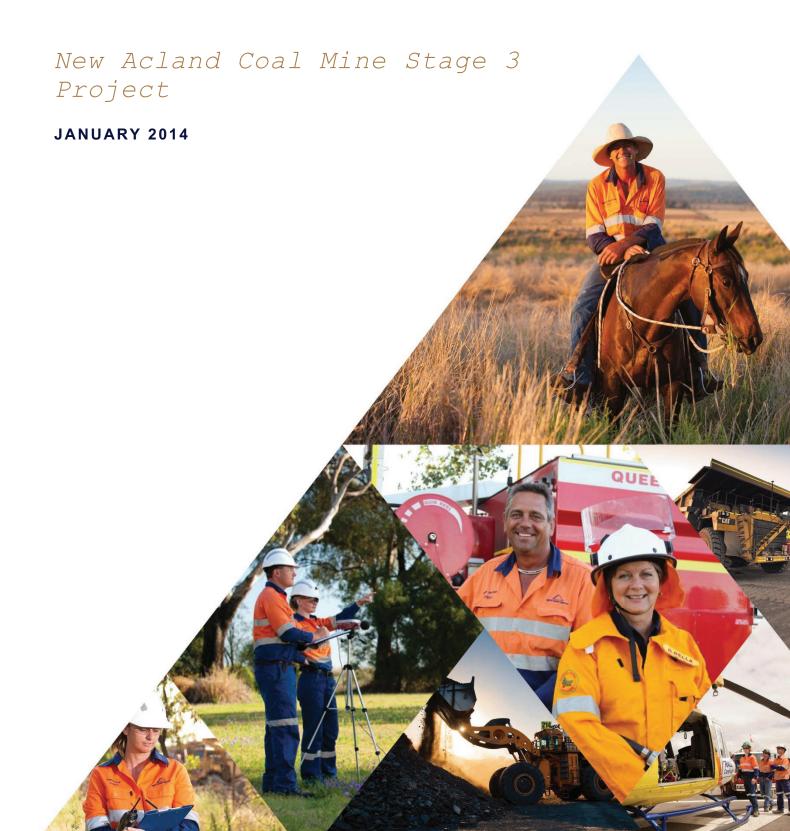


Appendix I Biodiversity Offset Strategy





BIODIVERSITY OFFSET STRATEGY



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1. Introduction

New Acland Coal Pty Ltd (NAC) has developed this Biodiversity Offset Strategy (the Strategy) in accordance with the *Queensland Biodiversity Offsets Policy 2011* (QBOP) and the *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC) *Environmental Offsets Policy 2012* (EOP, for the construction of the revised New Acland Stage 3 Project (the revised Project).

The Strategy discusses the State and Federal offset requirements for the revised Project including:

- Policy requirements
- Offset approach
- Impacts on State significant biodiversity values
- Impacts on Federal threatened species and communities
- Proposed offsets for residual impacts on State significant biodiversity values
- Proposed offsets for residual impacts on Federal threatened species and communities
- Securing offsets
- Management of offsets

2. Policy Requirements

Two offset policies apply to the revised Project, at the State and Commonwealth levels. The offset requirements for the revised Project and each applicable policy have been assessed within this Strategy.

The offset policies to be considered for the revised Project are:

- Environment Protection and Biodiversity Conservation Act 1999 Environmental Offset Policy 2012 (EPBC EOP)
- Queensland Biodiversity Offset Policy 2011 Version 1 (QBOP)

2.1. EPBC EOP

The following has been extracted from the *Environment Protection and Biodiversity Conservation Act* 1999 *Environmental Offset Policy* 2012.

The use of offsets to compensate for adverse impacts to heritage values is appropriate in some circumstances. In cases where offsetting of adverse impacts on heritage values is considered possible and appropriate, the principles of this policy apply with regard to determining what constitutes a suitable offset. Offsets for impacts on heritage values should improve the integrity and resilience of the heritage values of the property involved. This may include offsets in areas adjacent to the property.

The EPBC Act environmental offsets policy has five key aims, to:

- 1. ensure the efficient, effective, timely, transparent, proportionate, scientifically robust and reasonable use of offsets under the EPBC Act
- 2. provide proponents, the community and other stakeholders with greater certainty and guidance on how offsets are determined and when they may be considered under the EPBC Act
- 3. deliver improved environmental outcomes by consistently applying the policy
- 4. outline the appropriate nature and scale of offsets and how they are determined
- 5. provide guidance on acceptable delivery mechanisms for offsets.

2.2. **QBOP**

The purpose of the QBOP is to increase the long-term protection and viability of the State's biodiversity where residual impacts from a development on an area possessing State significant biodiversity values cannot be avoided. The QBOP provides the framework to ensure that there is no net loss of biodiversity.

For the purposes of the QBOP, State Significant Biodiversity Values (SSBVs) have been derived from relevant values in the DEHP's Areas of Ecological Significance (**AES**) mapping and Biodiversity Planning Assessments (**BPA**).

The revised Project will need to provide an offset for impacts on State Significant Biodiversity Values in accordance with the *Queensland Biodiversity Offset Policy*. This requirement will be included in the revised Project's Environmental Authority (EA).

Impacts on SSBVs must not occur until the holder of the EA has provided a legally secured direct land based offset, or entered into a Deed of Agreement, with the administering authority for an offset transfer, consistent with the QBOP requirements for reporting on progress of securing the offset.

3. Offset Approach

3.1. Avoidance

In developing the revised Project following concerns raised by government and public stakeholders in relation to the original Project, NHG have considerably reduced its project footprint, including its potential impacts on threatened flora and fauna.

The revised Project includes a reduction in the active area of the MLA 50232 Project area from 5,069 hectares (ha) to 2027 ha. The revised Project avoids mining within Acland and includes a buffer zone along Lagoon Creek, where a revegetation program will be implemented over the life of the revised Project. Figure 2 sets out the revised Project's footprint.

Impacts on all ecological values have been avoided and minimised as far as practicable. The revised Project will use ongoing opportunities to further avoid impacts at a local scale through the detailed design and construction phases.

3.2. Residual Impacts

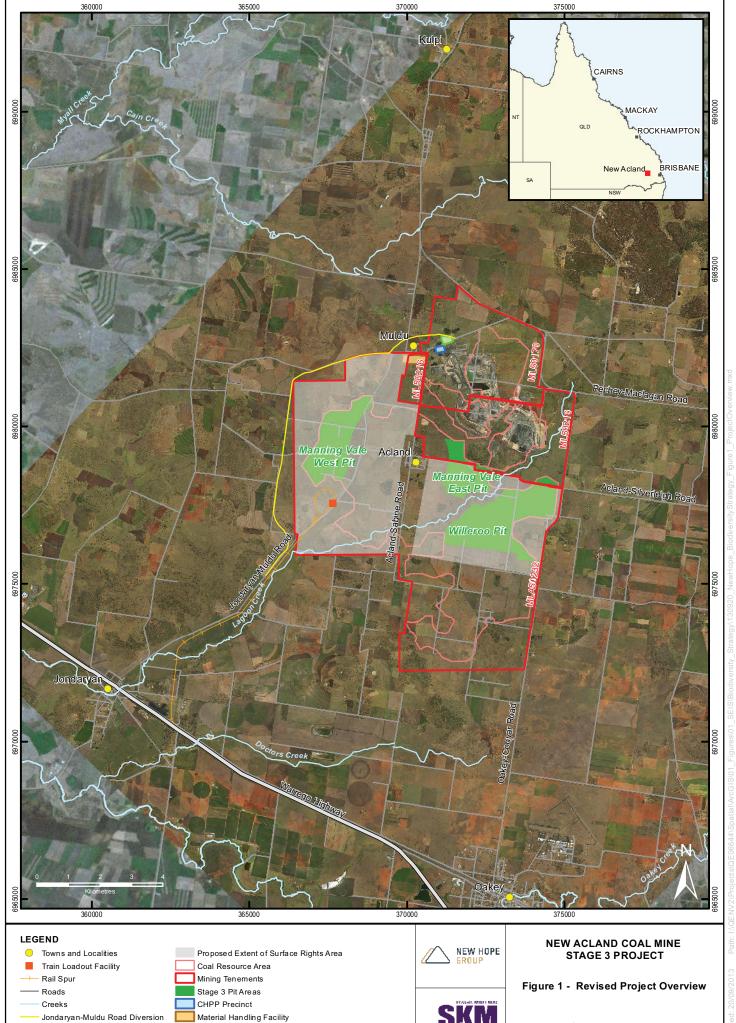
The revised Project will impact on Threatened Ecological Communities (TEC), Endangered and Of Concern Regional Ecosystems (REs), watercourses and threatened species (*Figure 2*). TECs are those communities listed as threatened under the Commonwealth's EPBC Act. REs are those vegetation communities in a bioregion that are consistently associated with a particular combination of geology, landform and soil. A community that is a TEC can correspond with an RE, but not necessarily.

The residual and unavoidable impacts resulting from clearing required for the revised Project will be offset in accordance with QBOP and EPBC EOP. The offsets proposed are intended to satisfy both policies, for example, one offset for Brigalow will satisfy both the QBOP and EPBC EOP requirements.

Residual impacts requiring offsets under EPBC EOP and QBOP have been calculated for the revised Project and verified using the EOP offset calculator. Where watercourses, as defined under the *Vegetation Management Act*, 1999 (VMA) will be impacted upon by clearing, the area requiring offsetting has been calculated by applying the applicable buffers as per the regional vegetation management code and Department of Natural Resources and Mines (DNRM) stream order mapping. This buffer has been applied to the field verified vegetation mapping.

The Department of Environment and Heritage Protection (DEHP) Biodiversity Planning Assessment Mapping identifies regional corridors across the project area as seen in *Figure 3*. The value attributed to connectivity has been based on impacts on Endangered and Of Concern REs, watercourses and protected species within the corridor areas. Additionally, with the proposed mitigation measures for fragmentation, barrier effects and reduction in vegetation communities and habitats, the overall function of the corridors are not expected to be compromised or significantly impacted.

The impacts on flora and fauna protected under the EPBC and *Nature Conservation Act* 1992 (NCA) that are classified and known to occur on the site have been included in this strategy. The offsets that are proposed under the EPBC EOP and QBOP provide a net environmental gain and cover all of the impacts assessable.



Mine Industrial Area

Scale 1:120,000 on A4
Projection: Australian Geodetic Datum – Zone 56 (AGD84)

Creeks Jondaryan-Muldu Road Diversion

Scale 1:75,000 on A4
Projection: Australian Geodetic Datum – Zone 56 (AGD84)

4. Impacts on State significant biodiversity values

The revised Project will have an impact on the following State significant biodiversity values:

- remnant endangered regional ecosystems;
- remnant endangered grassland regional ecosystems Regional ecosystems;
- remnant of concern regional ecosystems;
- remnant of concern grassland regional ecosystems;
- watercourse regional ecosystem;
- protected animals Endangered, vulnerable, near threatened and special least concern animals under the Nature Conservation Act 1992; and
- protected plants Extinct in the wild, endangered, vulnerable or near threatened protected plants under the *Nature Conservation Act* 1992.

The state significant biodiversity values are listed on **Table 1**.

The state significant biodiversity values affected by the revised Project are a combination of endangered and of concern regional ecosystems, as watercourse regional ecosystem and animals and plants listed in the Nature Conservation Act 1992.

An area of 2.39 ha of the poplar box woodland (11.3.2) falls within 50 metres of Lagoon Creek, which is a stream order 2, making the area of the community that is adjacent to Lagoon Creek a state significant biodiversity value.

Table 1 Impact to SSBVs

RE	VMA Class	BVG 1: 1M	Short Description (Regulation)	Total area (ha)	% riparian "Regional" corridor	% "State" terrestrial corridor	Area in Stream Order Buffer
11.3.1	Е	25a	Open-forest dominated by Acacia harpophylla and/or Casuarina cristata (particularly in southern parts), with or without scattered emergent Eucalyptus spp.	12.0	0	0	0
11.3.2	OC	17a	Eucalyptus populnea woodland to open-woodland. E. melanophloia may be present and locally dominant. There is sometimes a distinct low tree layer	4.5	0	0	2.39 (SO2)
11.3.17	OC	25a	Eucalyptus populnea woodland with Acacia harpophylla and/or Casuarina cristata on alluvial plains	5.8	0	0	0
11.3.21	Е	30a	Grassland dominated by Dichanthium sericeum and/or	35.9	0	0	0

RE	VMA Class	BVG 1: 1M	Short Description (Regulation)	Total area (ha)	% riparian "Regional" corridor	% "State" terrestrial corridor	Area in Stream Order Buffer
			Astrebla spp. (A. lappacea, A. elymoides and A. squarrosa). A wide range of other grass and forb species is usually present and may dominate depending on seasonal conditions and management regime.				
11.8.11	OC	30b	Dichanthium sericeum grassland on Cainozoic igneous rocks	4.1	0	0	0
11.9.5	Е	25a	Acacia harpophylla and/or Casuarina cristata open forest on fine-grained sedimentary rocks	12.6	0	0	0
11.9.10	OC	25a	Eucalyptus populnea predominates forming a distinct but discontinuous canopy (15-18 m tall). Acacia harpophylla and sometimes Casuarina cristata usually forms a lower tree layer (8-14 m tall) which occasionally becomes the dominant layer.	4.1	0	0	0
11.9.13	OC	13d	Eucalyptus moluccana or E. microcarpa open forest on fine grained sedimentary rocks	3.6	0	0	0

Listed species	NC Status	Description
Phascolarctos cinereus - Koala	Special least	Poplar box woodland, that is habitat for the Koala
	concern	will be cleared for the revised Project in the
		Manning Vale West pit and in areas adjacent to
		Lagoon Creek.
Digitaria porrecta - Finger panic	Near threatened	One isolated patch in western part of the revised
grass		Project area, in the Manning Vale West Pit.
Homopholis belsonii - Belson's	Endangered	Twelve patches found in the bluegrass dominated
panic		grassland community and are found in the
		Manning Vale West Pit and the Willaroo Pit, to the
		south of Lagoon Creek. This species has been
		found in the shelter of trees in the brigalow and
		poplar box vegetation communities.

5. Impacts on Federal threatened species and communities

The revised Project will result in the clearing of 64.7 ha of three threatened ecological communities, as listed in **Table 2**.

Three flora species that are listed under either the EPBC Act have been recorded from the revised Project site and are within the disturbance footprint. The affected species are listed **Table 2**.

The EPBC Offset calculator the each of the matters of National Environmental Significance are included in **Appendix A**.

Table 2 Impact on MNES

Matters of National Envir	onmental Signif	ficance Impacts	
MNES	EPBC Act Status	Significantly Impacted	Primary reason for the outcome
Bluegrass dominant grasslands of the Brigalow Belt Bioregions (North and South)	Endangered	Yes – 40.1 ha	Significant impact as per the MNES Guidelines Version 1.1
Brigalow (Acacia harpophylla dominant and co-dominant) Listed Flora Species	Endangered	Yes – 24.6 ha	Significant impact as per the MNES Guidelines Version 1.1 Brigalow
Bothriochloa biloba (lobed blue grass)	Vulnerable	Yes	Significant impact as per the MNES Guidelines Version 1.1
Digitaria porrecta (finger panic grass)	Endangered	Yes	Significant impact as per the MNES Guidelines Version 1.1
Homopholis belsonii (Belson's panic)	Vulnerable	Yes	Significant impact as per the MNES Guidelines Version 1.1

6. Proposed offsets for residual impacts on State significant biodiversity values

The proposed offset for state significance biodiversity values is described below and presented in **Table 3**.

Brigalow Offset

The total Brigalow impact of the revised Project on brigalow is 28.7 ha, which includes both Queensland and Commonwealth listed communities, comprised of RE 11.3.1, RE 11.9.5 and 11.9.10.

NAC is currently investigating several options with regard to suitable Brigalow offset areas within the Bioregion. The Brigalow offset for Queensland and Commonwealth impacts will be collocated to improve the ecological benefit of the offset and to improve the management effectiveness of the offset.

Natural grasslands Offset

The bluegrass community consists of RE 11.3.21 and 11.8.11. Of this, the entire 40.1 ha is listed by Queensland and Commonwealth legislation that require to be offset. The proposed bluegrass offset of 247 ha has been identified on the NHG's property and this should satisfy the Queensland and Commonwealth offset policies. The three listed grass species that may be impacted by the revised Project have been identified as occurring within the proposed offset area, and so will be collocated within the natural grasslands offset area.

Poplar box and Gum-topped box Offset

NAC is investigating options for the establishment of an offset for poplar box (11.3.2 and 11.3.17) and gum-topped box (11.9.13) in the Bioregion. Initial information has identified that an appropriate area is available to offset the clearing of 13.9 ha of these communities. Investigations are continuing and discussions are planned with third party landholders on whose property the offset may be located.

Fauna listed under Nature Conservation Act

Habitat for the Koala, a special least concern species under the Nature Conservation Act, will be cleared for the revised Project. This habitat is poplar box woodland and an area of 10.3 ha is to be cleared, in the Manning Vale West pit and along Lagoon Creek.

An offset for the Koala will be satisfied with the creation of an offset for the poplar box woodland (11.3.2) – an of concern regional ecosystem.

Plants listed under Nature Conservation Act

Two species of plant listed under the Nature Conservation Act will be affected by the revised Project. These species are *Digitaria porrecta* and *Homopholis belsonii*.

These species will be translocated and re-established within areas of bluegrass dominant grassland offset, to be located to the south of the revised Project on land owned by NAC.

Table 3 Proposed State Offsets

RE Impacted	Impacted Area (Ha)	Stream Order (QBOP)	Proposed offset area
11.3.1	12	NA	60 ha within an area of naturally regenerating Brigalow that is part of the Brigalow TEC is being investigated to satisfy both the EPBC EOP requirement and the QBOP requirement
11.3.2	4.5	2	An appropriate offset area will be identified and secured to meet QBOP requirements that is on a stream order of 2, around 20 ha in area.
11.3.17	5.8	NA	To be collocated with offsets for 11.9.5, 11.9.10 and 11.9.13, around 30 ha in area.
11.3.21	35.9	NA	247 ha of Bluegrass dominated grasslands with secured to offset impact to 11.3.21, on land adjacent to the revised Project.
11.8.11	4.1	NA	247 ha of Bluegrass dominated grasslands with secured to offset impact to 11.3.21, on land adjacent to the revised Project around 20 ha in area.
11.9.5	12.6	NA	To be collocated with offsets for11.3.17, 11.9.10 and 11.9.13 around 60 ha in area.
11.9.10	4.1	NA	To be collocated with offsets for 11.3.17, 11.9.5, and 11.9.13 around 20 ha in area.
11.9.13	3.6	NA	To be collocated with offsets for 11.3.17, 11.9.5 and 11.9.10

6.1. Bluegrass dominated Grasslands

The bluegrass dominated natural grasslands consists of RE 11.3.21 and 11.8.11. Of this, the entire 40.1 ha is captured by the EPBC offset requirements. The proposed bluegrass offset of 90 ha has been identified on the NAC's property and this should satisfy both Commonwealth and State offset policies. The three listed grass species that may be impacted by the revised Project have been identified as occurring within the proposed offset area, and so will be collocated within the natural grasslands offset area.

6.2. Brigalow, Poplar Box and Gum-topped Box RE, s

The proposed offsets for impacts to REs 11.3.1, 11.3.2, 11.3.17, 11.9.5, 11.9.10 and 11.9.13 will be collocated within the proposed offset area/s that has been proposed for the impacted Brigalow TEC, as described in section 7.1 of this strategy. The area of Brigalow, Poplar Box and Gum-topped Box RE needing to be offset is 42.6 ha. The offset area/s will be approximately 250 ha and will satisfy the QBOP. The offset area/s for these communities will most likely be located away from the revised Project site and is yet to be secured.

The combined Brigalow offset will consist of an RE (250Ha) that is listed as a Brigalow TEC under the EPBC Act and will therefore satisfy both Commonwealth and State offset policies and will contribute to a greater environmental outcome due to the larger patch size. NHG is currently investigating several options with regard to suitable Brigalow offset areas within the Bioregion.

7. Proposed offsets for residual impacts on Federal threatened species and communities

The offset areas have been calculated using the EPBC Offset calculator and the assessment of the condition of TECs within the revised Project site. **Table 4** lists the areas to be provided as an offset.

For the Brigalow offset, the area of impact has been calculated as 24.6, being the area of the constituent regional ecosystems – 11.3.1 and 11.9.5. With this area and an assessment of the condition of the community and an conservative estimate for the time of a patch of brigalow to reach ecological benefit and area of 60 ha is produced from the calculator. This area has been used as the size of the brigalow offset to be secured. Once a patch of brigalow has been identified and assessed, this area will need to be revised, with a site assessment of the condition of the offset site.

The bluegrass dominant grassland will be offset on land owned by NAC. The area of land that is suitable for use as a grassland and listed species offset is 247 ha. This area has been determined by condition assessment completed 2013. The area of impact and the assessment of the condition of the impacted communities have been used in the EPBC Offset calculator to determine the expected area of offset needed to offset the impact to the bluegrass dominant grassland.

Table4 Proposed Federal Offsets

Threatened Species or Community Impacted	Area (Ha)	Proposed Offset area
Brigalow (Acacia	24.6	60 ha within an area of naturally
harpophylla dominant and		regenerating Brigalow that is part of the
co-dominant)		Brigalow TEC is being investigated to
		satisfy both the EPBC EOP requirement
		and the QBOP requirement
Bluegrass dominant	40.1	90 ha of Bluegrass dominated grasslands
grasslands of the Brigalow		will be required to offset the impact to this
Belt Bioregions (North and		community. An area of 247 ha is available
South)		for this offset.
Bothriochloa biloba	70	70 ha of grasslands will be required to
(lobed blue grass)		offset the impact to this species. An area of
		247 ha is available for this offset.
Digitaria porrecta	165	165 ha of grasslands will be required to
(finger panic grass)		offset the impact to this species. An area of
		247 ha is available for this offset.
Homopholis belsonii	87	87 ha of grasslands will be required to
(Belson's panic)		offset the impact to this species. An area of
		247 ha is available for this offset.

7.1. Brigalow TEC Offset

The total Brigalow impact for the revised Project is 24.6 ha has been classified as the EPBC listed TEC (comprised of RE 11.3.1 and RE 11.9.5).

NAC is currently investigating several options with regard to suitable Brigalow offset areas within the Bioregion. The Brigalow TEC offset will be collocated with the State offset and will contribute to a greater environmental outcome due to the larger patch size.

An offset of approximately 60 ha is expected to be needed to offset the impact of the revised Project on the Brigalow TEC.

7.2. Natural grasslands Offset

The bluegrass dominated natural grasslands consists of RE 11.3.21 and 11.8.11. Of this, the entire 40.1 ha is captured by the EPBC offset requirements. The proposed bluegrass offset of 90 ha has been identified on the NAC's property and this should satisfy both Commonwealth and State offset policies. The three listed grass species that may be impacted by the revised Project have been identified as occurring within the proposed offset area, and so will be collocated within the natural grasslands offset area.

8. Delivery of Biodiversity Offsets

The next phase of the process after the revised Project has been approved and issued with an amended EA will be to finalise arrangements for the potential offset areas.

Prior to construction, a Biodiversity Offset Package will be prepared that will:

- identify and secure an offset package/s following completion of ecological assessments of proposed offset sites;
- secure a legally binding mechanism on Title; and
- develop an Offset Area Management Plan (OAMP) for each offset management area.

There are several legally binding mechanisms available that may be applied to the final Biodiversity Offset Package including:

- 'gazettal as a protected area (e.g. a nature refuge)' under the NCA;
- 'voluntary declaration of an area of high nature conservation value' under the VMA;
 or
- use of a 'covenant' under the Land Title Act 1994 or Land Act 1994.

9. Management of Offset Areas

An OAMP will be prepared for each offset site to meet the requirements of the EPBC EOP and QBOP. The OAMPs will include information on the threats and the management actions required at each offset site to abate those threats. Each OAMP will contain an estimate of the costs of management and will provide a monitoring program that will extend until the management outcomes are achieved.

Management actions may include:

- management of grazing;
- weed management;
- feral pest management;
- management of fire; and
- if applicable, active revegetation.

The length of active management will be influenced by the condition of vegetation, type of habitat, climatic conditions and vegetation on site, as well as existing management issues. The OAMPs will incorporate conditions of approval required by the State and Commonwealth departments, including regular monitoring and reporting such as those conditions granted for the Stage Two Project in 2006.

Appendix A – EPBC Offset Calculator

Offs ets ASsess ment Guide
Forus in determining offset under the Eminorary Protection and Bushwary Com
The gately relief on Mean between greated in the removement

many per or statement and service or service

Attribute relevant to Description Q case?

Protected matter attributes

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

Cost (S total)

% of (90%) direct impact offset requirement med?

	Confidence Adjusted Net present vi in result (%) gain (adjusted heet.							24.2	5.06	Net present va						
	Adjus ted gain							9.80	2.10	Adjus ted gain						
								200%	3,002	Confidence Adjusted in result (%) gain						
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alculate	ca and ithout x	ical Con		0.0		ned speci	30%	49.0	40	alue			Threatened species			
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	a and ity							۶	7	alue						
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	rizon rs)		=				<u> </u>	R	10	rizon rs)						
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	Proposed offset						Three offset locations on land	owned by New https Group, on properties adjoining the New Acland coal mine. Offset sires to be	with blue grass dominant native grassland.	Proposed offset						
	Units						Adjusted		Units							
	Attribute Total relevant quantum of to case? impact							17.95		Attribute Total relevant quantum of to case? impact						
	Attribute relevant to case?			Ź				Yes		Attribute relevant to case?	2	ž		2	ž	ž
	Protected matter attributes			Area of community				Area of habitat		Protected matter attributes	Number of features e.g. Nest hollows, habitat trees	Condition of habitat Change in habitat condition, but no change in extent		Birth rate e.g. Change in nest success	Mortality rate e.g Change in number of read kills per year	Number of individuals e.g. Individual plants/animals
								tor	et calcula	shO						
	Information source						1	Ecological site surveys, biocondition a sessments, SPR AT and RE	data bases	Information source						
	Units						Hectares	Scale 0-10	Adjuste d he ctares	Units						
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Attribute relevant to case?

> Protected matter attributes

Impact calculator

Cost (S total)

Minimum % of (90%) direct impact offset requirement met?

n/a

Yes

				Sur	Summary			
							Cost(S)	
	Protected matter attributes	Quantum of impact	net present value of offset	% of impact offset	Direct offeet adequate?	Direct offset (\$)	Other compensatory measures (\$)	Total(S)
	Birth rate	0				00'08		80.00
mary	Mortality rate	0				80.00		80.00
ıwns	Number of individuals	0				80.00		80.00
	Number of features	0				80.00		80.00
	Condition of habitat	0				80.00		80.00
	Area of habitat	17.95	17.62	98.16%	Yes	n/a	#VALUE!	#VALUE!
	Area of community	0				80.00		80.00
						80.00	#VALUE!	#VALUE!

Offsets Assessment Guide
For use, determing offsetuals the Green monthweeter and Backwoop Concern the electric 2 coaches 2012

Vane Digizii porrect DDC Ant status Indungered Annual pu hability of edicelba 12% Units

Attribute relevant to case?

Protected matter attributes Total quantum of impact

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	Net present value (adjus ted hecta res)								19.50	2.66	Net present value							
	Adjusted gain								24.75	3.00	Adjusted gain							
	Raw Confidence gain in result (%)								75%	75%	Confidence in result (%)							
									3300	4.00	Raw							
	Future area and quality with offset			<u> </u>	0.0	<u> </u>		_	148.5	*	Future value with o fiset							
or	Future a	nmunities	Rick of loss (%) with offset	Puture area	(adjusted heetares)	Future quality with offset (scale of 0-10)	ies habita	Rak of loss (%) with offset	Future area with offset (adjusted heetares)	Future quality with offset (scale of 0-10)	Future v			pecies				
Offset calculator	Future area and quality without offset	Ecological Communities	G #	<u> </u>	0.0		Threatened species habitat	30%	115.5	7	value : offset			Investened species				
Offset	2 5	Ecole	Risk of loss (%) without offset	Patanea sea	(a djusted heetares)	Future quality with out offset (scale of 0-10)	Threat	R&k of loss (? w Rhout offs	Annual of the state of the stat									
	Start area and quality		Start rest (head me) (the season (being seas				(heeta so)	Start quality 4 (scale of 0-10)	Startvalue									
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	Time horizon (years)		Risk-related	time ho stoom		Time and it could be excited		Time over which		Time until cobigica i b enefit	Time horizon (years)							
	Proposed offset			1 1				Five of fsetbertons on	land owned by New Hope Group, on properties adjoining the New Acland coalmine. Offsee sites to be with	bluegrass dominat nafivegrassland.	Proposed offset							
	Units									Adjusted hotares		Units						
	Attribute Total relevant quantum of to case? impact								5050		Attribute Total relevant quantum of to case?							
	Attribute relevant to case?				ŝ				, g		Attribute relevant to case?	ŝ	ž		ž	°Z	å	
	Protected matter attributes				Arm of or menomity				Area of habitat		Protected matter attributes	Number of features eg. Nesti olows, lish in rees	Condition of habita t Charge in tubint condition, butno charge is extent		Birth rate eg. Change in n ost sa cooss	Mortality make eg Chang ein number of road kilk per yan:	Number of fadividiank eg. Ind ividualpim teknimik	
									rote	et calcul:	sno							
									* _									
	Information source								Ecob giral site su rveys bis condition assessment E, SPRAT and RE databases		Information source							
				_														

Units

Protected matter attributes

Totalquantum of Impa ct

				Sun	Summary			
							Cost (\$)	
	Protected matter attributes	Quantum of impact	Net present value of offset	% of impact offset	Direct offset a dequate?	Direct offset(\$)	Other compensatory measures (\$)	Total (\$)
	Birth rate	0				00.08		80.00
Mary	Mortality in to	0				00'0 \$		80.00
ıwns	Number of individuals	0				00'0 \$		80.00
	Number of features	0				00.0 8		\$0.00
	Condition of habita t	0				00'0 \$		80.00
	Area of habita t	\$0.5	46.35	91.78%	ю.	n/n	HAVIDE	#VALUE!
	Area of community	0				00.0 8		80.00
						8 0 30	SAME	AVALUES

Offsets Assessment Guide For use teaming offseund to Foreign monthwoods and Bothway Conversion of 1000 between Bothway Conversion and

Name British British British British Annual per bability of selection 1.2%

Units

Attribute relevant to case?

Protected matter attributes Adjusted

Totalquantum of impa ct

tery to cent contains	User in purroquired	ы вимор-фолД	an din o pangrapit)	orngian doggogiddrioN

	Inf								Inf						
	Cost (\$ total)								Cost (\$ total)						
	Minimum (90%) direct offset requirement met?		Yes						Minimum (90%) direct offset requirement met?						
	% of impact offset		%9616						% of impact offset						
	Net present value (adjusted hectares)		4,73	123					Net present value						
	Adjusted gain		9.00	1.50					Adjusted gain						
	Raw Confidence Adjusted gain in result (%) gain		30%	50%					Confidence Adjusted in result (%) gain						
	Raw		1200	3.00					Raw						
	Future area and quality with offset	munities	Rikk of loss (%) with 10% of fact. Fut us area with of fact (adjusted 54.0)	Fature quality with offset scale of 0-10)	s habitat	Risk of loss (%) with of for	Future area with offset (adjusted heetares)	Future quality with offset scale of 0-10)	Future value with offset			ecies			
Offset calculator		Ecological Communities	30%	* 0	Threatened species habitat		00	4 5				Inreatened species			
Offset c	Future area and quality without offset	Ecolog	Risk of loss (%) without offset Future a sea with out offset (a djusted heetares)	Future quality with out offset (scale of 0-10)	Threaten	Rak of loss (%) without offset	Pature a rea with out offset (a djust of heet a res)	Future quality with out offset (seale of 0-10)	Future value without offect			Thre			
	Startarea and quality		09	w 6				A 6	Startvalue						
	Starta		Start area (heeta res)	Start quality (scale of 0-10)		3	(heets no)	Start quality (scale of 0-10)	Start						
	Time horizon (years)		9 E	92		494	led ars)		Time horizon (years)						
			Rith-related time ho shou (max, 20 years)	Time until costogica i b enefit		Time over which	basis averted (max.20 years)	Time until coologica i b enefit							
	Proposed offset		0 10 10 11	Норе Group.					Units Proposed offset						
	Units		Adjusted houses												
	Total quantum of impact		9,84						Attribute Total relevant quantum of to case?						
	Attribute relevant to case?		Ye				ž		Attribute relevant to case?	ž	ž		°N	°,	ž
	Protected matter attributes		Ava of o meening				Area of ha bit at		Protected matter attributes	Number of features eg. Nostholows, hab är rees	Condition of habite to Change in habite condition, but no change in extent		Birth rate eg. Change in n of sa com	Mortality make eg Chang ein number of road kilk per y an	Number of individuals eg. Ind iridual plan skraimsk
							rote	et calcul:	shO						
	,														
	Information source		egertion and ecology surveys reported in revised Project El S,						Information source						
			>	_		\vdash							_		

Units

Protected matter attributes

				Sun	Summary			
			,				Cost (\$)	
	Protected matter attributes	Quantum of impact	net present value of offset	% of impact offset	Direct offset a dequate?	Direct offset(\$)	Other compensatory measures (\$)	Total (\$)
	Birth rate	0				\$ 0.00		80.00
Lieu	Mortally sate	0				\$ 0.00		\$0.00
ıwns	Number of individuals	0				\$ 0.00		80.00
	Number of features	0				\$ 0.00		\$0.00
	Condition of habita t	0				8 0 00		80.00
	Arm of habitat	0				\$ 0.00		80.00
	Area of community	9.84	9 0 8	%9616	59 Å	\$ 0.00	# DIV Ø!	#D1V/0!
						00'0'S	# DIV #	ADIVA

Offsets Assessment Guide

	grassind softhe
of status	Endangered
p to bability of extinction	1.2%
a IUCN category definitions	

									JO -	Offset calculator	tor	1						Minimum		
	Protected matter attributes	Attribute relevant to case?	Attribute Total relevant quantum of to case? impact	f Units	Proposed offset	Time horizon (years)		Start area and quality		Future area and quality without offset	Future area and quality with offset	a and I	Raw C	Confidence Adjusted in result (%)	Adjusted gain	Net present value (adjus ted hectares)	% of impact offset		Cost (\$ total)	Information source
									E	Ecological Communities	mmunities									
	Area of an ensembly	Yes	2005	Adjusted hoteres		Richreited time hosion (max.20 years)	30	Start area 90 (heeta res)	Risk of loss (%) without offset Pleture and without offset (a djusted heetare)	t offset 15% area offset 76.5 set offset res)	Risk of loss (%) with affest Puture area with offset (adjusted heetares)	85.5	00.6	75%	6.75	5.32	9476%	Yes	u/m	
					New Ackind coal mine.	Time until ecologica i b enefit	0. %	Start quality (scale of 0-10)	Future quality with out off set (scale of 0-10)	e affect 4 0-10)	Future quality with offset (scale of 0-10)	2	3.00	75%	2.25	2.00				
									Thu	Threatened species habitat	cies habitat									
note	Arm of ha blast	Ž				Time over which has is averted (max. 20 years)		Start area (heetares)	Rak of loss (% without of fise to the second with out of fise (a djusted heet area)	ess (%) t offset a rea o offset 0,0	Risk of loss (%) with offset offset Net us area with offset (adjusted heetares)	go								
et calcul:						Time until coshgica i b enefit		Start quality scale of 0-10)	Future quality without offset (scale of 0-10)	o fiset 0-10)	Future quality with offset (scale of 0-10)									
shO	Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	redevant quantum of Units Proposed offset to case? Impact	Time horizon (years)	rizon s)	Start value	Fut	Future value without of Bet	Future value with offset		Raw C gain in	Confidence Adjusted in result (%)	Adjusted	Net present value	% of impact offset	Minimum (90%) direct of Ret requirement	Cost (\$	Information so urce
	Number of features eg. Nesth ollows, hab intrees	No																		
	Condition of habites t Charge is habiter condition, but no charge is extent	°Z																		
										Threatened species	species									
	Birth rate eg. Changoin n ostsaccoss	No																		
	Mortally sa to eg Chang ein nu mber o froad kilk- per y an	N _o																		
	Number of individuals eg. Ind is idual plan ekanimis	°N																		

Information source

Units

Protected matter attributes

Adjusted

Total quantum of impa ct

Units

Attribute relevant to case?

Protected matter attributes

				Sun	Summary			
			,				Cost (\$)	
	Protected matter attributes	Quantum of impact	net present value of offset	% of impact offset	Direct offset a dequate?	Direct offset(\$)	Other compensatory measures (\$)	Total (\$)
	Birth rate	0				0000\$		\$0.00
mary	Mortally sate	0				0000 \$		80.00
ıwns	Number of individuals	0				00008		80.00
	Number of features	0				0000\$		80.00
	Condition of habita t	0				\$ 000		80.00
	Area of habita t	0				00'0 \$		\$0.00
	A rea of community	2005	00'61	94.76%	59 Å	n/m	#VALUE!	#VALUE!
						8 0 0 0	AVALUE	AVALUES

Offsets Assessment Guide
For uses deeming offsesuals to Deriva multimode and Baldwork Conservation data

Name Homopho & Homopho & Reduction Processes Assets Assets 0.2%

Units

Attribute relevant to case?

> Protected matter attributes

Total quantum of impa ct

Area

Key to Cell Colours	User it put required	Drop-down Est	Orkuland o up ut	Notaplicable arribute

Autritum Trail be cased impact be cased impact be cased impact containing to the cased interest and the case and the c	Offset calculator	Future area and Patture area and Raw Confidence Adjusted Net presents also from the first cost of the formation offset quality without quality with offset gain in result (%) gain for fine formation offset of the formation of th	Ecological Communities	Hand Annual Annu	forecapity (hearque)	Threatened species habitat	Mathematical Str., Charleston (1974). Str., Ch		Funervalue Funervalue with Raw Confidence Adjusted Netpresentvalue impact of 60% direct order and internation of the confidence of first confidence of first confidence of first confidence of first confidence or confidence of first confidence or confidenc			Threatened species			
Articlium Tonai force and quantum of Units impact (Inits Initiated Tonai refer and quantum of Units in cesser (Inits Initiated Tonai refer and quantum of Units In cesser (Initiated Tonai Initiated Tonai Research Initiated				Rabrelated time ho stora (stats20 years)			Time over which has is averted 20 (max.20 years)	Time until coslogica 5 b enefit							
		Units						bluegrass domin nafvegrassland	Units Proposed off						
		Total t quantum of impact					3465		Total t quantum of impact						
attributes attributes one of a manaday attributes attributes attributes attributes concerted matter concerted matter attributes attr		Attribute relevant to case?		ž			Š		Attribute relevant to case?	ž			ž		
Pr Number or G, Considera G, Change in gen part G, Change in G G, Change in C		Protected matter attributes		Ara of o manually			Aves of his billet		Protected matter attributes	Number of features eg. Nesth ollows, hab kriteos	Condition of habita t Charge in habitacondition, but no charge in extent		Birth rate eg. Chango in n et success	Mortally safe eg Chang ein number of road kills per y an	Number of individuals

Information source

Units

Protected matter attributes

Adjusted hosteres

Totalquantum of linpa d

				Sun	Summary			
			,				Cost (\$)	
	Protected matter attributes	Quantum of impact	Net present value of offset	% of impact offset	Direct offset a dequate?	Direct offset(\$)	Other compensatory measures (\$)	Total (\$)
	Birth rate	0				0008		80.00
nary	Mortality sa te	0				00008		80.00
ıwns	Number of individuals	0				00008		80.00
	Number of features	0				0000\$		80.00
	Condition of habita t	0				0000 \$		80.00
	Area of habita t	3465	31.33	90.42%	19 A	цув	AVALUE	AVALUE!
	Area of community	0				\$ 000		\$0.00
						8 0 0 0	AVALUE	AVALUES