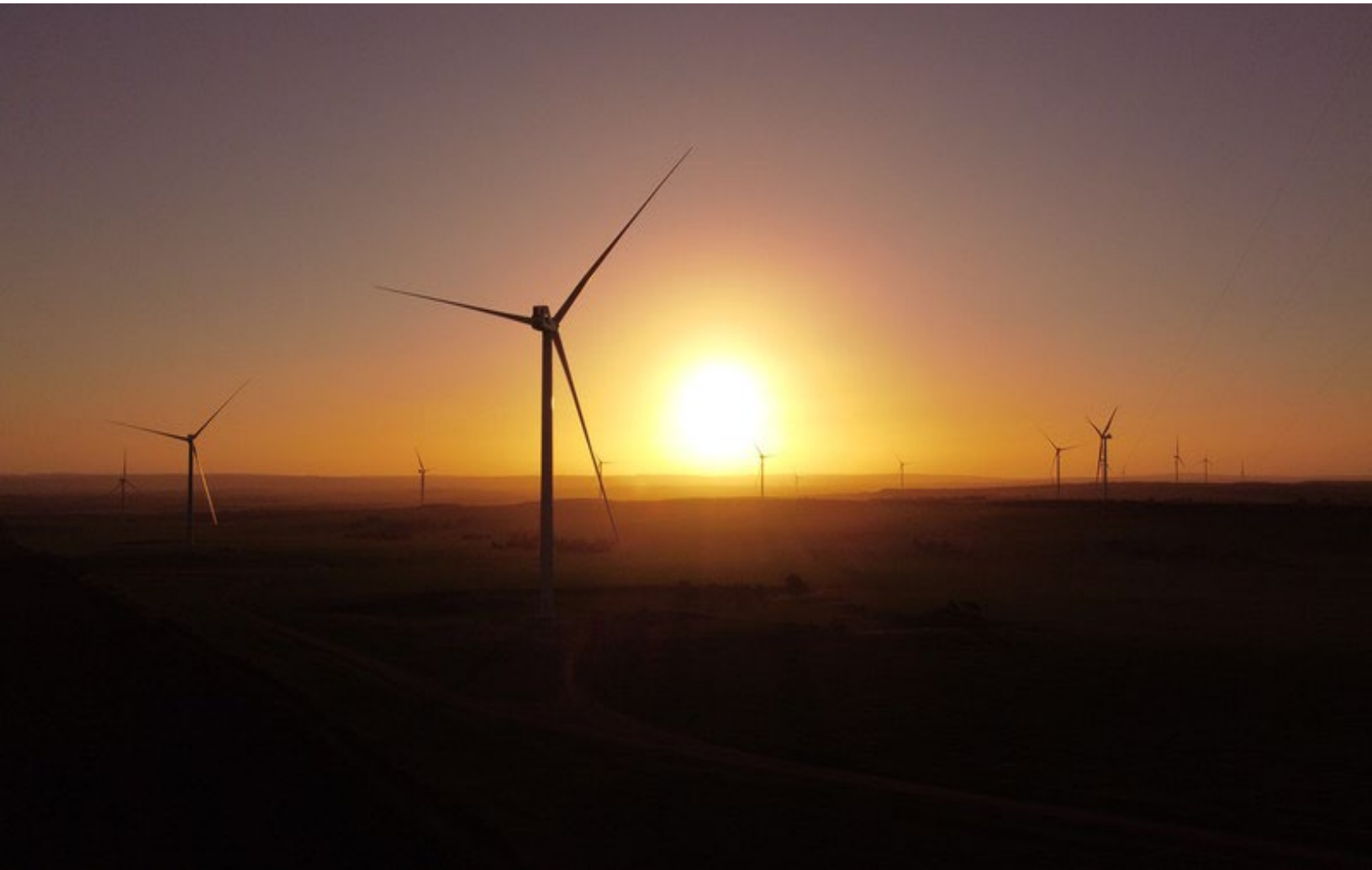
Preliminary Offset Area Management Plan

EPBC 2017/8096 Robbins Island Wind

ACEN Australia Pty Ltd

August 12, 2024

→ **The Power of Commitment**



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Document title		Preliminary Offset Area Management Plan | EPBC 2017/8096 Robbins Island Wind					
Project number		12614699					
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The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report (refer Section 1.2 of this report). GHD disclaims liability arising from any of the assumptions being incorrect.

GHD has prepared this report on the basis of information provided by ACEN Australia Pty Ltd and others who provided information to GHD (including Government authorities)], which GHD has not independently verified or checked beyond the agreed scope of work. GHD does not accept liability in connection with such unverified information, including errors and omissions in the report which were caused by errors or omissions in that information.

The opinions, conclusions and any recommendations in this report are based on information obtained from, and testing undertaken at or in connection with, specific sample points. Site conditions at other parts of the site may be different from the site conditions found at the specific sample points.

Investigations undertaken in respect of this report are constrained by the particular site conditions, such as the location of buildings, services and vegetation. As a result, not all relevant site features and conditions may have been identified in this report.

If this report is required to be accessible in any other format, this can be provided by GHD upon request and at an additional cost if necessary.

1. Introduction

1.1 Background

ACEN Australia Pty Ltd (ACEN) proposes to develop a wind farm on Robbins Island off north-west Tasmania (the Project). The Project was referred under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) to the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) (EPBC 2017/8096), and subsequently deemed a controlled action. Preliminary assessment of the environmental impacts of the Project by DCCEEW determined that it is likely to result in a Significant Residual Impact (SRI) to habitat for the Tasmanian devil (*Sarcophilus harrisii*), and that an offset to compensate for this loss may be required under the EPBC Act.

The Offset Strategy and this preliminary OAMP have been developed to support the assessment of the Project under the EPBC Act. This OAMP is *preliminary* in nature as the Project is in the assessment stage under the EPBC Act, and due to the final offset area requirements being informed by:

– The habitat quality methodology
– Review and endorsement of the habitat quality methodology by DCCEEW
– Habitat quality scoring of the impact and offset area
– Review and endorsement of the inputs into the Offset Assessment Guide (OAG) by DCCEEW

Post-EPBC Act approval, a final OAMP will be developed and submitted to DCCEEW for approval.

1.2 Purpose

This Offset Area Management Plan (OAMP) presents ACEN's proposed offset for the Tasmanian devil and supports the approval of an offset package, developed in accordance with the EPBC Act Environmental Offsets Policy (the Policy, DSEWPaC 2012).

The offset package consists of an Offset Strategy and this preliminary OAMP. The Offset Strategy has been developed to show the overview of the proposed offset approach. The preliminary OAMP (this document) provides further detail, including the specific details, timing, management actions and outcomes of the offset. The two documents contain unique information and should be read together and in sequence.

This preliminary OAMP:

– Summarise the Project impacts to Tasmanian devil habitat;
– Identifies the preliminary offset area;
– Outlines the regulatory framework guiding the development of the OAMP;
– Provides site-specific management actions including specific timing, outcomes, monitoring, reporting, and corrective actions;
– Demonstrates complete acquittal of the calculated offset requirement, based on the maximum significant residual impact from the Project; and
– Assesses the risks associated with achieving the offset and provide a detailed risk assessment.

1.3 Key terms

The key reference terms used throughout this document are presented below and are consistent with terms and definitions supplied in all offset documentation for this Project. A list of key acronyms and definitions is provided in Table 1:

– The **Study area** is the area that has been assessed for the Project, including for both impact and offset areas, and represent the extent of ecological investigations. For the purposes of this Project, the Study area is the full extent of Robbins Island.
– The **Project area** is the full extent of the area required for the Project, including both temporary and permanent disturbance.

– The **Impact area** is the maximum extent of the permanent impact to habitat for the Tasmanian Devil from the Project.
– The **Offset area(s)** is the extent of the potential offset site(s) located on Robbins Island.

Table 1 Acronyms and definitions used in this report

Acronym	Definition
DCCEEW	Department of Climate Change, Energy, the Environment and Water
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
EPA	Environment Protection Authority (Tasmania)
ha	Hectare(s)
HQ	Habitat Quality
LGA	Local Government Area
LH	Landholder
MW	Megawatt
MAS	Maintenance and Services facility
NBES	North Barker Ecosystem Services
NEM	National Energy Market
NRE	Department of Natural Resources and Environment, Tasmania
OAMP	Offset Area Management Plan
ODP	Offset Delivery Plan
OMS	Offset Management Strategy
SRI	Significant Residual Impact
STDP	Save the Tasmanian Devil Program
TASVEG	The Digital Vegetation Map of Tasmania
TCC	The Carnivore Conservancy
TSP Act	Threatened Species Protection Act 1995
UPC	UPC Robbins Island Pty Ltd
WTG	Wind Turbine Generator

1.4 Document structure

This OAMP includes the following sections:

– **Section 1: Introduction -** This section includes the environmental offset policy framework, including the offset principles and compliance with the EPBC Act and Tasmanian legislation guidelines.
– **Section 2: Overview –** This section describes the purpose of the offset, why it's required, the approach and the outcomes and objectives of the proposed offset
– **Section 3: Offset area –** This section describes the offset area including the habitat and population of Tasmanian devils on Robbins Island.
– **Section 4: Management and monitoring –** This section includes the proposed management and monitoring actions for the offset area
– **Section 5: Reporting -** This section includes the reporting requirements for the offset
– **Section 6: Offset delivery** – This section provides the particulars for how the offset will be legally secured, indicative times and potential cost
– **Section 7: Risk assessment**– This section includes a risk assessment that outlines risks and controls related to delivery of the proposed OAMP

1.5 Compliance with EPBC Act

1.5.1 EPBC Act Environmental Offsets Policy

The proposed offset has been developed in accordance with the overarching principles and aims of the EPBC Act and associated Environmental Offsets Policy (DSEWPaC 2012a). Alignment with the policy principles has been addressed in the Offset Strategy.

The development of this document has been guided by the EPBC Act Environmental Management Plan Guidelines (EMP Guidelines, DoE 2014).

1.6 Relevant documents

Documentation relevant to the OAMP are provided in Table 2. Documents include appendices and reports submitted as part of the Commonwealth Preliminary Documentation submitted for the EPBC referral (EPBC 2017/8096) and the Development Proposal and Environmental Management Plan.

Table 2 Documentation relevant to the development to the OAMP

Document title	Date of final	Author
EPBC Referral (2017/8096) documentation	November 2017	GHD Pty Ltd
Development Proposal and Environmental Management Plan (DPEMP)	December 2021	GHD Pty Ltd
DPEMP Appendix D – Tasmanian Devil Survey	October 2018	The Carnivore Conservancy Ltd
DPEMP Appendix C – Natural Values Assessment	June 2021	North Barker Ecosystem Services Pty Ltd
DPEMP Supplementary Volume	July 2022	GHD Pty Ltd
Tasmanian Devil Trapping Survey	July 2022	North Barker Ecosystem Services Pty Ltd
Environmental Assessment Report and EPA Decision	December 2022	EPA Tasmania
Robbins Island Wind Farm Offset Strategy	December 2023	GHD Pty Ltd

1.7 Declaration of accuracy

In making this declaration, I am aware that section 491 of the *Environment Protection and Biodiversity Conservation Act 1999* makes it an offence in certain circumstances to knowingly provide false or misleading information or documents to specified persons who are known to be performing a duty or carrying out a function under the EPBC Act or the *Environment Protection and Biodiversity Conservation Regulations 2000*. The offence is punishable on conviction by imprisonment or a fine, or both. I am authorised to bind the approval holder to this declaration and that I have no knowledge of that authorisation being revoked at the time of making this declaration.

Signed _____

Full name (please print) _____

Organisation (please print) _____

Date _____/_____/_____

2. Overview

2.1 Summary of impacts

The final Significant Residual Impact (SRI), once all avoidance, minimisation and mitigation measures have been considered, is 183.384 ha. Table 3 presents a summary of the area and type of habitat required to be offset. Figure 1 displays the habitat mapping. For details of the Significant Impact Assessment (SIA) and final SRI refer to Section 4.3 in the Offset Strategy and for impact area inputs to the OAG refer to Section 5.3.5 of the Offset Strategy.

Table 3 MNES – Tasmanian devil significant residual impact

Habitat type	SRI (ha)	Impact quality score
Optimal denning habitat (and foraging and dispersal)	~5.95	The predicted habitat quality of the impact area is seven (7). This figure is based on knowledge of the existing habitat from previous surveys conducted on Robbins Island to date (Section 1.6). This input will be verified and updated following endorsement of the habitat quality methodology by DCCEEW and after approval of the preliminary OAMP. After approval, proposed vegetation condition and devil population monitoring surveys will be conducted to establish a baseline and inform the final OAMP impact quality score.
Sub-optimal denning (and foraging and dispersal)	~177.434	
Total maximum, permanent impact	**183.384**	

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Legend

- Project footprint
- Macropod proof fencing

Devil habitat suitability

- Foraging and Dispersal Habitat
- Optimal Denning Habitat
- Suboptimal Denning Habitat

Bird Point
Mosquito Inlet
Ransonnet Bay
Knot Point
Back Banks
Five Islets
Little Bluff
Guyton Point
Big Bluff
Reids Point
Robbins Passage

Paper Size ISO A3

0 1 2

Kilometres

N

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

GHD

ACEN RENEWABLES
ROBBINS ISLAND
POST-APPROVALS SUPPORT

DEVIL HABITAT

Project No. **12614699**
Revision No. **1**
Date **11/07/2024**

FIGURE 1

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Print date: 11 Jul 2024 - 14:33

Data source: GHD, 2024; ACEN, 2024; Imagery: World Imagery: Earthstar Geographics. Created by: jhiggins

2.2 Offset approach

The offset package includes a 100% direct, land-based offset

The land-based offset has been developed in accordance with the Policy and delivers the following conservation gains that are identified in the Policy:

– Improving existing habitat for the protected matter
– Reducing threats to the protected matter

2.3 Offset outcomes and objectives

Offset management actions are provided in Section 4. They are informed by the objectives and outcomes described here. The management objectives for the Tasmanian devil offset, in alignment with the EPBC Act Environmental Offsets Policy are to:

– Deliver an overall conservation outcome that improves the viability of habitat for Tasmanian devils within the offset area.
– Provide a direct offset that is in proportion to the level of statutory protection that applies to the Tasmanian devil.
– Be of a size and scale proportionate to the residual impacts for the Robbins Island Wind Project.
– Effectively account for and manage the risks of the offset not being successful within the required management timeframe; and
– Be efficient, effective, timely, transparent, scientifically robust and reasonable with appropriate transparent governance arrangements in place for measuring, monitoring, auditing and enforcing the management of the offset areas.

The outcomes to be achieved by the management actions are detailed in Table 4. They are aimed at improving the population viability and overall habitat quality for the Tasmanian devil. The offset outcomes have been developed with consideration for legislative requirements, known and potential threats to the species, the condition of the habitat on Robbins Island, and published recovery actions. Outcomes have been guided by the following documents:

– The approved conservation advice (DCCEEW 2009).
– The listing advice (TSSC 2009a).
– Priority actions set out in the Save the Tasmanian Devil Program (as referenced in the conservation advice) (DPIPWE 2009).
– The draft recovery plan (DPIPWE 2010, there is no approved recovery plan; however, there is a draft recovery plan which offers some guidance around recovery actions for the species).
– The EPBC Act Policy (DSEWPaC 2012).

The ecological outcomes follow the SMART principles by being:

– **Specific,** outlining the precise requirement and detail on what must be done and by whom.
– **Measurable**, with quantifiable criteria and/or outcomes that can be compared over time to baseline levels, with performance indicators across a number of years to indicate failure of measures or decline of values as early as possible.
– **Achievable**, through having realistic gains informed by sound scientific knowledge, and by considering risk factors.
– **Relevant** by addressing the threats to the species and the specific context on Robbins Island.
– **Time-bound**, with identified timeframes for delivery and a monitoring, reporting and auditing schedule.

Table 4 Offset outcomes

Number	Outcome	Alignment
Land-based offset		

Number	Outcome	Alignment
1	Establishment of a 1,164ha offset area on Robbins Island, protected by a conservation covenant for the period of the Project EPBC Act approval.	Aligns with the Offset Policy by providing a direct offset that is in proportion to the level of statutory protection that applies to the Tasmanian devil (as determined through the OAG). It addresses the potential threat identified in the conservation advice of habitat modification (DCCEEW 2009).
2	Tasmanian devils persist within the offset area for the duration and at the completion of the offset, and the population density is equal to or above the average density in similar habitats in Tasmania.	Aligns with the STDP objectives to 'maintain the genetic diversity of the Tasmanian devil population' and 'maintain the Tasmanian devil population in the wild'. Drives management actions that support healthy devil densities in the face of other threats on Robbins Island (such as the arrival of DFTD).
3	Devil natal den capacity within the offset area is protected and maintained for the duration of the offset, with no permanent loss of den capacity.	Supports reproduction and reduces added pressures in the face of DFTD. Aligns with the STDP objectives to 'maintain the genetic diversity of the Tasmanian devil population' and 'maintain the Tasmanian devil population in the wild'.
4	The quality of Tasmanian devil habitat in the offset area is improved by at least one point within a twenty-year period from the commencement of the offset area.	Supports a healthy ecosystem and habitat for the devil, reducing added pressures in the face of DFTD. This outcome is aligned with the objective of the STDP 'manage the ecological impacts of reduced Tasmanian devil populations in their natural range' and the recovery plan strategy to 'minimise impacts from the disease and other threats in the wild'.

3. Offset area

3.1 Location

The proposed offset area is 1,164 ha in size and will be located in the central north of Robbins Island, within the area shown in Figure 2. It is adjacent and in close proximity to the impact area. The approach to offset site selection is described in Section 5.3.3 of the Offset Strategy.

Due to the interdependencies between offsets and the preceding impact assessment stages (including habitat quality), it is not possible to identify a final offset area ahead of Project approval. A proposed offset area is outlined in this preliminary OAMP, being provided to the department as part of the assessment process. The final offset area requirement is influenced by the outcomes of the assessment, including DCCEEWs assessment of the significant residual impacts and processing of habitat quality calculations, as well as additional field investigations of the offset area. There is ample area available on Robbins Island for the final offset area should additional area be required. The proposed offset area is able to be adjusted as needed to achieve the final area requirement as part of the final OAMP. The final offset area will be provided to DCCEEW in the final OAMP, post-EPBC approval, for assessment and approval.

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Legend

Draft Offset Area

Devil Trapping (labeled with Trap Number)

2022 Devil Trapping Sites

2018 Devil Trapping Sites

Bird Point
Mosquito Inlet
Ransonnet Bay
Knot Point
Back Banks
Five Islets
Little Bluff
Guyton Point
Big Bluff
Reids Point
Robbins Passage

Paper Size ISO A3

0 1 2

Kilometres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

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ROBBINS ISLAND
TASMANIAN DEVIL OFFSET

Project No. **12614699**
Revision No. **1**
Date **11/07/2024**

Draft Offset Area - Survey Effort

FIGURE 2

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Print date: 11 Jul 2024 - 14:33

Data source: GHD, 2024; ACEN, 2024; Imagery: World Imagery: Earthstar Geographics. Created by: jhiggins

3.2 Survey

A range of ecological investigations have been undertaken on Robbins Island since 2003. These assessments and the key findings as they relate to the Tasmanian devil are summarised in Table 5. Further targeted surveys for the devil will be undertaken in the offset area post approval and will inform the final OAMP.

Table 5 Ecological assessments completed (to date)

Company	Method	Timing and Effort	Summary of findings
2003			
North Barker Ecological Services (NBES)	Not provided	Not provided	– For previous wind farm proposals – reports not provided. – Data referred to in consolidated 2021 report.
2008			
NBES	Not provided	Not provided	– For previous wind farm proposals – reports not provided. – Data referred to in consolidated 2021 report.
2017			
NBES	As per 2019 survey below	– Two-week survey – Oct – Nov	– Consolidated report in 2021
2018			
The Carnivore Conservancy (TCC)	– Capture-mark-recapture survey – DNA samples	– 17-27 May – 45 trap sites – 400 trap nights – 110 biopsies taken	– 191 captures, 108 individuals – One individual previously captured on Tasmanian mainland. – Lowest trap success in western-central area of expansive low heath vegetation. – Highest trap success was along ecotones of scrub and paddock. – No traps were placed in the modelled 'optimal' denning habitat (done prior to modelling). – Four suspected cases of DFTD, one confirmed as not DFTD, remaining three not assessed (samples were not analysed for two, and sample not able to be taken for one). – Suspected to be free of DFTD, but not conclusive, ongoing monitoring advised.
Australasian Wildlife Genomics Group (University of Sydney)	– DNA analysis (samples from above survey)	– September – 60 DNA samples (of 110 ear biopsies)	– Robbins Island population is NOT genetically different from the Woolnorth population. – There is some limited gene flow between the island and mainland Tasmania.
NBES	– As per 2019 survey below	– One week survey – July	– Consolidated report in 2021.
2019			
NBES	– As per 2017 survey – TASVEG vegetation assessments (Satellite imagery interpretation, stratified ground sampling)	– 1 day survey **Combined:** – 42 flora plots (1/4 ha)	– Consolidated report in 2021. – Devil footprints in nine locations and scats in 14 locations. – Remote motion-detecting cameras confirmed the presence of Tasmanian devils. – 22 TASVEG vegetation units. – Optimal denning habitat in two locations. – No dens observed.

Company	Method	Timing and Effort	Summary of findings
	– Timed meander search for flora – Incidental flora observations – Motion detected cameras (devils) – Diurnal searches for scats and tracks (devils) – Scat collection and analysis (devils) – Acoustics surveys for masked owls – Incidental observations of denning – Denning habitat modelling		
2022			
NBES	– Tasmanian devil trapping survey – Scat analysis	– June – 10 nights – 277 trap nights	– 158 captures, 105 individuals. – 16 recaptures from 2018 survey (above). – Six 7-year-old devils captured. – Population estimated as ~186 individuals. – Approximate density of 1.88 devils per $km^{2.}$ – 19 females with pouch young captured. – Three devils with facial lesions captured, visual assessment of images concluded it was not DFTD. – Scats contained Tasmanian pademelon. Red-necked wallaby, European rabbit, birds, rodents, cows. – No rabbits on Robbins Island which is further evidence devils move between the island and mainland Tasmania. – Tasmanian pademelon was the most dominant diet component, detected in 93% of scats, the only species in 53% of scats, and not present in only 3.6% of scats

3.3 Landscape context

The proposed offset area is strategically located on the island to facilitate continued devil dispersal and incorporate a mix of habitat types. The offset is within the central-northern part of the island and includes an east-west and a north-south habitat corridor for the species. The offset is partially bounded by cleared grazing land, which offers optimal foraging habitat and it includes and connects with optimal breeding habitat area.

3.4 Vegetation communities

The preliminary offset area contains a mixture of vegetation communities. The majority of the preliminary offset area has been surveyed to confirm the vegetation communities, with approximately 15% requiring further survey to confirm vegetation. The preliminary offset area comprises the following nine TasVeg vegetation communities:

– DNI: *Eucalyptus nitida* dry forest and woodland
– DVC: *Eucalyptus viminalis*, *Eucalyptus globulus* coastal forest and woodland
– FAG: agricultural land
– FMG: marram grassland

– NME: *Melaleuca ericifolia* swamp forest
– SAL: *Eucalyptus nitida* dry forest and woodland
– SCA: coastal scrub on alkaline sands
– SWW: western wet scrub
– WBR: *Eucalyptus brookeriana* wet forest

3.5 Existing use and threats

The area comprises native vegetation communities and some cleared agricultural land. The area is currently used for cattle grazing and cattle have access to all areas on Robbins Island.

There are existing threatening processes occurring within the preliminary offset area, including:

– DFTD is not currently known on the island (as at 2022); however, there is a high likelihood that DFTD will arrive on the island in the short to medium term.
– There is a high devil density and demonstrated food preference among devils (*Tasmanian pademelon*) on the island. Recent research has suggested this may exacerbate DFTD spread through increased interactions within devil populations.
– Fire is currently being managed by the landholder and the management approach has not considered the devil specifically. There is a risk of controlled burns being undertaken an inappropriate time (e.g. during key breeding periods) or locations (e.g. in areas of active dens).
– Cattle graze across all areas on the island. While cattle are not a threat to the Tasmanian devil directly, they generally degrade habitat and lead to soil degradation and potentially reduce prey species diversity or abundance.
– Small and infrequent patches of weeds, particularly Arum lily (*Zantedeschia aethiopica*) sporadically occur throughout the island in association with cleared paddocks for cattle.

3.6 Tasmanian devil presence

The Tasmanian devil has been confirmed within the offset area and is known to utilise the entirety of Robbins Island. The devil trapping surveys included trapping locations in, or in very close proximity to the proposed offset area (Figure 3 and Figure 4). The 2018 trapping survey included six traps and the 2022 trapping surveys included five traps associated with the offset area. All of these traps captured devils in each survey round, with a trap success rate ranging from 10 to 100% (average of 71% and 76% respectively). Additionally, females with pouch young were recorded from three of five traps during 2022 (not recorded in 2018).

A table of the trap numbers, success rate and capture of females with pouch young is shown in Table 6.

Table 6 Offset area trap success

Trap number	Trap success		Pouch young	
	2018	2022	2018	2022
1	100%	50%	Not recorded	0
27	10%	70%	Not recorded	2
27b	NA	100%	Not recorded	0
28	70%	NA	Not recorded	NA
31	70%	70%	Not recorded	1
32	80%	90%	Not recorded	1
39	100%	NA	Not recorded	NA

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Legend

Draft Offset Area

Incidental Observations

Scat

Track

Devil Trapping (labeled with Trap Success Rate)

2022 Devil Trapping Sites

2018 Devil Trapping Sites

Bird Point
Mosquito Inlet
Ransonnet Bay
Knot Point
Back Banks
Five Islets
Little Bluff
Guyton Point
Big Bluff
Reids Point
Robbins Passage

40% 10% 0% 60% 80% 100% 100% 50% 70% 10% 100% 50% 60% 75% 10% 0% 10% 90% 60% 100% 80% 50% 20% 50% 10% 60% 40% 22% 86% 90% 0% 30% 80% 90% 0% 80% 30% 40% 44% 70% 90% 0% 0% 10% 0% 0% 0% 0% 70% 70% 67% 40% 80% 50% 60% 90% 20% 60% 60% 44% 0% 60% 38% 30% 22% 100% 80% 60% 40% 33% 60% 50% 50% 100% 40% 60% 25%

Paper Size ISO A3

0 1 2

Kilometres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

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ACEN RENEWABLES
ROBBINS ISLAND
TASMANIAN DEVIL OFFSET

Project No. **12614699**
Revision No. **1**
Date **11/07/2024**

Draft Offset Area - Suitability

FIGURE 3

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Print date: 11 Jul 2024 - 14:33

Data source: GHD, 2024; ACEN, 2024; Imagery: World Imagery: Earthstar Geographics. Created by: jhiggins

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Legend

Draft Offset Area

Devil Trapping (Labeled with Number of Females with Young Pouch)

2022 Devil Trapping Sites

2018 Devil Trapping Sites

Bird Point
Mosquito Inlet
Ransonnet Bay
Knot Point
Back Banks
Five Islets
Little Bluff
Guyton Point
Big Bluff
Reids Point
Robbins Passage

Paper Size ISO A3

0 1 2

Kilometres

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Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

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ACEN RENEWABLES
ROBBINS ISLAND
TASMANIAN DEVIL OFFSET

Project No. 12614699
Revision No. 1
Date 11/07/2024

Pouch Young Locations

FIGURE 4

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Print date: 11 Jul 2024 - 14:33

Data source: GHD, 2024; ACEN, 2024; Imagery: World Imagery: Earthstar Geographics. Created by: jhiggins

3.7 Tasmanian devil habitat

The area supports optimal and suboptimal denning habitat using the same habitat modelling approach as applied to the impact area, with a greater proportion of optimal breeding habitat. Once further surveys of the offset area are undertaken, breeding habitat will be further assessed and validated. Any areas that subsequently are assessed as being suitable for breeding will be counted toward the offset. This may result in a readjustment of the offset area to reflect the final area required and the final assessment of breeding habitat.

3.8 Starting quality

Habitat quality will be scored as described in Section 5.3.4 of the Offset Strategy. To support the development of the preliminary OAMP, the overall habitat quality of the impact area is assumed to be seven (7), refer to Section 5.3.5 of the Offset Strategy.

Baseline targeted surveys will be undertaken, and habitat quality scores will be based on three components including site condition, site context and species stocking rates, as they relate to the Robbins Island devil population. Habitat quality scores will be used to determine how the species use the site, the health and quality of the vegetation, availability of suitable denning habitat, population density and how important the offset area is in comparison to other areas within the region.

Surveys for site condition and site context will be consistent with the TASVEG VCA Manual: A manual for assessing vegetation condition in Tasmania (Version 2.0) (Michaels et al. 2020) (the Manual) and the BioCondition Assessment Manual (Version 2.2) (Eyre et al. 2015).

Surveys for species stocking rate will include tracking, trapping, tagging and fitting with radio collars to determine den locations and inform the distribution and movement of the species throughout the offset area and Robbins Island. Devil surveys are required to be conducted post breeding season when natal females are no longer carrying pouch young. Population surveys for the species will be undertaken as per the Survey guidelines for Australia's threatened mammals (DCCEEW, 2011).

Baseline data will be compared with future monitoring data to demonstrate changes in offset area habitat quality scores and for identifying progress of management actions against the performance indicators and completion criteria. Remedial action or adaptive management will be provided based on monitoring results.

This section will be updated to provide an overview of the additional field surveys undertaken to inform the offset.

The impact and offset area scores are assumed to be seven (7) out of 10. This will be validated through further surveys post-approval. The details of habitat quality scoring are provided in the following sections.

The offset area will achieve at least the same quality of the impact area. This is considered to be achievable as the offset is proposed within close proximity to the impact area and is likely to support equal or greater quality habitat for the Tasmanian devil. This is due to the island being owned by a single landholder and the degradation being somewhat consistent across the island. Furthermore, the areas selected represent higher quality habitat than the impact areas.

Once habitat quality surveys have been completed, this section will be updated to detail the habitat quality scores for the impact and offset areas.

4. Management and monitoring

4.1 Cattle

Cattle are currently free roaming throughout Robbins Island. Cattle pose a threat to Tasmanian devil habitat, primarily through overgrazing and the potential to trample and destroy denning habitat.

Cattle will be excluded from the offset area through initial mustering and fencing as described in Table 7 and only be used as a management tool in exceptional circumstances where deemed necessary through adaptive management. In the event that cattle are required to achieve offset outcomes, the OAMP will be updated to include clear restrictions, management actions, cattle densities, frequency, timing, monitoring, success criteria, and further adaptive management actions.

4.2 Weed management

Some vegetation communities within Robbins Island have been recorded to be in an altered condition due to infestation by introduced weed species. Baseline weed surveys will be required to quantify the density and extent of introduced weed species within the offset area.

After completion of baseline weed surveys, the initial and ongoing removal and control of invasive weeds will be required throughout the life of the offset (Table 7). Weed management will increase the devil's ability to disburse throughout the offset area and increase the habitat quality condition of the offset area.

4.3 Management of pest fauna

Fox occurrence in Tasmania is a point of contention and debate, with unclear results on the distribution and population size across the state due to scat analysis errors, public perception bias and historical falsified data (Fisher et al. 2011, Paull 2011, Sare et al. 2013, Gonçalves et al. 2014, Marks et al. 2017). As the presence of the fox in Tasmania cannot be ruled out definitively, and it is identified as a 'potential' threat in the conservation advice, it will remain as a lower likelihood threat and will be included as a land-based management action for the offset.

Control of pest species, namely the red fox, will be managed in line with the Tasmanian *Biosecurity Act 2019*. Baseline monitoring for pest animals will be undertaken by within the offset area in the first year of the offset (Table 7). Annual monitoring and trapping (if required as an outcome of monitoring activities) of pest animals will be undertaken within the offset area. The landowner may undertake annual pest animal monitoring, trapping and eradication within the offset site to eliminate or contain incursions of new pests and pests with limited distribution based on a prioritised risk assessment (Table 7). Where practical and appropriate, the proponent will participate cooperatively in pest management planning and implementation with local land managers (government departments, local governments, and utility providers) to ensure effective pest management in the locality of the offset area. Management of pest fauna will be undertaken across the entire offset area for the life of the offset.

4.4 Fire management

Fire or controlled burning is listed as a potential threat to the species on the Tasmanian Government Threatened Species Link website (Threatened Species Section (TSS) 2023). Considering that Tasmanian devils are denning species, fire can reduce site condition through destruction of den sites, particularly when denning in log piles or hollow logs. Fires can also reduce the microhabitat complexity of breeding habitat, making it unsuitable. In respect to species stocking rate, fires can displace or increase the risk of mortality or injury to breeding females and their denning young that may be trapped in burrows or fleeing the fire.

The landholders of Robbins Island are aware controlled burning is a necessary requirement for land management, and currently have no provisions to burn vegetation with respect to Tasmanian devils. It's therefore reasonably anticipated that the risk of fire will remain and contribute to a cumulative decline in habitat quality and associated risk of species stocking rate decline.

The offset area will be incorporated into a fire hazard reduction burn program to be implemented by the landholder (Table 7). This means that the offset area will be included into an overarching risk assessment which incorporates factors such as fire frequency, vegetation types, overall fuel loads, proximity to neighbouring den sites and their associated vulnerability. Areas are then prioritised based on this risk assessment with areas of higher vulnerability taking precedence. This includes mechanical treatments, establishment of fire breaks, weed suppression or vegetation restoration works. As the offset area will be supporting active planting and assisted rehabilitation works, fire management on the offset will be modified to allow for plant establishment.

Table 7 provides further information about how the management actions that will be carried out to manage fires at the offset area and outlines the management objectives, the performance targets and management actions, who will undertake the actions, the timing of the actions, the type of monitoring activities that will be undertaken and adaptive management measures.

4.5 General offset area management

The habitat quality and offset area condition can be at risk of degradation without maintenance of the infrastructure, waste disposal and development of enforceable laws associated with the area. Therefore, management actions, monitoring schedules and adaptive measures have been proposed in relation to waste management, the initial fencing and signage erection and maintenance of them as well as and developing an enforceable controlled action list for the offset area (Table 7). These actions will protect the quality of the offset area from possible declines in the quality of devil habitat that could result from human interference or degradation of infrastructure.

4.6 Adaptive management

This OAMP incorporates adaptive management approaches throughout the management and monitoring actions as shown in the Sections above and in Table 7. For example, if the devil population surveys identify a lack of denning microhabitat availability, or a significant weather event (flooding or fire) destroys known dens or denning habitat, a rehabilitation program will be triggered to place denning material (hollow logs, shrubs, large woody debris piles etc) in the offset area to support re-establishment of breeding habitat.

Table 7 Offset area management actions

Objective	Management Actions and Methods	Frequency	Timing	Activity provider
Tasmanian devil population surveys				
Conduct a baseline population survey.	A baseline survey will be undertaken within the offset area to establish: the location of natal dens. The survey will include a trapping program for devils and devils will be tracked to determine the location of natal dens. Data collection will include: – General health / condition – Signs of DFTD. – Age. – Gender. – Breeding status.	Once	Within the first two years of the offset (dictated by seasonal and species-specific considerations).	Specialist provider
Establish a camera survey program to monitor the population	Using information collected from the baseline survey, a camera trapping program will be established to facilitate the ongoing monitoring of the devil population. Cameras will be of sufficient density and in optimal locations to facilitate the assessment of DFTD and the use of known dens. The program will include a dedicated, baited camera trapping program within a defined period, along with passive camera traps (unbaited) outside of this timeframe. The camera trapping program will be detailed in a devil monitoring program to facilitate consistency in approach and timing.	Annually	To be determined post the baseline survey (dictated by seasonal and species-specific considerations), but within 1 year of the trapping/radio collar survey.	Specialist provider
Tasmanian devil habitat surveys				
Establish the baseline condition of Tasmanian devil habitat	A baseline survey of Tasmanian devil habitat will be undertaken to establish the baseline condition, using the approach to habitat quality outlined in the Offset Strategy. The survey will include an assessment of denning microhabitat availability, as well as fire, pest and weed management requirements.	Once	Within the first two years of the offset. (dictated by seasonal and species-specific considerations)	Ecological provider
Validate Tasmanian devil breeding habitat	Once the devil baseline population survey has been completed, the known dens and known denning habitat must be incorporated into a revised habitat map, identify known dens and the extent of known denning habitat.	Once	Within 3 months of the completion of the baseline population surveys	Ecological provider
Weeds				
Prevent additional weed incursions	To prevent the introduction of new weed species into the rehabilitation area and to prevent any re-infestation, the following will apply: – Conduct weed washdown prior to entering the offset area. This will be conducted at dedicated wash down facilities. Post Project	Every visit	Prior to entry to the site	ACEN, subcontractors, landowners

	construction there will be a permanent weed wash down facility upon entrance to Robbins Island. – All persons and vehicles entering the offset area must be inspected to ensure they are free of weed propagules. – Appropriate weed inspection forms and/or checklist to be filled out and kept on record. – Access into the offset area is restricted to ACEN, landholders or individuals who have obtained official permission from ACEN.			
Establish weed baseline	Conduct vegetation survey to determine the occurrence and distribution of existing weed infested areas and identify and map priority weed management areas.	Once	Any time of year	Local sub-contractor
Remedial action to remove existing weed infestations	Weed management will be undertaken to reduce weed density and extent within the offset area. Access to weed management areas to follow existing walking or vehicle tracks wherever possible, with no new vehicle access tracks to be constructed. Weed management will utilise effective control methods with the least impact on surrounding vegetation. The control and prevention of weed incursions must be undertaken in accordance with relevant legislation. This may also include the introduction of an approved biological control agent, although must be subject to relevant legislation.	Annually	Specific to optimal times of control for each species identified	ACEN and local sub-contractor
Fire				
Restrict fires within the offset area	The lighting of fires (including domestic fires such as burning of refuse), other than in accordance with the fire management plan, are prohibited within the offset area. Any planned burns to manage fuel loads, especially in areas adjacent to the offset area, must ensure appropriate protection for the offset area.	At all times	Ongoing	ACEN and landholder
Assess fire risk to Tasmanian devil offset area	Conduct an on-site assessment of fire fuel load and existing fire infrastructure to indicate offset area overall fuel hazard.	Once	Within 6 months of OAMP approval	Local sub-contractor and Landholder
	Assess the current fire management on Robbins Island and assess risks to Tasmanian devils and their habitat, in particular breeding habitat and breeding microhabitat. Undertake a risk assessment, considering available published information about the species and fire. Establish the optimum frequency and intensity of fire within and adjacent to the offset area.		Within offset year 1 (being the first year post offset commencement)	
Develop a bushfire management plan	Develop an offset area bushfire management plan in collaboration with the Landholders. The landholder's bushfire program to be revised to target risk reduction along with maintenance of habitat quality characteristics (e.g. fallen logs, hollows and leaf litter). Bushfire management strategies such as construction of fire breaks, access tracks, routine slashing and reduction	Once (with a revision program outlined within the plan once developed)	Within offset year 1	Sub-contractor and landholder

	burns should be minimized within the offset area and only undertaken where necessary for fire management (specifically regarding reducing risks to devils and their habitat).			
Establish fire breaks	Fire breaks to follow existing walking or vehicle tracks wherever possible.	Once	Within 6 months of OAMP approval	ACEN, landowner and local sub-contractor
Maintain fire breaks	Maintain existing fire breaks and fire trails on the perimeter of the offset area to minimise the risk of fire spreading to the offset area. Where it is determined that fire break fuel loads within fire breaks are too high, either through monitoring or as advised by the landowner, they will be rectified within three months.	As necessary	As necessary	ACEN, landholder and local sub-contractor
Manage fire risk in accordance with the bushfire plan	Implement the bushfire management plan.	Ongoing	Ongoing	Landholder and/or local sub-contractor
Cattle and pest animals				
Initial removal of cattle	Mustering undertaken by landholder to remove all cattle from the offset area	Once	Within 7 months of offset commencement	ACEN and landholder
Removal of cattle incursions	Removal of cattle from offset area as required Once identified, cattle are to be removed from the offset area by the landholders within 1 month of the sighting. Source of the cattle incursion area to be identified and notification sent to ACEN within 1 month of sighting, with remedial actions identified.	As required	Within 3 months of offset commencement	ACEN and landholder
Removal of pest animals on-site	Pest animal control within the offset area shall only be undertaken by appropriately qualified contractors or site personnel and restricted as below: The control and prevention of pest animal incursions must be undertaken in accordance with the relevant legislation and may include the control of pest animals by legal methods by the landholder or invited commercial agents. A shooting program for foxes or feral cats will be implemented if they are observed in the offset area and the program must be undertaken in a humane manner.	Annually	Any time of year	ACEN, landholder and local sub-contractor
Fencing				
Assess fencing condition and extent	An assessment of the current fencing condition and locations surrounding the offset area to be undertaken to understand the ability for devils to freely move in and our of the offset area and the ability of fencing to restrict cattle entry. Mapping of current fencing locations to be kept in a database by ACEN Landowner required to update ACEN of any planned fencing changes and assist with the mapping and condition assessment Where fencing is inadequate, a fencing plan will be developed with the	Once	Within 3 months of offset commencement	ACEN, sub-contractor and landholder

	landholder, to identify additional fencing requirements and/or fencing changes			
Fencing establishment	Build required fencing in locations where fencing is inadequate as per the fencing assessment. Fencing is to facilitate devil movement and protected the offset area from cattle. The measures for establishing any required new fencing includes: – Fences shall be designed and constructed to be native fauna friendly; – Fence lines must avoid clearing within the offset area by placing the fence line beyond the outer edge of the offset area; and – Establish access tracks along fence lines for maintenance purposes. The measures for maintaining fencing includes: – Fencing will be checked and monitored as per the monitoring program; and – The condition of fence lines shall be monitored annually for damage; any identified damage shall be remediated as soon as possible.	Once	Within 6 months of offset commencement	ACEN and sub-contractor
Fencing maintenance	Upkeep and maintenance of the fencing for the offset area	As required	As required	ACEN, sub-contractor and landholder
Restricted activities and access				
Prevent clearing within the offset area	Vegetation clearing within the offset area is not permitted, except where; it is minimal and insignificant in the context of the offset area; AND where it does not impact on known devil denning locations of suitable denning microhabitat; AND it is required to manage risks to the offset area and Tasmanian devils. This may include the establishment of fire breaks and fence lines to protect the offset area, only where absolutely necessary and to the minimum extent possible. Clearing that is classified as the removal of weeds is permitted. The physical removal of weeds shall be restricted to the use of hand held machinery only. No heavy machinery is permitted for weed removal, except where required for slashing, and unless identified as an adaptive management measure.	At all times	Ongoing	All visitors to the offset area including ACEN, sub-contractors and landowners
Illegal access	No unauthorised persons will be permitted into the offset area Unauthorized persons to be reported to the local authorities as soon as identified	At all times	Ongoing	ACEN, sub-contractor and landholder
Clearly identify the offset area	Erect signage to identify the location and extent of the offset area, clearly identifying that access is not permitted (except to authorise personnel. Signage to be located along edges of the offset area and particularly near where public access is most likely Signage is to state the area is an offset area and is not accessible for	Once	Within 6 months of offset commencement	ACEN and sub-contractor

	the public (e.g. No trespassing) Signage along roads leading into the offset area are to show 40 km/h maximum Signage along roads leading into the offset area are to show Wildlife - slow down			
Signage maintenance	Maintenance or replacement to occur in the event that ACEN become aware of damage, defacement or loss of a sign Landowners are required to report issues as soon as they are aware	As required	As required Signage is to be reinstated by a Contractor within 3 months of report of damage/loss	Sub-contractor and landholder
Erosion				
Establish erosion risk areas	Conduct an on-site assessment of existing areas of erosion and erosion risk areas (where present) within the offset area.	Once	Within 3 months of offset commencement	ACEN, subcontractor and landholder
Develop an erosion management plan	An Erosion and Sediment Control Program will be developed for the offset area	Once	Within 6 months of OAMP approval	ACEN and sub-contractors
Remediate and manage erosion within the offset area	Implement the erosion management plan	Ongoing	As per the ESC Plan	Landholder and/or local sub-contractor
Waste				
Identification and removal of environmentally harmful waste material	Identification and mapping of benign waste material and then removal of any materials that pose long term risk to offset health	Once	Within 6 months of offset commencement	Landholder and/or local sub-contractor
Establish activities that are not permitted in offset area	Activities not allowed in the offset area include: Littering and dumping Removal of firewood/native plants/ animals Removal of rocks, sand or gravel Clearing or destruction of native vegetation Hunting/trapping/shooting animals (excludes authorised pest control) Use of fertilisers Aerial application of pesticides Continuous grazing Use of livestock feed Keeping European bee hives, cats or dogs. Any unlawful activities to be reported.	Incidents reported within 30 days of event. Annual report.	List of controlled activities established within 3 months of offset commencement	All visitors to the offset area including ACEN, sub-contractors and landowners

Table 8 Offset area monitoring plan

Objective	Method	Monitoring frequency	Monitoring timing	Performance criteria	Remedial actions

Tasmanian devil populations and habitat					
Monitor the devil population for changes in and denning	Conduct ongoing monitoring of the Tasmanian devil population, as per the established camera trapping program (refer to management actions) A report is to be prepared within 3 months of each monitoring period.	Annually in years 1 to 5, then 3-yearly.	As determined by the monitoring program developed (refer to management actions table)	Tasmanian devils are detected on camera traps within each monitoring period. The use of known dens is able to be assessed to a high degree of confidence. Camera monitoring has no or minimal impacts to devils e.g. does not impact on their use of known dens or cause stress to the animals.	Where the monitoring program design is found to be insufficient / unsuccessful, the monitoring program is to be reevaluated and updated within 3 months. This may include the deployment of additional cameras and/or the shift of camera locations If the cameras are deterring the use of natal dens, they will be relocated to a more discrete area. If this doesn't encourage devils to return to the den, the camera will be removed.
Monitoring of the Tasmanian devil habitat	Conduct ongoing monitoring of the Tasmanian devil habitat within the offset area, through field surveys. Monitoring to include collection of habitat quality data as per the method outlined in the Offset Strategy. A survey report to be prepared A field survey report must be prepared within 3 months of the completion of each survey.	Years 1, 3 and 5 post baseline survey, then 5-yearly As per monitoring program	Timing to reflect the baseline survey for consistent comparison, and to account for seasonal, weather and condition parameters (as determined by a field ecologist) Within 3 three months of the completion of the relevant monitoring round	Habitat quality is assessed as being similar to or better than baseline habitat quality results.	Where habitat quality reduces, the cause will be investigated and, where required, adaptive management considered. The relevant plans / programs to be amended where necessary (within 6 months), which may include ethe requirement to update this OAMP.
Offset area condition					
Monitor the offset site condition	An on-site monitoring event will be undertaken and assess the overall site condition, including weeds, fire, infrastructure (such as signage, fencing, access tracks, gates etc), pest animals	Years 1, 3 and 5 post baseline survey, then 5-yearly	Timing will be aligned to other monitoring activities where possible and consider specific risk windows (e.g. fire risk timeframes)	Monitoring undertaken as per the below requirements.	Individual criteria are outlined below. Remedial actions may also include an increase in monitoring timing, where deemed necessary.

	and cattle, (individual items are outlined below)				
	A monitoring report will be prepared within 3 months of each general site condition monitoring event.	Years 1, 3 and 5 post baseline survey, then 5-yearly	Within three months of the relevant monitoring event		
Weed management					
Monitoring of weed cover and evaluate the effectiveness of control methods	Weed species, extent, and cover to be assessed and monitored over time. This will be incorporated into the devil habitat assessments (outlined above) and may include additional, targeted weed surveys where required.	Years 1, 3 and 5 post baseline survey, then 5-yearly	Timing to reflect the baseline survey for consistent comparison, and to account for seasonal, weather and condition parameters (as determined by a field ecologist)	No new listed weed species observed in the offset area No increase of existing weed occurrence Weed density and extent reduces progressively over the life of the offset	In the event of new weed incursions, or a lack of reduction in weed extent and densities (over multiple monitoring periods), the cause will be investigated, and remedial action / adaptive management identified. This may include revising the control measures or additional weed control activities. In the event of increased weed cover, identification of new weeds or listed species or non-response of treated areas during monitoring: – Re-treat the area and increase the reinspection/ reapplication rate to ensure any juvenile recruitment is eradicated before it can become established – Investigate alternative weed management regimes or techniques for species which do not respond to treatment – Revise hygiene protocols.
	A field survey report must be prepared within 3 months of the completion of each survey, this may be incorporated into other monitoring activities and reporting or be a standalone report.	As per monitoring program	Within 3 three months of the completion of the relevant monitoring round		
Pest animals					
Monitor for pest animal presence	Monitoring activities to include an inspection of boundary fences for signs of pest animal incursion or evidence of damage where animals have attempted to breach fences, as well as obvious signs of pest animal presence and/or	Incorporated into other monitoring activities	Incorporated into other monitoring activities	No signs of pest animal incursion	Where fencing has not been effective at keeping pest animals out of the offset area, fencing will be improved and remediated. If a pest species is observed via monitoring, the landholder will implement a pest animal management programme (shooting only) to control the feral animal population in consultation with the Tasmanian Department of Natural

	damage within the offset area				Resources and Environment (DNRE). Review and audit the pest animal control measures to evaluate their effectiveness and revise the measures accordingly.
Fire management					
Monitor fire occurrence and severity	In the event of a wildfire occurring on Robbins Island or within the offset area, the Landholders will notify ACEN as soon as possible.	As required	As required	No wildfires occurring within the site, If a fire has occurred: Quick and effective fire response was implemented Containment of the fire with minimal impact on offset site.	In the event that a wildfire adversely impacts the offset area, the fire management measures will be reviewed and audited to identify any inefficiencies and the need for additional fire management actions or wildfire prevention measures.
	Monitoring activities to include an assessment for evidence of fire that has occurred have occurred within the site, the cause of the fire and the effectiveness of the response actions taken. If any fires have occurred, the impact on the site is to be determined and recorded	Incorporated into other monitoring activities	As per monitoring program		
Monitor the condition of fire infrastructure	Monitoring activities to include an assessment of fire infrastructure, e.g. fuel breaks for condition and fuel load.	Incorporated into other monitoring activities	As per monitoring program	Fuel loads within fire breaks are assessed as absent or low. Fuel breaks are effective at reducing fire risk.	If firebreaks are not cleared and accessible due to weed growth, refer to the weed management actions and the Pest and Weed Management Plan. Firebreaks must be reinstated to being completed cleared within 1 month If breaks are blocked by felled timber, contact the landowners. Firebreaks must be reinstated to being completed cleared within 1 month of knowledge of blockage If firebreaks are damaged from erosion, re-establish the tracks and implement sediment and erosion control measures as required (sand bagging, drainage humps etc).

					Firebreaks must be reinstated to being completed cleared within 1 month of knowledge of blockage
Erosion					
Monitor the risk, extent and severity of erosion	Monitoring of access tracks and fire breaks for signs of erosion that will need to be re-established, identify potential erosion risks requiring maintenance.	Incorporated into other monitoring activities	As per monitoring program	no increase in erosion observed within the offset area	If there is a significant increase in erosion on access tracks, a review of the relevant protocols and use of the access tracks will be required. It may be necessary to increase the number of signs, frequency of monitoring and increase the level of security.
Cattle					
Monitor the presence of, and damage by, cattle	Monitoring activities to include an inspection of boundary fences for signs of cattle incursion or evidence of damage where animals have attempted to breach fences, as well as obvious signs of cattle presence and/or damage within the offset area Monitoring of any unauthorised grazing activity or cattle entering the offset are	Incorporated into other monitoring activities	As per monitoring program	No damage to known dens form cattle. Fencing well maintained and no damage from cattle. No unauthorised grazing or cattle present in the offset area.	Where fencing has not been effective at keeping cattle out of the offset area, fencing will be improved and remediated In the event that unauthorised grazing has occurred, the relevant parties will be notified and access restrictions tightened If cattle are identified, cattle are to be removed from the offset area by the landholders within two weeks and ACEN to be notified. Source of the cattle incursion area to be identified and notification sent to ACEN within 1 month of sighting and ACEN to monitor incursion source within 3 months to ensure the area is successful in reestablishing cattle exclusion. If it's determined it has not been successful, the damage must be resolved within one month and monitoring within one month after resolution.
Other					
Monitor for unauthorised activities	Identification and removal of environmentally harmful waste material	Incorporated into other monitoring activities	As per monitoring program	No waste material is identified on site	Removal of waste material as soon as reported. Identified waste and removal methodology and outcomes to be included in annual reporting

	Monitoring to ensure that established activities not permitted have not occurred.			Gates and signage are well maintained. No access recorded, or signs of illegal use identified.	If unauthorised access has been observed, it may be necessary to increase the number of signs, frequency of monitoring and increase the level of security. If unauthorised access has resulted in damage to the offset area, rehabilitation may be required. If unauthorised activities are observed, all incidents are to be reported to ACEN and captured in the Annual Report. Stopping the controlled activity as soon as practical and remediate any impacts within six months of the incident being reporting.
	Monitoring of offset area to ensure no additional clearing of vegetation has occurred, except as authorised			No additional clearing of vegetation identified within the offset area.	If additional vegetation clearing to what is specified and has been undertaken is required, approvals from ACEN will be sought. In the event that unauthorised clearing has occurred, the clearing will be investigated and the responsible parties notified.
Monitor signage	Monitoring activities to include an assessment of the condition of offset signage.	Incorporated into other monitoring activities	As per monitoring program	Signs are intact and have no signs of damage.	Where signs are not in place or are damaged, they will be replaced within 3 months.

5. Reporting

5.1.1 Auditing and review

The OAMP will be reviewed as part of the compliance reporting process following monitoring events scheduled at Years 1, 3 and 5. Any relevant changes to the timeframes to achieve the performance criteria will be formally submitted to DCCEEW for approval. Independent audits will be undertaken upon request by DCCEEW in accordance with the Conditions of Approval.

5.1.2 Baseline reporting

Baseline technical reports will be developed for the:

– First trapping survey.
– Vegetation condition and habitat survey.

The reports will include the methods and results of the surveys, as well as recommended updates to habitat quality to inform the final OAMP. These reports will be provide within 6 months of their respective surveys.

5.1.3 Monitoring reporting

A monitoring report will be prepared after each monitoring event. Reporting will summarise methods and field data results, providing comparison against baseline and previous years and evaluating progress towards the performance or completion criteria.

The results of monitoring will be summarised or included in the annual compliance report, as relevant to that year.

5.1.4 Compliance reporting

An Annual Compliance Report will be prepared, as relevant to that year, in accordance with the relevant EPBC approval condition and the DCCEEW's Annual Compliance Report Guidelines (2014). The compliance report will include:

– Details of compliance, incidents and non-compliance.
– Management actions undertaken within the offset areas and as part of control programs (with associated documentation attached).
– Remediation measures to be implemented where monitoring of the performance criteria indicates failure to achieve required outcomes.
– Progress towards and achievement of the ecological outcomes and completion criteria outlined in Table 7.

The results of monitoring surveys will be included in the annual compliance reports, as relevant to that year. Baseline data will be compared with monitoring data to demonstrate changes in offset area habitat quality scores and for identifying progress of management actions against the performance indicators and completion criteria. Remedial action or adaptive management will be provided based on monitoring results.

Results of the weed control program and planting/regeneration program will be included in the annual compliance report, as relevant, including inspections, control and maintenance activities undertaken on-site and follow-up treatments/monitoring conducted.

The OAMP will be reviewed as part of the compliance reporting process following the baseline surveys within offset 1 and at monitoring events scheduled at Years 1, 3 and 5. Any relevant changes to the timeframes to achieve the performance criteria will be formally submitted to DCCEEW for approval. Independent audits will be undertaken upon request by DCCEEW in accordance with the Conditions of Approval. A monitoring report will be prepared after each monitoring event. Reporting will summarise methods and field data results, providing comparison against baseline and previous years and evaluating progress towards the performance or completion

criteria. The results of monitoring will be summarised or included in the annual compliance report, as relevant to that year.

In the event of a non-compliance with this OAMP being identified, a notification will be submitted to DCCEEW, in writing. Notification must be made as soon as possible and no later than thirty business days after becoming aware of the incident or non-compliance.

6. Offset delivery

6.1 Offset management responsibility

The proponent (ACEN) will be responsible for management of the offset area, compliance reporting and notification to DCCEEW of any incidents or non-compliance.

6.2 Legal security

The offset area will be legally secured for the duration of the EPBC approval through a Conservation Covenant under the Tasmanian *Nature Conservation Act (2002).* A Conservation Covenant provides a means to manage defined areas for nature conservation for a fixed term. It is legally binding under the *Nature Conservation Act (2002)* and is registered on the land title. A Conservation Covenant can be used to secure areas of land to satisfy statutory offset requirements.

An application for legal security will be submitted within three months of the approval of the final OAMP and prior to commencement.

6.3 Completion criteria

This OAMP has been designed to achieve an overall conservation outcome for the Tasmanian devil and to achieve the identified habitat quality improvements. Specific performance criteria are outlined against each area in Table 8, the completion criteria for offset delivery is as follows:

– Tasmanian devils persist on Robbins Island for the life of the offset.
– An overall improvement of the offset area habitat quality by one point is achieved through offset area management.
– Once achieved, the habitat quality improvement is maintained for the life of the offset.

6.4 Indicative timeframes

The offset will commence upon implementation of the approved OAMP and prior to Project commencement. Timing and dates for delivery of the offset are provided in Table 9. Dates are indicative only and will be influenced by the actual timing of interrelated and preceding events, such as Project approval, offset approval and Project commencement.

Table 9 Offset delivery indicative timeframes

Action	Timing	Indicative date
Submit Offset package (Offset Strategy and preliminary OAMP - this document) to DCCEEW	Prior to EPBC Approval, to support EIS	Q2 2024
Offset package endorsed by DCCEEW and offset-specific conditions included in EPBC approval	EPBC Approval with offset conditions	Q2 2024
Habitat quality surveys	Post-EPBC Approval, Prior to Project commencement	Q4 2024

Action	Timing	Indicative date
Tasmanian devil habitat and denning habitat surveys	Post-EPBC Approval, Prior to Project commencement	Q4 2024
Updating of preliminary OAMP to Final OAMP	Post EPBC approval, Prior to commencement	Q1 2025
Final OAMP approved by DCCEEW	Prior to commencement	Q2 2025
Application for legal security (Conservation Covenant)	Prior to commencement	Q3 2025
Final OAMP implemented	Within 6 months of approval by DCCEEW	Q4 2025

6.5 Cost

The anticipated cost to deliver the land-based offset is detailed in Table 10. These costs are indicative only and subject to change. The landowner of Robbins Island is a stakeholder in the Robbins Island Wind Farm Project and will provide a number of offset management activities at no cost to the Project including supplying suitable land required for the offset area, removal of cattle from the offset area, ongoing pest management, installation of fences, fire management (including the implementation and maintenance of fire breaks), and maintenance of existing infrastructure.

Table 10 Potential costs of the offset

Offset activity	Cost estimate for the life of the offset	Rationale
Offset activities unlikely to incur a cost		
Exclusion of cattle	$0	Landholder to provide
Land cost / compensation	$0	Landholder to provide
Existing infrastructure	$0	Landholder to provide
Erect and maintenance of infrastructure (e.g., fencing, access, fire breaks, etc.)	$0	Landholder to provide
Fire management	$0	Landholder to provide
Pest management program*	$0	Landholder to provide
Offset requirements likely to incur a cost		
Baseline surveys (Habitat Quality and baseline population survey Tasmanian devil)	$500,000	Additional surveys are required to establish the baseline habitat quality. This will include devil trapping and tracking to establish denning locations.
Ongoing monitoring (Habitat quality and Tasmanian devil population surveys)	$600,000	Ongoing monitoring is required and will include vegetation condition and devil monitoring via camera traps. It is assumed at $50,000 per monitoring round as well as upfront costs for cameras and bait stations, at ~$1000 each and allowance for 60 to 100 cameras (allowing for one every 6 to 10 ha).
Any additional fencing or infrastructure requirements	$50,000	Landowner responsibility conservative estimate for additional funds to supply
Any installation of artificial denning features (if required)	$100,000	DCCEEW may request the installation of additional denning features as a condition of the approval
Any design / installation for Tasmanian devil crossing structures (if required)	$50,000	DCCEEW may request the installation of additional Tasmanian devil crossing structures as a condition of the approval
Additional pest management*	$50,000	Landowner responsibility conservative estimate for additional funds for pest management

Offset activity	Cost estimate for the life of the offset	Rationale
Targeted weed management	$50,000	A targeted weed management program is likely required to achieve gains in habitat quality score

6.6 Force majeure

Despite management actions and as identified in the risk assessment (Section 7), there is the potential of extreme events that may hinder the progress of the offset. This includes severe weather events, extreme fires, prolonged drought etc. These are outside of ACEN's control.

ACEN are committed to the delivery of the offset and, in the event of a significant event that impacts on offset delivery, will notify DCCEEW as soon as they become aware (and within 30 business days). This will identify the actions required to minimise the effects of the event on the offset area. This may require a review of this OAMP, through discussion with DCCEEW.

7. Risk assessment

This OAMP has considered the risks that may inhibit achieving the completion criteria for the offset site, including risks that may be wholly outside the approval holder's control. The risks have been assessed against the Risk Matrix in

Table 11 supplied by DCCEEW. The risk analysis:

– Identifies events and threats that will, may, or are likely to impact the attainment of the completion criteria.
– Assesses the likelihood and consequences of those events and threats eventuating, both before and after risk controls are applied, and assesses residual risk levels.
– Identifies levels of uncertainty in mitigating the risks, with appropriate corrective actions and associated trigger criteria should risks and threats eventuate.

Assessment of risks on the local Tasmanian devil populations and without the Project are detailed in Table 12.

Table 11 Risk matrix

RISK MATRIX	
Likelihood (L): A qualitative measure of likelihood how likely is it that this event/circumstances will occur both before and after management activities are implemented	
Highly likely	Is expected to occur in most circumstances.
Likely	Will probably occur during the life of the Project.
Possible	Might occur during the life of the Project.
Unlikely	Could occur but considered unlikely or doubtful.
Rare	May occur in exceptional circumstances.
Consequence (C): Qualitative measure of what will be the consequence/result if the issue does occur	
Minor	Minor incident of environmental damage that can be reversed. (*e.g. short-term delays to achieving strategy objectives, implementing low-cost, well-characterised corrective actions*)
Moderate	Isolated but substantial instances of environmental damage that could be reversed with intensive efforts. (*e.g. short-term delays to achieving strategy objectives, implementing well-characterised, high cost/effort corrective actions*)
High	Substantial instances of environmental damage that could be reversed with intensive efforts. (*e.g. medium-long term delays to achieving objectives, implementing uncertain, high-cost/effort corrective actions*)

Major	Major loss of environmental amenity and real danger of continuing. (*e.g. strategy objectives are unlikely to be achieved, with significant legislative, technical, ecological and/or administrative barriers to attainment that have no evidenced mitigation strategies*)
Critical	Severe widespread loss of environmental amenity and irrecoverable environmental damage. (*e.g. strategy objectives are unable to be achieved, with no evidenced mitigation strategies*)

Final Risk Rating (R): A function of multiplying Likelihood (L) and Consequence (C)

		Consequence				
Likelihood		**Minor**	**Moderate**	**High**	**Major**	**Critical**
	Highly Likely	Medium	High	High	Severe	Severe
	Likely	Low	Medium	High	High	Severe
	Possible	Low	Medium	Medium	High	Severe
	Unlikely	Low	Low	Medium	High	High
	Rare	Low	Low	Low	Medium	High

Table 12 Assessment of risks on the local Tasmanian devil population with and without the Project

Risk event	Risk description	Initial Risk Rating			Planned Management Measures	Residual Risk Rating		
		Likelihood	Consequence	Risk		Likelihood	Consequence	Risk
Stochastic events								
Climate change	Rising sea levels is as a result of climate change.	Possible	Major	High	Implementation of flood modelling to select offset areas that are less likely to be impacted by sea level rising.	Unlikely	Moderate	Low
Climate change	Increased fire frequency and severity leading to habitat loss or degradation.	Possible	High	Medium	Implementation of a fire management strategy will reduce the likelihood and severity of fire events.	Possible	Moderate	Medium
Climate change	Increased risk of extreme events and associated damage to habitat.	Possible	High	Medium	No management actions are likely to prevent impact.	Possible	High	Medium
Cyclones/ Severe tropical lows / flooding	Catastrophic damaging storm event resulting in physical damage of habitat in the offset area.	Likely	Moderate	Medium	No management actions are likely to prevent impact.	Likely	Moderate	Medium
Wildfire	Extensive, unplanned bushfire event destroying the offset area.	Possible	Major	Severe	Implementation of an appropriate fire management strategy across the offset will reduce the extent and severity of unplanned fires.	Unlikely	High	Medium
Offset risks								
The offset failing (regardless of cause)		Unlikely	Critical	High	ACEN will commit to finding an alternative offset in the unlikely event the offset fails due to unforeseen reasons.	Rare	Major	Medium
Offset funding shortfall		Unlikely	Critical	High	Offset funding will be estimated and allocated prior to commencement.	Rare	Major	Medium
Offset threats								
Devil vehicle strikes within offset area(s)	Possible injuries or deaths from uncontrolled/unregulated vehicle access to, from, and around the offset.	Possible	High	Medium	Operations limited to daylight hours where possible. Enforcement of 40 km/h speeds within the offset area. Deceased devils to be moved away to reduce attraction of other devils. The identification of potential roadkill hotspots will be integrated in the offset selection process mitigating areas that could increase the risk of vehicle strikes.	Unlikely	Moderate	Low
Foraging impacts from introduced foxes	Possible foxes being introduced in the offset area(s) resulting in a decrease of food availability for the devils.	Unlikely	Moderate	Low	Continual monitoring of the devils in the offset will occur. An action plan and corrective management measures will be implemented if foxes become present within the offset area(s).	Rare	Moderate	Low
Deliberate culling impacts within offset area(s)	Possible culling occurring within the offset area(s) causing injuries or deaths to the devils.	Unlikely	Moderate	Low	Signed landowner agreements to prevent any future culling of devils (noting landowners have reported never having culled them). Monitoring of the devils and the offsets area(s) will detect any culling that occurs within.	Rare	Moderate	Low
Inadequate denning habitat within offset area(s)	Inadequate denning opportunities for devils in the offset area(s) impacting breeding.	Possible	High	Medium	Offset area(s) to be selected in accordance with locations with suitable devil denning opportunities. Offset are management will avoid the loss of existing dens and aim to increase denning opportunities.	Unlikely	Moderate	Low

Risk event	Risk description	Initial Risk Rating			Planned Management Measures	Residual Risk Rating		
		Likelihood	Consequence	Risk		Likelihood	Consequence	Risk
Management of the offset area(s)								
Unauthorised clearing in the offset area	Additional disturbances occur to the offset area through other land uses or activities.	Possible	Moderate	Medium	ACEN will enter into a legal agreement with the landholder for use of the site for offsets and the OAMP will be developed in consultation with the landholder. The OAMP will consider the use of fencing and signage to provide additional awareness and protection of the offset area.	Unlikely	Minor	Low
Failure of weed management	Failure of weed management to effectively reduce the occurrence of weeds and remove weeds from the offset area, due to chronic source of ongoing disturbance.	Unlikely	Moderate	Low	The OAMP will include specific requirements around weed management, including performance criteria, monitoring, corrective actions, and adaptive management. Additionally, it will include a requirement for regular review and update of weed management protocols.	Rare	Minor	Low
Offset measure are ineffective measures to reduce the risk of bushfire	Mismanagement of fire hazards or inappropriate management measures allows an uncontrolled bushfire to occur (e.g., controlled burn becomes uncontrolled; increased fire hazard unaccounted for in planning).	Possible	Major	Severe	Undertake review of fire management efforts historically, known fire history, and fire management requirements for vegetation types and the regional/climatic conditions. Fire management strategy with controlled burns, fire breaks to reduce the likelihood and severity of unplanned fire events and reduce the risk of uncontrolled bushfire events, fire management lines, fuel hazard reduction, particularly around potential den sites, and ongoing monitoring and review of the strategy – applied across the whole property.	Unlikely	High	Medium

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Appendix A Offset Assessment Guide

The area required for the direct offset has been assessed using the OAG. The calculation of the offset area, achieving 90 % of the required offset, is presented in Table 13. Supporting information for the development of each OAG input is also provided. The scenario accounts for the final, permanent impact of 178.56 ha to devil optimal and suboptimal breeding habitat on the island. This information is also provided in the Offset Strategy, section 5.3.5.

Table 13 OAG Inputs

OAG	Input	Justification
Impact area	183.384 ha	The final area of SRI to habitat for the Tasmanian devil that is required to be offset.
Impact quality	7	The predicted habitat quality of the impact area is seven (7). This figure is based on knowledge of the existing habitat from previous surveys conducted on Robbins Island to date (**Error! Reference source not found.**). This input will be verified and updated following endorsement of the habitat quality methodology by DCCEEW and after approval of the draft OAMP. After approval, proposed vegetation condition and devil population monitoring surveys will be conducted to establish a baseline and inform the final OAMP impact quality score.
Total quantum of impact	128.03 ha	Adjusted impact area as per the OAG
Time loss is averted	20 years	Duration of the risk mitigation actions to be taken, or 20 years, whichever is shorter
ROL without offset	0 %	ROL generally represents the percentage chance that the habitat in the proposed offset area would be completely lost (no longer hold any value for the protected matter) over 20 years as per the Guide.
ROL with offset	0 %	With the offset, the ROL is also nil (0)
Confidence in ROL	90 %	The confidence in this input reflects the active management and ongoing monitoring that is proposed as a part of the offset.
Time until benefit	20 years	The estimated time for habitat quality improvement outcomes. A conservative estimate of 20 years has been used, which is the maximum and most conservative. This captures both shorter-term and longer-term benefits likely to be realised through the offset delivery.
Start habitat quality	7	The predicted habitat quality of the proposed offset area is seven (7). This figure is based on knowledge of the existing habitat from previous vegetation community and Tasmanian devil population surveys

OAG	Input	Justification
		conducted on Robbins Island to date (TCC 2018, NBES 2021, NBES 2022). This input will be updated following endorsement of the habitat quality methodology by DCCEEW and after approval of the draft OAMP. After approval, detailed surveys to measure habitat quality will be undertaken in the agreed offset area to inform the final OAMP offset starting habitat quality score.
Future habitat quality without offset	6 (-1)	Without the offset, future habitat quality for the Tasmanian devil is conservatively predicted to decline by 1-point. This decline is anticipated based on the combination of known and potential threats within the proposed offset areas, including: - Increased risk of DFTD transmission - Unmonitored population decline - Loss or degradation of habitat from clearing - Loss or degradation of habitat from fire and exclusion of devils **DFTD transmission and population decline** The ongoing fencing program occurring on Robbins Island will lead to a decline in the macropod population on the island as the yearly culling will reduce or completely stop as the exclusion fencing will prevent the establishment of large macropod populations. As a consequence, the Tasmanian devil population is expected to go through a period of increased competition for reduced food resources, which will likely result in more confrontations. These factors are likely to increase the risk of DFTD transmission as this disease is frequency-dependent for transmission and frequency of interaction is proposed to increase. It's acknowledged that this food source decline is occurring irrespective of the project, however without a monitoring program, vaccine program and an adverse management program for the devil population, there is an increased risk of an uncontrolled decline of the population further than what is already anticipated. This is considering a risk as Robbins Island is privately owned and the landowners have no obligation to monitor the devil population; therefore, creating the potential for decline with no means to prevent it. Given the above, increased risk of DFTD transmission from a reduction in food sources and a potential for an unmonitored or uncontrolled population decline is reasonably anticipated to occur and contribute to a cumulative decline in habitat quality and associated risk of species stocking rate decline. **Habitat loss or degradation - clearing** The Tasmanian devil requires established microhabitat features such as shrub cover, groundcover, large woody debris, hollow logs and leaf litter for denning and protection from predators and other Tasmanian devils (TSSC 2009 and DEWHA) 2009). Vegetation clearing (selective or small-scale), as well as removal or loss of shrub cover and understorey complexity, decreases the availability of these

OAG	Input	Justification
		microhabitat features and presents a risk of direct mortality and a loss of suitable denning habitat (TSSC 2009 and DEWHA) 2009). Additionally, the reduction of shelter (in the form of canopy cover and woody debris) increases exposure and susceptibility to predation and competition (TSSC 2009 and DEWHA) 2009). Given the above, selective logging or small-scale clearing of canopy trees, removal of ground-level vegetation, ongoing management of mapped non-forest vegetation that is not mapped as a threatened native vegetation community, is reasonably anticipated to continue and contribute to a cumulative decline in habitat quality and associated risk of species stocking rate decline. **Habitat loss or degradation and devil exclusion – fire** Fire or controlled burning is listed as a potential threat to the species on the Tasmanian Government Threatened Species Link website (Threatened Species Section (TSS) 2023). Considering that Tasmanian devils are denning species, fire can reduce site condition through destruction of den sites, particularly when denning in log piles or hollow logs. Fires can also reduce the microhabitat complexity of breeding habitat, making it unsuitable. In respect to species stocking rate, fires can displace or increase the risk of mortality or injury to breeding females and their denning young that may be trapped in burrows or fleeing the fire. The landowners of Robbins Island are aware controlled burning is a necessary requirement for land management, and currently have no provisions to burn vegetation with respect to Tasmanian devils. It's therefore reasonably anticipated that the risk of fire will remain and contribute to a cumulative decline in habitat quality and associated risk of species stocking rate decline. This input will be updated following endorsement of the habitat quality methodology by DCCEEW and after approval of the draft OAMP. After approval, proposed vegetation condition and devil population monitoring surveys will be conducted to inform the final OAMP impact quality score.
Future habitat quality with offset	8 (+1)	Future HQ is conservatively predicted to increase by 1-point across the proposed offset area. There are improvements in habitat quality are available across all three HQ components including: **Site condition:** - Addition of microhabitat features to increase denning opportunities such as large woody debris and hollow logs. - Development of a Fire Management Plan which will consider the Tasmanian devil and protection of microhabitat features **Site context:**

OAG	Input	Justification
		- Protection of the offset area to prevent broadscale or selective clearing - Implementation of DFTD vaccination programs and population monitoring to prevent fox establishment - Limitation of speeds on Robbins Island to 40km/h - Development of management plans to prevent, reduce and/or limit known and potential threatening processes - Increase in road network to increase movement corridors for the species**Species stocking rate:** - Implementation of population monitoring programs and adaptive species management plans to prevent loss of the population - Development of a Fire Management Plan which will consider the Tasmanian devil and burning at times of year outside of peak breeding season (July – January) This input will be updated following endorsement of the habitat quality methodology by DCCEEW and after approval of the draft OAMP. After approval, proposed habitat quality surveys will be conducted to inform the final OAMP offset habitat quality starting score.
Confidence in habitat quality	70 %	A moderate confidence in the habitat quality result is predicted, noting that detailed habitat quality surveys and devil population surveys are proposed to occur in the proposed offset area. Additionally, the management actions required to secure and then manage the offset area are: - built on and improve largely existing habitat - well established measures - avoid approaches that would carry higher risk of delivery This input will be updated following endorsement of the habitat quality methodology by DCCEEW and after approval of the draft OAMP. After approval, proposed vegetation condition and devil population monitoring surveys will be conducted to inform the final OAMP impact quality score.
Area Required - 90% land-based	1,164ha	The total proposed offset area required to acquit 100 % of the land-based offset with consideration of other metrics outlined in this OAG.