

# Offsets Assessment Guide

For use in determining offsets under the *Environment Protection and Biodiversity Conservation Act 1999*  
2 October 2012

This guide relies on Macros being enabled in your browser.

Matter of National Environmental Significance	
Name	Carnaby's Black Cockatoo
EPBC Act status	Endangered
Annual probability of extinction Based on IUCN category definitions	1.2%

Key to Cell Colours
User input required
Drop-down list
Calculated output
Not applicable to attribute

Impact calculator						
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
<i>Ecological communities</i>						
Area of community	No		Area			
			Quality			
			Total quantum of impact	0.00		
<i>Threatened species habitat</i>						
Area of habitat	Yes	24.2 ha of long-term clearing	Area	24.2	Hectares	
			Quality	7	Scale 0-10	
			Total quantum of impact	16.94	Adjusted hectares	
<i>Threatened species</i>						
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
Number of features e.g. Nest hollows, habitat trees	No					
Condition of habitat Change in habitat condition, but no change in extent	No					
Birth rate e.g. Change in nest success	No					
Mortality rate e.g. Change in number of road kills per year	No					
Number of individuals e.g. Individual plants/animals	No					

Offset calculator																					
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start area and quality	Future area and quality without offset	Future area and quality with offset	Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source					
<i>Ecological Communities</i>																					
Area of community	No				Risk-related time horizon (max. 20 years)	Start area (hectares)	Risk of loss (% without offset)	0.0	Risk of loss (% with offset)	0.0											
					Future area without offset (adjusted hectares)		Future area with offset (adjusted hectares)														
					Time until ecological benefit	Start quality (scale of 0-10)	Future quality without offset (scale of 0-10)		Future quality with offset (scale of 0-10)												
<i>Threatened species habitat</i>																					
Area of habitat	Yes	16.94	Adjusted hectares	Foraging habitat area required to produce minimum 90% direct offset requirement	Time over which loss is averted (max. 20 years)	20	Start area (hectares)	92	Risk of loss (% without offset)	20%	Risk of loss (% with offset)	0%	18.40	90%	16.56	13.05	15.31	90.40%	Yes		
					Future area without offset (adjusted hectares)	73.6	Future area with offset (adjusted hectares)	92.0													
					Time until ecological benefit	1	Start quality (scale of 0-10)	7	Future quality without offset (scale of 0-10)	6	Future quality with offset (scale of 0-10)	7	1.00	85%	0.85	0.84					
<i>Threatened species</i>																					
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start value	Future value without offset	Future value with offset	Raw gain	Confidence in result (%)	Adjusted gain	Net present value	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source					
Number of features e.g. Nest hollows, habitat trees	No																				
Condition of habitat Change in habitat condition, but no change in extent	No																				
Birth rate e.g. Change in nest success	No																				
Mortality rate e.g. Change in number of road kills per year	No																				
Number of individuals e.g. Individual plants/animals	No																				

Summary							
Protected matter attributes	Quantum of impact	Net present value of offset	% of impact offset	Direct offset adequate?	Cost (\$)		
					Direct offset (\$)	Other compensatory measures (\$)	Total (\$)
Birth rate	0				\$0.00		\$0.00
Mortality rate	0				\$0.00		\$0.00
Number of individuals	0				\$0.00		\$0.00
Number of features	0				\$0.00		\$0.00
Condition of habitat	0				\$0.00		\$0.00
Area of habitat	16.94	15.31	90.40%	Yes	\$0.00	#DIV/0!	#DIV/0!
Area of community	0				\$0.00		\$0.00
					\$0.00	#DIV/0!	#DIV/0!

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Calculated output
Not applicable to attribute

Impact calculator						
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact	Units	Information source	
<i>Ecological communities</i>						
Area of community	No		Area			
			Quality			
			Total quantum of impact	0.00		
<i>Threatened species habitat</i>						
Area of habitat	Yes	120 ha of disturbance to be rehabilitated via VDT	Area	120	Hectares	
			Quality	4	Scale 0-10	
			Total quantum of impact	48.00	Adjusted hectares	
<i>Threatened species</i>						
Number of features e.g. Nest hollows, habitat trees	No					
Condition of habitat Change in habitat condition, but no change in extent	No					
Birth rate e.g. Change in nest success	No					
Mortality rate e.g. Change in number of road kills per year	No					
Number of individuals e.g. Individual plants/animals	No					

Offset calculator																						
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start area and quality	Future area and quality without offset	Future area and quality with offset	Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source						
<i>Ecological Communities</i>																						
Area of community	No				Risk-related time horizon (max. 20 years)	Start area (hectares)	Risk of loss (% without offset)	0.0	Risk of loss (% with offset)	0.0												
					Future area without offset (adjusted hectares)		Future area with offset (adjusted hectares)															
					Time until ecological benefit	Start quality (scale of 0-10)	Future quality without offset (scale of 0-10)		Future quality with offset (scale of 0-10)													
<i>Threatened species habitat</i>																						
Area of habitat	Yes	48.00	Adjusted hectares	Foraging habitat area to be ceded to DBCA to produce minimum 90% direct offset requirement	Time over which loss is averted (max. 20 years)	20	Start area (hectares)	260	Risk of loss (% without offset)	20%	Risk of loss (% with offset)	0%	52.00	90%	46.80	36.87	43.28	90.16%	Yes			
					Future area without offset (adjusted hectares)	208.0	Future area with offset (adjusted hectares)	260.0														
					Time until ecological benefit	1	Start quality (scale of 0-10)	7	Future quality without offset (scale of 0-10)	6	Future quality with offset (scale of 0-10)	7	1.00	85%	0.85	0.84						
<i>Threatened species</i>																						
Number of features e.g. Nest hollows, habitat trees	No																					
Condition of habitat Change in habitat condition, but no change in extent	No																					
Birth rate e.g. Change in nest success	No																					
Mortality rate e.g. Change in number of road kills per year	No																					
Number of individuals e.g. Individual plants/animals	No																					

Summary							
Protected matter attributes	Quantum of impact	Net present value of offset	% of impact offset	Direct offset adequate?	Cost (\$)		
					Direct offset (\$)	Other compensatory measures (\$)	Total (\$)
Birth rate	0				\$0.00		\$0.00
Mortality rate	0				\$0.00		\$0.00
Number of individuals	0				\$0.00		\$0.00
Number of features	0				\$0.00		\$0.00
Condition of habitat	0				\$0.00		\$0.00
Area of habitat	48	43.28	90.16%	Yes	\$0.00	#DIV/0!	#DIV/0!
Area of community	0				\$0.00		\$0.00
					\$0.00	#DIV/0!	#DIV/0!

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Calculated output
Not applicable to attribute

Impact calculator						
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact	Units	Information source	
<i>Ecological communities</i>						
Area of community	No		Area			
			Quality			
			Total quantum of impact	0.00		
<i>Threatened species habitat</i>						
Area of habitat	Yes	120 ha of VDT disturbance	Area	120	Hectares	
			Quality	4	Scale 0-10	
			Total quantum of impact	48.00	Adjusted hectares	
<i>Threatened species</i>						
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact	Units	Information source	
Number of features e.g. Nest hollows, habitat trees	No					
Condition of habitat Change in habitat condition, but no change in extent	No					
Birth rate e.g. Change in nest success	No					
Mortality rate e.g. Change in number of road kills per year	No					
Number of individuals e.g. Individual plants/animals	No					

Offset calculator																													
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start area and quality	Future area and quality without offset	Future area and quality with offset	Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source													
<i>Ecological Communities</i>																													
Area of community	No				Risk-related time horizon (max. 20 years)	Start area (hectares)	Risk of loss (% without offset)	Risk of loss (% with offset)																					
					Future area without offset (adjusted hectares)	0.0	Future area with offset (adjusted hectares)	0.0																					
					Time until ecological benefit	Start quality (scale of 0-10)	Future quality without offset (scale of 0-10)	Future quality with offset (scale of 0-10)																					
<i>Threatened species habitat</i>																													
Area of habitat	Yes	48.00	Adjusted hectares	Revegetation of cleared land - area required to produce minimum 90% direct offset requirement	Time over which loss is averted (max. 20 years)	20	Start area (hectares)	205	Risk of loss (% without offset)	100%	Risk of loss (% with offset)	0%	Raw gain	205.00	Confidence in result (%)	90%	Adjusted gain	184.50	Net present value (adjusted hectares)	145.34	% of impact offset	43.60	Minimum (90%) direct offset requirement met?	Yes	Cost (\$ total)		Information source		
					Future area without offset (adjusted hectares)	0.0	Future area with offset (adjusted hectares)	205.0																					
					Time until ecological benefit	10	Start quality (scale of 0-10)	0	Future quality without offset (scale of 0-10)	0	Future quality with offset (scale of 0-10)	3	Raw gain	3.00	Confidence in result (%)	85%	Adjusted gain	2.55	Net present value (adjusted hectares)	2.26									
<i>Threatened species</i>																													
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start value	Future value without offset	Future value with offset	Raw gain	Confidence in result (%)	Adjusted gain	Net present value	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source													
Number of features e.g. Nest hollows, habitat trees	No																												
Condition of habitat Change in habitat condition, but no change in extent	No																												
Birth rate e.g. Change in nest success	No																												
Mortality rate e.g. Change in number of road kills per year	No																												
Number of individuals e.g. Individual plants/animals	No																												

Summary							
Protected matter attributes	Quantum of impact	Net present value of offset	% of impact offset	Direct offset adequate?	Cost (\$)		
					Direct offset (\$)	Other compensatory measures (\$)	Total (\$)
Birth rate	0				\$0.00		\$0.00
Mortality rate	0				\$0.00		\$0.00
Number of individuals	0				\$0.00		\$0.00
Number of features	0				\$0.00		\$0.00
Condition of habitat	0				\$0.00		\$0.00
Area of habitat	48	43.60	90.84%	Yes	\$0.00	#DIV/0!	#DIV/0!
Area of community	0				\$0.00		\$0.00
					\$0.00	#DIV/0!	#DIV/0!

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Calculated output
Not applicable to attribute

Impact calculator						
Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact	Units	Information source	
<i>Ecological communities</i>						
Area of community	No		Area			
			Quality			
			Total quantum of impact	0.00		
<i>Threatened species habitat</i>						
Area of habitat	Yes	112 ha of VDT disturbance	Area	112	Hectares	
			Quality	4	Scale 0-10	
			Total quantum of impact	44.80	Adjusted hectares	
<i>Threatened species</i>						
Number of features e.g. Nest hollows, habitat trees	No					
Condition of habitat Change in habitat condition, but no change in extent	No					
Birth rate e.g. Change in nest success	No					
Mortality rate e.g. Change in number of road kills per year	No					
Number of individuals e.g. Individual plants/animals	No					

Offset calculator																						
Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)	Start area and quality	Future area and quality without offset	Future area and quality with offset	Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost (\$ total)	Information source						
<i>Ecological Communities</i>																						
Area of community	No				Risk-related time horizon (max. 20 years)	Start area (hectares)	Risk of loss (% without offset)	Risk of loss (% with offset)														
					Future area without offset (adjusted hectares)	0.0	Future area with offset (adjusted hectares)	0.0														
					Time until ecological benefit	Start quality (scale of 0-10)	Future quality without offset (scale of 0-10)	Future quality with offset (scale of 0-10)														
<i>Threatened species habitat</i>																						
Area of habitat	Yes	44.80	Adjusted hectares	Rehabilitation of cleared land required to produce minimum 90% direct offset requirement	Time over which loss is averted (max. 20 years)	20	Start area (hectares)	145	Risk of loss (% without offset)	100%	Risk of loss (% with offset)	0%	Raw gain	145.00	Confidence in result (%)	90%	Adjusted gain	130.50	Net present value (adjusted hectares)	102.80		
					Future area without offset (adjusted hectares)	0.0	Future area with offset (adjusted hectares)	145.0														
					Time until ecological benefit	10	Start quality (scale of 0-10)	0	Future quality without offset (scale of 0-10)	0	Future quality with offset (scale of 0-10)	4	Raw gain	4.00	Confidence in result (%)	85%	Adjusted gain	3.40	Net present value (adjusted hectares)	3.02		
<i>Threatened species</i>																						
Number of features e.g. Nest hollows, habitat trees	No																					
Condition of habitat Change in habitat condition, but no change in extent	No																					
Birth rate e.g. Change in nest success	No																					
Mortality rate e.g. Change in number of road kills per year	No																					
Number of individuals e.g. Individual plants/animals	No																					

Summary							
Protected matter attributes	Quantum of impact	Net present value of offset	% of impact offset	Direct offset adequate?	Cost (\$)		
					Direct offset (\$)	Other compensatory measures (\$)	Total (\$)
Birth rate	0				\$0.00		\$0.00
Mortality rate	0				\$0.00		\$0.00
Number of individuals	0				\$0.00		\$0.00
Number of features	0				\$0.00		\$0.00
Condition of habitat	0				\$0.00		\$0.00
Area of habitat	44.8	41.12	91.79%	Yes	\$0.00	#DIV/0!	#DIV/0!
Area of community	0				\$0.00		\$0.00
					\$0.00	#DIV/0!	#DIV/0!