - endangered	Conservation significance score	1.2%
Description	Carnaby's cockatoo foraging habitat								
Type of environmental value	Species (flora/fauna)								
Conservation significance of environmental value	Rare/threatened species - endangered								
Conservation significance score	1.2%								

Please select area or feature for the calculations	Area
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WA Environmental Offsets Calculator

Step 3: Calculating offsets

Key:

	Data to be entered
	Drop-down selection
	Automatically-generated scores

Environmental value (step 1)	Carnaby's cockatoo foraging habitat	Significant impact (step 2, part A)	0.01
		Rehabilitation credit (step 2, part B)	0.00
		Significant residual impact (step 2, part C)	0.00

Area (offset site)

Offset calculation Area							
Offsets calculation	Description	Proposed offset (area in hectares)	0.13	Duration of offset implementation (maximum 20 years)	20.00	Offset value	0.01
	Proposed rehabilitation actions in Brickwood Reserve	Current quality of offset site (scale)	5.00	Time until offset site secured (years)	0.00		173.1%
		Future quality WITHOUT offset (scale)	5.00	Risk of future loss WITHOUT offset (%)	10.0%		
		Future quality WITH offset (scale)	6.00	Risk of future loss WITH offset (%)	10.0%		
		Time until ecological benefit (years)	10.00				
	Confidence in offset result (%)	80.0%				OFFSET ADEQUATE?	YES

WA Environmental Offsets Calculator

Step 2: Calculating significant residual impact

Key:

	Data to be entered
	Drop-down selection
	Automatically-generated scores

Environmental value (step 1)	Carnaby's cockatoo foraging habitat
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Area (impact site)

Part A: Significant impact calculation Area		
	Description	Quantum of impact
Significant impact	Clearing of Carnaby's cockatoo foraging habitat	Significant impact (hectares) 0.01
		Quality (scale) 6.00
		Total quantum of impact 0.00

Part B: Rehabilitation credit calculation Area (onsite)				
	Description	Proposed rehabilitation (area in hectares)	Time until ecological benefit (years)	
Rehabilitation Credit		Current quality of rehabilitation site (scale)	Confidence in rehabilitation result (%)	
		Future quality WITHOUT rehabilitation (scale)	Rehabilitation credit	0.00
		Future quality WITH rehabilitation (scale)		

Part C: Significant residual impact calculation Area	
Significant residual impact	Total quantum of impact 0.00
	Rehabilitation credit 0.00
	Significant residual impact 0.00

WA Environmental Offsets Calculator

Rationale for scores used in the offsets calculator

Environmental value to be offset			
Calculation	Score (Area)		Rationale
Conservation significance			
Description	Carnaby's cockatoo foraging habitat		The proposed clearing will impact on Carnaby's cockatoo foraging habitat
Type of environmental value	Species (flora/fauna)		Carnaby's cockatoo is a conservation listed fauna species
Conservation significance of environmental value	Rare/threatened species - endangered		Carnaby's cockatoos listed as endangered under the Biodiversity Conservation Act 2016
Landscape-level value impacted	yes/no		Yes
Significant impact			
Description	Clearing of Carnaby's cockatoo foraging habitat		Native vegetation that provides foraging habitat for Carnaby's cockatoo
Significant impact (hectares) / Type of feature	0.01		Extent of proposed impact to foraging habitat for Carnaby's cockatoo is 0.008 hectares
Quality (scale) / Number	6.00		The application area includes midstorey and understorey species of moderate to low density that provide preferred foraging habitat for Carnaby's cockatoo within a highly fragmented portion of this species range. This value considered the presence of breeding and roosting sites within 12km and 6km of the application area respectively, and that no foraging evidence was recorded within the application area.
Rehabilitation credit			
Description	0		
Proposed rehabilitation (area in hectares)	0.00		
Current quality of rehabilitation site / Start number (of type of feature)	0.00		
Future quality WITHOUT rehabilitation (scale) / Future number WITHOUT rehabilitation	0.00		
Future quality WITH rehabilitation (scale) / Future number WITH rehabilitation	0.00		
Time until ecological benefit (years)	0.00		
Confidence in rehabilitation result (%)	0		
Offset			
Description	Proposed rehabilitation actions in Brickwood Reserve		An offset involving rehabilitation actions within Brickwood Reserve
Proposed offset (area in hectares)	0.13		Rehabilitation actions propose to improve 0.13 hectares of Carnaby's cockatoo foraging habitat which more than counterbalances 100% of the significant residual impact to this species habitat.
Current quality of offset site / Start number (of type of feature)	5.00		The area of Carnaby's cockatoo foraging habitat proposed for rehabilitation ranges in condition from degraded to very good, with preferred habitat of low to moderate density and similar site context to the application area.
Future quality WITHOUT offset (scale) / Future number WITHOUT offset	5.00		It is presumed that the offset area would remain of similar quality without specific improvement measures.
Future quality WITH offset (scale) / Future number WITH offset	6.00		The applicant has committed to developing a Project Rehabilitation Plan which will set out weed control and infill planting amongst other rehabilitation actions, in accordance with completion criteria. Subject to the required Project Rehabilitation Plan, it is expected that a small improvement to the quality of the area containing Carnaby's cockatoo foraging habitat could be achieved. The Project Rehabilitation Plan is subject to approval by DWERs CEO.
Time until ecological benefit (years)	10.00		The benefits of weed control, fencing and infill planting amongst other rehabilitation actions are expected to provide benefit within 10 years, which has also considered the expected delay in commencement of rehabilitation.
Confidence in offset result (%)	0.8		There is a high level of confidence that a small improvement could be delivered to a 0.13 hectare occurrence of Carnaby's cockatoo foraging habitat within Brickwood Reserve, in accordance with a Project Rehabilitation Plan.
Duration of offset implementation (maximum 20 years)	20.00		The offset area will occur within a portion of Brickwood Reserve that is subject to a Shire of Serpentine Jarrahdale Management Plan where it has been designated as a conservation area and is expected to be managed as such long into the future.
Time until offset site secured (years)	0.00		No change to the purpose or vesting of Brickwood Reserve is proposed.
Risk of future loss WITHOUT offset (%)	10.0%		Brickwood Reserve is zoned for the purpose of recreation, however the proposed offset area has been designated as 'high conservation zone' and 'vegetation management zone' within the 'Briggs Park and Brickwood Reserve Management Plan, 2016-2026', as such it is considered that there is a low risk of loss.
Risk of future loss WITH offset (%)	10.0%		There is no proposed change in the management purpose or vesting of the offset site.
Offset ratio (Conservation area only)	N/A		