EPBC 2024/09929 Goyder North Wind Farm

EPBC Offset Strategy

Final

September 2025

NEOEN

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EPBC Offset Strategy

Final

Prepared by
Umwelt (Australia) Pty Limited

On behalf of
Neoen Australia Pty Ltd

Project Director: Alison Derry
Project Manager: Jessica Skewes
Report Author: E. Tremain
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Adelaide office:
112 Hayward Avenue,
Torrensville, South Australia, 5031

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Version Control

Document Version Number and Date	Responsible Person	Reason for Change	Reviewed by
Version 1.0 (17/06/2025)	E. Tremain	NA – Working Draft	J. Skewes (Umwelt), N. Bull (Lathwida), H. Pocock (Neoen)
Version 1.1 (18/07/2025)	J. Skewes	Added Offset Assessment Guide calculations for proposed offsets. Updated Executive Summary to include Statement of Expected Outcomes Updated structure.	DCCEEW
V1.2 (5/08/2025)	J. Skewes	Removed OAG, removed non-preferred / unapproved options, reduced document.	N. Bull (Lathwida) A. Derry (Umwelt)
V2.0 (05/09/2025)	J. Skewes	Updated document with August 2025 design changes and adjusted the habitat quality scoring system based on DCCEEW advice.	

Declarations

Declaration of Accuracy

In making this declaration, I am aware that section 491 of *the Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) 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 (Cth). 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	[redacted]
Full name	Hilary Pocock
Organisation	Neoen
ABN	57 160 905 706
Role	Project Manager
Date	2/10/25

Proponent Conflict of Interest Declaration

I declare that to the best of my knowledge I do not have any actual, potential or perceived conflicts of interest that may affect the assessment of this Offset Strategy, except as set out below.

I undertake to make a further declaration detailing any actual, potential or perceived conflict of interest that may arise during the assessment period.

I agree to comply with any mitigation steps required to address any declared conflict.

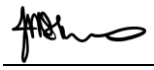
Signed	[redacted]
Full name	Hilary Pocock
Date	2/10/25

Consultant Conflict of Interest Declaration

I declare that to the best of my knowledge I do not have any actual, potential or perceived conflicts of interest that may affect the assessment of this Offset Strategy, except as set out below.

I undertake to make a further declaration detailing any actual, potential or perceived conflict of interest that may arise during the assessment period.

I agree to comply with any mitigation steps required to address any declared conflict.

Signed	
Full name	Jessica Skewes
Date	05/092025

Executive Summary

Neoen is developing the Goyder North Renewable Energy Facility (GNREF) north-east of Burra in the Mid-North of South Australia (SA) as part of its wider Goyder Renewables Zone (GRZ) concept. The GNREF received Planning Consent for up to 1,000 Megawatts (MW) of wind generation and up to 900 MW/ 3,600 megawatt hours (MWh) of Battery Energy Storage System (BESS). Since Planning Consent was granted, Neoen has refined the design and proposes to construct Goyder North Wind Farm (GNWF; the Project; formerly referred to as GNREF Stage 1), including 99 turbines and associated 225 MW / 900 MWh BESS, electrical substations, operation and maintenance facilities, Overhead Transmission Lines (OTL) and access tracks. There is no current plan to develop any subsequent stages within the GNREF. If future stages were to be progressed in the future, they would be subject to their own approval processes and stakeholder engagement.

The GNWF will have a total Disturbance Footprint of up to 536.82 ha, which consists of 307.56 ha of permanent Disturbance Footprint and 229.26 ha of temporary Disturbance Footprint. Construction of GNWF is expected to take 24–36 months (extended by about 1–2 years if constructed in stages) and GNWF is expected to be operational for approximately 25–30 years. As such, the duration of permanent impact (307.56 ha) is estimated to be up to approximately 33 years. Whereas, temporary impact (229.26 ha) will be rehabilitated, where practicable, within three to five years of the initial impact. However, despite proposed rehabilitation of temporary clearance areas, Neoen have committed to offset for all and any disturbed areas, or significant residual impacts to species, as determined by State Native Vegetation Council and federal Department of Climate Change, Energy, the Environment and Water (DCCEEW) legislation, respectively.

The layout for the GNWF Project is currently in the final stages of development and is based on the outcomes of multiple technical, environmental, and social studies including wind studies, heritage assessment, visual impact, and environmental and geotechnical assessments. If required, minor adjustments to the final Project layout will be contained within what is referred to as the Development Envelope.

Assessment of current Project design overlays, including the GNWF Development Envelope and Disturbance Footprint, calculated impact to vegetation associations and subsequently, to preferred habitat for conservation significant species. Significant impact assessment, in accordance with the *Matters of National Environmental Significance: Significant Impact Guidelines 1.1* (Department of the Environment, Water Heritage and the Arts, 2013), for the GNWF has determined that the Project is likely to have a residual significant impact on the Iron-grass Natural Temperate Grassland of South Australia (INTG) Threatened Ecological Community (TEC) and the Pygmy Blue-tongue Lizard (*Tiliqua adelaidensis*) (PBTL). As these impacts cannot be fully avoided or mitigated, an environmental offset in accordance with the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) will be required for each, to compensate for the residual significant impacts. As such, this *Goyder North Wind Farm EPBC Offset Strategy* has been prepared to outline each offset strategy being considered for INTG and PBTL.

Furthermore, Neoen submitted a referral to DCCEEW (EPBC 2024/09929) in accordance with the EPBC Act for the proposed action (the GNWF), which was determined to be a controlled action and require assessment and approval under the EPBC Act via preliminary documentation, before it can proceed. DCCEEW issued a request for further information (RFI) outlining the requirements of the Preliminary Documentation Response and this document addresses Item 5b of the RFI.

Impact Avoidance and Mitigation Measures

Neoen have undertaken a significant and extensive number of technical investigations during the planning phase to identify and understand constraints and potential impacts of the proposed action on the environment. These studies have informed all stages of the GNWF design, to avoid and/or minimise impacts on the environment, particularly for MNES, including INTG, PBTL and PBTL habitat. The infrastructure layout has proceeded through a series of changes and adjustments as the iterative process of initial investigation, layout review and refinement has occurred a number of times, as information became available from the engagement process, the specialist investigations and Neoen's own technical and construction advice.

Ongoing application of Mitigation Hierarchy will seek to avoid direct impacts even further through micro siting during pre-construction surveys, away from INTG, PBTLs and their habitat, wherever possible. Where direct impacts to INTG, PBTLs and PBTL habitat cannot be completely avoided by design, or in the case of potential for indirect impacts such as erosion, sedimentation, dust deposition and weeds, they will be minimised during the construction and operation phases of the Project via implementation of targeted management plans which address the various stages of the Project, including a Construction Environmental Management Plan (CEMP) and associated sub-plans such as Operation Environmental Management Plan (OEMP), Rehabilitation Management Plan, and targeted MNES management plans, in particular an INTG Management Plan and PBTL Management Plan.

Residual impact to INTG and PBTLs

While Project infrastructure has specifically been designed and/or located to avoid impact to INTG, PBTLs and their habitat as much as possible through ongoing application of the Mitigation Hierarchy, assessment of current Project design information, specifically the Disturbance Footprint, has determined that the GNWF will directly impact up to 6.14 ha of Class B INTG TEC and up to 368.10 ha of potential PBTL habitat. These are the worst-case assessment of impacts expected and through ongoing design refinements and the procedures listed above, Neoen will seek to further reduce these impacts.

Statement of Expected Outcomes for INTG and PBTL

The expected outcomes for the INTG Offset are:

- Formal protection of the INTG Offset Area for the duration of the action. However, protection is likely to be in perpetuity as the INTG Offset Area is proposed to be protected via a Heritage Agreement.
- Management of the INTG TEC Offset Area in accordance with the INTG Offset Management Plan (INTG OMP) for the duration of the action to maintain and increase (where possible) the condition/quality of the INTG Offset Area (with the start quality yet to be determined).

The expected outcomes for the PBTL Offset(s) are:

- Formal protection of the PBTL Offset Area for the duration of the action. However, protection is likely to be in perpetuity if the PBTL Offset Area is protected via a Heritage Agreement.
- Management of the PBTL Offset Area in accordance with a site specific PBTL Offset Management Plan (PTBL OMP), for the duration of the action in order to:

- create, maintain and improve (where possible) the condition/quality of the PBTL Offset Area (with the start quality yet to be determined); and
- increase the PBTL population(s) within the PBTL Offset Area (where possible).

- Monitor habitat condition and PBTL population numbers within the PBTL Offset Area

Potential INTG Offset

Neoen propose to use an existing patch or patches of Class C INTG to establish and implement a direct offset in the form of an on-ground INTG Offset Area, protected in perpetuity via a Heritage Agreement, to offset residual significant impacts and achieve a measurable conservation gain for INTG TEC. There are six patches of Class C INTG within the GNWF Project Area which are being considered for the proposed INTG Offset, having been determined the most suitable to achieve a conservation gain. If a patch (or patches) of INTG within the Project Area cannot be used for the INTG Offset, or these patches do not contain enough INTG for the entire INTG Offset, Neoen will investigate the potential to use a patch or patches of INTG located within the surrounding region, or other patches identified within the GNWF Project Area. The final Offset may include a compensatory offset component as part (<10%) of the overall INTG Offset obligation, via financial contribution to a local or regional program which aims to improve the health, resilience and / or knowledge of INTG.

Potential PBTL Offset

PBTL Offsets can be difficult to achieve due to a genuine scarcity of available potential on ground offset sites. A multifaceted approach is proposed to diversify the approach to PBTL conservation and habitat restoration, which together presents a viable pathway to securing an offset for PBTL with a focus on habitat restoration, land management, and population monitoring to support the species' conservation.

The approach includes securing a parcel(s) of land under Heritage Agreement which contains known or likely PBTL habitat, either within GNWF or any that may become available on the open market and provide suitable conditions for PBTL occupation, with an existing population present or directly adjacent. This may include implementation of management actions at the secured Significant Environmental Benefit (SEB) site (required to offset impacts to native vegetation in accordance with the SA *Native Vegetation Act 1991*), which improve habitat for and carrying capacity of PBTL (if found to be present). The strategy also proposes a research component equivalent to 10% of the offset in accordance with the EPBC Offset Policy, to investigate the relocation success of PBTL. The research would be conducted by Flinders University and aim to gather scientifically robust data to inform the viability of relocation as a mitigation method to reduce impacts to PBTL, including specific questions around survivorship, behaviour (i.e. dispersal patterns), influence on local genetics, and relocation methodology. Additional research component may be considered (beyond 10%, potentially up to 20-30%) in consultation with DCCEEW, to research potential methods for and time to success of establishing suitable habitat for PBTL on land which has been historically cropped and is therefore currently unsuitable for PBTL to occupy. This research component would be dependent on the land ultimately secured for the PBTL offset and would represent a minor component in consultation with DCCEEW and the PBTL Recovery Team. The option to support existing PBTL conservation programs such as those managed by the Northern and Yorke Landscape Board may also be explored as a smaller research component.

INTG and PBTL Offset Strategies

Neoen propose to enter into a legal agreement with the relevant landowner (where land is not acquired by Neoen) or with Neoen or Accredited Third Party Manager (where land will be purchased by Neoen) to establish, protect and manage each EPBC Offset. The legal agreement will prevent known and/or potential threats from occurring within each EPBC Offset. Furthermore, a site specific OMP will be prepared for each EPBC Offset to guide the establishment and implementation of the Offset. Each OMP will include specific management aspects and associated management actions to contribute to achieving the expected outcomes, as well as a monitoring program to determine if the expected outcomes are being achieved or progressing to being achieved. To ensure the expected outcomes are being achieved, an adaptive management approach, which allows for review and corrective action of management strategies, will be adopted.

Both INTG and PBTL Offsets are proposed to be protected in perpetuity via a Heritage Agreement in accordance with the South Australian *Native Vegetation Act 1991* (NV Act).

Risks that may prevent achievement of the expected outcomes for both INTG and PBTL Offset Strategies have been identified and assessed against a risk matrix, with appropriate risk mitigation strategies also identified.

Both INTG and PBTL Offset Strategies have been prepared in accordance with *the EPBC Offsets Policy* (DSEWPaC, 2012a), including use of the *EPBC Offsets Assessment Guide* (DSEWPaC, 2012b) and assessment of habitat quality of the impacted INTG and PBTL habitat in accordance with the *How to Use the Offsets Assessment Guide* (DSEWPC, undated). Furthermore, both INTG and PBTL Offset Strategies have also been prepared with consideration of relevant statutory documents including conservation advice, recovery plans, threat abatement plans, EPBC Act policy statement and various survey guidelines as well as state legislation.

Neoen will continue to investigate options for the EPBC Offsets for INTG and PBTL and progress to an Offset Proposal and/or Offset Management Plan for each.

Abbreviations

Abbreviation	Description
BAM	Bushland Assessment Methodology
BDBSA	Biological Database of South Australia
BESS	Battery Energy Storage Facility
DAWE	Department of Agriculture, Water, and the Environment (now DCCEEW).
DCCEEW	Department of Climate Change, Energy, the Environment and Water (Commonwealth)
DE	Development Envelope
DEW	Department of Environment and Water (South Australia)
DF	Disturbance Footprint
DotE	Department of the Environment (Australian Government; now DCCEEW)
DotEE	Department of the Environment and Energy (Australian Government; now DCCEEW)
DRS	Disturbance Resistant Species
DSEWPC	Department of Sustainability, Environment, Water, Population and Communities (Australian Government; now DCCEEW)
EBS	Environment and Biodiversity Services Pty Ltd – trading as EBS Ecology (now Umwelt)
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth)
GNWF	Goyder North Wind Farm Project (includes WF and OTL)
GNREF	Goyder North Renewable Energy Facility
GRZ	Goyder Renewables Zone
GSHREP	Goyder South Hybrid Renewable Energy Project
ha	hectare(s)
INTG	Iron-grass Natural Temperate Grassland of South Australia Threatened Ecological Community
km	kilometre(s)
kV	Kilovolt (s)
LGA	Local Government Area
LSA Act	*Landscape South Australia Act 2019*
m	metre(s)
mm	millimetre (s)
MNES	Matter(s) of National Environmental Significance
MW	Megawatts
MWh	Megawatt hour
Neoen	Neoen Australia Pty Ltd
NPW Act	*National Parks and Wildlife Act 1972* (South Australia)
NSW	New South Wales
NYLB	Northern and Yorke Landscape Board
OAG	Offsets Assessment Guide (DCCEEW)

Abbreviation	Description
OMP	Offset Management Plan
OTL	Overhead Transmission Line
PBTL	Pygmy Blue-tongue Lizard (*Tiliqua adelaidensis*)
PDI Act	*Planning Development and Infrastructure Act 2016* (SA)
Pers. comms.	Personal communications
PMST	Protected Matters Search Tool
OTL	Overhead Transmission Line
ROL	Risk of Loss
RFI	Request for further information / Request for information
SA	South Australia(n)
SEB	Significant Environmental Benefit
sp.	Species (singular)
spp.	Species (plural)
ssp.	Subspecies
TEC	Threatened Ecological Community
VA	Vegetation Association (s)
WF	Boundary around the windfarm infrastructure components in GNWF
WTG	Wind Turbine Generators
<	Less than
>	More than
≤	Less than or equal to
≥	More than or equal to
%	Percent / percentage

Glossary

Terminology	Definition
Action	The Action includes both construction and operation of the proposed Project, and any change from existing activities which are required to undertake these tasks safely and effectively
Declared weed	A plant that is regulated under the *Landscape South Australia Act 2019* due to its threat to primary industry, the natural environment and public safety
Department	The Australian Government agency responsible for administering the EPBC Act
Development Envelope (DE)	A 'buffered' version of the Disturbance Footprint that represents the outer spatial extents within which the Disturbance Footprint will occur. Design is well developed and optimised to minimise cut and fill, avoid known areas of significance or value, and to minimise the Disturbance Footprint. The Development Envelope is an extra measure to enable final adjustments to the Disturbance Footprint in alignment with the Mitigation Hierarchy to avoid or minimise impacts on environmental values, cultural heritage or any other potential constraints that emerge during design finalisation and construction.
Disturbance Footprint (DF)	The area in which all Project infrastructure is constructed and operated
met mast	Meteorological mast (mast or tower equipped with instruments to measure windspeed and climatic conditions)
Minister	The Australian Government Minister administering the EPBC Act including any delegate thereof
Operation	All activities that occur after the components of the final wind turbine generator are installed and the usage of the transmission line and substation for the purposes of transforming and/or redistributing electric current.
Project	The Goyder North Wind Farm Project, inclusive of Wind Turbine Generators (WTG), overhead power transmission lines, expansion of existing Bundey substation, on-site battery energy storage solution (BESS), access tracks and temporary facilities and infrastructure to enable construction. The Project is part of the larger Goyder North Renewable Energy Facility which includes a future stage of development which is not yet defined
Project Area	All Project components within GNWF including WF and OTL.
Project components	Includes boundaries of GNREF, GNWF, Development Envelope, Disturbance Footprint.
Project elements	Distinct functional elements of the GNWF Project include WF, OTL and Site Access.
Significant impact(s)	Impacts which are important, notable, or of consequence, having regard to their context or intensity, and assessed within the framework of the Matters of National Environmental Significance – Significant Impact Guidelines 1.1, Commonwealth of Australia 2013

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Appendices

1.0 Project Description

1.1 Summary of the Project

Neoen is developing the Goyder North Renewable Energy Facility (GNREF) as part of its wider Goyder Renewables Zone (GRZ) concept. The GRZ is ideally located to complement Project EnergyConnect, a large interconnector transmission line which connects the SA transmission network to New South Wales (NSW), currently under construction by ElectraNet and TransGrid (pers. comms. Neoen 2024).

The proposed GNREF is located north-east of Burra and east of the Mount Bryan township in the Goyder Regional Council area. The broader GNREF was originally planned to include up to 1,000 Megawatts (MW) and up to 900 MW / 3,600 megawatt hours (MWh) of Battery Energy Storage Systems (BESS). The GNREF was granted Planning Approval under the *Planning, Development and Infrastructure Act 2016* (SA) (PDI Act) in October 2024, following a public State Commission Assessment Panel hearing.

The design has since been refined and Neoen proposes to construct Goyder North Wind Farm (GNWF; the Project; formerly referred to as GNREF Stage 1), comprising up to 99 WTGs, approximately 600 MW and 225 MW/900 MWh of BESS. This design has been referred to the Commonwealth Department for Climate Change, Energy, the Environment and Water (DCCEEW) to assess impacts to Matters of National Ecological Significance (MNES) (EPBC 2024/09929) and was determined a Controlled Action to be assessed via Preliminary Documentation in November 2024.

A significant impact assessment, in accordance with the *Matters of National Environmental Significance: Significant Impact Guidelines 1.1* (Department of the Environment, Water Heritage and the Arts, 2013), for the GNWF has determined that the Project is likely to have a residual significant impact on the Iron-grass Natural Temperate Grassland of South Australia (INTG) Threatened Ecological Community (TEC) and the Pygmy Blue-tongue Lizard (*Tiliqua adelaidensis*) (PBTL). As these impacts cannot be fully avoided or mitigated, an environmental offset in accordance with the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) will be required for each, to compensate for the residual significant impacts. This *Goyder North Wind Farm EPBC Offset Strategy* has been prepared to outline each offset strategy being considered for INTG and PBTL, which are presented in **Section 2.0** and **Section 3.0**, respectively.

Neoen will continue to investigate and secure options for the EPBC Offsets for INTG and PBTL and progress to an Offset Proposal and/or Offset Management Plan for each.

1.1.1 Goyder North Wind Farm (the Project)

GNWF is proposed to be developed on multiple freehold land parcels, two parcels of Crown Land and several local road reserves. GNWF does not align specifically with any future proposed land parcel or easement, as it is acknowledged that negotiations are ongoing with landowners and minor changes to the Project layout are considered likely, to further minimise potential impacts to environmental or cultural values, or because of landholder negotiations. If required, minor adjustments to the final Project layout will be contained within what is referred to as the Development Envelope (DE), defined in **Section 1.1.2.**

The layout for the GNWF Project is currently in the final stages of development and is based on the outcomes of multiple technical, environmental, and social studies including wind studies, heritage assessment, visual impact, and environmental and geotechnical assessments.

Components of the wind farm include:

- Up to 99 Wind Turbine Generators (WTGs) requiring a concrete footing and hardstand where heavy machinery can operate.
- A 275 kV or 330 kV multi-circuit overhead transmission line (OTL) connecting the wind farm substation to the Bundey Substation approximately 48 km south, including approximately 69 transmission towers, OTL Access tracks, stringing corridor, brake and winch sites, helicopter pads (for areas of non-conventional stringing), and temporary construction compounds and facilities.
- A 225 MW/900 MWh Battery Energy Storage System (BESS)
- Electrical substations including operation and maintenance facilities including two fenced compounds in the wind farm and expansion of Bundey Substation.
- A network of access tracks to each infrastructure component.
- Ancillary infrastructure including construction compounds and facilities, underground cabling, site access, and met masts.

Table 1.1 briefly summarises the proposed infrastructure components for GNWF and associated clearance areas. The Disturbance Footprint areas specified are an upper limit and are intended to provide flexibility for any innovation in component design between now and the time of detailed design and construction.

Table 1.1 Infrastructure Components and Associated Permanent and Temporary Disturbance Footprint

Component	GNWF Specifications	Permanent Disturbance Footprint (ha)	Temporary Disturbance Footprint (ha)	Total Disturbance Footprint (ha)
WF Civil	Components include WTGs, BESS, Substation, Access Tracks (components detailed below, impact component totaled right)	267.90	132.95	400.85
Overhead Transmission Lines (OTL)	A 275 kV or 330 kV multi-circuit overhead line connecting the wind farm substation to the Bundey Substation approximately 48 km south. Transmission lines will also connect the BESS to the wind farm substation (approximately 400 m). Includes access tracks, towers, brake and winch sites, and helicopter pads for non-conventional stringing.	31.60	31.62	63.22

Component	GNWF Specifications	Permanent Disturbance Footprint (ha)	Temporary Disturbance Footprint (ha)	Total Disturbance Footprint (ha)
Other – Ancillary Infrastructure components	Predominantly temporary components required for construction of the Wind Farm. Detailed below with individual impact component, totaled right.	8.05	64.69	72.75
	Total Disturbance Footprint (ha):	**307.56**	**229.26**	**536.82**

Construction of GNWF is expected to take approximately 24-36 months. Depending on the assessment and approval process, construction may take place in two stages with the first stage comprising 54 WTGs, BESS, Substation and OTL, scheduled to commence in Quarter 2 (Q2) of 2026, and the second stage expected to commence construction in approximately Q1 of 2027. Construction duration would be extended by 1-2 years if undertaken in two stages. These timelines are subject to the Project gaining all necessary approvals, undertaking a competitive tender process, and acquiring the appropriate level of contracted revenue to enable financial investment decision to occur.

1.1.2 Project Terminology and Definitions

There are several project specific terminology and abbreviations which are referred to repeatedly throughout this and other associated documents. Project boundary components are described below in **Table 1.2** along with ecological assessments which are relevant to each location. GNWF project elements are summarised and defined in **Table 1.3.**

These definitions apply to all documents, noting that the Planning Application incorporates all stages of the GNREF (see below).

The location of the Project component and Project elements are represented in **Figure 1.1** and **Figure1.2**, respectively.

Table 1.2 Project Component Boundaries and Relevant Ecological Assessments for Each

Term	Abbreviation	Description	Assessment Type
Goyder North Renewable Energy Facility	GNREF	The broader area for which Planning Consent was achieved in 2024 which bounds the direct wind farm infrastructure of access roads and wind turbine generators (WTGs) and includes the refined GNWF and the Overhead Transmission Line that connects into the existing Bundey Substation, and expansion of the Bundey Substation.	Historical surveys Desktop Assessments Broad Vegetation Mapping Detailed below.
Goyder North Wind Farm	GNWF	The portion of the GNREF refined since Planning Consent was achieved and proposed to commence construction within the next five years.	• Detailed vegetation surveys (Bushland Assessment Method; BAM) • Targeted PBTL surveys

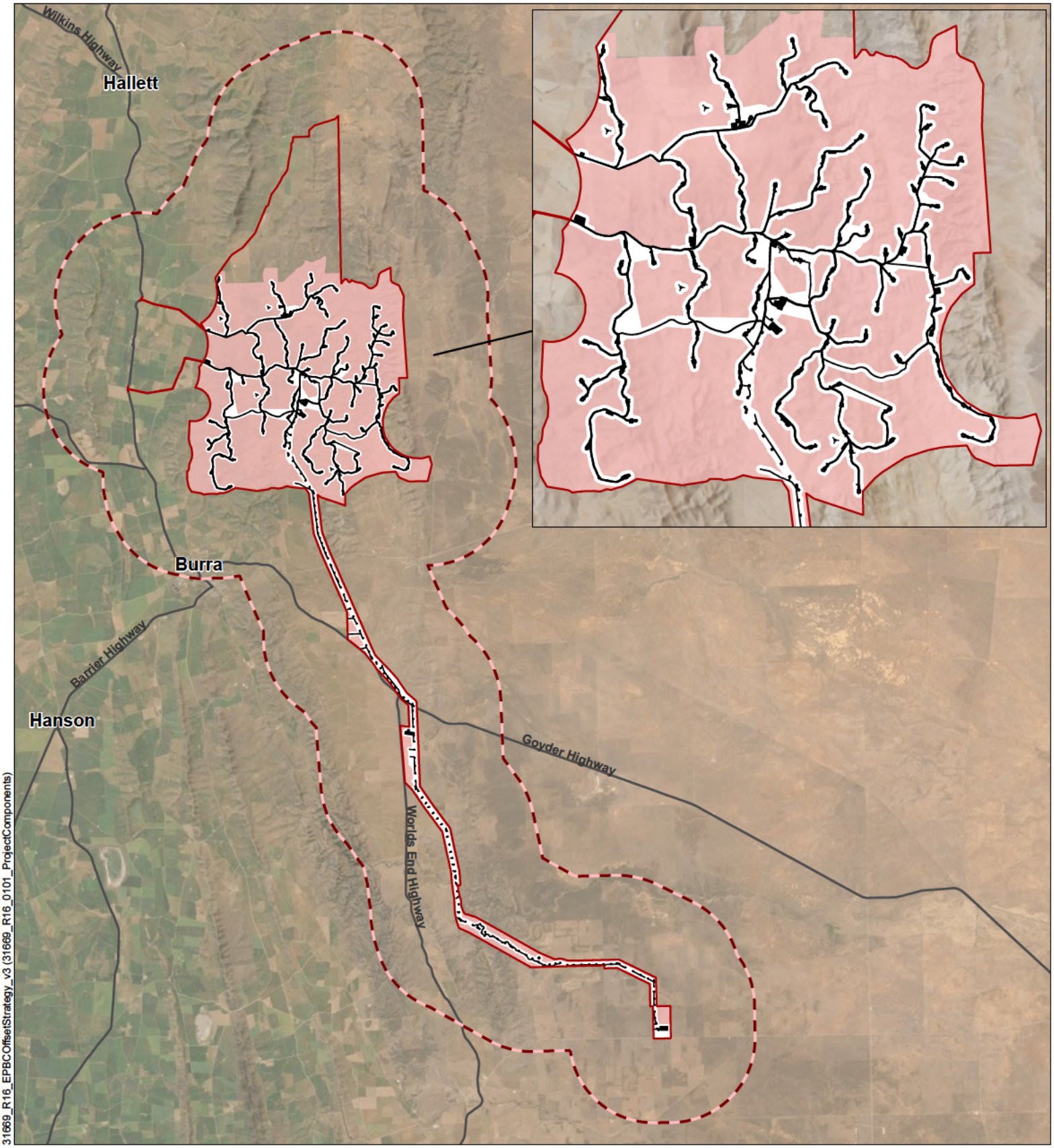
Term	Abbreviation	Description	Assessment Type
		GNWF is applicable to this EPBC Offset Strategy. Includes all wind generation infrastructure (generating up to 600 MW) and associated infrastructure, including access roads, underground cables, substations, overhead transmission lines (OTL), construction and operation compounds and met masts, required to transmit and connect into existing Bundey Substation.	• Targeted threatened vegetation surveys • Targeted Mallee Bird Community TEC Surveys • Targeted INTG TEC Surveys • Bird and Bat Utilisation Surveys (BBUS) surveys (x7) (at the time of writing)
Development Envelope	DE	A 'buffered' version of the Disturbance Footprint that represents the maximum spatial extent in which the Disturbance Footprint will occur. The Development Envelope is an extra measure to enable final adjustments in the Disturbance Footprint in alignment with the Mitigation Hierarchy by optimising final siting of infrastructure to avoid and minimise impacts on environmental values, cultural heritage or any other potential constraints that emerge during the design finalisation and construction.	Disturbance Footprint surveys (see below) all occur within the DE and therefore the DE represents an area of high confidence in survey results and mapping.
Disturbance Footprint	DF	The total initial clearance area required for safe and efficient construction of the proposed GNWF Project, including both permanent and temporary clearance for construction buffers, laydown areas, stockpile areas and construction access routes for the Wind Farm Generation Components and the OTL.	• BAM • Targeted PBTL surveys • Targeted Flinders Ranges Worm Lizard surveys. • Targeted EPBC listed threatened flora surveys. • Targeted INTG condition assessment surveys.

Table 1.3 GNWF Project Elements

Term	Abbreviation	Description
Wind Farm Generation Components	WF	All infrastructure required for energy generation, storage and transmission within the GNWF area that is required up to the point of overhead transmission line intersection with the indicative boundary around the WF. Infrastructure includes WTGs, access roads, underground cables, substations at the wind farm, BESS, and construction and operation compounds.

Term	Abbreviation	Description
Arterial Site Access Roads	-	Proposed arterial site access road routes that will provide main access to the WF, connecting to the Barrier Highway, west of the Wind Farm. Two options have been selected, with the Disturbance Footprint removed from the central option (Gum Hill Road) to avoid impacts to EPBC listed threatened plant species, *Acacia spilleriana* (Spiller's Wattle), which is planted on the road reserve.
Overhead Transmission Line	OTL	Overhead Transmission Line preferred route, which originates within the WF Project Area, and then traversing south, connecting to Bundey Substation (ElectraNet), Bright. The OTL will connect to this existing facility. Infrastructure includes an expansion to the existing Substation, and access road to connect to Junction Road.

Figure 1.1 Project Component Boundaries



GNREF
Goyder North Wind Farm
Disturbance Footprint
Development Envelope
Search Area

31669_R16_EPBCOffsetStrategy_v3 (31669_R16_0101_ProjectComponents)

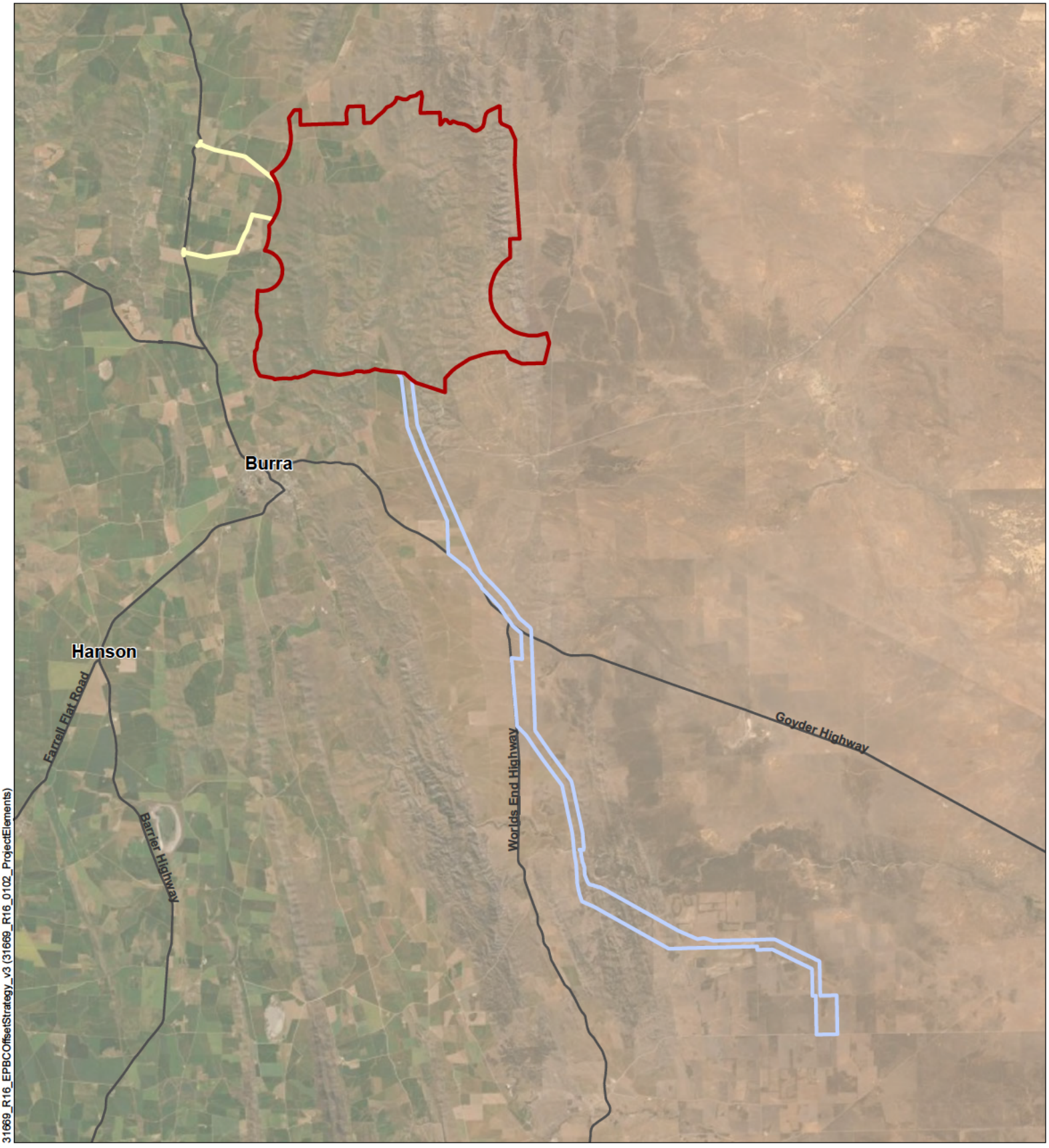
Data Source: Umwelt (2025), ESRI (2025), DEW (2022), DIT (2022) Neoen (2025)
Date Exported: 8/09/2025 4:35 PM
Created by: sophie.haswell

GDA2020 MGA Zone 54

N

0 2.5 5 km

Figure 1.2 Project Elements



Goyder North Wind Farm
OTL
Access Rd

31669_R16_EPBCOffsetStrategy_v3 (31669_R16_0102_ProjectElements)

umwelt

Data Source: Umwelt (2025), ESRI (2025), DEW (2022), DIT (2022) Neoen (2025)
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GDA2020 MGA Zone 54

N

0 2.5 5 km

1.1.3 Environmental Impact

As outlined in the Ecological Assessment Report – 2025 (Umwelt, 2025b), project design overlays including the GNWF Development Envelope and Disturbance Footprint were used to calculate areas of impact to vegetation associations and subsequently, to preferred habitat for conservation significant species. Areas of permanent and temporary impacts are proposed within which, a scale of impacts may be proposed. Direct (i.e. clearance of habitat or loss of individuals) and indirect (i.e. construction and operation disturbance) impacts are considered in detail for INTG and PBTL in the Ecological Assessment Report – 2025 (Umwelt, 2025) and within the **Section 2.2** for INTG and **Section 3.2** for PBTL. Impacts are described in **Table 1.4** , each of which may be relevant in different ways to INTG and/or PBTL.

Table 1.4 Types of Impact Resulting from the Proposed GNWF Project

Type	Terminology	Definition
Permanent Disturbance: The areas within the GNWF DF (up to 306.13 ha) which will not be rehabilitated following construction.	**Direct Impact**	Adverse impacts that occur as a result of the action either during construction or operation or both. Includes immediate observable effects of the action such as clearance of vegetation, loss of individual flora or fauna species from construction or from operation of wind turbine generators or disruption of fauna behaviours (such as nesting) within the Disturbance Footprint because of noise and increased activity during construction
	Indirect Impact	Adverse impacts that could reasonably be predicted to follow from the action during construction and / or operation, whether these impacts are within the control of the proponent proposing to take that action or not. Indirect impacts may include encroachment of weeds into disturbed areas, change in water runoff / catchments, or behavioural impacts as a result of shadows or noise arising from operation of the project.
Temporary Disturbance: The areas within the GNWF DF (up to 238.02 ha) which will be cleared during construction to enable access of heavy machinery and construction related activities but rehabilitated following construction where it is reasonable and practical to do so	**Direct Impact Rehabilitated**	Vegetation impacts which involve initial clearance followed by dedicated rehabilitation measures to return the cleared area to its previous state or better where practicable and reasonable to do so. Rehabilitation actions are proposed to be undertaken within three years of the initial impact, with efforts concentrated in higher quality vegetation associations.

As outlined in (**Section 1.1.1**), the GNWF will have a total Disturbance Footprint of up to 536.82 ha, which consists of 307.56 ha of permanent Disturbance Footprint and 229.26 ha of temporary Disturbance Footprint. Of the total Disturbance Footprint, 453.87 ha is remnant native vegetation which represents habitat for a range of native fauna, flora and ecological communities. A summary of permanent and temporary impacts to different vegetation types within the Disturbance Footprint is provided in **Table 1.5.**

Construction of GNWF is expected to take 24-36 months and GNWF is expected to be operational for approximately 25–30 years. As such, the duration of permanent impact (307.56 ha) is estimated to be up to approximately 33 years (construction and operation). As outlined in **Table 1.5**, temporary disturbance which totals 229.26 ha will be rehabilitated, via spreading of topsoil, within two years of the initial impact.

able 1.5 Summary of Vegetation Impacts Within the Disturbance Footprint

Vegetation Type	Permanent Disturbance (ha)	Temporary Disturbance (ha)	Total Disturbance (ha)
Native Vegetation (protected by the SA *Native Vegetation Act 1991*)	261.31	192.55	453.87
Amenity Vegetation	0.03	0.02	0.05
Exotic Vegetation	8.07	9.66	17.73
Cropping	11.56	17.30	28.85
Cleared / Unsurveyed	26.60	9.72	36.32
Total	**307.56**	**229.26**	**536.82**

1.2 Assessment under the EPBC Act

Neoen submitted a referral under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) for the proposed Action (EPBC REF: 2024/09929) on 8 July 2024, following which, the Department of Climate Change, Energy, the Environment and Water (DCCEEW) requested clarification on certain matters. The referral was updated and resubmitted by Neoen on 10 October 2024.

On 14 November 2024, Neoen received a '*Notification of referral decision and designated proponent – controlled action and assessment approach*'. DCCEEW outlined that the proposed Action was determined to be a controlled action and that the Action will require assessment and approval under the EPBC Act, via preliminary documentation, before it can proceed. DCCEEW issued a request for further information (RFI) outlining the requirements of the Preliminary Documentation Response. This document addresses Item 5b of the RFI, outlined in **Table 1.6.**

Table 1.6 Item 5b of the RFI

RFI Item 5b Details	Section of this Document
5. Proposed Offsets b) An offset package must include: i. details of the offset package (this may be in the form of an offset strategy and offset management plan) including how, when and where the offsets will be delivered and managed	This document is the Offset Strategy. Potential offsets are outlined for INTG in **Section 4.2** and for PBTL in **Section 4.3.**
ii. details of how the offset(s) will compensate for the significant residual impacts.	**Section 4.0** (including sub-sections)

RFI Item 5b Details	Section of this Document
iii. a description of how the offset(s) will ensure the protection, conservation and management of protected matters for the duration of the impact (i.e. should impacts be in perpetuity, the offsets must also be delivered in perpetuity).	Protection mechanisms are addressed in **Section 4.5**
iv. a description of how the offset(s) is/are consistent with relevant Commonwealth policies and guidance documents on offsets under the EPBC Act.	The EPBC Offsets Policy is addressed in **Section 4.10**
v. the anticipated cost (financial and other) of delivery of the offsets(s).	As potential offsets for INTG and PBTL are still being investigated, this is not yet known.

1.3 Structure of this Document

This document presents an EPBC Offset Strategy for two MNES which have been assessed as likely to be significantly impacted by the Project and thus require EPBC Offsets which provide net gain for the respective MNES, considering the proposed Project. The document is separated into three sections; **Section 2.0** addresses the INTG context and background on the impact site, **Section 3.0** addresses the context and background of PBTL at the impact site and **Section 4.0** details an EPBC Offset Strategy for INTG and PBTL. The content covered is based on the format outlined in the EPBC Offset Strategy Draft Template and includes:

- A description of the MNES (INTG or PBTL) in relation to the Project Area.
- A summary of the likely direct and potential indirect impacts associated with the Project.
- A description of how the Mitigation Hierarchy has been or will be applied at all stages of the Project including what has been implemented to avoid and mitigate potential impacts to the MNES.
- A summary of the residual significant impact, following implementation of the mitigation hierarchy, including:
    - survey methodology for all surveys of the impact site, and
    - assessment of the habitat quality of the impacted MNES
- An EPBC Offset Strategy including:
    - a statement of expected outcomes from the offset
    - options under consideration for the offset
    - a description of how the offset is proposed to be established, protected, managed and monitored and the roles and responsibilities associated with that.
- A review of the proposed Offset(s) against the eight overarching EPBC Offset Principles
- A risk assessment which identifies any risks that may prevent achievement of the expected environmental outcomes for each EPBC Offset Strategy.

A summary of relevant documents related to each MNES.

2.0 INTG Context and Background

2.1 INTG in the Project Area

The INTG TEC is considered known to occur within the Disturbance Footprint, Development Envelope and broader Project Area.

Since 2022 surveys have mapped the occurrence, extent and estimated Condition Class of INTG and other vegetation associations within the Project Area. Within the GNWF Project Area, a total of 1,931.24 ha of vegetation has been mapped as VA6: Lomandra Grassland, of which 1,498.09 ha has been assessed as meeting the criteria for listing as INTG TEC (**Table 2.1**). Of this, 8.59 ha is within the Disturbance Footprint, including 6.14 ha of INTG TEC (Class B). A further 1,176.11 ha of Lomandra Grasslands (all condition classes) are mapped within the broader GNREF, however these areas have not been subject to targeted assessments.

Although there is one patch of Class A INTG TEC in the GNWF Project Area, this patch is not within the Disturbance Footprint or Development Envelope and no direct or indirect impacts are expected as a result of the Project.

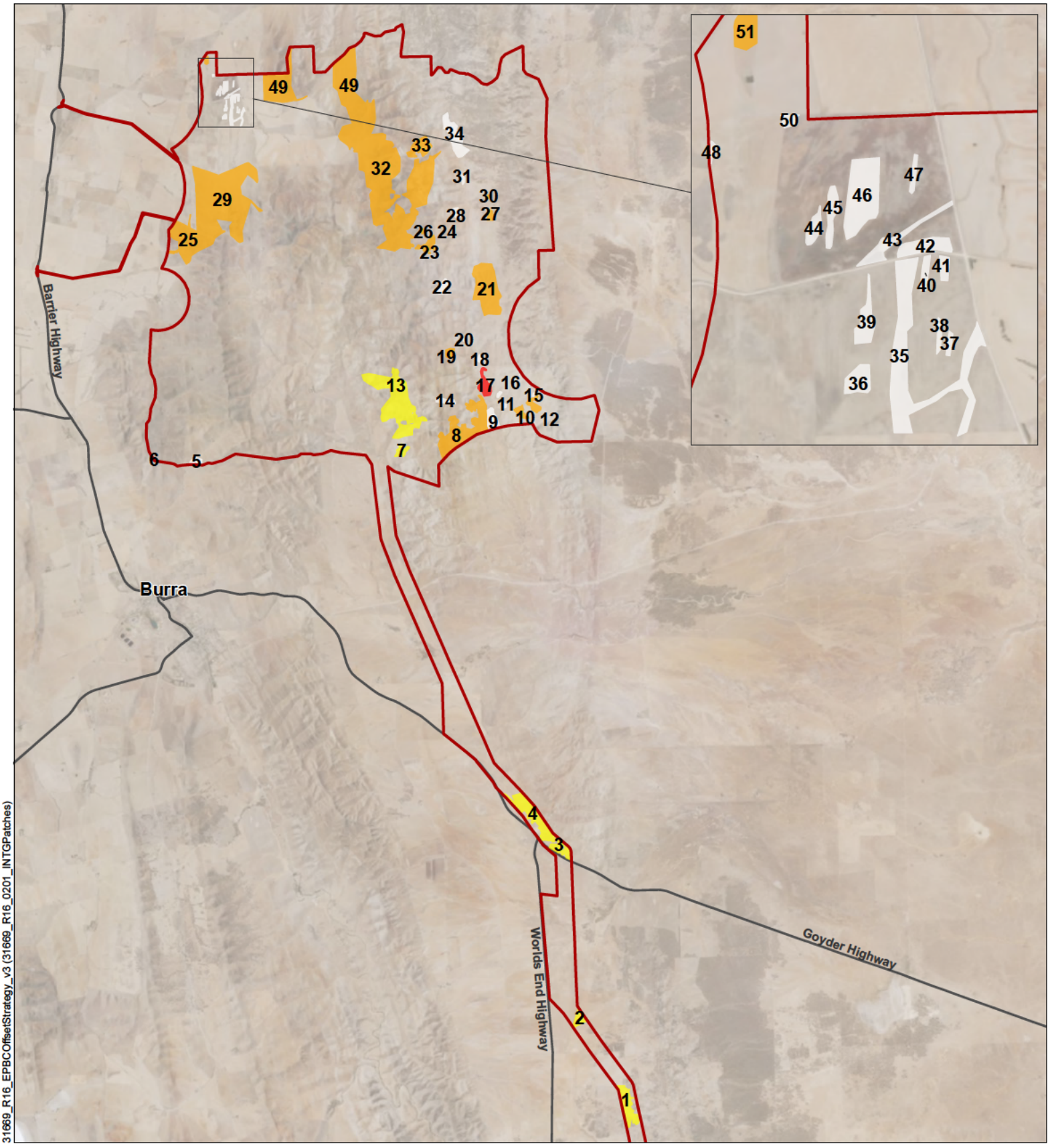
The areas of impact are displayed in **Figure 2.2** and **Figure 2.3**.

Table 2.1 Occurrence of INTG within the GNWF Project Area and Disturbance Footprint

INTG Class (A, B or C)	INTG TEC (yes/no)	GNWF Project Area (ha)	GNREF Total (ha)	Impacted by DF (yes/no)	DF (ha)	% of GNWF INTG impacted
INTG Class A	Yes	18.02	18.02	No	0.00-	0
INTG Class B	Yes	1,480.07	1923.32	Yes	6.14	0.42
INTG Class C	No	307.63	307.63	Yes	2.44	0.79
Unsurveyed Lomandra Grassland	-	125.51	858.38	No	0	0
Total Area of Lomandra Grassland in GNWF		**1,931.24**	**3,107.35**	**-**	**8.59**	**0.44**
Total Maximum Confirmed TEC (includes Class A, B)		**1,498.09**	**1,941.34**	**-**	**6.14**	**0.41**

A summary of the likely direct impacts and potential indirect impact pathways to INTG TEC associated with development (i.e. construction) and/or operation of the GNWF Project, is presented in **Table 1.4.**

Figure 2.1 Patches of INTG Across GNWF



GNWF

INTG Condition

Class A

Class B

Class C

Unsurveyed

31669_R16_EPBCOffsetStrategy_v3 (31669_R16_0201_INTGPatches)

umwelt

Data Source: Umwelt (2025), ESRI (2025), DEW (2022), DIT (2022) Neoen (2025)
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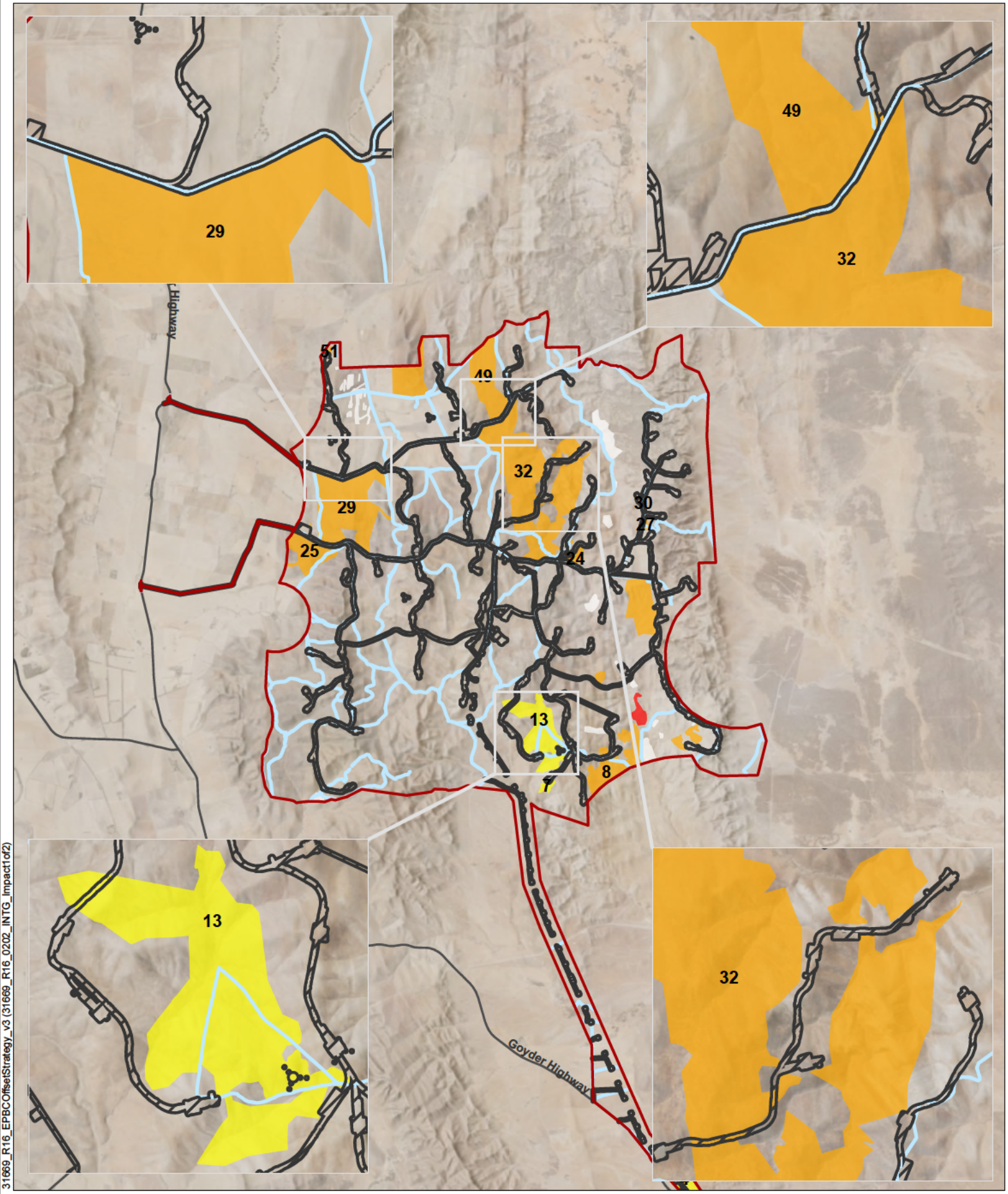
0 2.5 5 km

N

Figure 2.2 INTG Impacted by the Disturbance Footprint Across the Project Area (1 of 2)



GNWF
Disturbance Footprint
Existing road

INTG Condition
Class A
Class B
Class C
Unsurveyed

Data Source: Umwelt (2025), ESRI (2025), DEW (2022), DIT (2022) Neoen (2025)
Date Exported: 8/09/2025 4:46 PM
Created by: sophie.haswell

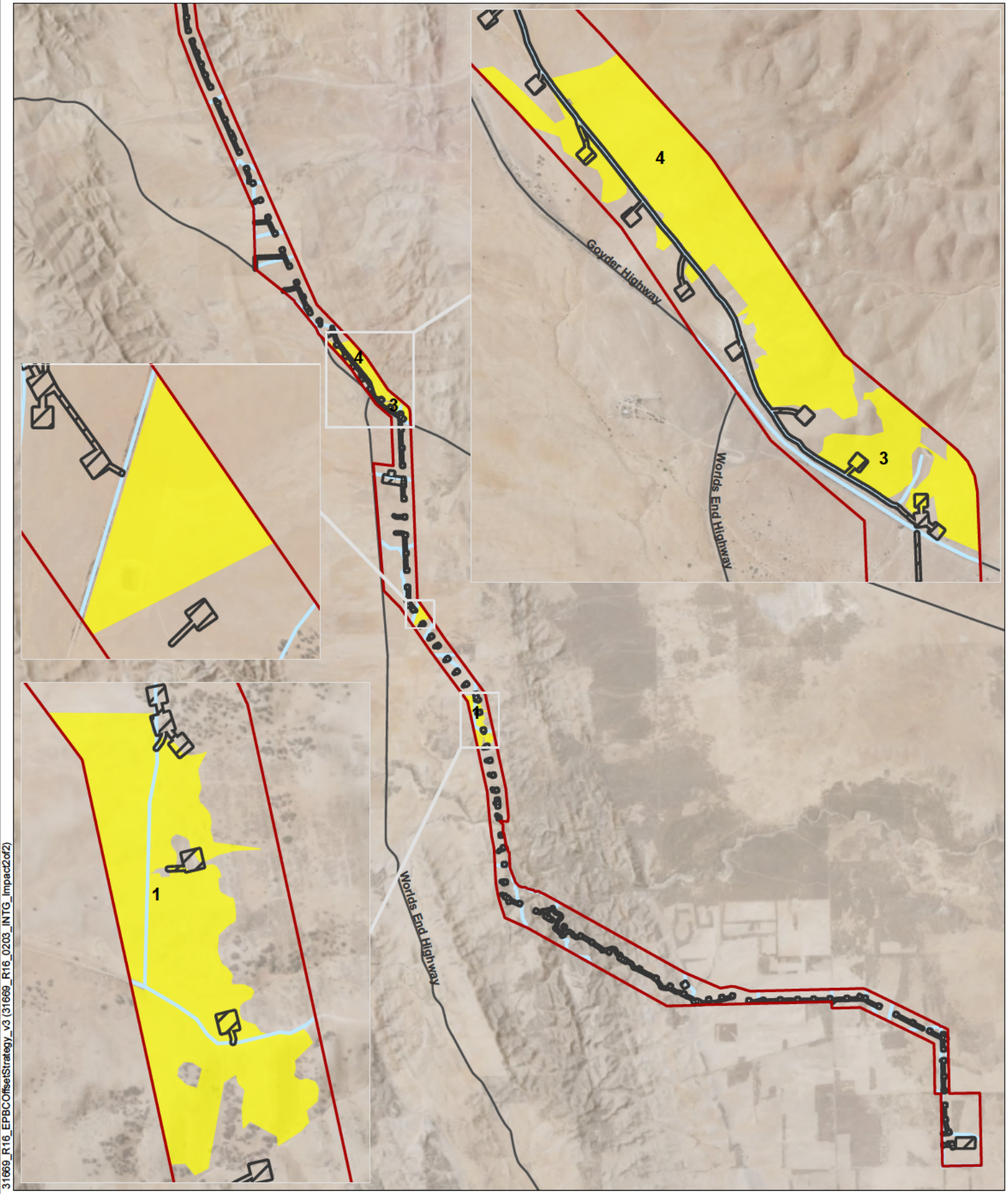
GDA2020 MGA Zone 54

0 2 4 km

N

31669_R16_EPBCOffsetStrategy_v3 (31669_R16_0202_INTG_Impact1of2)

Figure 2.3 INTG Impacted by the Disturbance Footprint Across the Project Area (2 of 2)



GNWF
Disturbance Footprint
Existing road

INTG Condition
Class C

Data Source: Umwelt (2025), ESRI (2025), DEW (2022), DIT (2022) Neoen (2025)
Date Exported: 8/09/2025 4:46 PM
Created by: sophie.haswell

GDA2020 MGA Zone 54

0 2 4 km

N

31669_R16_EPBCOffsetStrategy_v3 (31669_R16_0203_INTG_Impact2of2)

2.2 Summary of Likely Direct and Potential Indirect Impacts to INTG

Table 2.2 Likely Direct Impacts and Potential Indirect Impacts to INTG TEC During Construction and Operation of the GNWF

During Construction	During Operation	Comment
Likely Direct Impacts		
Direct loss of up to 7.70 ha of Class B TEC and 4.73 of Class C INTG (not currently representative of the TEC, but with potential for rehabilitation) through vegetation clearance for construction purposes.	No direct impacts are expected during operation.	Neoen are seeking to further minimise these direct impacts through micro siting, where possible, as identified during pre-construction surveys.
Potential Indirect Impacts		
Clearance of INTG TEC outside the approved clearance area (i.e. via maintenance of existing infrastructure, vehicles driving over grassland outside of the approved clearance area).		Avoidable through specific controls and management measures outlined in the Goyder North Wind Farm Iron-grass Natural Temperate Grassland Management Plan (INTG MP) (Umwelt, 2025a) as well as the Construction Environmental Management Plan (CEMP) (Umwelt, 2025b) and the Operational Environmental Management Plan (OEMP).
Loss of topsoil and subsequent erosion in areas adjacent to INTG patches, which may lead to impact within the TEC.	Construction related indirect impact, not expected to occur during operation.	Avoidable through specific controls and management measures outlined in the INTG MP, the CEMP and the OEMP.
Sedimentation of INTG TEC from construction run-off (soil).	Construction related indirect impact, not expected to occur during operation.	Avoidable through specific controls and management measures outlined in the INTG MP, the CEMP and the OEMP.

During Construction	During Operation	Comment
Altered hydrology (due to altering of drainage lines through excessive runoff).	Construction related indirect impact, not expected to occur during operation.	Avoidable through specific controls and management measures outlined in the INTG MP, the CEMP and the OEMP.
Dust emissions smothering flora and suppressing photosynthesis, leading to reduction in plant health.	Low traffic volume during operation, impacts not expected to occur during operation.	Short term potential impact during construction only, which can be minimised through specific controls and management measures outlined in the INTG MP, the CEMP and the OEMP.
Short-term altered grazing regimes (increased grazing, preferential grazing, reduction or loss of grazing, altered grazing times) as a result of construction activities and localized disturbance.	Long- term altered grazing regimes (increased grazing, preferential grazing (e.g. under turbine shade), reduction or loss of grazing, altered grazing times), caused by changed fence lines and water points, altered access tracks, and potential influence of new infrastructure on livestock behaviour.	Difficult to predict likelihood and/or level of occurrence and likely consequences. Long term impacts are unknown, and the Project Owner (Neoen) will not have any direct control over grazing regimes as it is controlled by landowners or managers. A CEMP / INTG MP will address landowner responsibility to report notable changes in land use and grazing caused by the Project.
Introduction of new weeds to the Project Area, or increase in weeds, through use of contaminated construction material, machinery and vehicles, leading to loss of vegetation condition.	Introduction of new weeds to the Project Area, or increase in weeds, through foot-traffic, light vehicles and other machinery that may be required during the operational phase (limited/minimal) leading to loss of vegetation condition.	Avoidable through specific controls and management measures outlined in the INTG MP, the CEMP and the OEMP.
Stockpiling of equipment and materials and introduction of rubbish and waste materials causing degradation to the integrity of the grassland.	Construction related indirect impact, not expected to occur during operation.	Avoidable through specific controls and management measures outlined in the INTG MP, the CEMP and the OEMP.
Chemical spills (e.g. fuel/diesel) leading to loss or reduction of vegetation condition.		Avoidable through specific controls and management measures outlined in the INTG MP, the CEMP and the OEMP.

2.3 Application of the Mitigation Hierarchy

2.3.1 Avoidance and Mitigation Measures

Neoen have undertaken a significant and extensive number of technical investigations during the planning phase to identify potential impacts of the proposed action on the environment. The infrastructure layout has proceeded through a series of changes and adjustments as the iterative process of initial investigation, layout review and refinement has occurred a number of times, as information became available from the engagement process, the specialist investigations and Neoen's own technical and construction advice. Technical investigations of relevance to INTG are outlined in (**Table 2.3**).

Table 2.3 Technical Investigations Relevant to INTG

Assessment Description	Assessment Year	Citation
GNREF on-ground flora assessment (GNREF))	November 2022	EBS Ecology (2022)
GNREF Ecological constraints mapping	July 2023	(EBS Ecology, 2023b)
GNREF and OTL Ecological Risk Assessment Summary	September 2023	(EBS Ecology, 2023c)
GNWF on-ground flora assessment	November 2023	(Umwelt, 2025a)
GNWF on-ground flora assessment	February - March 2024	(Umwelt, 2025a)
GNWF on-ground flora assessment	September 2024	(Umwelt, 2025a)
GNWF Targeted INTG surveys	October 2024	(Umwelt, 2025c)

Flora and fauna assessments for the GNWF have enabled Neoen to identify and understand constraints, and potential impacts to flora and fauna, including MNES, and apply a risk mitigation to the design. Project infrastructure has specifically been designed and/or located to avoid direct impact to INTG as much as possible through application of the Mitigation Hierarchy. Ongoing application of these minimisation measures will seek to avoid direct impacts even further. In addition, the location of infrastructure, will be micro-sited within the Development Envelope away from INTG, when practicable, during pre-construction surveys to further avoid and/or minimise direct impacts.

Where impacts to INTG and other sensitive issues cannot be completely avoided by design, they will be minimised during the construction and operation phases of the Project via implementation of targeted management plans for various stages of the Project, including the Construction Environmental Management Plan (CEMP) and associated sub-plans such as Operation Environmental Management Plan (OEMP), Flora and Fauna Management Plan, Rehabilitation Management Plan, and targeted MNES management plans, in particular an INTG TEC Management Plan. Lessons learnt on mitigating potential impacts on INTG TEC from the Goyder South Hybrid Renewable Energy Facility Project (which is currently under construction), will be adopted and applied to GNWF

Avoidance and mitigation measures applied and proposed for the Project are specified in **Table 2.4.** Whilst every effort has been made to avoid MNES and other sensitive areas where possible, engineering and landscape constraints mean that some impacts cannot be completely avoided.

Table 2.4 Avoidance and Mitigation Measures Applied and Proposed for INTG

Avoidance / Mitigation Measure	Description	Effectiveness
Pre-construction / design		
Site selection	Original site selection was based on: • the world-class wind resource • proximity to major transport routes and existing grid infrastructure • location on the edge of Goyder's Line in marginal agricultural cropping land which had historically been cleared and utilized for grazing • the rural location with low population density, reducing visual and noise impacts.	High – the Project Area is situated in an area of relatively low economic, ecological and social value.
Vegetation surveys	Multiple surveys at various points in the Project design and development stage including: • Early broad mapping of the site vegetation and potential quality. • Detailed vegetation surveys to refine mapping and confirm condition. • Targeted INTG TEC surveys within Disturbance Footprint to refine mapping and measure against condition class criteria, to inform further micro siting and management.	High - determined areas of higher quality Lomandra Grassland and enabled early avoidance, with provision of ecological constraints mapping and risk analysis (EBS Ecology, 2023a; EBS Ecology, 2023c), which resulted in a reduction of impact to INTG from 41 to 16 WTGs and careful placement of roads and cables to avoid fragmenting areas of INTG. From this revised and reduced turbine layout, a civil design of the likely road locations and hardstand extents was developed, by adopting 'exclusion areas' where possible for identified high quality (likely INTG) areas. This methodology effectively avoided impacts to the INTG TEC by ensuring the design avoided these areas as much as possible. Subsequent targeted INTG surveys in spring 2024, ensured that all areas of INTG proposed to be impacted have been surveyed in detail, resulting in accurate condition class assessment. This resulted in more refined avoidance once classification against the INTG TEC Condition Class Criteria had been undertaken.

Avoidance / Mitigation Measure	Description	Effectiveness
Alignment with existing infrastructure	Project Area sited to align wherever practicable with existing cleared areas including roads, infrastructure and cropped land. If roads or electrical cables are required to cross large patches of Lomandra Grassland to access WTGs, they have been placed at the narrowest (i.e. least impact) area. In some cases, alternative access track routes appear available, however, constraints associated with electrical cabling and distance from the substation and BESS, mean that alternative routes are not technically feasible unless access tracks and cables are constructed separately. As cables have been designed to align within temporary clearance areas of existing access tracks, to minimise clearance, the overall impact on native vegetation, as well as fragmentation, is reduced in these instances.	High – Neoen has investigated design measures to minimize impacts in unavoidable locations. A total of 65.16 ha of the Disturbance Footprint aligns with existing infrastructure or cleared areas with a further 17.73 ha occurring in exotic grassland, with limited value for MNES, totalling ~82.94 ha (46.25 ha permanent, 36.71 ha temporary). Approximately ~15.45%) of the total impact area occurs in non-native vegetation, including: • 28.85 ha in cropped land • 36.31 ha aligned with existing cleared areas • 17.73 ha in exotic vegetation • 0.05 ha in amenity (i.e. planted) vegetation such as gardens or wind breaks.
	Aligning electrical layout with temporary footprint associated with existing roads and proposed access tracks.	High- approximately 8.44 ha of INTG habitat avoided through this method. Note: not directly comparable due to the maturity of the design.
	Utilising existing access track infrastructure for GSWF OTL to reduce access track requirements for GNWF OTL.	Moderate - 0.72 ha of INTG (Class C) avoided using this method.
Non-conventional stringing methods	Removal of stringing corridor in areas of high value MNES habitat through application of non-conventional stringing methods (i.e. helicopter stringing).	High - Approximately 3.02 ha of INTG avoided through this method.
Construction		
Construction Environmental Management Plan (CEMP)	A comprehensive document with multiple associated sub-plans which aim to avoid or minimise indirect impacts from construction such as through dust emissions, erosion, altered hydrology and general site matters. Includes measures for spatial data system to minimise the chance of unauthorised or incorrect clearance areas.	High - Indirect impacts effectively avoided.

Avoidance / Mitigation Measure	Description	Effectiveness
INTG Management Plan	Specific document intended as a sub-plan of CEMP which details procedures to further avoid as well as minimize direct impacts and mitigate potential indirect impacts to INTG. Includes reduced speed limits and ecological no-go zones.	High - direct impacts minimised. Indirect impacts effectively avoided.
Pre-clearance Checks (PCC)	PCC in all areas of Project Area which contain INTG, with the aim to implement micro siting procedure to avoid or minimise	Moderate - Allows for micro siting to further minimise impacts and ensures any unexpected finds are reported and managed.
Micro-siting infrastructure	Pre-construction micro-siting surveys: Prior to commencing construction work (such as, but not limited to, clearing and grubbing and excavation) within Class B and Class C INTG TEC, the head construction contractor will work with specialist advisors (i.e. ecologists) to undertake a micro-siting process to micro-site (relocate) infrastructure to avoid and/or minimise impacts to Class B and Class C INTG TEC, where possible. No construction works will commence until approval has been provided in accordance with a dedicated the Permitting System.	No net increase in impact to INTG. Micro-siting will only be considered if it reduces impact on MNES.
Rehabilitation	The area of temporary clearance in INTG will be rehabilitated using best practice methods, following disturbance and will be outlined in the Rehabilitation Management Plan. Areas of temporary disturbance are included in state and federal approvals to ensure that any offsets are above and beyond what is required to achieve a net environmental gain for the TEC.	High - 7.75 ha (59.94 %) of disturbed INTG will be rehabilitated following construction.
Operation		
Operational Environmental Management Plan	Management measures enforced to ensure no unforeseen direct or indirect impacts occur to INTG during the operational phase of the GNWF. Includes weed management, speed limits and rehabilitation monitoring.	Ensures direct impacts to INTG during operational works are avoided and indirect impacts are minimised through appropriate management measures.

Avoidance / Mitigation Measure	Description	Effectiveness
EPBC Offset	EPBC Offset provides net gain for INTG in the region. Aim to rehabilitate and improve existing areas of INTG and implement formal protections to secure and improve in perpetuity.	Provides measurable conservation gain for INTG.
Decommissioning		
Reassessment and further surveys	To be developed at time of decommissioning. Likely to include targeted INTG surveys. Significant Impact Assessment (under relevant legislation and guidelines at the time of decommissioning) and approvals, if required.	Follows regulatory process relevant at the time of impact.

2.4 Residual Significant Impact

While Project infrastructure has specifically been designed and/or located to avoid impact to INTG as much as possible, assessment of current Project design information, specifically the Disturbance Footprint, has determined that the Project will directly impact (clear or remove) up to 6.14 ha of Class B INTG TEC (as summarised previously in **Section 1.1.3**), based on the Disturbance Footprint, noting that this is a worst-case assessment of impacts and efforts to reduce this through further design refinements will occur. This 6.14 ha impact to Class B INTG consists of permanent impact of up to 2.43 ha and temporary impact of up to 3.72 ha, as summarised in **Table 2.5**. A summary of the individual INTG patches impacted by the GNWF is provided in **Table 2.6**.

This is the worst-case assessment of impacts expected and through ongoing design refinements, Neoen will seek to further reduce these impacts. A Development Envelope (200 m buffer around Disturbance Footprint) is proposed to allow further refinement of the design and application of the mitigation hierarchy to further avoid and minimise impacts to areas where INTG occurs.

Table 2.5 Residual Significant Impact to Class B INTG Associated with the Project

Project Element	Permanent Impact (ha)	Temporary Impact (ha)	Total Impact (ha)	Comments
WF	2.43	3.72	6.14	Areas temporarily cleared will be allowed to regenerate following clearance required for construction. Residual impacts to Class C INTG in the WF totals 1.07 ha.
OTL	0.00	0.00	0.00	No impacts to INTG along OTL, as all Lomandra Grassland in the alignment was classified as Class C which does not meet the criteria for listing as a TEC. Residual impacts to Class C INTG on the OTL totals 1.37 ha.

Table 2.6 Summary of Individual INTG (Condition Class B) Patches Impacted by GNWF

Patch ID	INTG Assessment Site	Total Patch Size (ha)	Area Impacted (ha)	Approximate Area Remaining Post Impact (ha)	% of Patch Impacted	Diversity of Native Species (min)	Broad-leaved herbaceous species[2]	Perennial Grass Species (min)
8	LOM10	116.32	0.13	116.19	0.11%	16	2	4
24	LOM16	12.85	0.01	12.84	0.08%	21	7	7
25	A6f (BAM)	99.94	1.92	98.02	1.92%	11	4	4
27	LOM2	4.32	0.02	4.3	0.46%	12	4	1
29	A6f (BAM)	324.61	1.09	323.52	0.34%	11	4	4
30	LOM1	0.69	0.13	0.56	18.84%	20	4	5
32	LOM17; LOM18	527.59	2.40	525.19	0.45%	19; 20 (Ave: 20)	3; 3 (Ave: 3)	4; 10 (Ave:7)
49	LOM6; LOM23	232.79	0.38	232.41	0.16%	17; 17 (Ave: 17)	6; 7 (Ave 7)	5; 3 (Ave: 4)
51	D6b (BAM)	2.22	0.08	2.14	3.60%	23	12	3
		Total: 1,321.33	Total area impacted = 6.14 ha	1315.17	99.53%	Average of all Patches = 16.8	Average of all Patches = 5.2	Average of all Patches = 4.3

Source: (Umwelt, 2025c)

2.4.1 Survey Methodology

A targeted field survey was undertaken from 14-18 October 2024, to determine the condition class of INTG in patches of previously mapped Lomandra Grassland (VA6) using Bushland Assessment Method (BAM), and to ground-truth and refine mapping of INTG boundaries.

The survey was undertaken within the recommended survey window for INTG TEC, in mid spring, within two months of effective rain (23.2 mm on 16 August 2024, Clare High School Station 021131). Specific disturbance factors (such as grazing, slashing and fire) were unable to be specifically accommodated for the survey, due to the broad agricultural uses of the Project Area, the large number of landholders involved, and the Project timelines.

Surveys in areas of INTG followed the criteria outlined in **Table 2.7**:

- *EPBC Act Policy Statement 3.7: Peppermint Box (Eucalyptus odorata) Grassy Woodland of South Australia and Iron-grass Natural Temperate Grassland of South Australia* (Department of the Environment and Water Resources, 2007)
- *National Recovery Plan for the Iron-grass Natural Temperate Grassland of South Australia ecological community* (Turner, 2012)

- *Guidelines for biological survey and mapped data* (Commonwealth of Australia, 2018)
- *Guide to providing maps and boundary data for EPBC Act projects* (DAWE, 2021).

A 50 m tape was laid at all sites and surveyed 25 m either side by two ecologists walking approximately 5 m to 10 m apart. All species (including weeds) encountered within the quadrat were recorded. All species observed within the quadrats were then categorised (i.e. broad-leaved herbaceous plant, perennial grass / tussock, disturbance resistant species) and compared against the benchmark criteria for Classes A to C, as outlined in the EPBC Act Policy Statement (Department of the Environment and Water Resources, 2007) (**Table 2.7**).

To obtain a measure of the number of perennial native tussocks per metre, observers walked along the length of the 50 m transect and counted the number of grass tussocks which intersected the line. An estimate of Lomandra tussock density / cover was made for each quadrat.

Survey areas were prioritised first according to where patches of INTG intersected with the proposed Disturbance Footprint or Development Envelope, and then, if not found to meet the criteria, additional surveys were undertaken within the same contiguous patch, to determine if any better-quality areas occurred, which met the criteria.

Table 2.7 Condition Class Criteria for Iron-grass Natural Temperate Grassland

Condition Class	Minimum patch size (ha)	Native species diversity[1]	No. broad leaved herbaceous species[1] (excl. DRS[2])	No. perennial grass species[1] (excluding Lomandra)	Average tussock count[3]
Listed TEC					
A	0.1	>30	≥10	≥5	1/m
B	0.25	>15	≥3	≥4	1/m
Degraded patches amenable to rehabilitation					
C	No minimum	>5	No minimum	≥1	No minimum

[1]. As measured in a 50 m x 50 m quadrat, (or equivalent to make 2,500 m^2 if patch is narrower – e.g. roadside corridor).
[2]. Disturbance resistant species (DRS): *Ptilotus spathulatus*; *Sida corrugata*; *Oxalis perennans*; *Euphorbia drummondii*, *Maireana enchylaenoides*.
[3]. Average count as measured along a 50 m transect, including all native perennial tussock species i.e. true grasses, as well as species of *Lomandra*, *Dianella*, *Gahnia*, *Lepidosperma* and other perennial sedges and rushes.

2.4.2 Habitat Quality of Impacted INTG

Habitat quality of the INTG impacted by the Disturbance Footprint has been assessed in accordance with the *How to Use the Offsets assessment Guide* (DSEWPC, undated). The key ecological attributes of INTG are summarised in **Table 2.8** and have been used to help determine the overall habitat quality score of the impacted INTG, in relation to the three habitat quality components (site condition, site context and species stocking rate) as outlined in . Note that a weighting has been applied to the three habitat quality components: site condition (4), site context (3) and species stocking rate (3) for a total score out of 10.

A habitat quality score of 6 (out of 10) has been assigned to the impacted INTG, as all impacted patches contain Class B INTG and similar diversity of relevant habitat species (**Table 2.9**).

Table 2.8 Evaluation of Key Ecological Attributes of INTG

Habitat requirements and variability: What are the various ecological components and occurrence states for the ecological community?
INTG TEC is a natural grassland dominated by Iron-grass (*Lomandra effusa* or *Lomandra multiflora* ssp. *dura*) and tussock forming perennial grasses. A range of herbaceous species also occur in the ground layer, with trees and tall shrubs generally absent or sparse (<10% cover) (DEWR 2007). The Iron-grass listing criteria (Department of the Environment and Water Resources, 2007) facilitates classification of INTG into condition classes based on native plant species diversity, composition and native perennial tussock density. Three Condition Class categories have been defined, representing high quality remnants (Class A), moderate quality remnants (Class B) and degraded remnants with potential for restoration (Class C).
Lifecycle and population dynamics: What are the key life cycle stages of the species? How do these impact on its population viability or ecosystem integrity?
As outlined in the INTG TEC Recovery Plan (Turner, 2012): *"Continuation of appropriate livestock grazing is one of the main tools available for long-term management, maintenance and protection of the ecological community. Studies in native grasslands in the Mid North of South Australia indicate that management practices such as low intensity grazing and time-managed rotational grazing can help maintain or improve the condition, structure and habitat values of grassland remnants whilst also benefiting agricultural production (Earl and Kahn 2003). Complete exclusion of stock after a long history of grazing can be detrimental to native grasslands and depending on the grassland species composition and condition, can lead to dominance by introduced annual grasses and other weeds.* *Natural grassland communities are adapted to regular disturbance by herbivore grazing and fire (Curry 1994). Introduced livestock have largely replaced native herbivores in the landscape, especially small mammals and invertebrates. Stock grazing in Iron-grass grasslands could be actively managed to provide some of the essential ecosystem functions previously controlled by the native herbivores, including timely reduction of dry biomass from native tussocks, nutrient recycling and redistribution, seed dispersal and maintenance of structural complexity such as inter-tussock spaces, patchiness of species distribution and different growth stages of plants in the grassland. Stock can also be managed to reduce the impacts of introduced pasture species and some weeds, by controlling biomass and reducing seed production."*
Movement and distribution patterns: How does the species population function across the landscape?
INTG TEC occurs only in South Australia and tussock Grasslands dominated by *Lomandra effusa* and/or *Lomandra multiflora* subsp. *Dura* occur predominantly in the Northern and Yorke Landscape Management Region, with smaller occurrences in the Murraylands and Riverland Landscape Management Region. Lomandra Grassland is most widespread in the Flinders-Lofty Block Bioregion (Neagle 2008 in (Turner, 2012)), with smaller occurrences in the Kanmantoo, Eyre-Yorke Block and Murray Darling Depression Bioregions (Department for Environment and Heritage 2005 in (Turner, 2012)). The area of Iron-grass Natural Temperate Grassland at the time of European settlement has been estimated at between 750,000 to 1,000,000 hectares (ha) (Specht 1972; Hyde 1995 in (Turner, 2012)). At the time of listing under the EPBC Act in 2007, the remaining area of Iron-grass Natural Temperate Grassland of any condition, including highly degraded remnants, was thought to be less than 50,000 ha (Department for Transport, Urban Planning and the Arts 2000 in (Turner, 2012)), whilst the area meeting the criteria for the listed threatened ecological community is likely to be substantially less and may be less than 5,000 ha (Hyde 1995; TSSC 2007 in (Turner, 2012)).

Threatening processes: What are the threatening processes contributing to the loss of the species?
As outlined within the INTG TEC Recovery Plan (Turner, 2012), the known and potential threats to INTG TEC include: • Lack of awareness and/or knowledge about INTG TEC. • Changes in land use (including altered grazing regimes). • Weed invasion. • Exotic animals and overabundant native species. • New infrastructure and developments. • Inappropriate fire regimes. • Ongoing ecological stresses due to past clearance, fragmentation and management changes. • Climate change.

Table 2.9 Determining the Habitat Quality Score for Impacted INTG

Component	Questions / Consideration	Impacted areas (up to 7.70 ha)
Site condition	**What is the structure and condition of the vegetation on the site?**	The overall quality of INTG at the impact site is fair to moderate. The average Vegetation Condition Score obtained from BAM survey sites is 35.95 (of a maximum of 80, representing a site at the pre-European Benchmark condition) (Umwelt, 2025). Strong grazing impacts are observed across most of the site, including grazing of Lomandra spp. Tussocks, perennial grass tussocks, and generally low abundance of any herbaceous species, if present. No Class A INTG is being impacted by the Project. Degrading factors present at the site include historical clearance, long history of agricultural grazing of sheep and cattle, weed encroachment, proximity to degraded exotic grasslands and cropped areas, drought and fragmentation (Umwelt, 2025).
	What is the diversity of relevant habitat species present (including both endemic and non-endemic)?	Diversity of native species within the Class B patches of INTG proposed to be impacted includes (**Table 2.6**): • Average number of native plant species: 16.8. • Average number of broad-leaved herbaceous species: 5.2. • Average number of perennial grass species: 4.3. BAM Sites, assessed under the Native Vegetation Act are comparable to Benchmark Communities. Across all INTG sites (11), the average site recorded 14 native species and 8 weed species per site. A total of 54 weed species have been detected in Lomandra survey sites, including seven weeds listed as Declared under the *Landscape South Australia Act 2019*. This included *Echium plantagineum* (Salvation Jane) which was common across most sites. Common agricultural pasture weeds were present across all sites.

Component	Questions / Consideration	Impacted areas (up to 7.70 ha)
	What relevant habitat features are on the site?	6.14 ha of Class B INTG is within the Disturbance Footprint. Features relevant to the condition score of the site include that the land is currently utilised for and has a long history of agriculture including for cropping and grazing of livestock which has introduced additional threatening processes such as weed invasion, over abundant native herbivores (due to watering points) and decreased resilience to climate change. A total of 1,931.24 ha of Lomandra Grassland (all condition classes) is mapped within the Project Area, further divided into 51 patches (divided by landholder boundaries). Nine of these patches are being impacted by the Disturbance Footprint. Those nine patches total 1,315.17 ha, of which 6.14 ha is proposed to be impacted by the Project, equivalent to 0.47%. Of the patches being impacted, all are subject to existing disturbance including grazing (all), being edged or divided by public roads (29, 32, 42, 51) or farm tracks (8, 24, 25, 27, 30), surrounded or edged by crop (51, 49, 25) and / or fragmented by a network of minor farm tracks (all).
	Site condition score (4):	**3**
Site context	**What is the connectivity with other suitable/known habitat or remnants?**	The patches of INTG TEC proposed to be impacted are part of larger remnant patches within the GNWF, divided in some locations by minor roads or farm access tracks, or by tracts of exotic pasture, cropped land or derived native grasslands. However, across the Project Area, it is likely that these large patches were historically connected prior to vegetation clearance and agricultural activities. One patch proposed to be impacted is part of a small fragment (~2.2 ha) remaining on rocky ground, surrounded by crop. considered to be fragmented from other patches due to historical vegetation clearance and agricultural activities and not connected to other remnants. In the broader context of the landscape, the range of INTG occurs in an area that has been intensively cleared for agriculture. Few areas of INTG are formally protected under conservation covenants. One of these occurs within the Project Area, Mokota Conservation Park, however it is not proposed to be impacted by the Project. Mokota CP has existing roads on two sides, including White Hill Road to the north, and Gum Hill Rd (extension) on the south. A minor farm track traverses the east of the site, setback from the boundary on rural land.
	What is the importance of the site in relation to the overall species population or the occurrence of the community?	As outlined in the INTG TEC Recovery Plan (Turner, 2012), the INTG TEC occurs only in South Australia, and tussock grasslands dominated by *Lomandra multiflora* subsp. *dura* and/or L. *effusa* occur mainly in the Flinders-Lofty Block Bioregion (Neagle 2008 in (Turner, 2012)), with smaller occurrences in the Kanmantoo, Eyre-Yorke Block and Murray Darling Depression Bioregions (Department for Environment and Heritage 2005 in (Turner, 2012)).

Component	Questions / Consideration	Impacted areas (up to 7.70 ha)
		The site occurs within the central area of the reported range of the community. Further to the south on the more arable land, patches are likely to be smaller and more fragmented, while to the north, larger intact patches remain. Given the above, and as the INTG TEC Recovery Plan (Turner, 2012) states that all sites that meet the criteria for the listed community should be considered habitat critical to the survival of the ecological community, the patches of Class B INTG TEC that are proposed to be impacted are considered to be moderately to highly important in relation to the overall occurrence of the community.
	What threats occur on or near the site?	The site is on land used for agricultural grazing and thus under direct threat from current and future potential land management, exacerbated by the threat of climate change. It is likely to be in a stable or declining condition under its current management. The site is subject to existing weed invasion (including up to 14 identified Declared weeds), trampling by livestock, overgrazing and erosion. Other threats that currently occur on or near the impact sites include potential changes in land use (e.g., potential for inappropriate grazing), weed invasion, exotic animals and overabundant native species, new infrastructure developments (wind farm), ongoing ecological stresses due to past clearance, fragmentation and management changes, and climate change.
	Site context score (3):	**2**
Species stocking rate	**What is the presence of the species on the site? (i.e. confirmed / modelled).**	INTG has been confirmed within the Disturbance Footprint and broader Project Area during field survey (Umwelt, 2025). Mapping has confirmed up to 1,932.13 ha of INTG (all conditions) within the GNWF, including 18.02 ha of Class A INTG, 1,480.59 ha of Class B INTG and 308.00 ha of Class C INTG (not the TEC). This is from an estimated 50,000 ha of Lomandra Grassland
	What is the density of species known to utilise the site?	1,931.24 ha of INTG (all classes), represents approximately 12.34% of all native vegetation mapped in GNWF Project Area. This represents the mapped area of INTG and comprises a matrix of INTG patches which may be discontinuous, punctuated by areas of native or non-native grassland.
	What is the role of the site population in regard to the overall species population?	The INTG TEC Recovery Plan states that there is likely to be approximately 5,000 ha of INTG TEC meeting the criteria for the listed TEC (Turner, 2012), from an estimated 50,000 ha of all condition classes in the region. A total of 8.59 ha of INTG is proposed to be impacted, with 6.14 ha comprising Class B, or the listed TEC. The 6.14 ha of Class B INTG TEC proposed to be impacted is located within the Flinders-Lofty Block Bioregion.

Component	Questions / Consideration	Impacted areas (up to 7.70 ha)
		No INTG TEC was recorded in the Murray Darling Depression Block Bioregion portion of the Project Area and represents 0.12% of the TEC reported to be remaining in the region. The overall impact of 8.59 ha represents 0.017 % of the estimated remaining INTG (all classes) in the region. As stated in the INTG TEC Recovery Plan (Turner, 2012), all sites that meet the criteria for the listed community should be considered habitat critical to the survival of the ecological community.
	Species stocking rate (3) score:	**2**
	Habitat Quality Score:	**6**

3.0 PBTL Context and Background

3.1 PBTL in the Project Area

Targeted field surveys to detect to PBTL within the Project Area have identified a total of 186 PBTL from 21,641 spider burrows The status of known PBTL records within the Disturbance Footprint, Development Envelope and GNWF Project Area, based on a compilation of recent Umwelt, University and historical BDBSA records, are presented in **Table 3.1** and **Figure 3.2**, with a total of 55 known records in the Disturbance Footprint, 119 in the Development Envelope, and 1,466 in the Project Area.

Table 3.1 Number of Known Pygmy Blue-tongue Lizard Records in GNWF Project Area within Disturbance Footprint, Development Envelope and GNWF Project Area

Source of Records	GNWF Project Area	Development Envelope	Disturbance Footprint	Total
EBS /Umwelt	57	74	52	**183***
Recent Unpublished University records	351	7	0	**358**
BDBSA	1058	38	3	**1099**
Total	**1466**	**119**	**55**	**-**

* Represents occupied burrows (two burrows contained juvenile PBTL, for total of 186 PBTL individuals)

Prior to surveys commencing, and based on the information available in the literature, Vegetation Associations (VAs) which were found to broadly match the description of suitable habitat within GNWF included Lomandra Grassland (VA6) and Native *Austrostipa* spp. Grassland +/- emergent trees (VA11a/b), with possible suitability in areas of exotic grassland.

Following survey work, one additional VA was found to provide suitable habitat, *Maireana rohrlachii* Shrubland (VA9), which comprised low shrubs with an understory of native and exotic grass and somewhat stony surface covering. No PBTL were found in areas classified as exotic grassland, whilst two PBTL were found on the edge of cropped vegetation or in areas marked as cleared which correlated with farm tracks through areas of suitable habitat.

The location of PBTL records and burrow data was interrogated further to determine if factors such as slope, aspect, altitude, soil type, landform and a range of other factors could explain the distribution of PBTL within otherwise suitable habitat. There was no strong correlation between the location of PBTL records, or burrows, which was explained by these factors.

Give the widespread and patchy distribution of PBTL across the WF, habitat suitability mapping indicates that most of the WF will be considered as 'likely' PBTL habitat, with 'known' habitat restricted to within 50 m of known recent and historical records of PBTL (**Figure 3.1**). Unlikely PBTL habitat is restricted to patchy areas of cropped land, drainage lines and densely wooded mallee vegetation in the east of the WF and southern half of the OTL, as well as grassland areas which otherwise did not meet the habitat criteria. A total of 20.04 ha of Known habitat is mapped within the Disturbance Footprint and 348.06 ha of Likely habitat **Table 3.2**, from a total of 11,154.12 ha of Known and Likely habitat mapped across the broader GNWF.

Based on the survey findings and the location of historical records within the GNWF Project Area, the south-central portion of the WF is deemed to be of the highest habitat suitability for the PBTL. The outwash areas in the far southeast corner of the WF and woodland habitats were found to be least suitable. In general, Chenopod shrublands were found to be unsuitable, except where a significant grassy understorey was present and the shrubland occurred on low to medium hills. No PBTLs were found in flat / low elevation areas, and it is considered unlikely to provide suitable habitat. The species is not known to occur outside of the Flinders Lofty Block IBRA bioregion, and therefore habitat that occurs in the far south of the Project Area, within the MDD Bioregion is also considered unlikely habitat.

Table 3.2 Summary of known, likely and unlikely PBTL habitat in Project Area

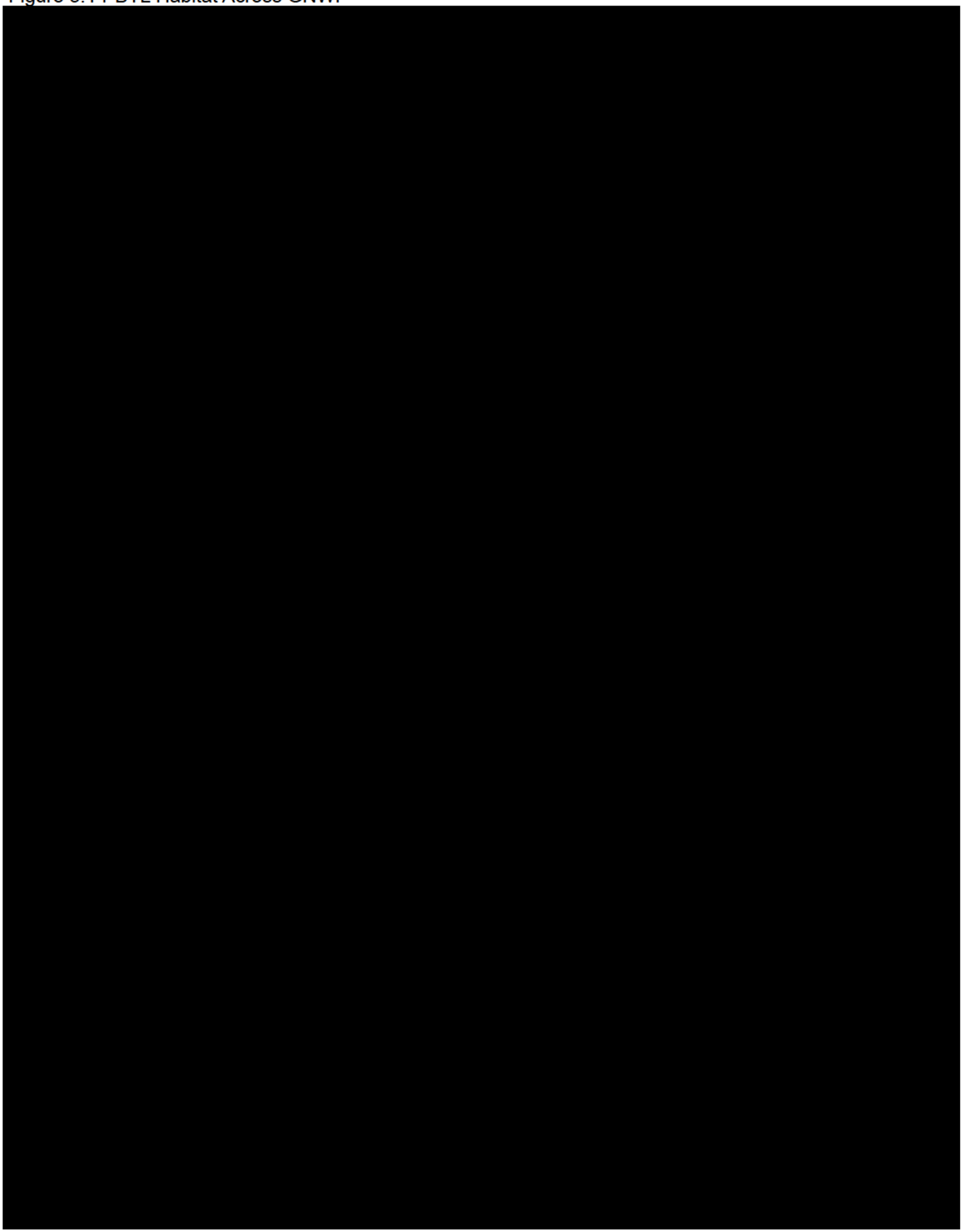
Likelihood	Description	WF (ha)	OTL (ha)	Total in DF (ha)	Total in GNWF (ha)
Known	All areas within 50 m of a known location of a PBTL including recent and historical records. Records include those collected by Umwelt and historical records sourced from the Biological Database of South Australia (BDBSA) (Recordset number: DEWNRBDBSA240207-2).	18.98	1.06	20.04	181.86
Likely	Areas in which there are no PBTL records, but vegetation is considered potentially suitable habitat based on the literature and preferred habitat parameters are available (including slopes and hills, suitable soil types without dense surface rock cover).	338.41	9.65	348.06	10972.26
Subtotal		**357.57**	**357.38**	**10.71**	**368.10**
Unlikely*	Vegetation associations in which there are no PBTL records and are otherwise not considered suitable habitat including: Areas where no burrows were detected. Non-grassy shrubland, woodland and mallee vegetation associations. Habitat which otherwise meets the suitability criteria but occurs within the MDD bioregion. Habitat which otherwise meets the criteria but occurs on flats / plains, or on sandy / shaley soil, or which has high surface rock density.	109.48	59.23	168.71	6,268.85
Grand Total		**466.86**	**69.94**	**536.82**	**17,422.97**

* A portion of habitat in GNWF including residential areas, has not been mapped, totalling 280.64 ha, not included in GNWF totals.

Estimates of population density within the Disturbance Footprint and broader Project Area were extrapolated based on a density index calculated per hectare for each vegetation association, based on targeted survey results. However, given the fluctuations in PBTL populations over time, the EPBC Offset Strategy proposes to offset PBTL habitat, not individuals, and this information is not presented further in this document.

Likely direct impacts and potential indirect impacts to PBTL individuals and/or populations associated with development (i.e., construction) and/or operation of the GNWF Project Area, are presented in **Section 3.2** and **Table 3.3.**

Figure 3.1 PBTL Habitat Across GNWF



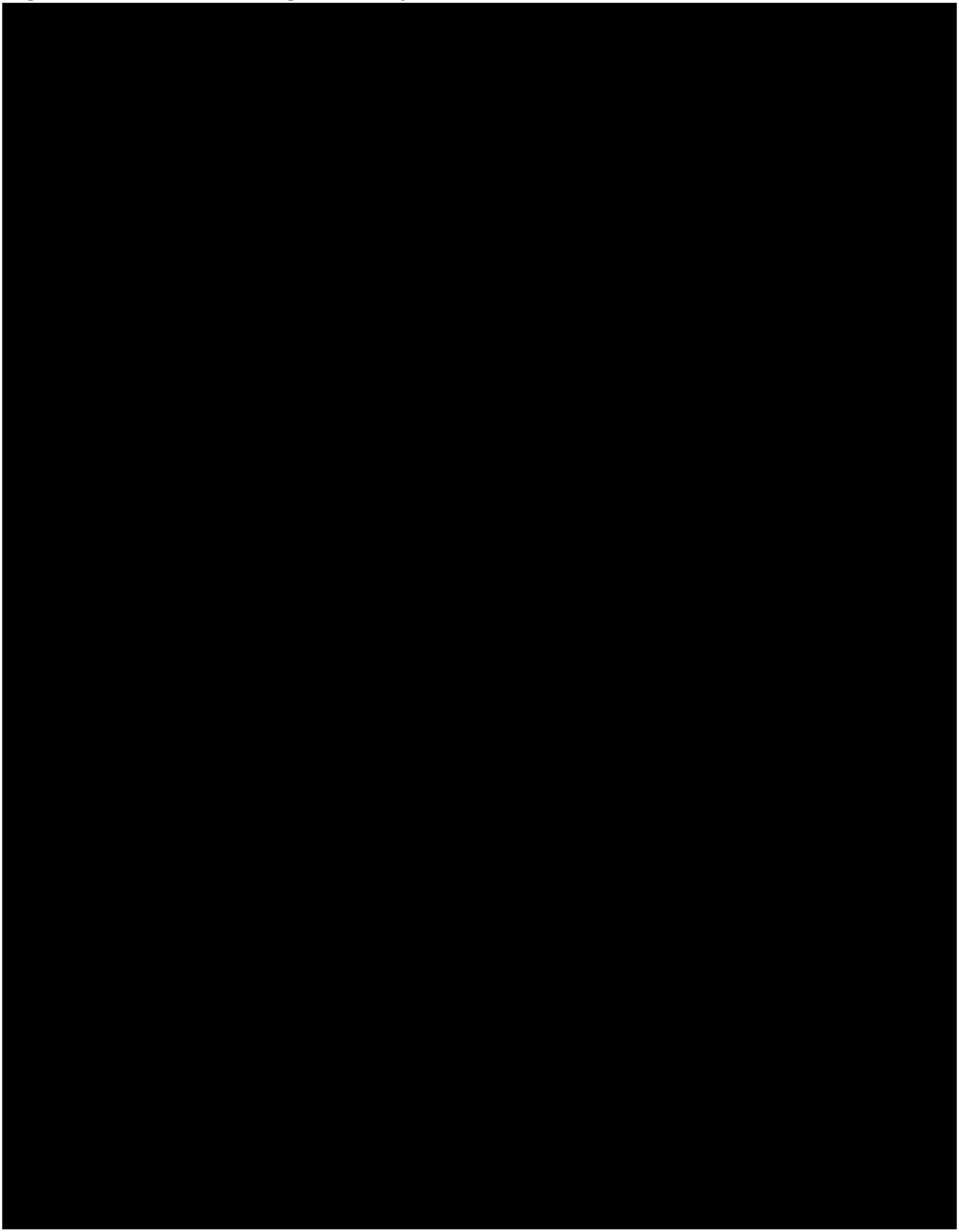
Data Source: Umwelt (2025), ESRI (2025), DEW (2022), DIT (2022) Neoen (2025)
Date Exported: 8/09/2025 4:41 PM
Created by: sophie.haswell

GDA2020 MGA Zone 54

N

0 2.5 5 km

Figure 3.2 PBTL Detected During Field Surveys and Historical Records BDBSA in GNWF



umwelt

Data Source: Umwelt (2025), ESRI (2025), DEW (2022), DIT (2022) Neoen (2025)
Date Exported: 8/09/2025 4:41 PM
Created by: sophie.haswell

GDA2020 MGA Zone 54

N

0 1 2 km

3.2 Summary of Likely Direct and Potential Indirect Impacts to PBTL

Table 3.3 Likely Direct Impacts and Potential Indirect Impacts to PBTLs During Construction and Operation of the GNWF

During Construction	During Operation	Comment
Likely Direct Impacts		
Direct loss of approximately 20.04 ha of '*Known*' and 348.06 ha of '*Likely*' PBTL habitat located within the Disturbance Footprint	No direct impact is expected during operation.	Unavoidable. Design measures have minimised impact to PBTL habitat as much as technically feasible prior to construction. Further revisions may occur during construction, which may reduce impact to PBTL likely and / or known habitat.
Potential loss of PBTLs located within the Disturbance Footprint	No direct impact is expected during operation.	Where possible, the final location of underground cables and access tracks, will be micro-sited away from PBTLs during pre-construction surveys to avoid and/or minimise impacts to individual PBTLs as much as possible. Where micro-siting cannot avoid direct impact to PBTLs, the individual(s) will be relocated to the nearest suitable release site in accordance with the method outlined in the *Goyder North Wind Farm - PBTL Management Plan*. Where appropriate, translocation of PBTL may be considered, in consultation with DCCEEW and the PBTL Recovery Team, involving the translocation of a population of PBTL to a designated site at another pre-determined location, such as an Offset site which contains suitable habitat.
Potential Indirect Impacts		
Clearance of '*Known*' and/or '*Likely*' PBTL habitat outside the Disturbance Footprint.		Avoidable through specific controls and management measures.
Vehicles and/or machinery driving over PBTL habitat leading to degradation of PBTL habitat and possibly striking PBTLs.		Avoidable through specific controls and management measures.

During Construction	During Operation	Comment
Pitfall (PBTLs getting trapped in trenches, pits and other open excavations).	Pitfall (PBTLs getting trapped in electrical pits).	Avoidable through specific controls and management measures.
Dust emissions smothering flora and suppressing photosynthesis leading to loss of vegetation condition and PBTL habitat suitability.	Minor dust impacts may occur through regular use of designated tracks.	Short term impact during construction only, which can be minimised through specific controls and management measures.
Short-term altered grazing regimes (increased grazing, preferential grazing, reduction or loss of grazing, altered grazing times) as a result of construction activities and localized disturbance.	Long- term altered grazing regimes (increased grazing, preferential grazing (e.g. under turbine shade), reduction or loss of grazing, altered grazing times), caused by changed fence lines and water points, altered access tracks, and potential influence of new infrastructure on livestock behaviour.	Difficult to predict likelihood and/or level of occurrence and likely consequences. Long term impacts are unknown, and the Project Owner (Neoen) will not have any direct control over grazing regimes as it is controlled by landowners or managers. A CEMP / INTG MP will address landowner responsibility to report notable changes in land use and grazing caused by the Project.
Sedimentation of PBTL burrows and/or PBTL habitat from construction run-off (soil).	Sedimentation of PBTL burrows and/or PBTL habitat from run-off from access tracks.	Avoidable through specific controls and management measures.
Noise and vibration disturbance during construction.	Potential disturbance to PBTLs in close proximity to turbines from turbine noise and/or vibration.	Short-term impact during construction. Potential impacts of turbine noise and/or vibration are unknown.
Introduction of new weeds to the Project Area, or increase in weeds, through use of contaminated construction material, machinery and vehicles, leading to loss of vegetation condition and PBTL habitat suitability.	Introduction and/or spread of weeds from vehicles leading to loss of vegetation condition and PBTL habitat suitability.	Avoidable through specific controls and management measures.
Division and isolation of PBTL sub-populations by construction of vehicular access tracks.	Division and isolation of PBTL sub-populations through existence of vehicular access tracks.	Avoided and/or minimised through design process.

During Construction	During Operation	Comment
Stockpiling of equipment and materials and introduction of rubbish and waste materials causing degradation of PBTL habitat.		Avoidable through specific controls and management measures.
Chemical spills (e.g. fuel/diesel) causing degradation of PBTL habitat.		Avoidable through specific controls and management measures.
No impact disturbance caused by shadow-flicker during construction and WTGs are not operational.	Potential disturbance to PBTLs in close proximity to turbines from shadow flicker impacts such as: • Potential increase in predation of PBTLs by birds of prey (due to PBTLs becoming accustomed to shadows). • Potential decrease in PBTL body condition due to PBTLs basking less. • Potential decrease in breeding due to PBTLs taking refuge in their burrow more often.	The potential or likelihood of this impact to PBTL actually occurring is currently not known as there is very limited data available to assess this potential impact. A shadow flicker assessment is provided as part of the Preliminary Documentation. Briefly, the assessment finds that: • 7,064.17 ha of known or likely PBTL habitat is modelled as being subjected to shadow flicker for <1–8.3 days spread over a year, where there are expected to be no impacts from shadow flicker. • 2,760.62 ha of known or likely PBTL habitat is modelled as being subjected to shadow flicker for 8.4–20.8 days spread over a year, where impacts are predicted to be very minor or inconsequential. • 526.76 ha of known or likely PBTL habitat is modelled as being subjected to shadow flicker for 20.9–41.6 days per year, where there may be some temporal impacts to individuals within the shadow flicker area. • 0.20 ha of known or likely PBTL habitat is modelled as being subjected to shadow flicker for >41–62.5 days per year and is considered as a residual indirect impact from the Project. It is noted that portions of the indirectly impacted areas overlap with the directly impacted Disturbance Footprint.

3.3 Application of the Mitigation Hierarchy

3.3.1 Avoidance and Mitigation Measures

Neoen have undertaken a significant and extensive number of technical investigations during the planning phase to identify potential impacts of the proposed action on the environment. The infrastructure layout has proceeded through a series of changes and adjustments as the iterative process of initial investigation, layout review and refinement has occurred a number of times, as information became available from the engagement process, the specialist investigations and Neoen's own technical and construction advice. Technical investigations of relevance to PBTL are outlined in **Table 3.4.**

Table 3.4 Technical Investigations Relevant to PBTL

Assessment Description	Assessment Year	Citation
GNREF on-ground flora assessment (GNWF, GN3)	November 2022	(EBS Ecology, 2022)
GNREF Ecological constraints mapping	July 2023	(EBS Ecology, 2023b)
GNREF and OTL Ecological Risk Assessment Summary	September 2023	(EBS Ecology, 2023c)
GNWF on-ground flora assessment	November 2023	(Umwelt, 2025a)
GNWF targeted Pygmy Blue-tongue Lizard (PBTL) surveys	February–March 2024	(Umwelt, 2025b)
GNWF on-ground flora assessment	February–March 2024	(Umwelt, 2025a)
GNWF on-ground flora assessment	September 2024	(Umwelt, 2025a)
GNWF targeted PBTL surveys in WF extension	April 2025	(Umwelt, 2025b)

Avoidance and mitigation measures applied and proposed for the Project are specified in **Table 3.5**. Whilst every effort has been made to avoid MNES and other sensitive areas where possible, engineering and landscape constraints mean that some impacts cannot be completely avoided.

Where impacts to PBTL and other sensitive issues cannot be completely avoided by design, they will be minimised during the construction and operation phases of the Project via implementation of targeted management plans for various stages of the Project, including a CEMP and associated sub-plans such as an OEMP, Rehabilitation Management Plan, and targeted PBTL Management Plan.

Table 3.5 Avoidance and Mitigation Measures Applied and Proposed for PBTL

Avoidance / Mitigation Measure	Description	Effectiveness
Pre-construction / design		
Site selection	GNWF location was selected as a world class wind resource, located on agricultural land which has previously been cleared and has a long history of agricultural use.	Located on agricultural land which has previously been cleared and has a long history of agricultural use. Intact native vegetation is minimal, and native grasslands are derived. Minimal need to impact on intact native vegetation due to large areas of existing cleared land. Relatively low ecological, social and economic impacts.

Avoidance / Mitigation Measure	Description	Effectiveness
	Setback of min 500 m placed around Tiliqua Nature Reserve for WTG infrastructure.	Reduction in potential for indirect impacts (shadow flicker, noise and vibration), to negligible.
Alignment with existing infrastructure	Project Area sited to align wherever practicable with existing cleared areas including roads, infrastructure and cropped land.	Approximately 65.16 ha of potential PBTL habitat avoided through this method including: • 36.31 ha of existing roads or other clearance • 28.85 ha of cropped land Plus, an additional: 17.73 ha of exotic pasture (may constitute poor quality PBTL habitat).
	Aligning electrical layout with temporary footprint associated with existing roads and proposed access tracks.	Approximately 68.71 ha of PBTL habitat avoided through this method, representing a 78.59% reduction between the Referred and current design.
Non-conventional stringing methods	Removal of stringing corridor in areas of high value MNES habitat through application of non-conventional stringing methods (i.e. helicopter stringing).	Approximately 7.93 ha of PBTL habitat avoided through this method. An additional 31.75 ha of other habitat avoided through this method (total 39.68 ha of native vegetation avoided).
PBTL Surveys	The entire DF searched for PBTL to determine the extent of the population and guide final placement of infrastructure. The surveys provide high confidence in population estimates during optimal conditions, and they significantly enhance understanding of the distribution, patchiness, and habitat use across the landscape. Additionally, they result in well-informed population estimates in both the DF and DE, contributing to an overall better understanding of the Project Area context.	Determined areas of high density PBTL populations and resulted in micro-siting of turbines and roads to minimise impacts.
PBTL Pre-clearance Surveys and micro-siting for Geotechnical Investigations	Early works (Geotechnical Investigations) included pre-clearance surveys for all test pit and bore hole sites in PBTL habitat, with requirement to avoid all located PBTL.	No impact to individual PBTL during Geotechnical Investigations.
Construction		
Construction Environmental Management Plan	Comprehensive document with multiple associated sub-plans which aim to avoid or minimise indirect impacts from construction such as dust emissions, erosion, altered hydrology and general site matters.	Indirect impacts effectively avoided.

Avoidance / Mitigation Measure	Description	Effectiveness
	Includes measures for spatial data system to minimise the chance of unauthorised or incorrect clearance areas.	
PBTL Management Plan	Specific document intended as a sub-plan of CEMP which details procedures to further avoid as well as minimise and mitigate potential indirect impacts to PBTL.	Direct impacts minimised. Indirect impacts effectively avoided.
Pre-clearance Check (PCC)	Preclearance checks in all areas of Project Area which contain suitable habitat, with the aim to locate any PBTL individuals within DF. If substantial PBTL populations or 'hotspots' are detected, implement micro siting procedure to avoid or minimise impact on individuals.	Determines presence and numbers of PBTL in Disturbance Footprint. Allows for micro-siting to minimise impacts.
Micro-siting infrastructure	Micro-adjustments to infrastructure to avoid populations or PBTL 'hotspots' identified during preclearance surveys. Will result in no net increase in impact to PBTL or PBTL habitat. Micro siting will only be considered if it reduces impact on MNES.	No net increase in impact to PBTL or PBTL habitat. Micro-siting will only be considered if it reduces impact on MNES.
Relocation	Relocation of individual PBTL detected and marked in pre-clearance surveys, if unable to be avoided by micro siting.	Relocation implemented for scattered individuals. Survivorship unknown, however, studies have demonstrated the ability of PBTL to survive following relocation.
Translocation	Translocation may considered as an alternative for larger populations of PBTL or where relocation of individuals is assessed as potentially causing negative impact to surrounding existing populations.	Translocation implemented in consultation with DCCEEW and PBTL Recovery Team, with individuals translocated to suitable offset site(s), to be protected in perpetuity. Short-term success of translocation demonstrated at Goyder South Wind Farm Offset Site (World's End Gorge), including high survivorship in the first two years and evidence of breeding.
Operation		
Operational Environmental Management Plan	Management measures enforced to ensure no unforeseen direct or indirect impacts occur to PBTL during the operational phase of the GNWF.	Ensures direct impacts to PBTL during operational works are avoided and indirect impacts are minimised through appropriate management measures.

Avoidance / Mitigation Measure	Description	Effectiveness
Maintenance works	Any maintenance work (including ripping of rabbit warrens for pest control) will require additional surveys to determine the presence of PBTL within the impact footprint.	Determines presence and numbers of PBTL in area affected by maintenance works. Allows for micro-siting of works to avoid additional direct or indirect impacts.
EPBC On-ground Offset	Neoen has purchased a 1,300-ha property to the north of GNWF to be utilized as a native vegetation SEB offset site. Additional on-ground offsets will be sought to achieve the remainder of the SEB Offset obligations and EPBC Offset obligations, which are likely to comprise additional habitat suitable for PBTL.	High – the site provides up to 305.86 ha of potential habitat for PBTL
Offset Management Plan	Additional EPBC Offsets will be established specifically for PTBL, with an Offset Management Plan to be developed, specific to the site, to be managed for the life of the Project.	Provides measurable conservation gain for PBTL.
Research	Proposed research project (developed separately and proposed as 10% contribution to EPBC Offset) by Flinders University to monitor relocated portion of PBTL to determine effectiveness of mitigation strategy. Also, additional scope to extend existing study on indirect impacts, e.g. impacts of shadow flicker, to include GNWF (in addition to GSWF) which would enable adaptive management where required.	Provides valuable species insight and informs improved future planning and management.
Decommissioning		
Reassessment and further surveys	To be developed at time of decommissioning. Likely to include targeted PBTL surveys, Significant Impact Assessment (under relevant legislation and guidelines at the time of decommissioning) and approvals, if required.	Follows regulatory process relevant at the time of impact.

3.4 Residual Significant Impact

While Project infrastructure has specifically been designed and/or located to avoid impact to PBTLs and their habitat as much as possible, assessment of current Project design information, specifically the Disturbance Footprint, has determined that the Project will directly impact (clear) up to a total of 368.10 ha of PBTL habitat. Within this impact area an estimated 206 individual PBTL may be impacted (i.e. mortality or displacement), however, with application of the mitigation measures outlined in **Section 3.3**, such as PCC and relocation, this impact to individuals is likely to be significantly reduced or avoided. Additionally, targeted PBTL surveys were undertaken in optimal seasonal conditions, which have since declined, and with additional search effort undertaken in PBTL hotspots, thus estimated individual impacts are likely to be an overestimate.

Most indirect impacts can be effectively avoided or mitigated through implementation of a CEMP and PBTL MP, however, residual indirect impacts associated with shadow-flicker during operation are unavoidable and therefore accounted for as a residual impact to the species habitat. Modelling indicates that 0.20 ha of known or likely PBTL habitat receives between 500 and 750 hours of shadow flicker influence per year (equating to between 41.7–62.5 days spread over the year) which is considered to represent a potentially significant impact to the species.

Methods and assumptions around survey effort, population estimates and potential impact of varying degrees of shadow flicker influence, have been validated as appropriate by relevant experts on the PBTL Recovery Team. These figures present a worst-case assessment of impacts and efforts to reduce this through further design refinements will occur.

As populations of PBTL fluctuate markedly both seasonally and with environmental conditions, estimates of the number of individuals impacted by the project will also vary significantly. Therefore, Neoen proposes to offset impacts to PBTL habitat, not impacts to individual PBTL.

Table 3.6 Summary of Potential Direct Impacts to PBTL Habitat and PBTL Individuals

	Direct Impact to Known PBTL Habitat (ha)	Direct Impact to Likely PBTL Habitat (ha)	Total Direct Impact to PBTL Habitat (ha)	Estimated Number of PBTL Impacted	Indirect Impact Area (ha)
GNWF Disturbance Footprint (WF and OTL)	20.04	348.06	368.10	206 (Range 192 to 274)	0.20 ha Note: Shadow flicker modelling currently under review, with residual impact to be confirmed.

3.4.1 Survey Methodology

A total of four targeted PBTL field surveys have been conducted (by Umwelt) within the Project Area as of June 2025, with each contributing to the knowledge and understanding of the distribution of PBTLs within the Project Area. The primary survey was undertaken within the proposed Disturbance Footprint over four weeks (20 business days) between February 12 and March 8, 2024. Subsequent surveys were conducted with specific goals including micro-siting for design, mitigation for geotechnical works and to survey additional areas added to the early Disturbance Footprint.

Survey timing was planned for late summer to enable maximum visibility in grassland vegetation (i.e. low grass and exotic pasture cover). Surveys were undertaken in accordance with:

- *Survey guidelines for Australia's threatened reptiles. EPBC Act survey guidelines 6.6* (DSEWPaC, 2011)
- *Guidelines for biological survey and mapped data* (Commonwealth of Australia, 2018)
- *Guide to providing maps and boundary data for EPBC Act projects* (DAWE, 2021)
- *Guidelines for Vertebrate Surveys in South Australia Using the Biological Survey of South Australia* (NPWSA, 2000).

Full details of the survey methodology utilised are presented in GNWF Targeted Pygmy Blue-tongue Lizard Report (Umwelt, 2025b).

Briefly, the surveys involved using two surveyors systematically searching parallel transects 5 m to 10 m apart on foot and searching all encountered potential burrows with an optic fibre endoscope (Yateks M Series). A handheld GPS was used to mark each burrow searched to provide an indication of burrow density and survey effort. Each time a PBTL was encountered the point was marked in the GPS as 'PBTL'. Survey parameters such as the density of thatched grass were recorded which helped to determine confidence of search effort.

Habitat suitability was mapped using vegetation associations and conditions assessed throughout the windfarm. Habitat suitability terminology and definitions are listed in **Table 3.7.**

Table 3.7 Habitat Suitability Definitions

Habitat Suitability	Definition
Known	All areas within 50 m of a known location of a PBTL including recent and historical records. Records include those collected by Umwelt and historical records sourced from the Biological Database of South Australia (BDBSA) (Recordset number: DEWNRBDBSA240207-2).
Likely	Vegetation associations in which there are no PBTL records but are considered potentially suitable habitat and preferred habitat parameters are available (including slopes and hills, suitable soil types without dense surface rock cover).
Unlikely	Vegetation associations in which there are no PBTL records and are otherwise not considered suitable habitat (i.e. mallee, woodland, areas with no grass component, rock outcrops, flats and plains, Murray Darling Depression Bioregion, areas with high surface rock cover).

3.4.2 Habitat Quality of Impacted PBTL Habitat

Habitat quality has been assessed in accordance with the *How to Use the Offsets assessment Guide* (DSEWPC undated). The key ecological attributes of PBTL habitat are summarised in **Table 3.8** and have been used to help determine the overall habitat quality score of the impact areas, in relation to the three habitat quality components (site condition, site context and species stocking rate) as outlined in with the *How to Use the Offsets assessment Guide* (DSEWPC undated) **Table 3.9**. Note that weighting has been applied to the three habitat quality components (site condition (3), site context (2) and species stocking rate (5) to equate to a total score out of 10, based on preliminary advice from DCCEEW .

The habitat quality score for the impact areas has been assigned a 6 (out of 10), as the condition of the habitat being impacated is generally of poor to fair quality and contains a relatively low density of PBTLs, as well as being subject to key threatening processes outlined in the Conservation Advice, including changes to land use for agriculture, inappropriate grazing regimes, weeds, chemical use (pesticide, herbicide and fertilisers) and climate change.

Table 3.8 Evaluation of Key Ecological Attributes of PBTL

Habitat requirements and variability: What are the nesting, breeding, foraging, dispersal, migration and/or roosting requirements of the species?
PBTLs require un-ploughed native grasslands dominated by species including *Austrostipa* spp. (Spear-grasses), *Rytidosperma* spp. (Wallaby Grasses), *Maireana* spp. (Bluebush), *Aristida behriana* (Brush Wire-grass) and *Lomandra* spp. (Iron-grasses). They also require burrows which are made by trapdoor (Mygalomorphae) and wolf (Lycosidae) spiders and approximately 25--40 cm deep, for refuge, basking sites and ambush points. Only one adult PBTL is found in each active burrow and individuals may utilise the same burrow for extended periods of time. Generally, PBTLs do not move far from their burrow.
Lifecycle and population dynamics: What are the key life cycle stages of the species? How do these impact its population viability or ecosystem integrity?
PBTLs have a spring mating season (October and November) and females bear live young, which are born between January and March. Young disperse from the mother's burrow within weeks of their birth to find burrows of their own. Males can reproduce from one year of age and females are sexually mature from approximately three years of age and can have up to four young each season. The total population size of the PBTL in South Australia is unknown (Duffy, Pound, & How, 2012). As outlined in the PBTL Recovery Plan (Duffy, Pound, & How, 2012) significant genetic differentiation has been recorded between most of the studied populations. Sampling of 229 PBTLs from six sites between Burra and Peterborough in the mid-north of South Australia, found that there was a distinct genetic structure among sample sites separated by only a few kilometres, including variations within small patches of continuous habitat, indicating a fine-scale pattern of isolation by distance in the species.
Movement and distribution patterns: How does the species population function across the landscape?
PBTL activity varies significantly throughout the year. The PBTL mating season is October to November. Females are heavily gravid (pregnant) in January and have young with them in their burrows from mid-January to mid-March. Neonate dispersal occurs in February and March. PBTLs go into brumation (a state of torpor exhibited by reptiles) over winter (June to August). Males are more active during the mating season, moving away from their burrows to seek female mating partners. Neonates and females are more active during late summer (February and March) as they disperse, with females shifting burrows if neonates do not leave the maternal burrow. The PBTL is endemic to South Australia, where its population is severely fragmented and occupies less than 500 square km (Duffy, Pound, & How, 2012). The PBTL is now known from 31 sites extending from Peterborough in the north to Kapunda in the south, and to the South Hummocks (north of Port Wakefield) in the west. The full extent of most populations is yet to be determined. Each of the 31 sites contains an isolated population that has no interaction with any other PBTL population as each site is surrounded by unsuitable habitat, usually cropped agricultural land.
Threatening processes: What are the threatening processes contributing to the loss of the species?
As outlined within the PBTL Recovery Plan (Duffy *et al.* 2012), the known and potential threats to the PBTL include: • changed land use, including ploughing, ripping, inappropriate grazing regimes, other agricultural development, and urban, industrial and infrastructure development • weeds • pesticides (insecticides)

Habitat requirements and variability: What are the nesting, breeding, foraging, dispersal, migration and/or roosting requirements of the species?
• herbicides • inappropriate fire regimes • habitat fragmentation • planting (tall trees and shrubs) • predators • fertilisers • poaching • climate change.

Adapted from the How to Use the Offsets assessment Guide (DSEWPC, undated).

Table 3.9 Determining the Habitat Quality Score for Impacted PBTL Habitat

Component	Questions / Consideration	Impacted areas (up to 368 ha)
Site condition	**What is the structure and condition of the vegetation on the site?**	The condition of preferred habitat of PBTL (i.e. grasslands) within the GNWF Disturbance Footprint and Development Envelope, which consist predominantly of *Austrostipa* spp. (Spear Grass) Mixed Grassland, is highly variable across the site. During early surveys (2022), grassland was observed to be in fair to moderate condition, especially in the south and west of the Project Area. The southern portion includes Tiliqua Nature Reserve, and several other conservation minded landowners, or landowners which do not heavily stock their land. Large areas of the Project Area have a moderate to dense rock covering, initially presumed to be of lower suitability for PBTL, but later found to contain sparse and patchily distributed individuals. Surveys were undertaken following a period of favourable conditions, however, since then, seasonal conditions have been poor, with an extended period of low rainfall (2023–2025) which has resulted in a decline in grassland condition, especially prevalent in the north and eastern portions of the Project Area. Fair to moderate condition grasslands remain on the lower slopes and southern area, however the majority of the grasslands have low coverage of native tussock grasses, with grazing to the base. As such, the condition of grassland is likely to vary over time depending on seasonal conditions (amount of rainfall) and grazing impacts. Nonetheless, grazing (by domestic stock) is considered to limit or reduce the condition of PBTL habitat. With continued management for grazing, and climate change it is likely to decline further in future.

Component	Questions / Consideration	Impacted areas (up to 368 ha)
	What is the diversity of relevant habitat species present (including both endemic and non-endemic)?	The diversity of relevant habitat species (flora) present within the impact sites is considered to be moderate, with an average of 8.9 native species (6.4 introduce) per surveyed site including *Austrostipa* spp. (Spear-grasses), *Aristida behriana* (Brush Wire-grass), *Rytidosperma* spp. (Wallaby-grasses), *Themeda triandra* (Kangaroo Grass), *Ptilotus spathulatus* (Pussy-tails), *Vittadinia cuneata* var. (Fuzzy New Holland Daisy), *Vittadinia gracilis* (Fuzzy New Holland Daisy), *Lomandra effusa* (Scented Mat-rush) and *Lomandra multiflora* ssp. *dura* (Hard Mat-rush). Half of all sites surveyed contained one or more State listed Rare plant species, most commonly *Rumex dumosus* (Wiry Dock).
	What relevant habitat features are on the site?	The impact sites contain native tussock grasslands varying from poor to excellent condition which are largely contiguous and unfragmented with a presence of spider burrows suitable for PBTLs. Lower slopes and hills with deeper soils are present, which contain favourable conditions such as deeper spider burrows. A rocky surface covering is present across much of the Project Area, which is generally considered to reduce the habitat quality for PBTL. The tops of the hills and ridges are of lower condition, due to the steep slopes, prevalence of rocks and rocky outcrops and reduced vegetation quality caused by regular utilisation by livestock. The density of burrows varied significantly across the site, with some areas containing an abundance of burrows, and others containing sparsely distributed or generally unsuitable (shallow) burrows. Burrow depth was not measured, however given the location of much of the Disturbance Footprint on the tops of hills where soil is shallower, burrows are generally thought to be shallower and less favourable for PBTL occupancy. The use of pesticides / herbicides in the vicinity is not known, however, it is expected that habitat I the vicinity of cropped areas, especially in the western half of the Project Area, may be subject to seasonal application of herbicide, pesticide and / or fertilizer.
	Site condition score (3):	**2**
Site context	**What is the connectivity with other suitable/known habitat or remnants?**	The impact sites could be considered to be connected to habitat within the proposed PBTL Offset Area sites via contiguous vegetation of varying type and condition. However, the actual status of connectivity between the two sites is unknown. It is also possible that populations occur within neighbouring properties. However, the status of connectivity with these is also unknown.

Component	Questions / Consideration	Impacted areas (up to 368 ha)
		Land to the east of the Project Area presents a barrier to movement due to the steep terrain and change in vegetation association from grassland to chenopod shrubland and mallee woodland. To the south, grassland merges into chenopod shrubland, and on the western side, land is predominantly utilized for cropping. Thus although the site itself contains a large area of somewhat contiguous habitat, the site is surrounded by a number of potential barriers to movement. The Project Area is connected to Tiliqua Nature Reserve, known to protect a significant and dense population of PBTL. Infrastructure is set back from this location and much of the immediately surrounding grassland. Given the low mobility, small home ranges and sedentary nature of the species, and typically restricted gene flow, even in small patches of continuous habitat (Smith, Gardner, Fenner, & Bull, 2009), connectivity over such large scales is unlikely to be highly important for the species.
	What is the importance of the site in relation to the overall species population or the occurrence of the community?	The site occurs in the middle of the north-south extent of the known range of PBTL. The southern portion of the species range has been identified as likely to be important for the persistence of the species in the face of projected impacts of climate change (DCCEEW, 2023). The population occurs on eastern limit of its known range, with no suitable habitat available further east of the Project boundary. Suitable habitat occurs in the more arable region to the west; however, this area has been largely cleared of native vegetation. A recent population estimate (Bilby, et al., 2025) at Tiliqua Nature Reserve in high quality habitat found an estimated density of 32.51 to 37.75 PBTL per hectare, representing high quality, ideal habitat. The density estimate reported for the Disturbance Footprint (0.51 average) is based on a higher proportional area search and therefore presents high confidence results. The lower density is likely a result of the lower quality habitat, being managed for agricultural output, and occurring in less favourable locations, such as on hill tips and ridges. Given the above factors, in the context of the overall distribution, the population at GNWF is considered moderately important. As stated in the PBTL Recovery Plan, all known PBTL habitat is considered habitat critical to the survival of the species (Duffy *et al.* 2012).
	What threats occur on or near the site?	The site is subject to key threatening processes outlined in the Conservation Advice, including changes land use for agriculture (e.g. ploughing, development), inappropriate grazing regimes, weeds, chemical use (pesticide, herbicide and fertilisers), introduced predators and climate change.
	Site context score (2):	**1**

Component	Questions / Consideration	Impacted areas (up to 368 ha)
Species stocking rate	**What is the presence of the species on the site? (i.e. confirmed / modelled).**	PBTL have been confirmed within the impact site, as they have been observed during numerous field surveys during the Project planning phase (Umwelt, 2025b). The distribution of PBTL is sparse and patchy, with some densely populated hotspots and other scattered individuals. Anecdotal evidence (pers. comms. M. Gardner, Flinders University) suggests high seasonal variability, with much lower reporting rates detected in recent surveys at GNWF following poor seasonal conditions. The species has not been reported from the adjoining Mokota Conservation Park and is assumed not to occur there due to inappropriate habitat (reported lack of spider burrows). A dense population is known to occur at Tiliqua Nature Reserve in the south of the Project Area (Bilby, et al., 2025). No PBTL are currently known to occur in the DF or Project Area north of White Hill Road, nor along the OTL to the south of the WF where the hills recede into flats and plains dominated by disturbed land and derived chenopod shrublands. PBTL are not thought to occur in woodland vegetation and thus much of the eastern side of the WF is considered unsuitable. Including recent Umwelt and Flinders University as well as historical database records, there are currently 55 confirmed records of PBTL in the DF, 119 in the DE, and 1,466 in the Project Area, however, these records represent known individuals at a point in time and may not still occur in the Disturbance Footprint. Estimates, from density calculations, indicate that up to 206 PBTL may occur in the DF based on the density reported at the time of survey (range 192 to 274). The actual number of PBTL in the Project Area is likely to be much higher, with up to 2,000 individuals predicted to occur in the 53 ha Tiliqua Nature Reserve (Bilby, et al., 2025), and an estimated 6,519 individuals in the Project Area (based on density recorded in Umwelt targeted surveys). This estimation is likely to be on the lower end, due to the concentration of survey effort in lower suitability habitat. Other population estimates published in the literature include a 175-ha property near Jamestown with high quality habitat containing an estimated 14 PBTL per ha, and a 350-ha property near Peterborough in lower quality habitat with an estimated 8 PBTL per ha. This indicates that PBTL density at GNWF, within the Disturbance Footprint in particular, is lower than other known populations of the species.
	What is the density of species known to utilise the site?	Based on survey work undertaken by EBS Ecology and Umwelt to date (Umwelt, 2025b) within the GNWF, the density of PBTLs within the impact area is considered to be quite low and design has been altered to avoid areas of PBTL habitat with higher densities of PBTLs.

Component	Questions / Consideration	Impacted areas (up to 368 ha)
		The density of PBTL reported within the surveyed area, ranged from 0.54 per hectare in Native Grassland to 1.63 per hectare in *Maireana rohrlachii* Shrubland, as a result of identifying a population hotspot in one location. This density is based on surveys undertaken within the Disturbance Footprint, which is concentrated on hill tops and ridges for optimal wind but is considered sub-optimal for PBTL. When compared to estimated density of PBTLs in optimal habitat, such as at Tiliqua Nature Reserve (estimated between 32.51 and 37.75 per hectare), the density of PBTL in the DF is considered low.
	What is the role of the site population in regard to the overall species population?	There is no current reliable population estimate for PBTL. A national population estimate of 5,000 individuals was made in 2000, a based on 10 known populations, however over 20 further subpopulations have been detected (DCCEEW, 2023) and the estimate at GNWF alone, suggest a much higher population size. Given the cryptic nature of PBTL, the time, difficulty and expense of surveying for them, and their apparent ability to survive on grazed agricultural land, it is expected that the overall population size is much larger than originally reported. As there are few reliable populations estimates for other populations, it is unknown what the role of the GNWF population is in the regional context. The population at GNWF is likely to form part of a broader distribution of a larger (albeit fragmented) population within the species Area of Occupancy. However, as stated in the PBTL Recovery Plan, all PBTL populations are considered important due to the restricted and fragmented distribution of the species (Duffy *et al.* 2012).
	Species stocking rate score (5):	**3**
	Additional comments:	The low number of PBTLs and patchiness of suitable spider burrows observed during field surveys within the proposed Disturbance Footprint ((Umwelt, 2025b)), is reflective of a low level of PBTL habitat quality within the impact area. The impact area has been subjected to long term grazing regimes of low to high intensity (depending on landowner and seasonal conditions) with native grass tussocks observed to be intact in some locations to over-utilised and almost unidentifiable in other locations. Grasslands within the GNWF Project Area are highly disturbed by grazing and pasture weeds are common in most areas mapped as grassland (Umwelt, 2025a).
	Habitat Quality Score:	**6**

Adapted from the How to Use the Offsets assessment Guide (DSEWPC, undated).

4.0 EPBC Offset Strategy for INTG and PBTL

4.1 Statement of Expected Outcomes

4.1.1 INTG

The expected outcomes for the INTG Offset are:

- Formal protection of the INTG Offset Area for the duration of the action. However, protection is likely to be in perpetuity as the INTG Offset Area is proposed to be protected via a Heritage Agreement (as outlined in **Section 4.5**).
- Management of the INTG TEC Offset Area in accordance with the INTG Offset Management Plan (OMP) for the duration of the action to maintain and increase (where possible) the condition/quality of the INTG Offset Area (with the start quality yet to be determined).

Maintenance and an increase in the condition/quality of the INTG Offset Area will involve maintenance and an increase (where possible) in the following (which are used to determine condition class for INTG TEC, in accordance with EPBC Act Policy Statement 3.7):

- diversity of native species
- number of broad-leaved herbaceous species in addition to identified disturbance resistant species
- number of native perennial grass species (excluding *Lomandra* species)
- tussock density

However, in addition to the above, maintenance and an increase (where possible) in the condition/quality of the INTG TEC Offset Area will also involve a decrease in the diversity and coverage of weeds.

The expected outcomes outlined above directly align with and will contribute to the following specific objectives of the INTG TEC Recovery Plan (Turner 2012):

1. To maintain or improve the condition of remnant INTG; and
2. To increase the area of INTG secured and managed for conservation.

4.1.2 PBTL

The expected outcomes for the PBTL Offset(s) are:

- Formal protection of the PBTL Offset Area for the duration of the action. However, protection is likely to be in perpetuity if the PBTL Offset Area is protected via a Heritage Agreement (as outlined in **Section 4.3**).
- Management of the PBTL Offset Area in accordance with a site specific PBTL Offset Management Plan (PTBL OMP), for the duration of the action in order to:
    - create, maintain and improve (where possible) the condition/quality of the PBTL Offset Area (with the start quality yet to be determined); and

- increase the PBTL population(s) within the PBTL Offset Area (where possible).

- Monitor habitat condition and PBTL population numbers within the PBTL Offset Area

These expected outcomes align with overall and specific objectives of the PBTL Recovery Plan (Duffy, Pound, & How, 2012), by assisting in improving the long-term viability of PBTLs in the PBTL Offset Area. In particular, the PBTL OMP is expected to contribute to the following specific objectives from the PBTL Recovery Plan:

- Protect existing PBTL populations and habitat.
- Maintain, enhance and increase the area and quality of suitable habitat for PBTL at known populations.
- Monitor populations to evaluate the effectiveness of management and detect trends which may require a management response.

4.2 Proposed INTG Offset(s)

Neoen propose to use an existing patch or patches of INTG to establish and implement a direct offset in the form of an on-ground INTG Offset Area to offset residual significant impacts and achieve a measurable conservation gain for INTG TEC. The following section outlines the potential INTG Offset options under consideration, with further details on the strategy for achieving the Offset provided in **Section 4.0.**

4.2.1 Goyder North Wind Farm Sites – Private Land Acquisition

Neoen are actively investigating opportunities for securing an EPBC Offset site for INTG through private land sale or lease, with interested landholders both within GNWF and further afield.

It is proposed to use an existing patch (or patches) of Class C INTG, and protect, maintain and improve its condition to achieve a measurable conservation gain. There are six patches of Class C INTG within the GNWF Project Area, located on separate, privately owned properties, which are being considered for the proposed INTG Offset (**Table 4.1, Figure 4.1**). These sites have been selected as they present the highest potential ecological gain, when compared to sites which already meet Condition Class B criteria, and which are therefore less likely to be able to achieve condition gains through active management. Currently, Patch ID 3 and 4 (green) are the preferred options.

Table 4.1 Patches of Class C INTG TEC Within GNWF Being Considered for the INTG Offset

INTG Patch ID	INTG Assessment Site	INTG Patch Size (ha)	General Location
1	LOM22	40.57	OTL
2	LOM27	13.40	OTL
3	LOM26	19.47	OTL
4	LOM24	66.10	OTL
7	LOM13	7.46	WF
13	LOM14	161.01	WF
	LOM15		

Neoen are in consultation with the landowners to investigate their amenability, capacity and capability to host the INTG Offset. Ideally, the INTG TEC Offset will be located within one property to restrict negotiations and management to one property owner. However, if the entire INTG Offset cannot be achieved on one property, then multiple properties may be required to host the offset.

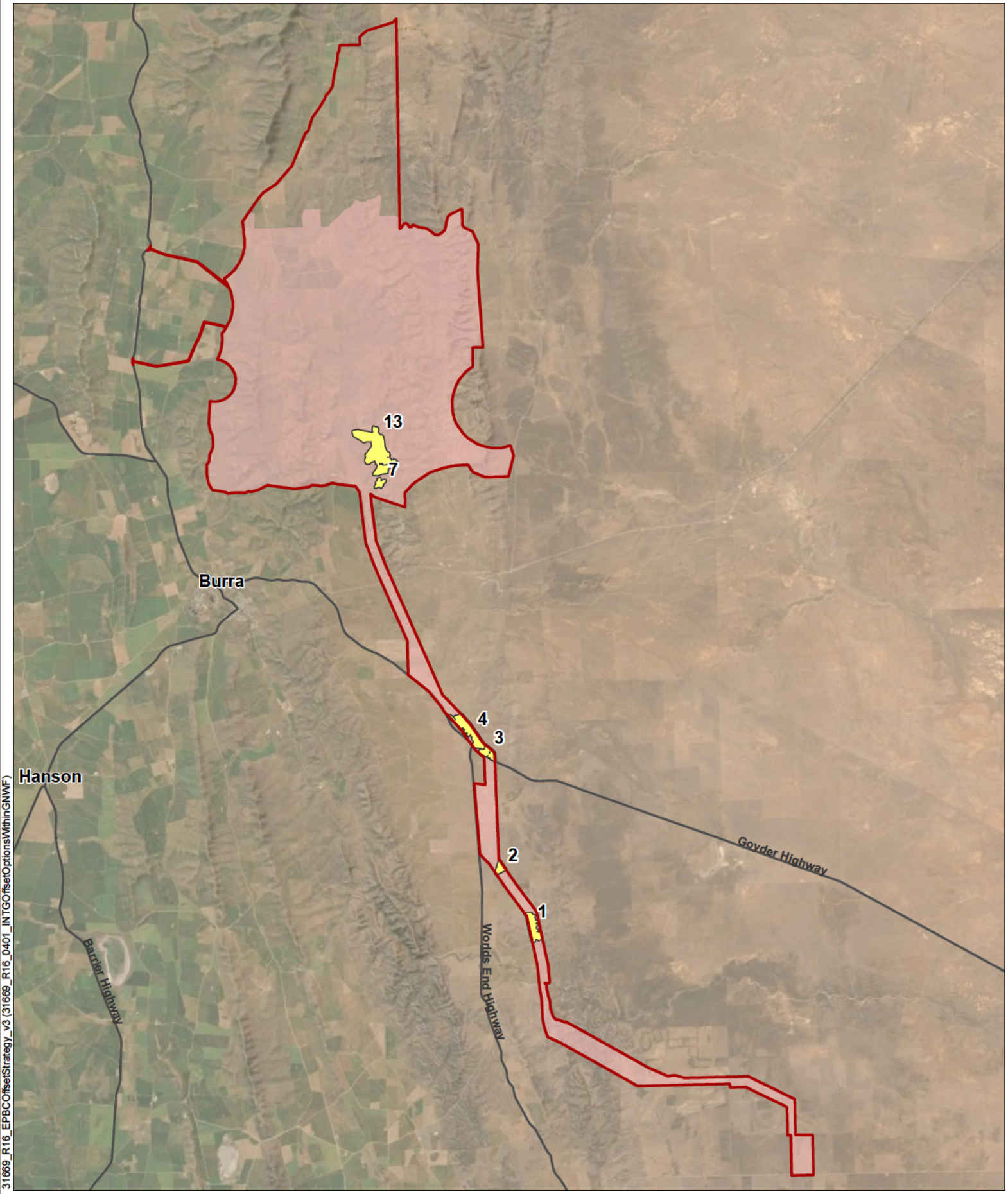
If a patch (or patches) of Class C INTG within the Project Area cannot be used for the INTG Offset, or these patches do not contain enough INTG for the entire INTG Offset, Neoen will investigate the potential to use a patch or patches of INTG located within the surrounding region, outside of the Project Area.

Alternatively, patches of higher current Condition Class (Class A and Class B) within the WF may be considered as a partial or full EPBC Offset, however, ecological gains are unlikely to be as significant for these patches which already maintain reasonable condition, and management actions would focus on long term maintenance and protection of the site, with offsets on these patches to provide ongoing conservation of these existing higher quality areas. A full list of patches is presented in **Appendix 1.**

4.2.2 Contribution to Existing Programs (10%)

Neoen is pursuing opportunities to contribute to the INTG Offset as an additional compensatory measure through financial contributions to already established local or regional programs aimed at enhancing the health and resilience of INTG. For instance, supporting the 'Iron-grass Native Grassland Project' run by the Murraylands and Riverland Landscape Board, in collaboration with the Northern and Yorke Landscape Board, Mid Murray Landcare SA, and land managers, can significantly improve the condition of Iron-grass native grasslands. Additionally, the Northern and Yorke Landscape Board's Stronger Country Program, which recently received funding from DCCEEW and includes revegetation goals and management plans for private landholders, presents a robust opportunity for compensatory offsets. This approach would likely form part of a compensatory measure, up to 10% of the overall INTG Offset obligation rather than a direct offset. The percentage contribution would be formalised following determination of the on-ground site and purported management costs.

Figure 4.1 Patches of Class C INTG TEC Within the GNWF Being Considered for the INTG Offset



GNREF
GNWF
Class C INTG

31669_R16_EPBCOffsetStrategy_v3 (31669_R16_0401_INTGOffsetOptionsWithinGNWF)

umwelt

Data Source: Umwelt (2025), ESRI (2025), DEW (2022), DIT (2022) Neoen (2025)
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GDA2020 MGA Zone 54

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0 2 4 km

4.3 Proposed PBTL Offset

Creating a suitable offset for PBTL is challenging due to a genuine scarcity of available potential offset areas. Achieving a nature-positive gain at any given site is difficult because PBTL typically occurs on already degraded land used for agriculture, which does not substantially benefit from formal protections. In the case of land that appears suitable but does not contain an existing population of PBTL, the challenge lies in the unknown reasons for its absence and thus potential presence of pressures which may render it unsuitable for achieving a nature-positive gain. Additionally, the uncertainty surrounding the success of restoring currently unsuitable land (such as cropped areas) presents risks to adopting this methodology, discussed further below.

As outlined in the PBTL Recovery Plan, the distribution of PBTL is severely fragmented and limited to approximately 31 known sites (Duffy, Pound, & How, 2012). Apart from a couple of PBTL populations located in protected areas (such as Tiliqua Nature Reserve) most known PBTL populations are located on private land which is used for agricultural grazing. As such, the potential for conservation gain is likely to be minimal, especially if the landholder wants to retain ownership and continue grazing, rather than cease grazing and release (i.e. sell) the land for conversion as an offset. Furthermore, there is a lack of definitive knowledge on why the species does not occur (or has not been found to occur) in some areas which might appear to be suitable habitat (native grassland containing spider burrows and spiders) within the species distribution.

To secure an offset for PBTL a multi-faceted approach will be adopted in order to diversify the approach to conservation and habitat restoration, detailed in **Section 4.3.1** to **Section 4.3.1.1**. Together, they present a viable pathway to securing an offset for the PBTL, with a focus on habitat restoration, land management, and population monitoring to support the species' conservation.

The Northern Yorke Landscape Board is working with landholders, the Mid North Grasslands Working Group, and Flinders University to improve grazing management practices and knowledge of PBTL populations in the Mid North and rangelands including 5,000 ha of potential PBTL habitat. This project is funded through the Australian Government's Environmental Restoration Fund Priority Species Grant (Landscape Boards South Australia, 2025). Opportunities exist for knowledge sharing and broader application of these methods, which may be relevant to the GNWF Project Area and involved landholders. Neoen is investigating ways to contribute to or support this existing project within GNWF to allow landholders to maintain their agricultural practices, whilst improving the quality of the current habitat to support a larger and healthier PBTL population in the immediate vicinity of the GNWF. The survey work undertaken to date has provided valuable insight into the population of PBTL within GNWF and would allow maximum benefit to be achieved by targeting patches of land which are known to support, or adjoining, populations of PBTL. This initiative is above and beyond the offset requirements of the Project and not considered to form part of the offset strategy

4.3.1 Protection and Improvement of Known of Likely Habitat

The primary option under consideration for the PBTL Offset Strategy focuses on the protection and improvement of existing known and likely habitats for the PBTL, in alignment with the Environmental Offsets Policy under the EPBC Act (DSEWPaC, 2012a). This approach involves purchasing parcels of land or establishing agreements with landholders to secure portions of land under Heritage Agreements. By doing so, the aim would be to improve existing habitat for the protected matter through proactive land management and habitat enhancements, with a gain expected to be achieved

immediately, through protection, and in the longer term, via management. Management actions under this approach are likely to include grazing management to improve grassland conditions, habitat improvement such as the installation of artificial burrows, and PBTL translocation if areas are found to have low current density of PBTL. These measures seek to expand the available suitable habitat for PBTL and increase the carrying capacity of such areas. Other actions may include introduced predator control measures.

Land secured for the Offset may include parcels with minor portions which have historically been used for cropping where a focus on grassland restoration would occur, pending agreement with DCCEEW and the PBTL Recovery Team. The aim would be to improve connectivity between existing populations, increase the area of potential habitat available to PBTL and improve understanding of habitat restoration techniques for this MNES, in order to establish a net environmental gain.

Several strong options are currently under further investigation, within GNWF and the immediately surrounding land parcels, in areas known to contain or be directly connected to known PBTL populations.

Together these parcels would seek to increase the area under active management and increase the protected area of known populations. By securing and managing this land, Neoen can enhance the habitat quality and ensure the species' long-term survival. The approach aims to:

- Improve existing land management practices which currently pose a potential threat to the survival of the species (agriculture).
- Create a larger network of protected areas that support the PBTL species thereby contributing to the overall conservation efforts and biodiversity of the region.
- Improve the carrying capacity of a portion of the GNWF Project Area which is not subject to direct or indirect impacts from the proposed project, thereby, improving outcomes for the local population.

Other parcels of land under consideration do not occur directly within the vicinity of the Project Area, and thus, would not protect the population impacted by the Project, except in the case of translocation. However, the aims would otherwise be like the abovementioned, such as improving existing land management, formal protection of an area to be managed for the species benefit, and improvement of the carrying capacity of the local population (whether existing or introduced).

One area under consideration includes a property which has been purchased for the purpose of establishing a Significant Environmental Benefit (SEB) Area (required to offset impacts to native vegetation in accordance with the SA *Native Vegetation Act 1991*) located to the north of GNWF at Mount Bryan East (**Figure 4.2**). Further surveys are underway to confirm the presence of PBTL at the site(s) and its suitability for inclusion in the EPBC Offset package.

Use of parts of the SEB Area for the PBTL Offset, if found to be suitable, will overlap with common activities such as feral animal control and weed control undertaken across the entire SEB Area. However, PBTL specific management actions, including the installation of artificial burrows, would only be undertaken within the PBTL Offset. As such, the PBTL Offset would be considered to be in addition to the SEB Area.

An indicative PBTL Offset investigation area, including known mapped potential habitat (not exhaustive), GNWF, the secured SEB Area, and indicative PBTL records (denatured), is presented in **Figure 4.2.**

4.3.2 Research Component (10% or more)

As part of the EPBC Offset plan for the PBTL, a dedicated research component will be established, equivalent to nominally to 10% in accordance with the EPBC Offset Policy (or potentially up to 20-30% with agreement from DCCEEW).

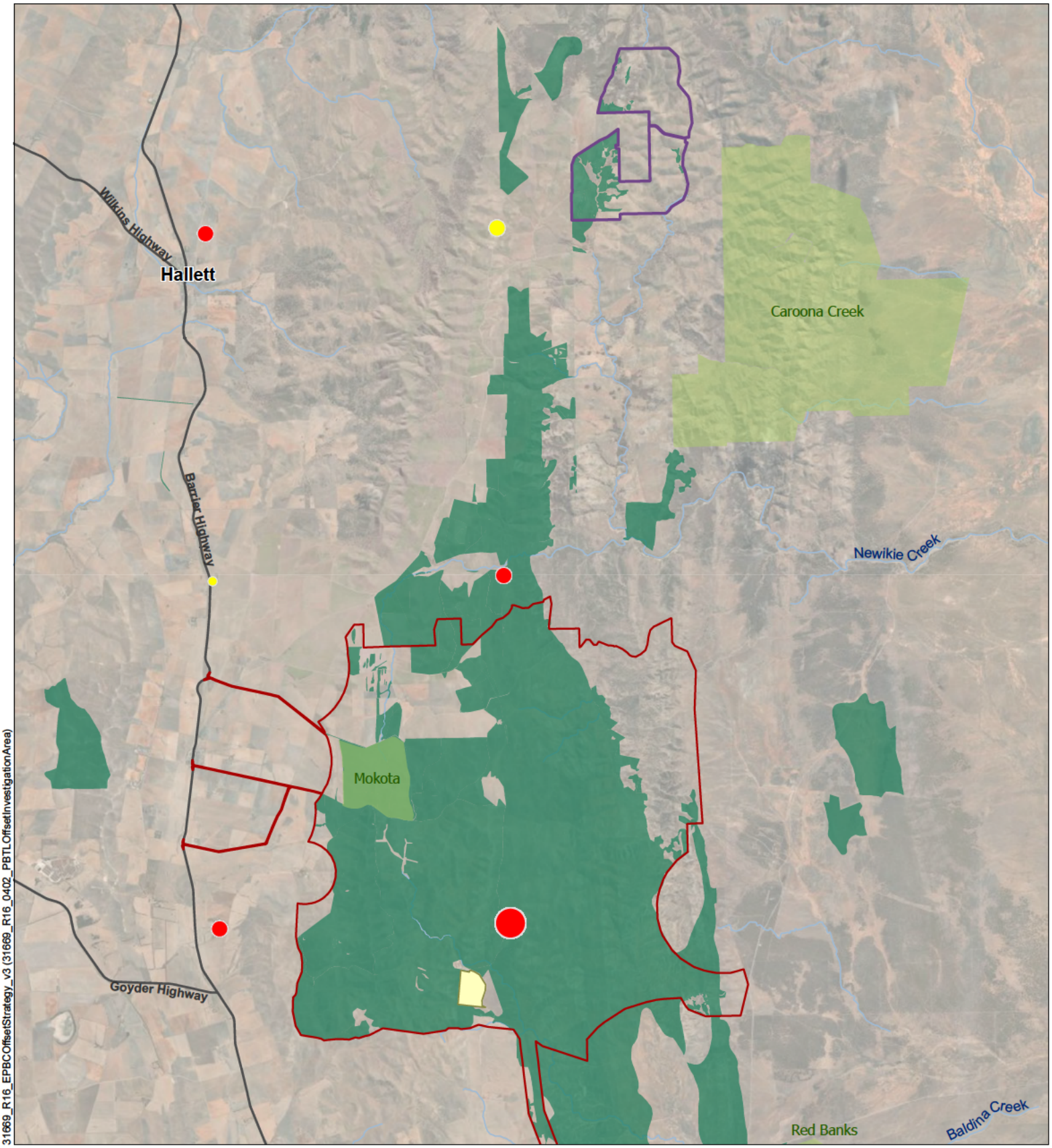
This research initiative will be conducted in partnership with Flinders University, focusing on the relocation success of PBTL. The research aims to gather scientifically robust data to investigate the viability of the relocation as a mitigation method to reduce impacts to PBTL. Possible research questions include the survivorship of relocated individuals, their behaviour following relocation (such as dispersal patterns), the impact on local genetics, and the influence of relocation methods (e.g., soft or hard release). A separate, detailed research plan will be developed to guide this component, ensuring transparency, effectiveness, and alignment with best practice offset principles.

Additional research may be introduced, in consultation with DCCEEW to research potential methods for and time to success of establishing suitable habitat for PBTL on land which has been historically cropped and is therefore currently unsuitable for PBTL to occupy. This option would only be developed if a parcel or parcels of land secured for the PBTL Offset contained minor areas historically cropped land, and the restoration of which, would improve connectivity of existing populations. Neoen understands that restoration of cropped areas into potentially suitable habitat, presents a high-risk option for an offset, however, views the idea as a significant opportunity to further research into the species, with the outcome to guide potential future net gain of PBTL habitat.

Neoen may also explore an option, in consultation with DCCEEW and the PBTL Recovery Team, to support existing PBTL conservation programs, such as that managed by NYLB, however; this would likely form only a small portion of the compensatory component.

Whilst not part of the GNWF Offset Strategy, Neoen is also investigating the opportunity to accommodate an existing research project, currently underway at Goyder South Wind Farm, to include a Before After Impact Control element to the study of indirect impacts such as shadow flicker, noise, and vibration on PBTL populations.

Figure 4.2 Indicative PBTL Offset Investigation Area



GNWF
SEB Area
Mapped Potential PBTL habitat
NPWSA reserve
Tiliqua Nature Reserve
Watercourse
Main road

Date of latest PBTL record
1899 - 2009
2010 - 2025

PBTL record count
1 - 10
11 - 50
51 - 1500

31669_R16_EPBCOffsetStrategy_v3 (31669_R16_0402_PBTLOffsetInvestigationArea)

umwelt

Data Source: Umwelt (2025), ESRI (2025), DEW (2022), DIT (2022),

Date Exported: 8/09/2025 4:51 PM
Created by: sophie.haswell

GDA2020 MGA Zone 54

0 2.5 5 km

N

4.4 Establishment and Implementation of the Offset(s)

Neoen are currently consulting with the landowners to investigate their amenability to host the INTG and PBTL Offsets. The final management of the Offsets will be dependent upon the arrangement that is secured but is likely to comprise one of the options presented in **Table 4.2**.

The current land tenure of the proposed Offset Area(s) is expected to be freehold. It is also expected to remain to be freehold into the future.

Neoen propose to enter into a legal agreement with the landowner to establish, protect and manage the Offset(s), either through a legal agreement or purchase of land parcel. The legal agreement with the landowner will prevent known and/or potential threats to the proposed Offset Area(s), such as, but not limited to, potential changes in land use (including altered grazing regimes), weed invasion, exotic animals, use of pesticides, herbicides and fertilisers, and new infrastructure and developments and climate change (via adaptive grazing management) within the Offset Area(s).

An Offset Management Plan (OMP) will be prepared to guide the establishment and implementation of the Offset specific to each relevant location. Neoen and the landowner (if not Neoen) will be required to implement the Offset(s) in accordance with the specified OMP.

Table 4.2 Offset Management Options

Option	Key Points	Description
Landholder Retains Ownership: The landholder retains ownership of the land but enters into an agreement with Neoen to place the land under a heritage agreement and manage it in accordance with an INTG OMP.	Heritage Agreement	The landholder and Neoen will enter into a legally binding Heritage Agreement.
	Offset Management Plan	The land will be managed in accordance with a detailed OMP, which will outline the conservation and management activities required to achieve the offset objectives.
	Landholder Responsibilities	The landholder will be responsible for implementing the management activities as specified in the OMP, with annual reporting responsibilities to Neoen.
	Neoen Support	Neoen will provide financial and technical support to the landholder to ensure the successful implementation of the OMP. Neoen will engage independent accredited ecological consultants to undertake any monitoring and reporting.
Neoen Purchases Land and self-manages: Neoen purchases a parcel of land from a willing landholder and places all or part of the area under a Heritage Agreement, to be managed by Neoen.	Heritage Agreement	Neoen will enter into a legally binding Heritage Agreement for the purchased land or part thereof.
	Offset Management Plan	The land will be managed in accordance with a detailed OMP.
	Landholder (Neoen) Responsibilities	Neoen (the landholder) will be responsible for implementing the management activities as specified in the OMP. Neoen will engage independent accredited ecological consultants to undertake any monitoring and reporting.

Option	Key Points	Description
Neoen Purchases Land and enters into Agreement with Accredited Third Party Credit Provider: Neoen purchases a parcel of land from a willing landholder and places all or part of the area under a Heritage Agreement to be managed under one of the following sub-options:	Heritage Agreement	Neoen will place the purchased land under a Heritage Agreement.
	Offset Management Plan	The land will be managed in accordance with a detailed OMP.
	Third Party Management	An accredited third-party provider will be engaged to implement the management activities as specified in the OMP.
	Neoen Oversight	Neoen will oversee the activities of the third-party provider to ensure compliance with OMP. Neoen will engage independent accredited ecological consultants to undertake any monitoring and reporting.

4.5 Protection of the Offset via Heritage Agreement

Neoen propose to execute a Heritage Agreement, in accordance with the South Australian *Native Vegetation Act 1991* (NV Act), over the Offset Area(s), which will provide protection in perpetuity. The Native Vegetation Branch within the SA Department for Environment and Water (DEW) manages the implementation of Heritage Agreements.

A Heritage Agreement is a conservation area on private land, which is subject to the (SA) *Native Vegetation Act 1991* and established by agreement (or contract) between a landowner and the (SA) Minister for Sustainability, Environment and Conservation. Agreements are ongoing or perpetual and are binding on future landowners. Even if the property is sold or ownership is transferred, the conservation status of the land under agreement will continue. Native plants and animals within the specified Heritage Agreement area must be protected from the time the agreement is made. It will be the responsibility of the landowner to conduct weed and feral animal control and they must abide by relevant legislation such as the *Landscape South Australia Act 2019*. If an activity could adversely impact native flora and fauna in a Heritage Agreement area, then the Minister will need to grant approval before it can be performed. In addition to this, the planting of vegetation, regardless of whether it is native or exotic, requires Ministerial approval. The Minister is likely to grant approval if an activity is to provide a net benefit for the conservation of the area.

A Heritage Agreement will not preclude livestock (such as sheep) grazing from occurring within an Offset Area. However, it is likely that implementation of an OMP, which includes specific grazing management measures such as limiting livestock to sheep and excluding cattle, as well as limiting grazing rates and timeframes, will be a condition of approval / execution of the Heritage Agreement. Best practice management measures will be incorporated into the management plan, based on the available literature and consultation with relevant stakeholders with expertise in the region.

4.6 Roles and Responsibilities

It is anticipated that there will be three main roles associated with implementation of the proposed Offset(s), including the Project Owner (Neoen), the land manager (property owner) and an ecological consultancy. The aspects and/or tasks that each role is responsible for are outlined in **Table 4.3**.

Table 4.3 Roles and Responsibilities Associated With Implementation of the INTG Offset

Role	Aspects and/or tasks the role is responsible for
Project Owner (Neoen)	Currently Neoen is the project developer and Project Owner and is responsible for the planning of the entire GNWF Project, including seeking and obtaining relevant planning and environmental approvals under State and Federal legislation as well as construction and operation of the Project. Neoen intends to own and operate GNWF in the future and has no current intention to sell the Project. The Project Owner will be responsible for implementing the OMP(s), which involves planning and establishing the Offset Area as well as engaging a suitably qualified ecological consultancy, to undertake monitoring and reporting on the Offset Area and review of the OMP(s). In particular, the Project Owner is responsible for ensuring that reporting responsibilities are completed. Implementation of the OMP(s) will be the responsibility of the Project Owner. Should the Project Owner change in future, implementation of the Offset will remain the responsibility of whoever is the Project Owner.
Land manager (property owner)	It is proposed that the land manager (property owner) will be responsible for undertaking the day-to-day management of the Offset Area(s) on behalf of the Project Owner (Neoen), including management of livestock and grazing regime, and weed and pest animal control. The Land manager will also be responsible for reporting on management actions undertaken. The land manager may also be an accredited third-party provider.
Ecological Consultancy	A suitably qualified and experienced ecological consultancy will be required to undertake monitoring and reporting activities. However, as outlined above it is the Project owner's responsibility to engage the ecological consultancy to undertake the monitoring and reporting activities. The ecological consultancy will also be responsible for reviewing and analysing monitoring data and results to determine the success (or failure) of management actions and recommending refinement/improvement and adaptive management, if required.

As stated previously, Neoen propose to negotiate a legal agreement with the land manager to manage the Offset Area(s). Whilst the land manager will be responsible for implementing the management actions prescribed within the OMP, Neoen will retain overall responsibility for ensuring the entire OMP is implemented for each site. Neoen will also be responsible for undertaking monitoring and reporting, as well as review of the OMP(s), with these tasks likely to be completed by a suitably qualified and experienced ecological consultancy. This includes periodic review of the OMP's success, including update and improvement of management actions if required. This may involve Neoen providing further direction to the land manager or utilising the resources of an external contractor to implement specific tasks.

4.7 Management of the Offsets

The expected outcomes for the Offset(s), outlined in **Section 4.1**, will be achieved via implementation of specific management aspects and associated management actions documented in the OMP, which will focus on:

For INTG:

- management of livestock and grazing regime based on best practice methods in consultation with experts

- weed control or perennial grass, herbaceous and woody weeds (dependent on site selected)
- pest/exotic animal control (i.e. pest herbivores such as rabbits and goats)
- fire prevention activities
- revegetation to increase native species diversity, where appropriate.

For PBTL:

- Management of grazing regime, in accordance with the Best Practice Management Guidelines (Schofield, 2006), and expert advice.
- Installation of artificial PBTL burrows to increase carrying capacity of Offset Area.
- Site rehabilitation and/or revegetation (if appropriate).
- Weed and pest animal control.

Neoen is currently developing a partnership framework with Nature Foundation to manage GNWF offsets and establish meaningful conservation research on threatened species, including Lomandra grasslands and PBTL.

More specific detail on these management aspects will be provided in the relevant OMPs and best practice management actions based on the most current knowledge, will be developed in consultation with relevant experts.

4.8 Monitoring of the Offsets

The OMPs will include a detailed monitoring program, typically of a 10 year duration, to determine if the expected outcomes are being achieved or progressing to being achieved. To ensure the expected outcomes are being achieved, an adaptive management approach will be adopted. This approach requires regular monitoring and review of the Plan, allowing for review and corrective action of management strategies and monitoring program if required. This also allows for extension of the monitoring program if Offset outcomes have not been achieved.

A collaborative monitoring and reporting approach involving the Land Manager, Project Owner (Neoen) and a suitably qualified and experienced ecological consultancy will be implemented as outlined below, to enable an adaptive management approach. The approach will include:

- Activity record sheet and grazing record sheet: to be completed by land manager and provided to the Project Owner on an agreed timeframe.
- Effective monitoring program to be implemented by Project Owner and carried out by an independent, suitably qualified and experienced ecological consultancy, to audit the implementation of the management actions and quantify and assess changes brought about by the management actions.

A detailed monitoring methodology, including description of ecological indicators and desired / undesired trends will be included in the relevant OMPs.

4.9 EPBC Offset Policy

This EPBC Offset Strategy has been prepared in accordance with the EPBC Offsets Policy (DSEWPaC, 2012a).A review of the proposed Offsets against the eight overarching Offset Principles has been undertaken and is presented in **Table 4.4.**

Table 4.4 Offset Principles Outlined Within the EPBC Offsets Policy and Comments on how the Proposed Offsets are Consistent With Them

Offset Principle	Details / Commentary	Comments on How the Proposed Offset is Consistent with the Offset Principle
1. Suitable offsets must deliver an overall conservation outcome that improves or maintains the viability of the aspect of the environment that is protected by national environment law and affected by the proposed action.	Offsets must directly contribute to the ongoing viability of the protected matter impacted by the proposed action and deliver an overall conservation outcome that improves or maintains the viability of the protected matter as compared to what is likely to have occurred under the status quo, that is if neither the action nor the offset had taken place. Offsets should be tailored specifically to the attribute of the protected matter that is impacted in order to deliver a conservation gain. For impacts on habitat for threatened species, migratory species and threatened ecological communities, any direct offset must meet, as a minimum, the quality of the habitat at the impact site.	Implementation of the Offset Area(s) is expected to achieve an overall conservation outcome that as a minimum maintains a population of PBTLs within the PBTL Offset Area and / or maintains or improves the condition of INTG within the INTG Offset Area(s) OMPs will be specifically developed to ensure the effective management of the Offset Area, to ensure the desired outcomes are met. Active management of the Offset Area (s) will ensure that the quality of habitat and vegetation condition will be maintained or improved. Management of Offset Area(s) will leverage knowledge and experience from key species experts and organisations in the region that are actively managing PBTL and INTG to ensure optimal outcomes for the species.
2. Suitable offsets must be built around direct offsets but may include other compensatory measures.	Offsets must be built around direct offsets, which should form a minimum of 90 % of the total offset requirement. Other compensatory measures may satisfy up to a maximum of 10 % of the total offset requirement. Where possible, an offset should address key priority actions outlined for the impacted protected matter in any approved recovery plans, threat abatement plan, conservation advice, ecological character description or approved Commonwealth management plan. Higher priority actions are preferred to lower priority actions. **Tenure** The securing of existing unprotected habitat as an offset only provides a conservation gain if that habitat was under some level of threat of being destroyed or degraded, and as a result of offsetting will instead be protected in an enduring way and	Both PBTL and INTG offsets have a significant on ground component, with nominally a 10% (or otherwise negotiated, potentially up to 20-30% in the case of PBTL) compensatory component in the form of research or funding of existing programs, to achieve ecological gains at a more regional scale, outside of the direct offset area. The Offset(s) will address key priority actions for outlined in the relevant Recovery Plans (Duffy, Pound, & How, 2012; Turner, 2012) by assisting in improving the long-term viability of PBTLs and INTG. In particular, the PBTL Offset will contribute to the following specific objectives from the PBTL Recovery Plan: • Protect existing PBTL populations and habitat. • Maintain, enhance and increase the area and quality of suitable habitat for PBTL at known populations.

Offset Principle	Details / Commentary	Comments on How the Proposed Offset is Consistent with the Offset Principle
	actively managed to maintain or improve the viability of the protected matter. The tenure of the offset should be secured for at least the same duration as the impact on the protected matter arising from the action, not necessarily the action itself. Legal mechanisms, such as conservation covenants, exist in each state and territory to enable protection of the land that is set aside for environmental purposes on a permanent or long-term basis. There is also provision under Part 14 of the EPBC Act for the Minister to enter into a conservation agreement with a third party for the conservation of a protected matter. An EPBC Act conservation agreement is a flexible instrument that can be used for implementing a range of management activities to benefit a protected matter, such as fencing off important habitat areas, undertaking weed and feral animal control or the establishment of compensatory habitat.	• Monitor populations to evaluate the effectiveness of management and detect trends which may require a management response. The PBTL Offset will address key priority actions outlined for the PBTL in the approved *Conservation Advice for* Tiliqua adelaidensis *(pygmy blue-tongue lizard)* (DCCEEW 2023) as well as the *Threat abatement plan for predation by feral cats 2024* (DCCEEW 2024). The INTG Offset will contribute to: • To maintain or improve the condition of remnant INTG. • To increase the area of INTG secured and managed for conservation. No threat abatement plan has been identified as relevant for INTG. **Tenure** The current land tenure of the proposed Offset Area(s) is expected to be freehold. It is also expected to remain to be freehold into the future. The Project Owner (Neoen) will enter into a legal agreement with the land manager (property owner) to manage the proposed Offset Area, or purchase outright. Additionally, up to 10% of each Offset may be in the form of additional compensatory measures including a research project into the effectiveness of relocation as a mitigation strategy for PBTL, and contributions to existing programs in the region for INTG. Per the Offset Policy criteria, the research would be conducted by Flinders University, focus on key ecological questions around PBTL relocation, survivorship, dispersal and genetics, as well as inform best practice translocation methodology for the species.

Offset Principle	Details / Commentary	Comments on How the Proposed Offset is Consistent with the Offset Principle
3. Suitable offsets must be in proportion to the level of statutory protection that applies to the protected matter.	Due to the higher risk involved with protected matters of greater conservation status, the offsets required for those protected matters with higher conservation status must be greater than those with a lower status. For listed threatened species and ecological communities, this is calculated in the Offsets assessment guide by using International Union for Conservation of Nature data on the probability of annual extinction for different categories of threatened species.	The proposed Offsets are considered to be in proportion to the level of statutory protection that applies to PBTL and INTG as the Offsets Assessment Guide will be used to calculate an estimate of the direct offset area required for the maximum disturbance that may occur under the proposed layout for each MNES. Draft calculations have been supplied to DCCEEW, however once the final Offset locations are selected, these calculations will be included into the respective OMPs.
4. Suitable offsets must be of a size and scale proportionate to the residual impacts on the protected matter.	Offsets must be proportionate to the size and scale of the residual impacts arising from the action so as to deliver a conservation gain that adequately compensates for the impacted matter. The size and scale of an offset required for each impact is determined by taking account of a number of different considerations that are discussed in the EPBC Offsets Policy, including the: • level of statutory protection that applies to the protected matter • specific attributes of the protected matter, or its habitat, being impacted • quality or importance of the attributes being impacted with regard to the protected matter's ongoing viability • permanent or temporary nature of the residual impacts • level of threat (risk of loss) that a proposed offset site is under • time it will take an offset to yield a conservation gain for the protected matter • risk of the conservation gain not being realised.	A number of different considerations outlined in the EPBC Offsets Policy have been taken into account and entered into the Offset Assessment Guide (where appropriate), including: For PBTL • level of statutory protection to PBTL (Endangered) • specific attributes of PBTL habitat being impacted by the infrastructure footprint = 368.10 ha with a quality score of 6 (scale 0-10) • quality or importance of the PBTL habitat being impacted with regard to PBTL ongoing viability (5 out of 10) • permanent or temporary nature of the residual impacts (operational life of the GNWF Project is expected to be approximately 25-30 years. • level of threat (risk of loss) that the proposed offset site is under (which is considered to be a low to moderate risk of loss without offset measures in place) • time it will take the proposed offset (PBTL Offset Area) to yield a conservation gain for PBTLs (time until ecological benefit of up to 10 years)

Offset Principle	Details / Commentary	Comments on How the Proposed Offset is Consistent with the Offset Principle
		• risk of conservation gain not being realised (which is considered to be a low 2% as confidence in result is considered to be 90%). Therefore, the proposed direct offset (PBTL Offset Area) is considered to be proportionate to the size and scale of the residual impacts on PBTLs arising from the action. For INTG: • A number of different considerations outlined in the EPBC Offsets Policy have been taken into account and entered into the Offset Assessment Guide (where appropriate), including: • Level of statutory protection to INTG (Critically Endangered). • Specific attributes of INTG being impacted by the infrastructure footprint: 6.14 ha of Class B INTG with a quality score of 6 (out of 10). • Quality or importance of the INTG being impacted with regard to INTG ongoing viability (6 out of 10). • Permanent or temporary nature of the residual impacts (operational life of the GNWF Project is expected to be approximately 25-30 years. • Level of threat (risk of loss) that the proposed offset site is under (which is considered to be a low to moderate risk of loss without offset measures in place). • Time it will take the proposed offset (INTG Offset Area) to yield a conservation gain for INTG (time until ecological benefit of up to 10 years). • Risk of conservation gain not being realised (which is considered to be a low 2% as confidence in result is considered to be 90%).

Offset Principle	Details / Commentary	Comments on How the Proposed Offset is Consistent with the Offset Principle
		Therefore, the proposed direct offset (INTG Offset Area) is considered to be proportionate to the size and scale of the residual impacts on INTG arising from the action.
5. Suitable offsets must effectively account for and manage the risks of the offset not succeeding.	The use of offsets as a compensatory measure through the assessment and approval process involves two levels or risk. The first, and highest, level of risk is that the impact on the protected matter will be too great and that an offset will not be able to compensate for the impact. The second level of risk relates to whether individual offsets are likely to be successful in compensating for the residual impacts of a particular action over a period of time. It is this risk that is considered in determining a suitable offset and has direct bearing on the scale of the offset required. The magnitude of a suitable offset will increase proportionately to the risk posed to the protected matter by the proposed action. In general terms, direct offsets present a lower risk than other compensatory measures, as they are more likely to result in a conservation gain for a protected matter.	The proposed Offset Area(s) will be implemented and managed in accordance with an OMP, which includes a monitoring program which will identify potential risks, as well as associated contingency measures for the successful management of the proposed Offset Area (s). The OMP(s) will involve an adaptive management approach where monitoring will measure progress and allow for timely identification of any changes required to management measures (for example the grazing regime), which will help to ensure that the Offset Area(s) are successful. Up to 90 % of the proposed PBTL and INTG Offset is a direct offset (i.e., the on-ground Offset Area), which is considered by the EPBC Offsets Policy to present a lower risk than compensatory measures, as they are more likely to result in a conservation gain. However, a higher compensatory component is under consideration for PBTL due to the significant gap in PBTL knowledge that exists and thus, the high potential for research component to have a higher value when compared to on-ground offsets, for which the chance of success is less certain. Furthermore, the proposed Offsets are proposed to be implemented as soon as possible prior to commencement of the action, which is also considered to reduce the risk profile of the offset through providing a conservation gain at an earlier point in time.

Offset Principle	Details / Commentary	Comments on How the Proposed Offset is Consistent with the Offset Principle
6. Suitable offsets must be additional to what is already required, determined by law or planning regulations or agreed to under other schemes or programs.	Offsets must deliver a conservation gain for the impacted protected matter, and that conservation gain must be new, or additional to what is already required by a duty of care or to any environmental planning laws at any level of government. It is important to note however that this does not preclude the recognition of state or territory offsets that may be suitable as offsets under the EPBC Act for the same action. Whether or not an offset is considered to be additional will be assessed on a case-by-case basis. **Links with state and territory approval processes** It is important to note that while there are many similarities between the environmental laws of the states and territories and the EPBC Act, they also differ in a fundamental way. The EPBC Act focuses on protecting MNES and only protects the broader environment in certain circumstances, while state and territory laws usually protect the environment as a whole (for example air quality, noise pollution, water quality, biodiversity, and heritage values). These differing legislative objectives result in different assessment processes and can result in different offset requirements. As a consequence, some proponents may need to provide offsets under both state or territory laws and the EPBC Act for the same action. A state or territory offset will count toward an offset under the EPBC Act to the extent that it compensates for the residual impact to the protected matter identified under the EPBC Act.	The GNWF Project is required to achieve a SEB in accordance with the SA *Native Vegetation Act 1991*, for clearance of native vegetation. Neoen has purchased land for the required SEB. Suitable habitat at this property is proposed to be utilized for the PBTL Offset, if PBTL are found to occur at the site. However, as explained in **Section 3.2.3**, PBTL specific management actions, including the installation of artificial burrows, will only be undertaken within the PBTL Offset. As such, the PBTL Offset would be in addition to the SEB offset, if the site is found to be suitable. No other environmental schemes or programs, for example stewardship funding from a program are currently applicable to the land parcel(s) proposed to be used for the Offset(s). Therefore, the EPBC Offset will be additional to what is already required and/or determined by SA law or planning regulations (other offset requirements).
7. Suitable offsets must be efficient, effective, timely, transparent, scientifically robust and reasonable.	Efficient and effective offsets are those that maintain or improve the viability of a protected matter through the sound allocation of resources. An offset should be implemented either before, or at the same point in time as the impact arising from the action. This timing	Implementation of the proposed Offset Area(s) is considered to be a highly efficient, effective, timely, transparent, scientifically robust and reasonable offset for the following reasons: • The time until ecological benefit is 10 years (for both PBTL and INTG), as while the Offset Area(s) are proposed to be

Offset Principle	Details / Commentary	Comments on How the Proposed Offset is Consistent with the Offset Principle
	is distinct from the time it will take an offset to yield a conservation gain for the protected matter, which may be a point in the future. Offsets must be based on both scientifically robust and transparent information that sufficiently analyses and documents the benefit to a protected matter's ecological function or values. This includes undertaking desktop modelling of offset benefits and conducting relevant field work as appropriate.	implemented as soon as possible after upon commencement of the action and the legal agreement will immediately secure the future management of the Offset Area(s), for the conservation of PBTL and INTG, it may take up to 10 years for ecological benefit to be achieved. • The risk of loss (with offset) is only 0 % as the Offset Area(s) are proposed to be protected in perpetuity via execution of a Heritage Agreement; and will be actively managed in accordance with the site specific OMP. • Monitoring of the Offset Area(s), in accordance with the site specific OMP(s), will provide scientifically robust data which will be used to identify any changes required to management measures (for example the grazing regime). • Monitoring reports will be provided to the Department and may also be uploaded to the GNWF Project's website for public viewing (desensitised) if appropriate.
8. Suitable offsets must have transparent governance arrangements including being able to be readily measured, monitored, audited and enforced.	Offsets must be delivered within appropriate and transparent governance arrangements. Proponents, or their contractors, must report on the success of the offsets so that conditions of approval can be varied if the offsets are not delivering the desired outcome. Offset proposals will need to include clearly articulated measures of success that are linked to the purpose of the offsets and provide clear benchmarks about their success or failure. Annual reports will be required by the department and, where possible, will be made publicly available. Performance of offsets will be reviewed as part of the monitoring, compliance and audit program for all proposals considered under the EPBC Act.	The OMP(s), including the Offset Area Monitoring Program, will clearly outline the following: • the management responsibilities between the Project Owner and the land manager, as well as an ecological consultancy; • the ecological indicators to be monitored and a proposed monitoring methodology to audit the implementation of the management actions and identify any changes to management actions that might be required; and • the reporting responsibilities, which include submission of a monitoring report to the Department. All environmental reporting and records will be available for auditing by the Department if required.

Source: Adapted from the EPBC Offsets Policy (DSEWPaC, 2012a).

4.10 Risk Assessment

This EPBC Offset Strategy has identified and considered any risks that may prevent achievement of the expected environmental outcomes stated in **Section 4.1**. The risks have been assessed against the Risk Matrix in **Appendix 2**. The risk analysis:

- Identifies events and threats that will, may, or are likely to impact the achievement of the expected environmental outcomes.
- Assesses threat levels both before (initial risk rating) and after (residual risk rating) risk mitigation strategies are applied.
- Identifies appropriate risk mitigation strategies, with trigger criteria for corrective actions should risks eventuate.

The risk assessment for the Offset(s) is presented in **Table 4.5.** A detailed risk assessment will be included in the respective OMPs for each Offset Area.

Table 4.5 Offset Risk Assessment

Risk Event or Circumstance	Risk Description (e.g. cause and effect)	Initial Risk Rating L	Initial Risk Rating C	Initial Risk Rating R	Risk mitigation strategy(ies)	Residual Risk Rating L	Residual Risk Rating C	Residual Risk Rating R	Management Trigger(s)	Monitoring Mechanism(s)	Corrective Action(s)
Force Majeure Events											
Climate change	Prolonged unfavourable weather conditions, such as drought, reducing INTG condition or PBTL habitat quality.	Possible	High	Medium	Monitor Offset condition and adapt management (in accordance with OMP), for example, reduce grazing pressure (if appropriate), or implement other adaptive management measures.	Possible	Moderate	Medium	Decrease in Offset condition observed during monitoring.	Monitoring Program (in accordance with OMP).	Implement adaptive management (in accordance with OMP).
Sale of property	Landowner sells property containing INTG or PBTL Offset, threatening achievement of environmental outcomes.	Possible	Major	High	A legal agreement will be in place, which will include appropriate measures to protect the INTG / PBTL Offset in any proposed change of land ownership or control over the land. Furthermore, a Heritage Agreement will be executed over the Offset Area (s) and require future landowner to meet the requirements of the Heritage Agreement.	Possible	Minor	Low	Sale of Property	Landowner required to inform Project Owner of sale of the property.	Project Owner to ensure new landowner is aware of legal agreement and Heritage Agreement.

Risk Event or Circumstance	Risk Description (e.g. cause and effect)	Initial Risk Rating L	C	R	Risk mitigation strategy(ies)	Residual Risk Rating L	C	R	Management Trigger(s)	Monitoring Mechanism(s)	Corrective Action(s)
Standard Risks											
Inadequate implementation of the OMP	Land manager (landowner) not having or allocating sufficient resources or time to implement management actions they are responsible for.	Possible	Minor	Low	Project Owner will implement a legal agreement with the landowner to manage the Offset in accordance with the OMP. This includes Project Owner providing an annual budget to the landowner to manage the Offset in accordance with the OMP.	Unlikely	Minor	Low	Landowner's management actions not undertaken in accordance with OMP – as observed via monitoring or discussion with landowner.	Monitoring Program (in accordance with OMP).	Project Owner to remind landowner of their responsibilities under the legal agreement. Project Owner to consider engaging separate party to carry out landowner's responsibilities.
Decrease in the condition of the Offset	Decrease in the condition of the Offset observed during monitoring (cause may be unknown until investigated further).	Possible	Moderate	Medium	Baseline assessment of Offset condition undertaken prior to implementation of management actions in OMP. Monitoring Program used to quantify and qualify changes in Offset condition over time. Implement adaptive management (in accordance with OMP), for example, reduce grazing pressure (if appropriate), or implement other adaptive management measures to improve condition.	Possible	Minor	Low	Decrease in Offset condition observed during monitoring.	Monitoring Program (in accordance with OMP).	Investigate potential / likely causes of decrease in condition of Offset site. Implement adaptive management (in accordance with OMP), for example, reduce grazing pressure (if appropriate), or implement other adaptive

Risk Event or Circumstance	Risk Description (e.g. cause and effect)	Initial Risk Rating			Risk mitigation strategy(ies)	Residual Risk Rating			Management Trigger(s)	Monitoring Mechanism(s)	Corrective Action(s)
		L	C	R		L	C	R			
											management measures to improve condition.
Significant decrease in PBTL population	Significant decrease in PBTL population (beyond natural fluctuation) and the cause may be unknown.	Possible	High	Medium	Baseline assessment of PBTL population undertaken prior to implementation of management actions in PBTL OMP. PBTL Monitoring Program used to quantify and qualify changes in PBTL population over time. Implement adaptive management (in accordance with OMP) to maintain PBTL population.	Possible	Moderate	Medium	Decrease in habitat quality observed during monitoring.	PBTL Monitoring Program (in accordance with OMP).	Investigate potential / likely causes of decrease in habitat quality. Consult with PBTL Recovery Team members.
Initial Risk Rating: L = Likelihood, C = Consequence, R = Risk.											

4.11 Relevant Documents

4.11.1 Statutory Documents

Table 4.6 Statutory Documents Relevant to INTG and PBTL

Document Name	Where and how the Strategy addresses the document
Approved Conservation Advice for Iron-grass Natural Temperate Grassland of South Australia (DEWHA, 2008). http://www.environment.gov.au/biodiversity/threatened/communities/pubs/37-conservation-advice.pdf	The INTG OMP will include management measures to address threats to INTG and be consistent with and/or contribute to conservation and recovery actions identified in the Conservation Advice, as much as possible.
National Recovery Plan for the Iron-grass Natural Temperate Grassland of South Australia ecological community, 2012 (Turner, 2012). http://www.environment.gov.au/biodiversity/threatened/recovery-plans/national-recovery-plan-iron-grass-natural-temperate-grassland-sa	The INTG OMP will be consistent with and/or contribute to the objectives of the INTG Recovery Plan as much as possible. For example, the INTG OMP will contribute to: • maintain or improve the condition of remnant INTG; • increase the area of INTG secured and managed for conservation; and • increase the area of occupancy of INTG across its natural range.
Conservation Advice for *Tiliqua adelaidensis* (pygmy blue-tongue lizard) (DCCEEW, 2023) http://www.environment.gov.au/biodiversity/threatened/species/pubs/1270-conservation-advice-31082023.pdf	The PBTL OMP will include management measures to address threats to PBTL and be consistent with and/or contribute to conservation and recovery actions identified in the Conservation Advice, as much as possible.
Recovery Plan for the Pygmy Blue-tongue Lizard *Tiliqua adelaidensis* (Duffy, Pound, & How, 2012). https://www.dcceew.gov.au/environment/biodiversity/threatened/recovery-plans/recovery-plan-pygmy-bluetongue-lizard-tiliqua-adelaidensis-2012	The PBTL OMP will be consistent with and/or contribute to the objectives of the PBTL Recovery Plan as much as possible. For example, it will likely protect existing PBTL population(s) and habitat (Objective 1); Clarify distribution and abundance (Objective 2); maintain, enhance and increase the area and quality of suitable habitat for PBTLs (Objective 3); monitor populations to evaluate the effectiveness of management and to detect trends which may require a management response (Objective 4).
Threat abatement plan for predation by feral cats 2024 (DCCEEW, 2024) http://www.dcceew.gov.au/environment/biodiversity/threatened/publications/tap/threat-abatement-plan-feral-cats	The CEMP and PBTL Management Plan will be implemented for the Project. These plans include management and control measures to avoid, minimise and manage invasive fauna species such as feral cats. Furthermore, the PBTL OMP will be implemented for the PBTL Offset and will include management measures for feral cats.

4.11.2 Other Relevant Documents

Table 4.7 Other Relevant Documents Related to this EPBC Offset Strategy

Document Name	Where and how the Strategy addresses the document
EPBC Act policy statement 3.7 – Peppermint Box (*Eucalyptus odorata*) Grassy Woodland of South Australia and Iron-grass Natural Temperate Grassland of South Australia (Department of the Environment and Water Resources, 2007). http://www.environment.gov.au/epbc/publications/peppermint-box-iron-grass-policy.html	As outlined in **Section 2.4.1** all INTG surveys and assessments have been undertaken in accordance with this policy statement, which contains INTG Class criteria.
Pygmy Bluetongue Lizards: Best Practice Management Guidelines for Landholders (Schofield, 2006) https://cdn.environment.sa.gov.au/landscape/docs/hf/pygmy-bluetongue-management-rep.pdf	The PBTL OMP (**Section 4.7**) will include management measures consistent with this guideline, in particular, grazing regimes, insect control practices, weed control, fire, tree planting and fertilisers.
Survey guidelines for Australia's threatened reptiles: Guidelines for detecting reptiles listed as threatened under the EPBC Act (DSEWPaC, 2011) https://www.dcceew.gov.au/environment/epbc/publications/survey-guidelines-australias-threatened-reptiles	As outlined in **Section 3.4.1** all PBTL surveys at GNWF have been undertaken in accordance with this guideline. All future PBTL surveys, for example at the proposed PBTL Offset site, will also be undertaken in accordance with this guideline.
Guidelines for biological survey and mapped data (Commonwealth of Australia, 2018) https://www.dcceew.gov.au/environment/environment-information-australia/information-policy/guidelines-for-biological-survey-mapped-data	As outlined in **Section 2.4.1** all INTG surveys and data processing have been undertaken in accordance with this guideline. All future surveys and data processing, for example at the proposed INTG Offset site, will also be undertaken in accordance with this guideline.
Guide to providing maps and boundary data for EPBC Act projects (DAWE, 2021). Guide to providing maps and boundary data for EPBC Act projects - DCCEEW	As outlined in **Section 2.4.1** all INTG surveys and data processing have been undertaken in accordance with this guideline. All future surveys and data processing, for example at the proposed INTG Offset site, will also be undertaken in accordance with this guideline.
Native Vegetation Act 1991 (NV Act) and associated *Native Vegetation Regulations 2017* (NV Regulations).	All vegetation surveys and assessments have been undertaken in accordance with the NV Act and associated NV Regulations. A Heritage Agreement in accordance with the NV Act and associated NV Regulations may be implemented for the INTG Offset.
Landscape South Australia Act 2019 (LSA Act)	Management measures within the INTG OMP to control invasive weeds and feral animals will be in accordance with LSA Act requirements.
National Parks and Wildlife Act 1972 (NPW Act)	In accordance with the NPW Act, various Permits for vegetation survey and monitoring are required.
Animal Welfare Act 1985	All PBTL surveys and monitoring has been and will continue to be undertaken in accordance with the requirements of this Act.

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Appendix 1

INTG Patches Identified in GNWF

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INTG Patch #	Survey Site(s)	Landholder Details	INTG TEC Condition Class	Area (ha) (Before Any Impact)	Impacted
1	LOM22	[redacted]	Class C	40.57	Yes
2	LOM27		Class C	13.40	
3	LOM26		Class C	19.47	Yes
4	LOM24, A6e		Class C	66.10	Yes
5			Unsurveyed	7.07	
6			Unsurveyed	0.05	
7	LOM13		Class C	7.46	Yes
8	LOM10, A6c		Class B	116.32	Yes
9			Unsurveyed	18.28	
10	LOM9		Class B	7.28	
11			Unsurveyed	0.94	
12	LOM8		Class B	10.38	
13	LOM14, LOM15		Class C	161.01	Yes
14			Unsurveyed	7.56	
15			Unsurveyed	0.58	
16			Unsurveyed	1.42	
17	LOM7		Class A	18.02	
18			Unsurveyed	2.22	
19	LOM5		Class B	6.43	
20			Unsurveyed	0.40	
21	LOM3, A6b		Class B	105.76	
22			Unsurveyed	10.15	
23	LOM28		Class B	0.24	
24	LOM16		Class B	12.85	Yes
25	A6f		Class B	99.94	Yes

INTG Patch #	Survey Site(s)	Landholder Details	INTG TEC Condition Class	Area (ha) (Before Any Impact)	Impacted
26		[redacted]	Class B	1.80	
27	LOM2		Class B	4.32	Yes
28			Unsurveyed	6.02	
29			Class B	324.61	Yes
30	LOM1		Class B	0.69	Yes
31			Unsurveyed	1.77	
32	LOM17, LOM18, A6a		Class B	527.59	Yes
33	LOM19		Class B	27.46	
34			Unsurveyed	42.42	
35	D6a		Unsurveyed	10.25	
36			Unsurveyed	1.51	
37			Unsurveyed	0.24	
38			Unsurveyed	0.31	
39			Unsurveyed	1.55	
40			Unsurveyed	0.55	
41			Unsurveyed	0.50	
42			Unsurveyed	1.67	
43			Unsurveyed	1.60	
44			Unsurveyed	0.82	
45			Unsurveyed	1.19	
46			Unsurveyed	5.47	
47			Unsurveyed	0.37	
48			Unsurveyed	0.23	
49	LOM6, LOM23 A6g		Class B	232.79	Yes
50			Unsurveyed	0.39	
51	D6b		Class B	2.22	Yes

Appendix 2

Risk Matrix and Risk Rating

Risk Matrix	
Likelihood (L): A qualitative measure of likelihood: how likely is it that this event / circumstances will occur both before and after an offset is secured	
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 event / circumstances does occur	
Minor	Failure to identify or secure suitable offsets causes minor impact to achieving positive outcome (e.g. short-term delays to achieving strategy objectives, implementing low-cost, well-characterised corrective actions)
Moderate	Failure to identify or secure suitable offsets causes moderate substantial impact to achieving positive outcome (e.g. short-term delays to achieving strategy objectives, implementing well-characterised, high cost/effort corrective actions)
High	Failure to identify or secure suitable offsets causes substantial impact to achieving positive outcome (e.g. medium-long term delays to achieving strategy objectives, implementing uncertain, high-cost/effort corrective actions)
Major	Failure to identify or secure suitable offsets causes major impact to achieving positive outcome (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	Failure to identify or secure suitable offsets causes severe unrecoverable impact to achieving positive outcome (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

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P 1300 793 267 E info@umwelt.com.au W umwelt.com.au

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