EPBC 2025/10100: Subdivision and residential development of 62 Collins Road and 170 Boundary Road, Dromana

Swamp Skink Offset Management Plan – Loch Sport, Gippsland

FINAL REPORT

Prepared for Collins Street Properties

9 April 2026

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Document information

Report to:	Collins Street Properties
Prepared by:	Wyn Russell Mark Venosta
Biosis project no.:	42415
File name:	42415.Loch.Sport.Swamp.Skink.OMP.FIN05.20260409
Citation:	Biosis 2026. Swamp Skink Offset Management Plan – Loch Sport, Gippsland. Report prepared for Collins Street Properties. Authors: Russell. W & Venosta, M. Biosis Pty Ltd. Project no. 42415

Document control

Version	Internal reviewer	Date issued
Draft version 01	JAB	03/12/2024
Draft version 02	IS	26/03/2025
Draft version 03	JAB	14/07/2025
Draft version 04	JAB	04/08/2025
Final version 01	MD	09/10/2025
Final version 02	JAB	11/12/2025
Final version 03	JAB	12/02/2026
Final version 04	JAB	19/02/2026
Final version 05	JAB	09/04/2026

Acknowledgements

Biosis acknowledges the contribution of the following people and organisations in undertaking this study:

- Collins Street Properties: Greg La Manna
- Vegetation Link: Julie Groce

Biosis staff involved in this project were:

- Sam Panter (mapping)
- Jonathan Botha and Ian Smales (quality assurance)

Biosis acknowledges the Aboriginal and Torres Strait Islander peoples as Traditional Custodians of the land on which we live and work.

We pay our respects to the Traditional Custodians and Elders past and present and honour their connection to Country and ongoing contribution to society.

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Offset Management Plan

Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)
Proponent: Collins Street Properties
Address: 91 Cubitt Street, Cremorne Vic 3121

Landowner and Authority Statement

Landowner of Offset Site(s)

Print Name: Paul Guest

Signature: 

Date: 09/04/2026

Conservation Covenant Authority (TfN)

Print Name:
Position:
Date: / /

EPBC Act Authority Approval (DCCEEW)

This Offset Plan has been approved by

Print Name:
Position:
Date: / /

Date of Commencement:

No modification, variation or amendment of this Offset Plan agreed upon by the parties shall be of any force or effect unless such modification, variation or amendment is in writing and has been executed by all parties.

This plan comes into effect as of: / /

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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

Greg La Manna

Collins Street Properties

1 Introduction

1.1 Project background

Biosis Pty Ltd was commissioned by Collins Street Properties to prepare an Offset Management Plan (OMP) for Swamp Skink *Lissolepis coventryi* habitat, for the subdivision and residential development at 62 Collins and 170 Boundary roads, Dromana (the 'project area) (Figure 1). The project area is known to support a population of Swamp Skink, which is listed as Endangered as of March 2023 under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Collins Street Properties (the proponent) is seeking approval under the EPBC Act to develop land located at the project area, for the development of a residential subdivision and associated infrastructure (proposed action). The proposed action is to develop a residential subdivision and associated infrastructure, that will create 250 new housing lots averaging 494 square metres in size. Drainage reserves will be created along the project area's east and north boundary to convey stormwater to an enlarged retarding basin to be located in the north-west of the project area. A 6.99-hectare conservation reserve is proposed to be created in the south-east corner of the project area, with this area identified as supporting high-quality native vegetation and known and suitable Swamp Skink habitat, and will be managed in accordance with a Conservation Management Plan for Swamp Skink habitat conservation (Biosis 2025). The proposed action proposes to disturb 21.21 hectares of the total project area (disturbance footprint).

The project area (28.5 hectares) is located on private land known as 62 Collins Road and 170 Boundary Road, Dromana, approximately 59 km south of the Melbourne CBD. Biosis conducted a flora and fauna assessment of the project area between 2015 and 2016 (Biosis 2016) and identified habitat for Swamp Skink. Camera traps were set within potential habitat between November 2015 and February 2016 to determine the presence of Swamp Skink. One Swamp Skink was recorded within vegetation in the southeast extent of the project area, adjacent to Boundary Road (Biosis 2016).

Following the listing of Swamp Skink as Endangered under the EPBC Act in 2023, the project area was assessed by Biosis on 7 July 2023 to determine the extent of Swamp Skink habitat present. The assessment found that the project area supports approximately 22.88 hectares of Swamp Skink habitat. However, the proposed development will incorporate a substantial 6.99 hectare reserve into the design, retaining a large portion of this habitat. Removing habitat in this reserve from the total disturbance footprint returns a value of approximately 17.09 hectares of occupied Swamp Skink habitat expected to be impacted by the proposed development.

Approval conditions for this OMP will be outlined following the EPBC Act approval of the development at 62 Collins and 170 Boundary roads, Dromana. The OMP will be updated to comply with any approval conditions.

1.2 Objectives

The objective of the OMP is to document offset details to meet EPBC Act requirements for offsetting impacts to Swamp Skink by securing, maintaining, and improving remnant vegetation within the designated offset site. The objectives of this plan are to:

- Outline the details of the project area and offset requirements for Swamp Skink habitat loss.
- Identify a suitable offset site to compensate for the residual significant impact of the proposed works.

- Provide a suitable offset management plan in accordance with requirements outlined under the EPBC Act. The plan will include:
  - Methods for calculating the offset.
  - Location and maps of the project area and offset site.
  - Details of the habitat to be cleared.
  - Requirements for baseline surveys of the offset site habitat condition.
  - Management actions to protect and improve Swamp Skink habitat at the offset site.
  - Timetables and targets for management actions at the offset site, including 10 years of active management and monitoring to improve Swamp Skink habitat, and ongoing reporting and auditing requirements.

1.3 Habitat quality scoring methodology

The EPBC Act Environmental Offsets Policy (Australian Government 2012) (the policy) outlines the Government's approach to the use of environmental offsets under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The policy is accompanied by the Offsets Assessment Guide (the guide). The guide has been developed to give effect to the requirements of the policy, utilising a balance sheet approach to estimate impacts and offsets for threatened species and ecological communities.

In alignment with the policy and the guide, Biosis prepared the 'EPBC Offsets Guide: Habitat Quality Scoring Method for the Endangered Swamp Skink *Lissolepis coventryi*' (Appendix 1). This Swamp Skink offset guide outlines the methods for scoring habitat quality out of 10. This is scored in three components: site condition, site context, and species stocking rate (Table 1).

Table 1 Swamp Skink habitat quality scoring system

Parameter	Scoring system
Site context (max 4 points)	Connectivity score: • 1/2= Site < 15 ha • 2/2 = Site equal to or > 15 ha Threat score: • 0/2 = Site subject to 5 or more threats. • 1/2 = Site subject to between 1 and 4 threats. • 2/2 = Site subject to no threats.
Site condition (max 4 points)	• 1/4 = Poor - Site (on average) supports a very sparse understory and very dense overstory, with little to no shelter sites present. Dominated by a predominantly introduced weedy vegetation with little to no structural complexity and overstory largely reduces the penetration of sunlight into the understory. • 2/4 = Satisfactory - Site (on average) supports some understory vegetation with limited structural complexity and a relatively open overstory. Some shelter sites are present. Dominated on average by a mix of native and introduced ground layer wetland vegetation and overstory vegetation that allows sufficient sunlight to penetrate to the ground layer. • 3/4 = Good - Site (on average) a moderately dense and structurally complex understory with a relatively open overstory and moderate shelter sites present. Dominated on average by native

Parameter	Scoring system
	ground layer wetland vegetation and overstory vegetation that allows sufficient sunlight to penetrate to the ground layer. • 4/4 = Excellent - Site (on average) supports a species-rich and structurally complex understory with an abundance of shelter sites. Little to no overstory vegetation is present allowing a substantial amount of sunlight to reach the ground layer. Dominated by an above average diversity of native wetland vegetation types.
Species stocking rate (maximum 2 points)	• 1/2 = A maximum of one individual encountered within an area using any of the proposed methods highlighted above. • 2/2 = Two or more individuals encountered in an area using any of the proposed methods highlighted above.

1.4 Report structure

The structure and content of the OMP is consistent with the 'Environmental Management Plan Guidelines' prepared by Department of Climate Change, Energy, The Environment and Water (DCCEEW) and is organised in several parts:

- **Introduction** – This section summarises the background information relevant to the Project, including the purpose and scope of the work and the assessment methodology.
- **Part A: Offset Suitability** – This section assesses the suitability of the proposed offset site, and details regarding planned clearing at the project area, and offset targets.
- **Part B: Offset Implementation** – This section describes how the offset is to be implemented. It includes details regarding landowner commitments, management targets and actions, and monitoring and reporting requirements. This section is intended to guide those responsible for implementing the plan.
- **Schedule of management actions, risks, monitoring and reporting** – This section provides tables outlining required management and monitoring actions, including responsible parties, and required timing or action triggers.

1.5 Glossary

Table 2 Glossary

Abbreviation	Definition
EPBC Act	Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*
DCCEEW	Australian Government Department of Climate Change, Energy, the Environment and Water
DEECA	Victorian Government Department of Energy, Environment and Climate Action
TFN	Trust for Nature
Locality, Local Area	Area located within 10 km radius from the subject land

Abbreviation	Definition
Offset	Protection and management (including revegetation) of native vegetation at a site to generate a gain in the contribution that native vegetation makes to Victoria's biodiversity. An offset is used to compensate for the loss to Victoria's biodiversity from the removal of native vegetation.
Offset Management Plan (OMP)	The Offset Management Plan (this document or any subsequent version approved by DCCEEW), which outlines the management and protection of the offset area.
Offset area/site	The specific area within the offset property managed under this OMP as an offset for Swamp Skink.
VQA	Vegetation Quality Assessment
Adjusted hectares	The standardised metric used by the EPBC Act Offsets Assessment Guide (DSEWPaC 2012), where extent (in hectares) is multiplied by quality (expressed as a decimal).
Suitably qualified person	A person who has professional qualifications, training, skills and/or experience related to the nominated subject matter and can give authoritative independent assessment, advice, and analysis on performance relative to the subject matter using the relevant protocols, standards, methods and/or literature.

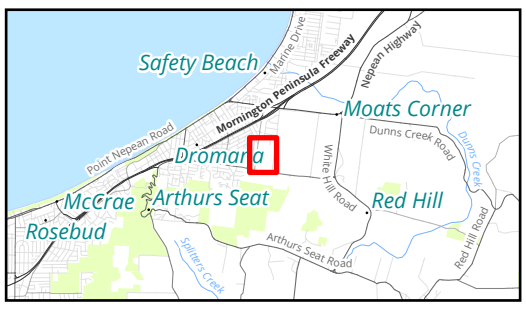


Figure 1 Location of the project area: 170 Boundary Road and 62 Collins Road, Dromana, Victoria

Legend

- Project area
- Current parcel boundary
- Conservation reserve

Swamp Skink habitat

- Planned for retention
- Planned for removal

0 20 40 60 80 100

Metres

Scale 1:2,500 @ A3

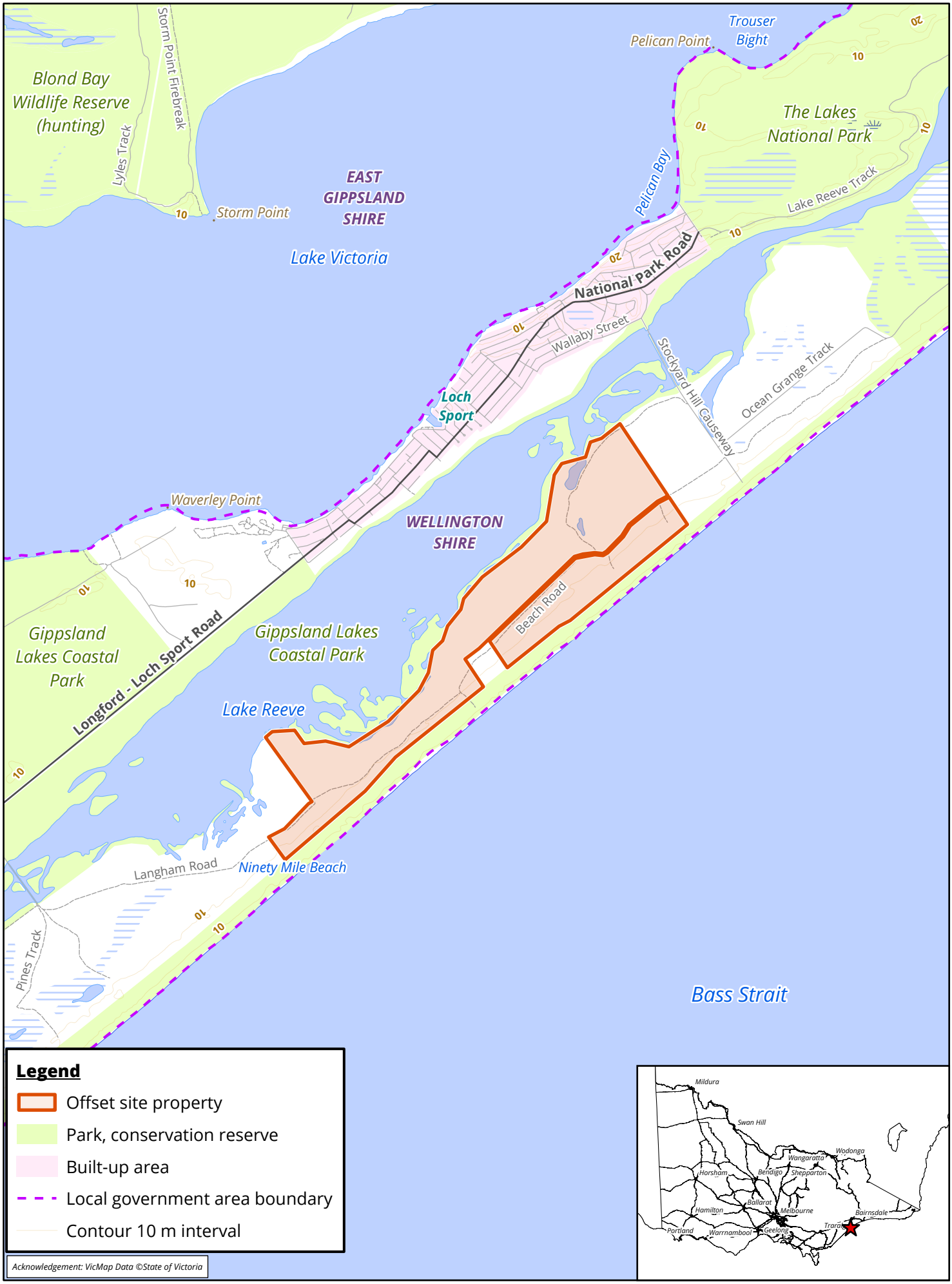
Coordinate System: GDA2020 MGA Zone 55

N

biosis

APEM Group

Matter: 40737,
Date: 03 December 2024,
Prepared for: WR, Prepared by: SP, Last edited by: spanter
Layout: 40737_F1_Clearing_site
Project: P:\40700s\40737\Mapping\
40737_Loch_Sport_Swamp_Skink_OMP.aprx



Acknowledgement: VicMap Data ©State of Victoria

Figure 2 Location of the proposed offset area: Beach Road, Ocean Grange, Victoria

Matter: 40737,
Date: 17 June 2024 ,
Prepared for: WR, Prepared by: SP, Last edited by: spanter
Layout: 40737_F2_Location
Project: P:\40700s\40737\Mapping\40737_Loch_Sport_Swamp_Skink_OMP.aprx

0 0.5 1 1.5 2
Kilometres

Scale: 1:50,000 @ A4
Coordinate System GDA2020 MGA Zone 55

N

00

2 Part A: Offset Suitability

This section provides details of the project area, the suitability of the proposed offset site, including details regarding habitat clearing, and offset site improvement calculations. The location of the project area and the proposed offset site are provided in Figure 1 and Figure 2 respectively.

2.1 Project area details - 62 Collins and 170 Boundary roads, Dromana

Table 3 Outline of project area details/available habitat

Project area details	
Landowner of project area	Collins Street Properties
Location of project area	62 Collins Road and 170 Boundary Road, Dromana
Local Government Area	Mornington Peninsula Shire
Catchment management Authority	Port Phillip and Westernport
Bioregion	Gippsland Plain
EPBC Act approval	EPBC 2025/10100
EPBC Act approval conditions	TBC following EPBC Act approval and conditions

2.1.1 Habitat planned for removal

The project area at 62 Collins Road and 170 Boundary Road, Dromana was assessed on 7 July 2023 and was found to support approximately 22.88 hectares of potential Swamp Skink habitat (Biosis 2024). 21.51 hectares of the project area is proposed for development (disturbance footprint). However, the proposed development will incorporate a substantial 6.99-hectare reserve into the design which will retain a large portion of this habitat. Removing habitat to be retained in this reserve from the total impact area returns a value of approximately 17.09 hectares of occupied Swamp Skink habitat expected to be impacted by the proposed development.

Habitat impact calculations for the project area are outlined in Table 4.

Table 4 Impact site – Swamp Skink habitat quality calculation inputs

Parameter	Input	Justification for input
Annual probability of extinction	1.2%	The annual probability of extinction of Swamp Skink, an endangered species, 1.2% based on IUCN category definitions.
Area of habitat	17.09 ha	A total of 17.09 ha of occupied Swamp Skink habitat was mapped within the disturbance footprint at 62 Collins Road and 170 Boundary Road, Dromana and would be directly affected by the subdivision and development.

Parameter	Input	Justification for input
Habitat quality score	4/10	Biosis assessed the extent and quality of the Swamp Skink habitat in July 2023. Prior to this Biosis undertook targeted surveys for Swamp Skink on site using baited remote cameras and recorded a single Swamp Skink on site. Based on the previous targeted surveys and the habitat assessment, the impact area was assigned a habitat quality score of 4/10. This score was made up of the following components: • A site context score of 2/4 based on a connectivity score of 1/2 because although the total area of occupied Swamp Skink habitat is 17.09 ha (i.e., more than 15 ha) the habitat patches are fragmented, and a threat score of 1/2 (*see below note): – Disturbance from recreational use, due to unauthorised vehicle and public access and construction of illegal vehicle tracks. – Unsuitable fire regimes that cause decrease in biodiversity, due to lack of managed low-intensity burning. – Weed invasion, due to spread of existing weeds and introduction of weeds through pests and unauthorised access. – Increasing temperatures and changes to precipitation patterns, due to climate change. – Drainage of habitat, as stormwater drains for surrounding developments may have altered the hydrological processes and habitat within the study area. – Fragmentation of habitat through clearing and development of the surrounding landscape. – Increase in the occurrence of extreme environmental events (drought, heat waves, fires, flooding, and severe storms), driven by climate change, • A site condition score of 1/4. Large portions of the study area comprise Damp Sands Herb-rich Woodland/Grassy Woodland Complex as well as areas of Swamp Scrub, both of which may provide habitat for Swamp Skink. However, although the site comprises a reasonably dense understory, most of the area also has a relatively dense overstory and canopy which may preclude sufficient solar radiation from reaching the ground level. In addition, the areas of higher elevation are typically comprised of introduced vegetation. Therefore, although the site has some attributes that would make it suitable to support Swamp Skink populations, we have scored it on the lower end of the condition score. • A species stocking rate score of 1/2 because 1 Swamp Skink was recorded within the study area in 2016.
Total quantum of impact	6.84 adjusted ha	This value is set by the Offsets Assessment Guide and represents the value of the Swamp Skink habitat within the impact area, expressed in adjusted hectares. The absolute area (in hectares) has been adjusted to account for the quality of the habitat.

***Note:** A score of 1/2 for threats (1-4 relevant threats present) has been applied as a precaution instead of 0/1 (5+ threats present), based on consultation with DCCEEW, as several of the identified threats are not capable of being appropriately managed at a site-scale with a high degree of confidence.

The Swamp Skink habitat identified at the impact site was not identified as subject to the following threats: timber harvesting, vegetation dieback from Phytophthora, grazing from domestic stock, or degradation from feral herbivores.

2.2 Proposed offset site details and suitability – Loch Sport, Gippsland

A suitable third-party offset site has been identified located near Loch Sport. The property is located on Beach Road, adjacent to Ninety Mile Beach in the Gippsland Plain bioregion. The landowner is an experienced offset provider under both the state and federal offset systems.

Details of the proposed offset site are outlined in Table 5.

Table 5 Proposed offset site details

Proposed offset site details	
Landowner of offset site	Deep Lead Property Pty Ltd
Location of offset site	Parcel PC380492, Beach Road, Loch Sport, Gippsland
Parish	Seacombe
Local Government Area	Wellington Shire
Catchment management Authority	West Gippsland
Bioregion	Gippsland Plain
Type of offset	3rd party
Proposed legal protection mechanism	Trust for Nature deed of covenant

The proposed offset site offers ideal habitat for Swamp Skink and sits within a broader property that comprises 388 hectares of native vegetation including extensive areas of Coastal Dune Scrub, Estuarine Flats Grassland, and Estuarine Scrub, supporting open saltmarsh vegetation around seasonal and tidal wetlands.

The proposed offset site contributes to connectivity of coastal vegetation supporting potential Swamp Skink habitat surrounding Lake Reeve and along Ninety Mile Beach. The broader property supports four existing offset sites for Southern Brown Bandicoot and remaining areas are proposed to be utilised primarily for future additional threatened species offsets.

Biosis undertook targeted surveys for Swamp Skink within the proposed offset site between 2023 and 2024 and recorded at least 3 individuals on the property. Offset calculation inputs for the Loch Sport offset site are outlined in Table 6.

Table 6 Proposed offset site – Swamp Skink habitat quality calculation inputs

Parameter	Input	Justification for input
Time over which loss is averted	20 years	The OMP will require active conservation management (and improvements) for the first 10 years, after which the offset areas are to be managed and maintained as a conservation area in perpetuity. However, 20 years is the maximum value that can be entered into the Offsets Assessment Guide.
Start area	28.6 ha	Using the developed scoring protocol, it was established that to achieve 100% of the direct impact offset requirement, an area of 28.6 ha would be required. For the purposes of offset calculations, it was assumed that 28.6 ha of the property at Loch Sport would be available as a third-party offset site.
Risk of loss without offset	0%	As advised by DCCEEW with reference to Guidance for deriving 'Risk of Loss' estimates when evaluating biodiversity offset proposals under the EPBC Act (Maseyk et al. 2017).
Risk of loss with offset	0%	As advised by DCCEEW with reference to Guidance for deriving 'Risk of Loss' estimates when evaluating biodiversity offset proposals under the EPBC Act (Maseyk et al. 2017).

Parameter	Input	Justification for input
Confidence in result – risk of loss	90%	A 90% confidence reflects that there is a high degree of confidence that there is no (0%) risk that the Swamp Skink habitat will be lost, with or without an offset in place.
Time until ecological benefit	10 years	A measurable improvement in habitat quality will be achieved after 10 years of management in accordance with the future OMP.
Start habitat quality score	7/10	On the basis of a site overview and targeted surveys for Swamp Skink undertaken by Biosis, the Swamp Skink habitat at the Loch Sport offset site would be assigned a score of 7/10 using the same habitat scoring system that was employed at the impact site. This start quality score is made up of the following components: • A **site context** score of 2/4 based on a connectivity score of 2/2 because the total area of contiguous occupied Swamp Skink habitat is more than 15 ha and a threat score of 0/2 because the site is subject to 5 or more of the proposed threats identified in the conservation advice: – Impacts from recreational use, due to unauthorised access causing habitat destruction. – Impacts from feral herbivores, due to grazing and habitat trampling by deer. – Weed invasion, due to spread of existing weeds and introduction of weeds through pests and unauthorised access. – Increasing temperatures and changes to precipitation patterns, due to climate change. – Future sea level rise, due to climate change. – Increase in the occurrence of extreme environmental events (drought, heat waves, fires, flooding, and severe storms), driven by climate change, • A **site condition** score of 3/4. Large portions of the study area comprise a moderately dense and structurally complex understory with a relatively open overstory, and moderate shelter sites present. The site is also dominated on average by native ground layer wetland vegetation and overstory vegetation that allows sufficient sunlight to penetrate to the ground level. • A **species stocking rate** score of 2/2 because more than 1 Swamp Skink was recorded within the study area during targeted surveys conducted by Biosis in 2023 and 2024.
Future habitat quality without offset	5/10	The Loch Sport offset site is located on private land owned by a landowner with experience in providing offsets under both state and federal offset systems. Loch Sport is within the Wellington Local Government Area, with the annual background rate of loss of 0.34%, corresponding to a Risk of Loss over twenty years of 6.85% (Guidance for deriving risk of loss). While the study area and adjacent habitat is in good overall condition, and is unlikely to be developed, there is a significant risk to the species without active management due to a range of threatening processes, including feral predators and herbivores, invasion and spread of weeds, and habitat destruction from unauthorised access for recreational use. If not established as offset sites, these impacts would continue, and potentially intensify, leading to a decline in habitat condition from 7/10 to 5/10 over the next 10 years. These processes are likely to impact the site condition, and result in a corresponding decrease in species stocking rate through both direct and indirect impacts. This future habitat quality score is made up of the following components:

Parameter	Input	Justification for input
		• No change to the site context score of 2/4 because no positive change to the connectivity and threat scores would be expected. • A decrease in site condition score from 3/4 to 2/4, due to the following threatening processes: – **Impacts to vegetation and soil from feral herbivores (deer).** Impacts from deer (including Hog Deer) cause significant destruction of Swamp Skink habitat through grazing of native vegetation used as habitat, pollution of wetlands through trampling and 'wallowing' (Photo 1), trampling of saltmarsh habitat (Photo 2), and damage to native grasses fringing wetland areas from laying on the tussocks. The impacts from deer are most significant in area of highest quality Swamp Skink habitat, the fringes of wetlands and salt marsh where deer graze and rest. Grazing by deer can also significantly alter the structure of the native vegetation, damaging the palatable saltmarsh vegetation and grasses most used by Swamp Skink as shelter, and allowing for spread of weeds and unpalatable overstorey species which can shade Swamp Skink habitat. Without active management (including monitoring, employing shooters, and seeking permits to control Hog Deer, which are protected under the Wildlife Act) the impacts from deer are likely to have a significant impact to the habitat condition of the site in the short and long term. – **Impacts to habitat from unauthorised access and recreational use.** Unauthorised access is a significant and ongoing threat to the site. The landholder has recorded regular unauthorised access by large and small vehicles, through the unfenced easement, and by illegal vegetation clearing to create access tracks. Unauthorised access within the site leads to significant and long-term damage to vegetation and wetlands, as the vehicles and foot traffic churn up muddy areas of salt marsh habitat (Photo 3, Photo 4, Photo 5, Photo 6, Photo 7). Vehicles getting 'bogged' in the mud lead to deep trenches, clearing of vegetation as trespassers use sticks and logs to extract their vehicles, and littering of rubbish used to extract the vehicles (Photo 8). Without installation and maintenance of fences and signage, monitoring, and active management, impacts from unauthorised access would likely increase over time. Impacts at the current rate would lead to significant and long-term damage and loss of habitat. – **Introduction and spread of weeds.** There is currently a relatively low cover and diversity of weeds across the site, however, scattered patches of weeds, including the woody weed Blackberry, will increase in coverage over time unless actively managed, as they outcompete local native vegetation. Blackberry can form a tall dense growth form, rendering it unsuitable for Swamp Skink, as they occupy areas with vegetation and open areas to bask. Weeds are also likely to be introduced and spread by Deer and Foxes, which are known to travel significant distances and can carry high-threat weeds in their fur, and droppings. Weeds are also highly likely to be introduced through unauthorised vehicle access and recreational use, as seeds are deposited in dislodged dirt from vehicles and footwear. Without active weed control, and management of sources of weed introduction and spread, the site is likely to see an increase in weed coverage and diversity within the next 10 years. • A decrease in species stocking rate from 2/2 to 1/2, due to direct and indirect impacts. The species is likely to continue to persist at the site in the short term without active management, however, without active management and protection the capacity for the site to support a viable population in the long-term is uncertain, and there is a high likelihood that the population sees a measurable reduction in extent and density in the short-term (within 10 years). This short-term reduction in density and extent (stocking rate) is due to the following threatening processes:

Parameter	Input	Justification for input
		– **Loss of extent of habitat from unauthorised access and recreational use.** As with habitat destruction from deer, impacts to habitat within individual Swamp Skinks territories can lead to increased conflict between individuals, and reduce the stocking rate of the site. Unauthorised access and recreational use (particularly vehicle access) can lead to sudden loss of habitat within individual skink's home ranges. Increased intra-species conflict can also compound with other stressors, such as competition for food and pressure from predators, leading to increased mortality of individuals. Swamp Skink are relatively long-lived, reach sexual maturity at two to three years, and generally only produce one to four young. Generation lengths are estimated to be 7 years. Increased loss of individuals of species with low fecundity can cause significant impacts to a site stocking rate in the short-term (e.g. 10 years) and can threaten the persistence of a population in the long-term. Without active management, the loss of extent of Swamp Skink habitat is likely to continue, and may increase, leading to habitat loss and increased intra-species conflict. **Predation by feral predators (foxes and cats).** Predation by foxes and cats has not been included as 'threat' when assessing site context, however, the impacts from pest predators are relevant as they directly threaten individuals, and therefore the species stocking rate. Foxes and cats are opportunistic carnivores, and are known to take a variety of small native animals, including reptiles, and would predate on Swamp Skinks within the site. The location of the site in relation to the town of Loch Sport creates an ongoing point of introduction of pest predators, particularly cats. Impacts to understorey vegetation from deer and unauthorised access can compound the threat of pest predators, as it reduces shelter sites for Swamp Skink, and increases access routes for predators throughout areas of dense swamp scrub. While Swam Skinks at the site are likely to have been impacted by pest predators for an extended period, without the proposed monitoring and control, in combination with monitoring and control at adjacent offset areas, the population of foxes and cats is likely to persist and cause ongoing impacts to Swamp Skink. Over the proposed 10-year time until ecological benefit period, the compounding impacts from habitat destruction and pest predators are likely to measurably reduce the extent and density of the local Swamp Skink population (species stocking rate), to a level of 1/2, and may eventually lead to local extirpation.
Future habitat quality with offset	8/10	Implementation of OMPs will maintain and improve existing Swamp Skink habitat with the Loch Sport offset sites. Active control measures will be put in place to manage and reduce the number of feral herbivores, weed species, and unauthorised recreational use. The result will be an overall improvement in the Swamp Skink habitat quality on site to 8/10, comprising the following components: • A **site context** score of 3/4 based on a connectivity score of 2/2 because the total area of contiguous occupied Swamp Skink habitat is more than 15 ha, and a threat score of 1/2 because the site is subject to between 1-4 of the proposed threats identified in the conservation advice, through significant reduction or functional elimination of two or more of; unauthorised recreational use, feral herbivores, and/or weed invasion. • A **site condition** score of 3/4. A reduction in the number of pest animals such as deer, reduction of invasion and spread of weeds, reduction in unauthorised recreational use, and potential thinning of canopy vegetation will reduce impacts to important native understory vegetation which will maintain and likely improve the overall condition of the habitat to support Swamp Skink. • A **species stocking rate** score of 2/2 because the site at Loch Sport will continue to support a population of Swamp Skink.

Parameter	Input	Justification for input
Confidence in result – future quality	90%	There is a high level of confidence that without the establishment of the offset site, continued use of the Loch Sport site would lead to a 2-point decline in the quality of Swamp Skink habitat on site in the next 10 years. Unrestricted foraging and trampling by species such as deer, invasion and spread of weeds, and unauthorised recreational use will significantly alter the understory habitat which is a critical component of habitat quality for Swamp Skink. There is also a high level of confidence that, with the establishment of an offset site, the landowners will have the support, guidance, and resources to intensively manage, maintain and improve Swamp Skink habitat at the Loch Sport site in the next 10 years.

3 Part B: Offset Implementation

This section presents the actions required to implement the OMP. The plan details methods for the management of habitat at the offset site for the protected matter (Swamp Skink) over the minimum required 10-year management period, and in perpetuity. At the end of the 10 years of management, the offset site is expected to have achieved a conservation gain for the Swamp Skink, to offset the residual impact to Swamp Skink that is proposed as part of Dromana development.

The aim is to implement the offset either before, or at the same point in time as, the impact arising from the action. This timing 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.

All management work at the offset site must be conducted by a suitably qualified and experienced contractor, and/or the landowner.

The plan aims to achieve vegetation improvement gains through on-ground actions and therefore is required to be achievable, straightforward, and practical. All the management actions specified must be measurable against the commitments made in the calculation of improvement over time, to achieve the target conservation gains outlined in the OMP.

3.1 EPBC Act approval conditions

Approval conditions will be outlined following the EPBC Act approval of the development at 62 Collins and 170 Boundary roads, Dromana. Relevant conditions will be outlined in this section.

3.2 Strategy for offset site

The offset site is to be secured and managed for the purpose of conservation in perpetuity. The offset area is a smaller component of a 388 hectare area of primarily native coastal scrub, owned and managed by the same landowner.

3.3 Offset security, management, and reporting responsibility

Details of the offset agreement will be finalised following the outcome of the EPBC referral of the project. An EPBC offset site will be established and OMP finalised to the satisfaction of DCCEEW.

Biosis has located a suitable offset site near Loch Sport, located adjacent to Ninety Mile Beach in the Gippsland Plain bioregion (Figure 2), and have received an indicative quote from Vegetation Link Pty Ltd. The landowner is an experienced offset provider under both the state and federal offset systems. The landowner will be responsible for ongoing management of the offset site throughout the period of this plan.

The offset will be secured on-title in perpetuity via a Trust for Nature (TFN) deed of covenant pursuant to the *Victorian Conservation Trust Act 1972* (Vic).

Details of the proposed offset security and management responsibilities and reporting requirements are outlined in Table 7.

Table 7 Security and management responsibilities and reporting requirements

Offset responsibility	
Who is liable/responsible for meeting offset requirements?	Collins Street Properties (approval holder)
Type of offset security	Trust for Nature deed of covenant
Date 10-year offset management to commence	___/___/____ Upon registration of TFN deed of covenant on title
Date 10-year offset management expires	___/___/____ 10 years after registration of TFN deed on title
Date agreement registered on-title	___/___/____ As soon as practicable after EPBC approval
Offset site management responsibility	Deep Lead Property Pty Ltd (landowner)
Offset site monitoring responsibility	Collins Street Properties (approval holder) The following monitoring actions to be undertaken by a suitably qualified ecologist: - Baseline condition (Section 3.6.1) - Weeds (Section 3.6.3) - Pest animal activity (Section 3.6.4) - Swamp Skink surveys and habitat assessments (Section 3.6.6) - Canopy cover, logs, coarse woody debris (Section 3.6.5) Deep Lead Property Pty Ltd (landowner) - Fence and access signage condition (Section 3.6.2) - Pest animal activity and deer monitoring cameras (Section 3.6.4)
Offset monitoring and management reporting responsibility (to approval holder)	Collins Street Properties (approval holder) - Ecological reports on actions undertaken by qualified ecologist, submitted to Landowner, to submit to TFN and approval holder with annual report. (Section 3.7) Deep Lead Property Pty Ltd (landowner) - Annual report, submitted to TFN and approval holder. (Section 3.7)
Offset Auditing Responsibility	Collins Street Properties (approval holder)
Offset Plan Review Responsibility	Collins Street Properties (approval holder)
Reporting Responsibility (to regulatory authorities)	Collins Street Properties (approval holder)

3.4 Outcomes and ongoing management commitments

The key environmental outcomes to be achieved through protection and management of the offset site are:

- Legal protection of 28.6 ha of Swamp Skink habitat, managed to improve condition for a 10-year period, and then maintained in perpetuity.

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- Physical protection of Swamp Skink habitat within the site from manageable threats, such as pest grazing, weed invasion and spread, unauthorised access, unsuitable fire regimes, and unsuitable vegetation structure.
- Improvement of the quality of Swamp Skink habitat, as measured using the 'EPBC Offsets Guide: Habitat Quality Scoring Method for the Endangered Swamp Skink *Lissolepis coventryi*' (Appendix 1).

3.4.1 Future habitat quality targets

The habitat offset calculations used to define the size of the offset area (Appendix 2) specify an improvement in average habitat condition throughout the offset site over a 10-year period from a baseline score of 7/10, to 8/10, and prevention in predicted reduction of habitat condition to 5/10 without protection as an offset.

- Habitat quality improvement is proposed to be achieved by increasing the 'site context' of the offset site from a baseline score of 2/4, to 3/4. Site condition will be increased through a reduction in threats, including feral herbivore grazing, weed invasion and spread, and unauthorised recreational use.
- Prevention of habitat quality reduction is proposed to be achieved by maintaining the 'site condition' score of 3/4, and 'species stocking rate' score of 2/2. The habitat quality will be maintained through reducing severity of current impacts by controlling and eliminating threatening processes, including feral herbivore grazing and trampling, weed invasion and spread, and unauthorised recreational use.

Habitat quality will be assessed using the Swamp Skink habitat scoring method used to assess the initial quality of habitat at the project area, and the proposed offset site (Appendix 1).

3.4.2 Ongoing management commitments

The offset site will be managed for the purposes of conservation of Swamp Skink, in accordance with EPBC Act approval conditions (TBD following referral) and aims to achieve an improvement in overall Swamp Skink habitat quality.

The entire offset site will be managed for an improvement in quality over 10 years. After this period of management, the land will be required to be maintained in the condition achieved as a result of that management, in perpetuity. Habitat will be maintained through ongoing management and land-use commitments, by:

- Retaining and managing native vegetation, as directed by this OMP.
- Excluding and controlling pest animals, to levels conducive with habitat quality commitments.
- Monitoring for new and emerging weeds and reducing to < 1% cover.
- Ensuring the cover of high threat weeds does not exceed levels achieved at Year 10 of management.
- Retaining large rocks, fallen logs and branches.
- Monitoring and reporting on the abundance and distribution of Swamp Skink within the offset site for the active management period of this OMP (10 years).
- Installing and maintaining appropriate site fencing and access signage to reduce unauthorised access.
- Ensuring the cover of trees and shrubs between two and five meters tall does not exceed baseline cover percentages within the offset site as a whole.
- Ensuring the cover of trees and shrubs over five meters tall does not exceed baseline cover percentages within the offset site as a whole.

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- This above tree and shrub percentage covers need to be informed by baseline monitoring of cover percentages and could be subject to change following conditions outlined in the referral decision.
- The above tree and shrub cover is proposed to be maintained through ecological thinning and is contingent on DEECA consultation and approval under the conservation work exemption to clause 52.16 and 52.17 of the planning scheme.

Management conditions may be updated following publication of EPBC Act referral conditions.

3.4.3 Performance and completion criteria

Key performance criteria are:

- Establishment of legal protection.
- Continued presence of viable Swamp Skink population within offset area.
- Improvement of average habitat quality, as described in section 3.4.1 and Appendix 1.
- Completion of scheduled management actions, and achievement of interim milestones as outlined in section 3.5 and Table 10.
- Completion of scheduled reporting, as outlined in section 3.7 and Table 12.

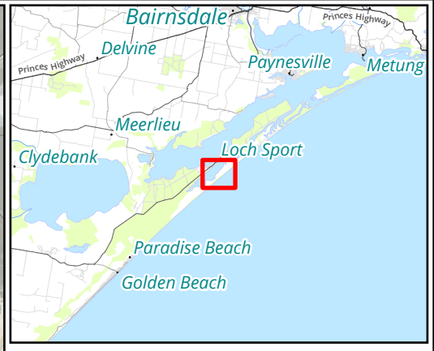
3.5 Management actions and land use commitments

The broad objectives of site management will be to maintain the current quality and structure of Swamp Skink habitat at the offset site while improving the quality of habitat by excluding stock, excluding unauthorised vehicle access, functional eradication of pest animals, achieving a decrease in the abundance of perennial weeds and commensurate increase in the abundance of perennial native species.

Management actions have been developed with reference to relevant regulatory documents and expert advice available at the time of the OMPs development, including but not limited to:

- The species approved conservation advice (DCCEEW 2023).
- The threat abatement plan for predation by feral cats 2024 (DCCEEW 2024a).
- The guidelines for management activities in Swamp Skink habitat on the Mornington Peninsula (Robertson & Clemann 2015). The proposed offset site is not located within the Mornington Peninsula, however, the advice within these guidelines is relevant to any areas where Swamp Skink occur.
- The EPBC Act Environmental Offsets Policy (DSEWPC 2012)
- The management standards for native vegetation offset sites (DEECA 2023)

No specific recovery plan or threat abatement plans have been produced for Swamp Skink. The species conservation advice outlined that a national recovery plan is not currently required.



Legend

- Offset site property
- Proposed Swamp Skink offset
- Existing Southern Brown Bandicoot offset
- Access road
- Fencing
- Property boundary (Spiire)

Threatened fauna records

- Swamp Skink

Figure 3 Proposed Swamp Skink offset area and site features

0 100 200 300 400 500

Metres

Scale: 1:16,000 @ A3

Coordinate System: GDA2020 MGA Zone 55

N

biosis

APEM Group

Matter: 40737,
Date: 17 September 2025 ,
Prepared for: WR, Prepared by: SP, Last edited by: spanter
Layout: 40737_F3_Proposed_Swamp_Skink_offset_area
Project: P:\40700s\40737\Mapping\
40737_Loch_Sport_Swamp_Skink_OMP.aprx

Acknowledgements: VicMap BaseMap©State of Victoria, Imagery VicMap; Maxar

3.5.1 Fencing and access signage

Fencing is intended to prevent stock and unauthorised persons and vehicles from entering the offset site. The offset property boundary and access to the adjacent pipeline easement is currently partially fenced with post and wire fencing (Figure 3).

There is negligible risk of stock or unauthorised persons or vehicle access to the offset site from the open beach foreshore along the south-eastern boundary of the property, or from Lake Reeve along the north-west boundary of the property. Dense contiguous vegetation, and open water along these areas naturally inhibit access. Fencing along the lake Reeve boundary is impractical due to seasonal flooding.

Potential for stock, and unauthorised persons and vehicle access to the offset property is primarily through the intersecting Beach Road, and the gas pipeline easement. Existing fencing intersects the pipeline easement at several points (Figure 3), including:

- The south-west and north-east boundaries of the offset property.
- The intersection of the easement and the Stockyard Hill Causeway.
- The intersection of the easement and the eastern end of Beach Road, where it terminates at beach access car park.
- Partial fencing at the intersection of the easement and Beach Road, in close proximity to the proposed Swamp Skink offset area, where Swamp Skink has been recorded.

To further reduce the risk of stock and unauthorised persons access, additional fencing is proposed to be constructed at the remaining unfenced intersections of the easement and Beach Road (Figure 3).

To delineate the offset site and prevent unauthorised access, boundary demarcation may be required in areas where it currently doesn't exist. Any boundary fencing should also direct any contractors working onsite to provide access to management vehicles only at specified locations. Illegal activity and trespass on the property will be reported by the landowner to the Victorian Police Force.

Monitoring of access and threats will be conducted on an ongoing basis with fencing repaired or upgraded as required to control threats. Where fencing exists it will be maintained in good condition according to the standards detailed in BushBroker Information Sheet 12 – Standards for Management – Fencing (DSE 2012a), for the term of the OMP.

3.5.2 Weeds

Weed control in the offset site will:

- Ensure that weed cover does not increase beyond current baseline levels.
- Eliminate all woody weeds (<1% cover).
- Ensure that the cover of high threat herbaceous species is reduced to low levels (<1% cover).
- Monitor for any new and emerging weeds and eliminate to <1% cover.

Elimination of all woody weeds

The only woody weed identified within the study area is Blackberry *Rubus* spp. and this only occurs at relatively low levels, mainly among the Swamp Paperbark surrounding the southern freshwater pond. However, as this species has the potential to expand its abundance significantly, attempts must be made to eradicate it. In the first instance plant material should be physically removed and any regeneration spot sprayed with the minimum amount of herbicide required to treat the infestation. Herbicide application can

only occur in optimal conditions (i.e. little or no wind) and preferably in areas more than two metres away from open water. Where possible herbicide should be wiped on the target plant rather than sprayed. Herbicide must only be applied by a suitably qualified person, and wetland-friendly herbicide must be used where appropriate to prevent pollution of waterways and impacts to off-targeted flora and fauna, particularly amphibians. Herbicides must be used in accordance with manufacturer guidelines, and relevant legislation and permit requirements, outlined under the Agricultural and Veterinary Chemicals Act 1992.

The few woody weed infestations present throughout the offset site will be controlled within the first year of the OMP commencement date. Any woody weed recruits subsequently observed within the offset site will have their location recorded and plants subject to control works within 6 months of observation. No woody weeds will be permitted to set seed and will be controlled before any viable seed can be produced.

Any other woody weeds recorded on site must be eliminated appropriately. Any impact to Indigenous plants will be minimised during treatment of woody weeds. Woody weeds will be ideally controlled by being hand pulled. Extreme caution will be used if herbicides are used and any use will be minimised. Monitor for any re-sprouting or seedlings and eradicate.

New and emerging woody weeds

Monitoring for new and emerging woody weeds will be conducted throughout the year for the term of the agreement, and any new and emerging woody weeds eliminated. Refer to Information Sheet 8 – Standards for Management – Weeds (DSE 2012b) for more information.

Control of all herbaceous weeds

The Victorian *Catchment and Land Protection Act 1994* (CaLP Act) lists noxious weeds and requires that all landowners take reasonable steps to prevent the spread of, eradicate and/or control noxious weeds on their land. The control of high threat and listed noxious weed species is a key management action within the offset site and must be adequately addressed if improvement site gains are to be achieved.

All high threat weeds will be treated with an emphasis on ensuring that weed cover does not increase beyond current levels. Weeds listed in Table 8 were found within or adjacent to the offset site and are considered to be a high threat. These weeds will be monitored each year to ensure their cover is not increasing. Increasing cover of these weeds will be controlled using the methods outlined in Table 8 or as otherwise approved by Trust for Nature.

High threat weeds will be treated before they have flowered and set seed. Impacts to indigenous plants will be minimised during treatment. As with woody weeds, preference will be given to mechanical or hand removal of high threat herbaceous weeds. All residual herbicides are prohibited. If non-residual herbicides must be used, their use will be minimised and every available option to reduce the potential toxicity to amphibians of the product used will be taken (e.g. through use of Cyndan Glyphocyde 360 'Frog Friendly' or Roundup Biactive, in place of their more common and more toxic counterparts).

New and emerging herbaceous weeds

Monitoring for new and emerging herbaceous weeds will be conducted throughout the year for the term of the agreement and any new and emerging weeds eliminated. This must include any noxious weeds listed under the CaLP Act and any other weeds that should be considered high threat in the native vegetation and structure of Swamp Skink habitat present at the offset site (e.g. refer to (White et al. 2022)

Table 8 Herbaceous weeds to be controlled and their method and timing of control

Scientific name	Common name	Method	Timing
Cirsium vulgare	Spear Thistle	Chip out or spot spray rosettes with an appropriate herbicide.	Late winter to early summer, before flowering.
Cenchrus clandestinus	Kikuyu	Remove manually or spot spray with an appropriate herbicide.	Remove manually at any time, spot spray in summer.
Paspalum dilatatum	Paspalum		
Eragrostis curvula	African Love-grass		Remove manually at any time, spot spray in spring.
Lophopyrum ponticum	Tall Wheat-grass		

3.5.3 Pest animals

The offset property is currently implementing deer control to eliminate trampling and foraging by this pest species. Despite this control, it is apparent that impacts continue, and increased effort will be required to eliminate this threat. Given the context of the site being dominated by a mix of Banksia woodland, sedgy estuarine wetlands and saltmarsh, it is not considered that fencing would be feasible to restrict access from deer.

The CaLP Act lists rabbits and foxes as established pest animals and requires that all landowners take reasonable steps to prevent the spread of, and as far as possible eradicate, established pest animals on their land. Pest species need to be controlled within a minimum of 500 metres of the offset site, where this area is within the same ownership.

Controlling pests within a buffer of the study area will contribute to functionally eradicating them from the offset site, by reducing numbers within the offset site and surrounding area and restricting access to a degree where they no longer cause unacceptable ecological damage, rather than aiming for complete elimination and exclusion.

Table 9 Pest animals to be controlled and their method of control

Species	Monitoring methods	Control methods	Outcome
Foxes and cats	Monitor for fox dens and signs of predator activity during other site survey work.	Engage qualified and licence trapper/shooter to remove foxes and cats within the offset site. Fox dens where present are required to be destroyed through fumigation and hand collapse.	Accurate data on local population dynamics. No pest animals present within the offset area. Reduction of damage to understorey vegetation within the offset area.
Deer	Monitor for access tracks, fence damage, and vegetation browsing. Camera trap monitoring within and surrounding the offset site.	Engage qualified and licence trappers/shooters to remove deer within and surrounding the offset site.	
Rabbits	Monitor for warrens, diggings and scats during other site survey works.	Integrated approach in accordance with BushBroker Information Sheet 7 – Standards of Management – Rabbits (DSE 2012c, p. 7). This	

Species	Monitoring methods	Control methods	Outcome
		involves fumigation, hand collapsing of burrows and baiting. Remove any carcasses to prevent poisoning of native predators.	
New and emerging pest animals	Monitor and control as necessary		No new pest animals established within the offset site.

The landowner will continue to monitor and control deer, rabbits, cats, and foxes all year round as well as any new and emerging pest animals, such as Hog Deer. Note that Hog Deer are considered to be "wildlife" under the Victorian Wildlife Act 1975. Under the Victorian Wildlife (Game) Regulations 2012, a permit (known as an Authority to Control Wildlife) is currently required from DEECA to control Hog Deer, including on private land and where Hog Deer are causing damage to private property.

3.5.4 Retention of logs, organic litter, and coarse woody debris

The retention of logs, organic litter, and coarse woody debris is required to maintain complexity in the ground layer habitat and basking sites for Swamp Skink. Logs, organic litter, and coarse woody debris will not be removed from the site. If logs, organic litter, and coarse woody debris must be moved for reasons such as site management access, emergency works, or installation of fencing, it must be retained on side as near as practical.

3.5.5 Canopy thinning

Areas of the offset site comprise a relatively dense overstorey and canopy (trees and shrubs > 2 m tall) which may preclude sufficient solar radiation from reaching the ground level. To ensure that suitable basking sites and that a species-rich and structurally complex understory is maintained, canopy thinning may be implemented*.

Canopy thinning aims to maintain cover percentages (+10% to allow for natural variation between years) of shrubs (2 to 5 m tall) and trees (> 5 m tall) recorded during baseline monitoring, averaged across the offset site.

If thinning is determined to be appropriate, no more than one third of canopy vegetation should be thinned per year (canopy plants trimmed or fully removed) before monitoring recommences. The preferred method for thinning is hand pruning, with the application of herbicide to plants intended to be fully removed (herbicide concentrate painted on stems within 20 seconds of cutting).

If large quantities of vegetation need to be removed, the fine cut material may need to be removed from site so that it does not smother native vegetation. Larger logs and trimmed branches may be retained to provide basking habitat.

- *Ecological canopy tree/shrub thinning outlined above is to be conducted contingent upon prior approval of works by DEECA, under Conservation Work Exemption to section 52.16 and 52.17 of the planning scheme (DELWP 2021).

3.6 Monitoring

A monitoring schedule is provided in Table 12 and explained in more detail in the following sections. Implementing monitoring and reporting requirements outlined within this OMP are the responsibility of the approval holder but may be undertaken by the offset area landowner or other suitably qualified ecologist by mutual agreement.

3.6.1 Baseline offset site condition assessment

A baseline offset site condition assessment will be undertaken by a suitably qualified ecologist throughout the entire offset area at the commencement of this plan. The baseline assessment will occur in the first spring after TFN deed is registered on title. The assessment will include:

- Pest animal presence.
- Shrub (2 to 5 m tall) and tree (> 5 m tall) canopy cover.
- Log and large woody debris cover.
- Weed species present and their cover and location.
- Extent of coastal scrub and open salt marsh vegetation, wetlands, and Lake Reeve shoreline.

In addition to baseline conditions assessment, monitoring sites and equipment will be deployed at this time, including:

- Establishment of five photo points in representative habitat throughout the offset site, and photographs of all four cardinal directions from each point. Metal marking stakes may be deployed to identify the exact points for future monitoring.
- Establishment of ten five-by-five metre weed monitoring quadrats in representative habitat throughout the offset area, focusing on areas where weed management is required.
- Establishment of between five and ten swamp skink survey arrays in representative habitat throughout the offset area. Each array will be comprised of between 25 - 50 terracotta or concrete roof tiles, arranged in grids and/or transects to fit accessible areas of the offset area.
- Establishment of four motion sensor camera traps in open areas or suspected deer access points. Camera traps should be camouflaged and locked to reduce likelihood of disturbance by unauthorised members of the public accessing the offset site.

This baseline data will be used as a benchmark against which ongoing management actions are measured. Baseline data will be recorded and included in all annual reports.

3.6.2 Fence and access signage condition

Surveys of the property boundary fence and property access signage by the landowner and land manager must be conducted quarterly and when visiting the site to conduct other monitoring or management actions. Any damage to the fence that may allow unauthorised access must be promptly repaired.

3.6.3 Weed monitoring

Weed monitoring will be conducted annually in spring by a suitably qualified and experienced ecologist. There will be three components to the monitoring:

- Inspection of the entire offset area for woody weeds, by walking in and around the offset site such that a visual inspection (including with binoculars) would detect the presence of any woody weeds. Complete coverage of the offset site will likely require at least a day of survey. All infestations of target species will be mapped with a GPS and the locations will be supplied to the weed management contractor/landowner for treatment. Subsequent monitoring will then revisit previously mapped infestations to evaluate the success of weed control, as well as inspecting the offset site for new infestations.
- While conducting the woody weed surveys, notes will be taken regarding the cover of herbaceous weed species and cover will be estimated to the nearest five percent cover. Species and areas suitable for targeted treatment (such as manual removal or spot spraying) will be mapped and supplied to the weed management contractor/landowner for treatment.
- Ten five-by-five metre quadrats will be established across the offset site, including locations where significant weed control works are required. These will be used to assess and record the presence and cover of target weeds, the average height of vegetation and the cover of native and exotic life-forms. This data will be collated and, in conjunction with the observations made on herbaceous weeds collected in association with woody weed monitoring, used to report on progress in the management of weeds over the entire offset site.

3.6.4 Pest animal monitoring

Signs of pest animals (deer, rabbits, cats, and foxes) will be recorded by a qualified ecologist during weed monitoring surveys and at other times by the landowner/manager when visiting the offset site. In particular, the locations of any active rabbit warrens and deer disturbance/activity must be mapped using GPS and the locations supplied to the pest animal management contractor/landowner for treatment. Subsequent monitoring will then revisit previously mapped sites to check for ongoing use, as well as searching for new areas of pest animal presence throughout the offset area.

Monitoring of deer will be conducted within and surrounding the offset site using motion sensor camera traps. A minimum of four cameras will be deployed by the landowner within the offset area at any given period during the active management period of this OMP, focusing on open areas and or suspected deer access points. Cameras will be checked and redeployed by the landowner quarterly at a minimum, with captured images reviewed and a summary of results produced and included in annual reporting. Camera traps may record unauthorised public access and provide information that will be forwarded to relevant authorities.

*Several additional cameras have been deployed and monitored within adjacent areas of the offset site property as a condition of implemented Southern Brown Bandicoot offsets. Future offsets within the property may also include cameras for animal, pest, and unauthorised access monitoring. These current and potential cameras have not been relied on as a management action for this OMP, however, any results of their monitoring will be used to inform management of the proposed offset site when possible.

Any evidence of new or emerging pest animals will be noted and Trust for Nature informed of their presence. Any additional control works required will be identified in consultation with Trust for Nature.

3.6.5 Canopy cover, logs, and coarse woody debris

Canopy cover, logs, and coarse woody debris monitoring will be conducted annually in spring by a suitably qualified ecologist, timed to coincide with weed monitoring or Swamp Skink surveys when possible.

Canopy cover of trees and shrubs between two to five meters, and over five meters will be monitored as a percentage of the entire offset area. Canopy cover monitoring will inform the need for canopy thinning.

Log and coarse woody debris cover and location should be noted during canopy cover monitoring to ensure that none is removed from site. If canopy thinning occurs, logs and trimmed branches may be retained on site to provide further basking habitat for Swamp Skink.

3.6.6 Swamp Skink monitoring

Swamp Skink monitoring by a qualified ecologist during late spring and into summer is considered essential to determine the efficacy of the actions taken to protect and offset impacts to this species. Monitoring will occur in years 1, 2, 3, 4, 6, 8, and 10.

Efforts onsite to improve habitat quality in areas considered to currently be sub-optimal will necessitate monitoring to be included across a range of suitable habitats, including in saltmarsh, swamp scrub and woodland.

Within representative suitable habitat, between five and ten roof tile arrays (arranged in grids and/or transects to fit within accessible habitat) will be established during baseline monitoring using sets of 25 - 50 roof tiles per array. During survey years, these arrays will be checked three times by a qualified ecologist during the species activity season (September to May (DCCEEW 2023)), under suitable weather conditions (warm days with ambient temperatures exceeding 18° C, low wind speeds, no rain, and sunny or patchy cloud). The locations and number of Swamp Skinks recorded, along with any notes on presence or absence of juveniles, and reported to the landowner.

The location of tile arrays and individual tiles within the arrays may be slightly adjusted periodically to avoid extended inundation due to flooding, or changes to wetland boundaries or extent due to sea level rise within the offset area. Any tiles broken or lost must be replaced as soon as practical.

Any other obvious changes to the habitat characteristics of the offset area will be recorded during the Swamp Skink surveys by a qualified ecologist.

3.6.7 Sea level rise monitoring

Sea level rise is expected to occur to a small degree over the active management period of this OMP, and potentially into the future. The total area and structure of terrestrial vegetation within the offset area may recede slightly during the active management period of the offset site due to climate change driven sea level rise, and corresponding changes to wetland extent or soil salinity. The extent of high-quality open saltmarsh Swamp Skink habitat fringing wetlands within the proposed offset area is not predicted to change significantly, as it adjusts to slow shifts in wetland extent, and any subsequent recession in extent of coastal scrub vegetation.

Sections of the proposed offset site currently sit at or below sea level (Figure 4). Currently 10.19 ha of the proposed 28.60 ha offset area resides below sea level (2009 sea level) (DEECA 2019). These areas form seasonal estuarine wetlands and are not constantly inundated; the extent of water cover and depth vary based on rainfall, evaporation, and tides. Estuarine wetland areas inhibit the growth of estuarine scrub (dense shrubs and trees), supporting fringing open saltmarsh habitat, large tussock grasses, and sedged, utilised as primary habitat by Swamp Skinks within the area.

The climate predictions of 2040 sea level indicate that 16.49 ha will be below sea level. As with the current hydrological patterns, it is unlikely that this entire area will be inundated consistently. This future sea level rise may result in some seasonal wetland areas currently below sea level to retain water for longer periods, or year-round. This rise is also likely to lead to a corresponding recession in the coverage of fringing estuarine scrub, due to changes to wetland extent and soil salinity. This recession of estuarine scrub will result in a corresponding expansion of fringing open saltmarsh, tussock grasses and sedges, through natural

recruitment. This low dense vegetation fringing the current seasonal wetlands is used as primary habitat by Swamp Skink.

The shifts in extent of vegetation types and natural recruitment of native saltmarsh plants, grasses and sedges will be supported by weed and pest management and monitoring.

Swamp Skinks observed by Biosis within the proposed offset property have been located within, or immediately adjacent to estuarine wetland habitat, as well as in low scrub fringing the cleared pipeline easement. Swamp Skinks are adapted to inhabiting low dense vegetation fringing wetlands, maintaining individual territories, and are known to occupy areas that regularly flood (DCCEEW 2023). It is likely that Swamp Skinks occur throughout the offset area and wider property, primarily inhabiting low vegetation fringing seasonal estuarine wetlands. Swamp Skinks are known to enter water (swimming on the surface and diving) to disperse and escape predators (Robertson & Coventry 2019). Changes in the location of primary habitat are likely to occur gradually over years, allowing natural incremental adjustment of Swamp Skink territories.

The proposed offset site supports variation in elevation and vegetation types. The population of Swamp Skinks within the proposed offset area is highly unlikely to decline as a response to gradual changes in extent and location of primary habitat caused by sea level rise over the duration of the offset obligations.

Records of habitat changes, and significant wetland extent or sea level changes will be supported by relevant photos and included in annual reports.

3.7 Reporting

The results of all monitoring carried out must be reported to the landowner to be incorporated into an annual management action report. The landowner must submit a management action report annually to Trust for Nature and the approval holder (or any subsequent holder of the EPBC Act approval) for each year of the 10 years of this management plan. The report is to be submitted at least two months prior to the anniversary of the registration of the TFN covenant on the property title to allow time for compliance to be assessed before the anniversary date. The approval holder will submit all reports to DCCEEW for review.

The report addresses progress against the commitments set out in this agreement and include any ecological report(s) from the preceding year. The report will provide enough detail in the form of written comments and supporting evidence that an assessor can easily determine the completion of or progress against the commitments for the offset site.

The annual management action report must include:

- Baseline site condition data.
- Details of management actions, including on-ground works, undertaken within the reporting period.
- Results of monitoring activities, including fence and access signage condition, weeds, pest animal signs and camera trap records, and habitat quality.
- Site photographs including photos of all four cardinal directions from five established photo points.
- Details of compliance or non-compliance with the schedule of management actions (Table 10).
- Details of compliance or non-compliance with performance targets (Table 10).
- Details of any incidents or new and emerging management issues, with recommendations for corrective action and plan review.
- Details of Swamp Skink monitoring, including number of skinks recorded.

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The report will also include an assessment of any changes or trends noted in either the habitat condition or Swamp Skink population size note by the zoologist conducting the monitoring. The reporting schedule is detailed in Table 13.

3.8 Auditing

The approval holder (Collins Street Properties) is responsible for auditing the implementation and effectiveness of the OMP. Audits will be conducted by an independent ecologist at the following stages:

- At the end of the first year of site management – this is to ensure that initial management actions are conducted to the satisfaction of the approval holder and DCCEEW, including implementing the legal security mechanism, ensuring the property is securely fenced and that other initial management actions and baseline monitoring have commenced.
- At the end of the fourth and eighth years of site management – this will involve a review of the management action reports, assessment against interim milestones, as well as an independent assessment of the condition of Swamp Skink habitat within the site.
- Following the completion of the 10-year management period – this is to be a final audit of the implementation and effectiveness of the OMP.

The timing of scheduled audits is detailed in Table 13. Additional audits may be triggered as a result of a plan review (Section 3.13) or following an environmental incident resulting in significant change to site conditions, as identified in the risk assessment (Table 11).

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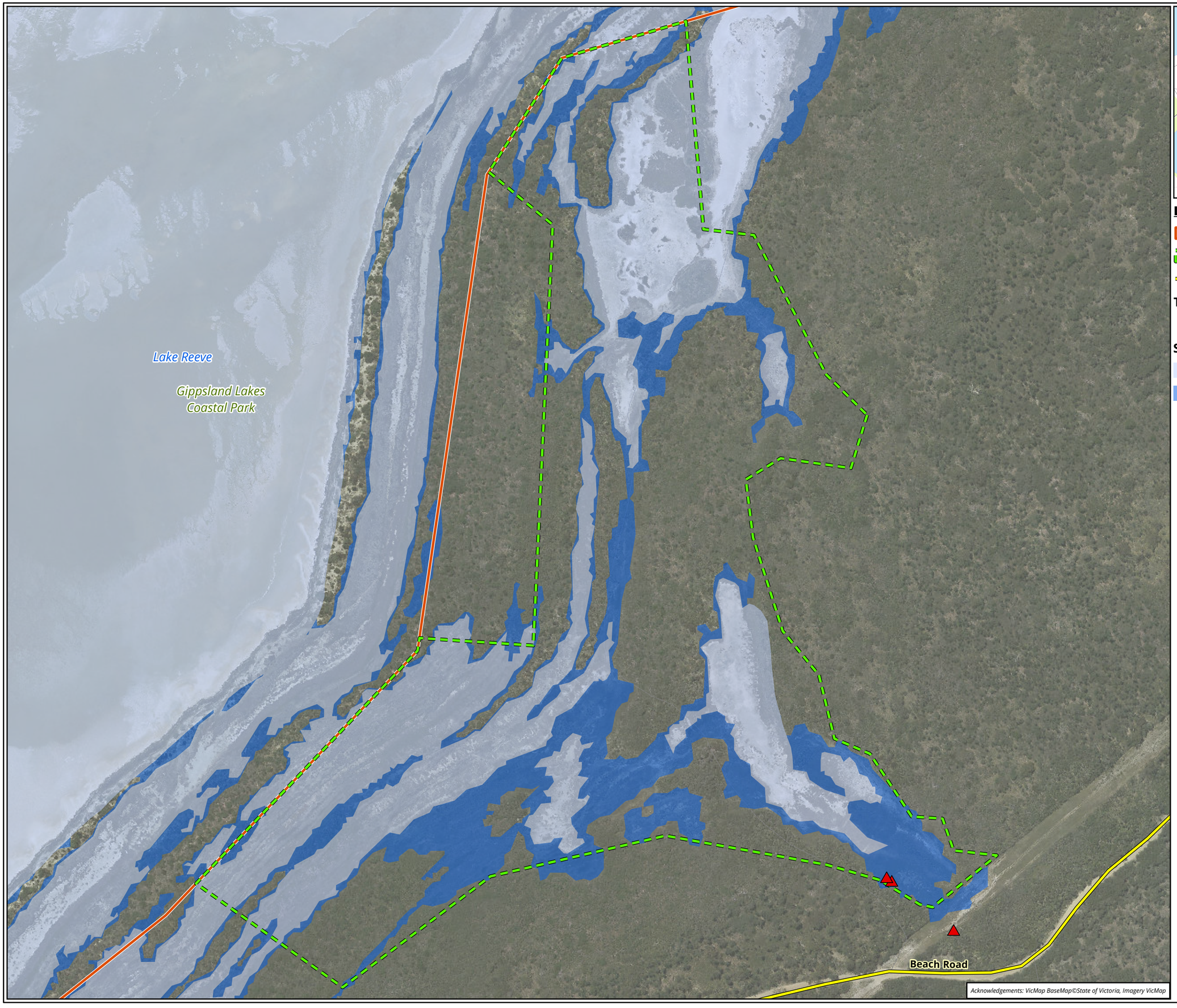

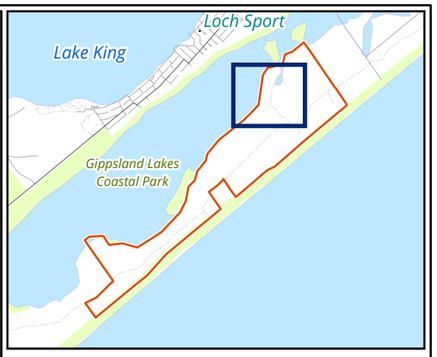

Legend

- Study area
- Proposed Swamp Skink offset
- Access road

Threatened fauna records

- Swamp Skink

Sea-level rise (DEECA 2009)

- 0 cm (2009)
- Projected 20 cm by 2040

Figure 4 Projected sea-level rise by 2040

0 50 100 150 200

Metres
Scale: 1:3,500 @ A3
Coordinate System: GDA2020 MGA Zone 55

biosis APEM Group

N

Matter: 40737,
Date: 09 April 2026 ,
Prepared for: WR, Prepared by: SP, Last edited by: spanter
Layout: 40737_F4_Sea_level_rise
Project: P:\40700s\40737\Mapping\
40737_Loch_Sport_Swamp_Skink_OMP.aprx

3.9 Risk assessment and adaptive management

This plan includes an adaptive management framework, where management actions may be triggered by events occurring within the offset site or by the results of monitoring activities. A review of the OMP will only be necessary in the event of a major incident that makes a significant change to the character or condition of the offset area or requires a significant change in management approach. The most likely such event is a major flood or wildfire, or significant decline in Swamp Skink numbers, as described in Table 11.

If a plan review is triggered, this will be conducted by the EPBC Act approval holder in consultation with the offset site landowner and DCCEEW. Any future adaptive management changes will be incorporated into the OMP and an updated version of the OMP will be supplied to DCCEEW.

The OMP review may involve changes to any part of the OMP, to adequately respond to the trigger and re-direct management actions towards achieving the environmental outcomes under potentially altered site conditions. Changes within any updated OMP will endeavour to fit within the scope of monitoring and management effort outlined within the original OMP, so as not to place undue additional responsibility on the offset site landowner.

Updates may include change to site management and monitoring methodology and/or scheduling.

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4 Schedule of management actions, risks, monitoring and reporting

This section provides a schedule of management actions (Table 10) for the offset area, provides an assessment of the risk of failing to achieve desired outcomes (Table 11), and specifies how this relates to the monitoring schedule (Table 12) and reporting schedule (Table 13)

4.1 Schedule of management actions

Table 10 Schedule of management actions for years 1-10

Objective – entire offset site	Timing of activity	Standards to be achieved through implementation of OMP over 10 years	Interim milestones at completion of monitoring year 5	Related management and monitoring activity (refer to Table 12)
1. Control unauthorised activities and vehicle access. Ensure the offset property is appropriately fenced from neighbouring land and access tracks. Fences to be monitored and maintained in functional condition.	Within 1 month of TFN covenant registration on property title.	• Exclusion of unauthorised vehicles or access from offset area. • Establishment and maintenance of fencing and gates to the standard detailed in BushBroker Information Sheet 12 – Standards for Management – Fencing (DSE 2012c) (sheep and cattle fencing standard). Any new fences, if required to control threats to ecological values, will be constructed to the standard required to exclude all domestic stock.	• Suitable exclusion fencing and signage established. • Any damage to fencing or signage repaired promptly.	Management Sec. 3.5.1 Monitoring #1 - Sec. 3.6.2
2. Remove all woody weed infestations within the offset area. Weeds to be managed in accordance with BushBroker Information Sheet 8 – Standards for Management – Weeds (DSE 2012b).	Within 1 month of TFN covenant registration on property title.	• No mature woody weeds present within offset area (< 1% cover) after the completion of Year 1. • Minimise off-target damage (avoid all native plants and herbicide input into wetlands). • Record and control any woody weed regeneration/re-colonisation.	• <1% cover of woody weeds.	Management Sec. 3.5.2 Monitoring #2 - Sec. 3.6.3

Objective – entire offset site	Timing of activity	Standards to be achieved through implementation of OMP over 10 years	Interim milestones at completion of monitoring year 5	Related management and monitoring activity (refer to Table 12)
3. Monitor and control herbaceous weeds. Control methods and timing specified in Table 4 and in accordance with DSE (2012b). Establish baseline monitoring sites including quadrats (10) and photo points (5) and reassess annually in late spring.	Annually in spring.	• Herbaceous weed cover to not exceed baseline levels. • Minimise off-target damage (avoid all native plants and input into wetlands). • Target weeds with <1% cover at the end of 10 years.	• Herbaceous weed cover below baseline levels, and significant progress made towards <1% cover target.	Management Sec. 3.5.2 Monitoring #2 - Sec. 3.6.3
4. Monitor and control new and emerging woody weeds	Ongoing	• New outbreaks of woody weeds to be removed as soon as detected. • No new woody weeds present within offset area. • Minimise off-target damage (avoid all native plants and herbicide input into wetlands).	• No new woody weeds established within the offset area.	Management Sec. 3.5.2 Monitoring #2 - Sec. 3.6.3
5. Monitor and evaluate Swamp Skink population and habitat condition. Conduct baseline monitoring of population.	Three times per year over peak activity season (Oct-Dec) in management years 1, 2, 3, 4, 6, 8, and 10	• Documentation of Swamp Skink population and breeding succuss as young are documented. • Assessment of any trends in population size or extent. • Documentation of the condition of habitat condition based on visual assessments. • Documentation of any significant changes to extent or structure of habitat due to flooding, fire, or sea level rise.	• No significant or unexplained decline in Swamp Skink numbers.	Monitoring #5 - Sec. 3.6.6 and Sec. 3.6.7

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Objective – entire offset site	Timing of activity	Standards to be achieved through implementation of OMP over 10 years	Interim milestones at completion of monitoring year 5	Related management and monitoring activity (refer to Table 12)
6. Monitor and control deer, rabbits, cats, and foxes. Rabbits to be managed in accordance with BushBroker Information Sheet 7 (DSE 2012a).	Ongoing	• No significant ground or vegetation disturbance by pest animals observed in the offset area. • No active deer disturbance or rabbit warrens in or within 500 m of the offset area, minimal surface harbour for rabbits present (excluding natural harbour such as logs and rocks). • No active fox dens within offset area, if present they are to be destroyed through fumigation and hand collapse. • Continue to monitor and control deer, rabbits, cats, and foxes all year round.	• Clear reduction in numbers of pests and impacts to Swamp Skink habitat. • Monitoring methods proven to be effective in assessing pest impacts and control.	Management Sec. 3.5.3 Monitoring #3 - Sec. 3.6.4
7. Monitor and control all new and emerging pest animals.	Ongoing	• Control numbers of any new and emerging pests.	• No new pests established within the offset area.	Management Sec. 3.5.3 Monitoring #3 - Sec. 3.6.4
8. Monitor canopy density and undertake ecological thinning if required (section 3.6.4). Ecological canopy tree/shrub thinning is to be conducted contingent upon approval of works by DEECA under Conservation Work Exemption to section 52.16 and 52.17 of the planning scheme.	Monitoring annually in spring and management in autumn	• Ensure tree and shrub regeneration does not limit habitat for Swamp Skink. • Ensure the cover of trees and shrubs between two and five meters tall does not exceed baseline cover percentages +10% within the offset site as a whole. • Ensure the cover of trees and shrubs greater than five meters tall does not exceed baseline cover percentages +10% of the offset site as a whole. • If cover levels of the relevant species exceed these limits, then they will be thinned to achieve the designated target.	• Cover of trees and shrubs not exceeded 10% of baseline levels.	Management Sec. 3.5.5 Monitoring #4 - Sec. 3.6.5

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Objective – entire offset site	Timing of activity	Standards to be achieved through implementation of OMP over 10 years	Interim milestones at completion of monitoring year 5	Related management and monitoring activity (refer to Table 12)
9. Prepare and submit an annual management actions report.	Submit no later than 2 months prior to anniversary of covenant registration.	• Annual report is signed, dated, and submitted by the landowner at least 2 months prior to the anniversary date of the TFN covenant registration on the property title.	• Year 1-5 annual reports submitted in accordance with OMP.	Refer to section 3.7

4.2 Risk assessment and adaptive management

This risk assessment of initial and post-mitigation risks uses the framework from the DEECCW EMP Guidelines (Commonwealth of Australia 2014). The likelihood of the impact occurring during active management period of this OMP and consequence classification is summarised in Appendix 3.

Table 11 outlines the identified risks to Swamp Skink at the proposed offset site, an assessment of the risk level, and triggers for contingency measures.

Global climate change has the potential to pose significant risks, however, the population of Swamp Skink at the proposed offset site has some tolerance to potential impacts through its ecology and habitat preferences:

- **Ecological tolerances and survival:** Coastal wetland habitat within and adjacent to the study area is unlikely to be significantly altered by climate-change driven changes to rainfall regimes. The proposed offset site is in coastal southern Victoria, with generally low average daily temperatures recorded. The coastal location also provides thermal buffering, with the ocean acting as a heat sink, and stabilising coastal air temperature year-round. Increases in ambient temperature from climate change is also likely to be mitigated by the species ability to maintain body temperature by sheltering in dense coastal vegetation, burrows, or cooling in water.
- **Prey availability:** Swamp Skink is omnivorous, feeding on a wide range of invertebrates (spiders, beetles, moths, ants, bugs, crustaceans), as well as plants (fruits, seeds, vegetation matter) and fungus (Robertson & Coventry 2019). The wide range of prey will provide some buffering against potential changes in availability or composition driven by climate change.
- **Breeding success:** Swamp Skink bear live young. No specific information exists on the influence of ambient temperature during development on sex ratios of offspring, however, higher temperatures have been linked to increase in the ration of female to male in some skinks/reptiles. Higher numbers of females may not cause significant issue at a population-level. Swamp Skink is long-lived, so short-term fluctuations in sex ratios is unlikely to cause

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local extinctions. The species is able to thermoregulate through sheltering in burrows or dense vegetation, briefly submerging in water, and is known to exhibit crepuscular behaviour, avoiding activity during peak temperatures.

This OMP prioritises proactive management of risks assessed as having a high likelihood of occurrence, to reliably achieve the proposed future habitat quality targets. Risks assessed as having a low likelihood of occurrence, but significant consequences will largely be addressed through adaptive management, if they occur.

Table 11 Risk assessment and adaptive management

Objective (refer to Table 10**)**	**Event or circumstance**	**Likelihood**	**Consequence**	**Risk level**	**Trigger**	**Contingencies**	**Related monitoring activity (refer to** Monitoring schedule Table 12**)**
1	Entry of unapproved vehicles to offset area.	Likely	Minor	Low	• Vehicle observed in offset site. • Evidence of recent vehicle access e.g. tyre tracks and vegetation damage.	• Repair fencing and access signage. • Assess adequacy of fencing and access signage. • Reinforce or extend fencing. • Report trespass to appropriate authorities.	1
1	Unauthorised public access.	Likely	Minor	Low	• Evidence of physical disturbance observed e.g. unauthorised hunting, camping, or fires.		1, 6

Objective (refer to Table 10)	Event or circumstance	Likelihood	Consequence	Risk level	Trigger	Contingencies	Related monitoring activity (refer to Monitoring schedule Table 12)
2, 3, 4	Woody weeds are present within offset area (> 1% cover). Noxious weed cover exceeds current levels (1%).	Likely	Minor	Low	• Woody weed cover exceeds 1%. • Herbaceous weed cover exceeds current levels. • Weeds appear to be interfering with improvements to habitat.	• Control weeds. Minimise off-target damage (avoid all native plants and herbicide inputs into the wetland). • Incorporate new and emerging management technology and techniques as appropriate.	2
6, 7	Pest animals observed within offset site.	Likely	Moderate	Medium	• Fresh ground disturbance or scats of pest animals observed in the offset area. • Deer observed within offset area. • Active fox dens or rabbit warrens observed within offset area. • New and emerging pest observed within offset area.	• Destroy fox dens and rabbit warrens through fumigation and hand collapse. • Undertake control works for new and emerging pests as appropriate. • Incorporate new and emerging management technology and techniques as appropriate.	3, 6

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Objective (refer to Table 10)	Event or circumstance	Likelihood	Consequence	Risk level	Trigger	Contingencies	Related monitoring activity (refer to Monitoring schedule Table 12)
8	Canopy density increases significantly above baseline levels.	Possible	Minor	Low	• Cover of immature trees and shrubs are no greater than 10% of baseline levels.	• Ecological thinning to achieve target density of tree and shrub regeneration.	4
4	Swamp Skink population drops significantly without apparent reason.	Possible	Critical	Severe	• Population of Swamp Skink declines by over 30%* in comparison to any previous 2-year period without explanation, and without a clear path for recovery during OMP active management. • Alternatively, habitat condition noted as significantly lower than previous year and recovery is uncertain or unlikely.	• Review ecological management parameters and OMP (Section 3.9).	5

Objective (refer to Table 10)	Event or circumstance	Likelihood	Consequence	Risk level	Trigger	Contingencies	Related monitoring activity (refer to Monitoring schedule Table 12)
1, 2, 3, 4, 5, 6, 7, 8	Major flood or wildfire.	Possible	Moderate	Medium	• Direct impacts of major flood or wildfire to Swamp Skink and their habitat within the offset area. • Indirect impacts including: – Damage to fencing or monitoring equipment. – Increase in weed recruitment. – Changes in native vegetation structure or community.	• Monitor habitat quality and for persistence of Swamp Skink (as per existing population monitoring schedule). • Undertake weed control works while native vegetation naturally regenerates. • Repair any damage to fences and monitoring equipment or relocate if necessary • Review ecological management parameters and OMP (Section 3.9).	1, 2, 4, 5
5	Significant loss of Swamp Skink habitat or population decline due to impacts from climate change (e.g. impacts from significant changes in global temperature, leading to sea level rise, changes in salinity, temperature increases, changes to prey availability, or significant and unsustainable changes to sex ratios of offspring).	Rare	Major	Medium	• Unpredicted sea level rise leading to significant reduction in extent of terrestrial habitat. • Significant reduction in extent of terrestrial habitat due to salinity changes impacting vegetation structure. • Population of Swamp Skink declines by over 30%* in comparison to any previous 2-year period without explanation, and without a clear path for recovery during OMP active management.		5

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***Note**: The population dynamics of Swamp Skink are likely driven by stochastic environmental events (e.g., rainfall, fire, disease), which may in turn be exacerbated by the effects of habitat destruction and fragmentation. Natural inter-annual population variation, coupled with variation in the success of population monitoring between years, makes it problematic to detect a legitimate and significant population decline.

Erring on the side of caution, an unexplained population decline exceeding 30% relative to any previous 2-year period, and without a clear and viable path for their recovery within the active management period of this OMP would be considered significant and warrants a review of this OMP.

This 30% threshold is set to allow for fluctuation between years in accordance with environmental conditions. A 30% decline threshold is high enough to account for natural variation in population size between years yet is conservative enough to allow sufficient breadth to halt a perceived population decline.

This 30% threshold is only relevant for monitoring years 3, 4, 6 and 8, once sufficient information on baseline population levels to be established during year 1 and year 2 monitoring, and within the active management period of the OMP.

4.3 Monitoring schedule

Table 12 Monitoring schedule for years 1-10

#	Monitoring activity	Parameters measured	Survey/monitoring guidelines	Where	When	Reliability
1	Fence and access signage condition	Condition of boundary fences and access signage.	• Survey the perimeter of the offset site and adjacent gas pipeline easement to ensure fence and access signage is intact and assess evidence of domestic stock or vehicle access. • Refer to Section 3.5.1 and 3.6.2 for details.	Offset site perimeter and adjacent gas pipeline easement	Quarterly	High
2	Weed monitoring	Cover of woody and herbaceous weed species present.	• Vegetation survey to be conducted to identify woody and herbaceous weed species and determine cover. Woody species to be mapped using GPS. Herbaceous weed cover (percentage cover) to be estimated for defined sections of the offset site. All weed species present identified to species level. • Refer to Section 3.5.2 and 3.6.3 for details.	Offset area	Annual – spring	High

3	Pest animal monitoring (deer, rabbits, cats, and foxes, and new and emerging pest animals)	Presence of pest animals or signs e.g. scats, diggings, dens, warrens, browsing or grazing.	• Signs of pest animals to be recorded during vegetation surveys. • Locations of rabbit warrens and fox dens to be mapped using GPS. • Refer to Section 3.5.3 and 3.6.4 for details.	Offset area Within 500 m of offset area for deer	Annual – spring During vegetation condition survey	High
4	Tree and shrub recruitment survey	Cover of woody species 2-5 m tall, and >5 m tall	• Shrubs (2-5 m) and trees (>5 m) to be assessed as a cover percentage throughout the offset site. • Refer to Section 3.5.5 and 3.6.5 for details.	Offset area	Annual – spring During vegetation condition survey	High
5	Swamp Skink population, habitat condition and sea level rise monitoring	Number of individuals observed (Adults and Juveniles). Significant changes to habitat condition or sea level.	• Refer to Sections 3.6.6 and 3.6.7 for details.	Offset area (each wetland and pond). Tile arrays.	Years 1, 2, 3, 4, 6, 8, 10.	High
6	Camera trap monitoring	Presence of large pest animals and unauthorised access.	• Review of camera trap images collected within the offset area. • Referral of unauthorised access to relevant authorities. • Refer to Section 3.5.3 and 3.6.4 for details.	Offset area	Quarterly	High

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4.4 Reporting schedule

Table 13 Reporting schedule

#	Type of report	Approval condition	Responsibility	Timing	Reporting authority	Trigger (if any)
1	Annual management actions report. • Tabulates management actions completed within the offset area (Section 3.7). • Outlines progress towards achievement of interim milestones.	To be completed	Offset site landowner	Submitted no later than 2 months prior to anniversary of covenant registration.	DCCEEW, Trust for Nature	Not Applicable
2	Review of offset management plan (Section 3.9).	To be completed	Approval holder and Offset site landowner	As required following significant environmental disturbance event or decline in Swamp Skink numbers.	DCCEEW, Trust for Nature	Significant environmental disturbance event causing widespread impact to habitat within the offset site e.g. wildfire or major flood. Significant and/or unexplained decline in Swamp Skink numbers from prior survey years.
3	Audit report (Section 3.8).	To be completed	Approval holder	Following lodgement of year 1, 4, 8 and 10 annual management action reports.	DCCEEW	Not Applicable

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Appendix 1 Swamp Skink habitat quality scoring system

EPBC Offsets Guide: Habitat Quality Scoring Method for the Endangered Swamp Skink *Lissolepis coventryi*

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Draft Version 2.0
10 December 2025

The EPBC Act Environmental Offsets Policy (Australian Government 2012) (the policy) outlines the Government's approach to the use of environmental offsets ('offsets') under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The policy is accompanied by the Offsets Assessment Guide (the guide). The guide has been developed in order to give effect to the requirements of the policy, utilising a balance sheet approach to estimate impacts and offsets for threatened species and ecological communities.

The guide is a tool to assist experts in the Australian Government Department for the environment in determining the suitability of offset proposals. The guide is also available to proponents to assist with planning for future development proposals and estimating potential future offset requirements.

The Guide is an Excel spreadsheet with embedded formulae. Essentially it is an impact and offset calculator. One of the attributes that is used in the Offsets Guide for listed threatened species and communities is Habitat Quality.

The quality score for area of habitat or area of community is a measure of how well a specific site supports a particular threatened species or ecological community and contributes to its ongoing viability. There are three components that contribute to the calculation of habitat quality: site condition, site context, and species stocking rates. It is important to note that the assessment of quality for threatened species habitat and ecological communities is not simply a scoring of vegetation 'pristineness'. Rather, there are three components that contribute to the calculation of habitat quality:

- **Site condition:** This is the condition of a site in relation to the ecological requirements of a threatened species or ecological community. This includes considerations such as vegetation condition and structure, the diversity of habitat species present, and the number of relevant habitat features.
- **Site context:** This is the relative importance of a site in terms of its position in the landscape, taking into account the connectivity needs of a threatened species or ecological community. This includes considerations such as movement patterns of the species, the proximity of the site in relation to other areas of suitable habitat, and the role of the site in relation to the overall population or extent of a species or community.
- **Species stocking rate:** This is the usage and/or density of a species at a particular site. The principle acknowledges that a particular site may have a high value for a particular threatened species, despite appearing to have poor condition and/or context. It includes considerations such as survey data for a site in regards to a particular species population or, in the case of a threatened ecological community this may be a number of different populations. It also includes consideration of the role of the site population in regards to the overall species population viability or community extent. These components contribute to the final habitat quality score, however the weighting given to each component is dependent on the ecological requirements of the impacted species or ecological community (Figure 1, adapted from the

Commonwealth's EPBC Offsets Assessment Guide). For example, for some species the most important consideration is the location of a site in the landscape, whereas for others the presence of important habitat features on the site itself may be the most important influencing factor.

Figure 1 Key considerations in determining the quality of threatened species and ecological community habitat (Adapted from the Australian Government's EPBC Offset Assessment Guide).

Evaluate the key ecological attributes of the species or ecological community:

- ***Habitat requirements and variability:*** What are the nesting, breeding, foraging, dispersal, migration and/or roosting requirements of the species? What are the various ecological components and occurrence states for the ecological community?
- ***Lifecycle and population dynamics:*** What are the key life cycle stages of the species/community? How do these impact its population viability or ecosystem integrity?
- ***Movement and distribution patterns*:** How does the species population or ecological community function across the landscape/ seascape?
- ***Threatening processes:*** What are the threatening processes contributing to the loss of the species or

Determine site characteristics in relation to species or ecological community ecology:

Site Condition	Site Context	Species Stocking Rate
• What is the structure and condition of the vegetation on the site? • What is the diversity of relevant habitat species present (including both endemic and non-endemic)? • What relevant habitat features are on the site?	• What is the connectivity with other suitable/known habitat or remnants? • What is the importance of the site in relation to the overall species population or the occurrence of the community? • What threats occur on or near site?	• What is the presence of the species on the site? (i.e. confirmed / modelled). • What is the density of species known to utilise the site? • What is the role of the site population in regard to the overall species population?

Habitat Quality

Swamp Skink habitat quality scoring system

As the Commonwealth has identified the need for consistency between habitat quality assessments for EPBC Act impact and offset calculations, we propose the following scoring method for the endangered Swamp Skink. To guide scoring of habitat quality for a particular location, we have drawn on relevant available literature, including the Commonwealth's Conservation Advice for Swamp Skink (DCCEEW 2023).

Three site characteristics shown in Figure 1 contribute to habitat quality:

- Site Context (scored as X/4)

- Site Condition (scored as X/4)
- Species Stocking Rate (scored as X/2)

Where all of the criteria for a score are not met, the score will revert to the next lowest score. Thus, the total score for habitat quality is out of a possible maximum of 10.

For the purposes of habitat quality scoring, the term 'site' can either refer to one contiguous area of habitat of consistent quality, or a clearly defined sub-section of the area that has been delineated due to a significant difference in quality, land-use, or management.

Site context (X/4)

Site context relates to:

- The connectivity of the site to other suitable habitat.
- The importance of the site in relation to the overall species population.
- The number and severity of threats operating at the site.

The primary habitat of Swamp Skink (densely vegetated freshwater and saltwater wetlands on poorly drained, peaty soils) is fragmented owing partly to anthropogenic landscape modifications. As with many other reptile species, this means that the current distribution of the Swamp Skink is largely disjunct across much of the range and many populations may now be functionally isolated (Clemann *et al.* 2015).

Currently, information on Swamp Skink population demographics is limited. Records of the species across habitats described above obtained from a review of the Victorian Biodiversity Atlas (VBA) and other published literature suggests that populations persist in small habitat fragments potentially less than 10 ha in size. This may be especially true for sites along the Mornington Peninsula where numerous records occur in isolated habitats across a highly fragmented landscape. Low landscape and functional connectivity is now typical for most sites occupied by Swamp Skink (Clemann *et al.* 2015). However, records suggest that Swamp Skink appears to be able to persist in these isolated remnants (VBA). Therefore, connectivity to other populations may not necessarily be essential for the persistence of a population in the medium term, provided that sufficient habitat is present to support a viable long-term population, habitat structure remains suitable, and existing and future threats are appropriately managed. Population viability analysis suggests that over 100 individuals are required to support a viable long-term population (lower than 1% chance of extinction within 100 years), and that such a sub population may require a minimum of 4 hectares of contiguous habitat (Gillespie et al. 2018, Robertson 1998). These minimum habitat estimates were based on 200 m^2 average Swamp Skink territory sizes (50 individuals per hectare), indicating that areas as small as 2 hectares may support viable populations, and should be considered for their connectivity value.

'Connectivity' has therefore been scored out of 2 according to the size of the habitat remnant, as follows.

0/2 = Site has < 2 ha of contiguous Swamp Skink habitat or does not currently support suitable habitat.

1/2 = Site has 2 - 15 ha of contiguous Swamp Skink habitat.

2/2 = Site equal to or > 15 ha of contiguous Swamp Skink habitat.

The site context assessment includes the total area of known or suspected Swamp Skink habitat within the impact or offset site and connected to that habitat (i.e. including habitat offsite).

The Conservation Advice for the species states that:

> *"Given the limited information available on populations of the swamp skink, including population demographics, further research is required to identify important populations. Until further information is available, all populations of the swamp skink should be considered to be important populations."*

Therefore, all impact and offset sites with confirmed Swamp Skink Records are likely to support an important population and 'importance' is not given any weighting for site context.

Threats impacting upon Swamp Skink and their approximate severity of risk, are listed in Table 1 of the Conservation Advice for the species. All Swamp Skink populations are likely to be subject to varying levels of cat and fox predation and this threat, which is difficult to compare between sites, is not used when scoring the 'threat' component of Site Context.

Threats have been scored as follows:

- Site is currently subject to removal or draining of habitat for urban development and agriculture.
- Site is currently subject to artificially altered water regimes of rivers and wetlands (e.g. caused by damming, draining, impoundment).
- Site is currently subject to timber harvesting.
- Site is currently subject to fragmentation through clearing.
- Site is currently subject to pollution of rivers, wetlands, and marine and coastal areas and resulting changes to vegetation.
- Site is currently subject to disturbance caused by recreational use.
- Site is currently subject to fire regimes that cause declines in biodiversity.
- Site is currently subject to impacts from feral herbivores.
- Site is currently subject to weed invasion.
- Site is currently subject to increasing temperatures and changes to precipitation patterns.
- Site is currently subject to increasing occurrence of extreme environmental events.
- Site is predicted to be subject to sea level rise in future.
- Site is currently subject to *Phytophthora* dieback caused by introduced soil-borne pathogens such as *Phytophthora cinnamomi* and other *Phytophthora spp*.
- Site is currently or predicted to be subject to heavy grazing and trampling of habitat by domestic stock

'Threats' have been scored as follows:

0/2 = Site subject to 5 or more of the above threats, or does not support suitable habitat

1/2 = Site supports suitable habitat and is subject to between 1 and 4 of the above threats.

2/2 = Site supports suitable habitat and is subject to none of the above threats.

Site condition (X/4)

Sites that have the best potential to support viable Swamp Skink populations are located in areas that support or once supported densely vegetated wetlands (including both freshwater and saltwater). This may include swamps and adjacent wet heathland habitats dominated by *Melaleuca* or *Leptospermum* thickets, low-lying marshes, lagoon margins and sedgelands, or saltmarshes (Clemann and Beardsell 1999; Clemann 2000; Peterson 2005; Cogger 2014; Robertson and Clemann 2015).

A critical component to these sites includes shelter sites which may comprise burrows and debris such as fallen timber and rocks. In addition, research from several studies suggest that Swamp Skink show a preference for areas with dense understory vegetation, but little to no overstory (Robertson 1998; Clemann and Beardsell 1999; Robertson and Clemann 2015). Swamp Skink have also been recorded in relatively marginal habitats and Clemann (2000) has cautioned against assuming absence in apparently degraded and unsuitable habitat.

The Conservation Advice for the species states that:

> "All typical habitat (such as that described above) across the swamp skink's distribution is likely to be critical to the survival of the species. Habitat which does not fit such a description but is known to support a subpopulation of swamp skink which may be viable in the medium to long term or occurs between disjunct subpopulations of the species and may act as habitat for dispersal, is also considered critical to the species' survival. In addition, habitat which does not fit such a description now, but a) may fit the description in the future, or b) could potentially be restored to support a subpopulation of swamp skink, with the aim of improving connectivity between subpopulations and/or increasing the area of occupancy, is also considered critical to the species' survival."

On this basis site condition is scored as follows:

0/4 = Unsuitable – Site does not support suitable habitat for Swamp Skink due to lack of understory vegetation and shelter sites, dense overstorey, and/or ongoing cultivation, and is unlikely to facilitate dispersal between areas of suitable habitat.

1/4 = Poor - Site (on average) supports a very sparse understory and/or very dense overstory, with little to no shelter sites present. Dominated by a predominantly introduced weedy vegetation with little to no structural complexity and overstory largely reduces the penetration of sunlight into the understory.

2/4 = Satisfactory - Site (on average) supports some understory vegetation with limited structural complexity and a relatively open overstory. Some shelter sites are present. Dominated on average by a mix of native and introduced ground layer wetland vegetation and overstory vegetation that allows sufficient sunlight to penetrate to the ground layer.

3/4 = Good - Site (on average) a moderately dense and structurally complex understory with a relatively open overstory and moderate shelter sites present. Dominated on average by native ground layer wetland vegetation and overstory vegetation that allows sufficient sunlight to penetrate to the ground layer.

4/4 = Excellent - Site (on average) supports a species-rich and structurally complex understory with an abundance of shelter sites. Little to no overstory vegetation is present allowing a substantial amount of sunlight to reach the ground layer. Dominated by an above average diversity of native wetland vegetation types.

Species Stocking Rate (X/2)

The Swamp Skink is a cryptic species and has the potential to go undetected despite presence at a site, even with suitable survey methods outlined by the survey guidelines. Recapture rates can be very low and therefore cannot be used to determine a true representation of the size of a population. Swamp Skink are considered to be sedentary and individuals are believed to occupy relatively small home ranges (10 to 35 m^2) (Robertson 1998). However, given the paucity of information on Swamp Skink population demographics at present, there are no clear indications of stocking rate for the species.

Artificial shelter (tile) surveys for Swamp Skink are generally conducted to detect the presence of the species at impact and offset sites, although baited remote cameras and Elliot traps have also been used previously with varying levels of success. Rarely are these techniques used for estimating site level densities to calculate

'stocking rates'. This is because estimating density requires Swamp Skinks encountered under the tiles to be captured and photographed so that they can be reliably identified from the unique scale pattern on their head. The technique necessitates a degree of skill and training. Capturing and processing the animals is time consuming. It also involves a level of risk to Swamp Skink as they sometimes be unduly stressed. Furthermore, the vegetation types inhabited by Swamp Skinks often do not allow for the deployment of defined tile grids, and tiles often need to be deployed as irregular transects along vegetation fringing a swamp or wetland.

For this reason, we propose that the scoring of stocking rate set out here contributes a potential 2 points out of the overall total of 10 points. On the basis of this reckoning, the scoring method for 'stocking rate' is as follows:

0/2 = No individuals or sloughs encountered during targeted surveys conducted using suitable methods outlined above, and no reliable records in contiguous habitat.

1/2 = A maximum of one individual, or slough encountered within the site or nearby in contiguous habitat using any of the proposed methods highlighted above.**2/2** = Two or more individuals or sloughs encountered within the site using any of the proposed methods highlighted above.

Appendix 2 EPBC Act Offset Calculator for 28.6 ha Swamp Skink Habitat

Impact calculator

Protected matter attributes	Attribute relevant to case?	Description	Quantum of impact		Units	Information source
Ecological communities						
Area of community Clear row	No		Area			
			Quality			
			Total quantum of impact	0.00		
Threatened species habitat						
Area of habitat Clear row	Yes	Impact on 15 ha of Swamp Skink habitat in Dromana	Area	17.09	Hectares	Site assessment
			Quality	4	Scale 0-10	
			Total quantum of impact	6.84	Adjusted hectares	
Protected matter attributes	**Attribute relevant to case?**	**Description**	**Quantum of impact**		**Units**	**Information source**
Number of features e.g. Nest hollows, habitat trees Clear row	No					
Condition of habitat Change in habitat condition, but no change in extent Clear row	No					
Threatened species						
Birth rate e.g. Change in nest success Clear row	No					
Mortality rate e.g Change in number of road kills per year Clear row	No					
Number of individuals e.g. Individual plants/animals Clear row	No					

Offset calculator

Protected matter attributes	Attribute relevant to case?	Total quantum of impact	Units	Proposed offset	Time horizon (years)		Start area and quality		Future area and quality without offset		Future area and quality with offset		Raw gain	Confidence in result (%)	Adjusted gain	Net present value (adjusted hectares)	% of impact offset	Minimum (90%) direct offset requirement met?	Cost ($ total)	Information source
Ecological Communities																				
Area of community	No				Risk-related time horizon (max. 20 years)		Start area (hectares)		Risk of loss (%) without offset		Risk of loss (%) with offset									
									Future area without offset (adjusted hectares)	0.0	Future area with offset (adjusted hectares)	0.0								
					Time until ecological benefit		Start quality (scale of 0-10)		Future quality without offset (scale of 0-10)		Future quality with offset (scale of 0-10)									
Threatened species habitat																				
Area of habitat	Yes	6.84	Adjusted hectares	Proposed offset at Site X.	Time over which loss is averted (max. 20 years)	20	Start area (hectares)	28.6	Risk of loss (%) without offset	0%	Risk of loss (%) with offset	0%	0.00	90%	0.00	0.00	6.85	100.26%	Yes	
									Future area without offset (adjusted hectares)	28.6	Future area with offset (adjusted hectares)	28.6								
					Time until ecological benefit	10	Start quality (scale of 0-10)	7	Future quality without offset (scale of 0-10)	5	Future quality with offset (scale of 0-10)	8	3.00	90%	2.70	2.40				
Protected matter attributes	**Attribute relevant to case?**	**Total quantum of impact**	**Units**	**Proposed offset**	**Time horizon (years)**		**Start value**		**Future value without offset**		**Future value with offset**		**Raw gain**	**Confidence in result (%)**	**Adjusted gain**	**Net present value**	**% of impact offset**	**Minimum (90%) direct offset requirement met?**	**Cost ($ total)**	**Information source**
Number of features e.g. Nest hollows, habitat trees	No																			
Condition of habitat Change in habitat condition, but no change in extent	No																			
Threatened species																				
Birth rate e.g. Change in nest success	No																			
Mortality rate e.g Change in number of road kills per year	No																			
Number of individuals e.g. Individual plants/animals	No																			

Appendix 3 Risk framework

This risk framework has been reproduced from the Environmental Management Plan Guidelines (DCCEEW 2024b).

Risk rating

		Consequence				
		Minor	**Moderate**	**High**	**Major**	**Critical**
Likelihood	**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

Likelihood

Qualitative measure of likelihood	How likely is it that this event/issue will occur after management actions have been put in place or are being implemented?
Highly likely	Is expected to occur in most circumstances
Likely	Will probably occur during the life of the project
Possible	Might occur during the life of the project
Unlikely	Could occur but considered unlikely
Rare	May occur in exceptional circumstances

Consequence

Qualitative measure of consequence	What will be the consequence/result if the issue does occur?
Minor	Minor incident of environmental damage that can be reversed
Moderate	Isolated but substantial instances of environmental damage that could be reversed with intensive efforts
High	Substantial instances of environmental damage that could be reversed with intensive effort
Major	Major loss of environmental amenity and real danger of continuing
Critical	Severe widespread loss of environmental amenity and irrecoverable environmental damage

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Appendix 4 Examples of current impacts to offset property

Photo 1 **Impacts to Swamp Skink habitat from deer 'wallowing' within the proposed offset property. Photo taken February 2026.**

Photo 2 **Habitat degradation of Swamp Skink habitat from deer activity within the proposed offset property, 2023.**

Photo 3 **Significant habitat disturbance in adjacent easement bordering on proposed offset area and confirmed occupied Swamp Skink habitat from illegal access of vehicles, 2021**

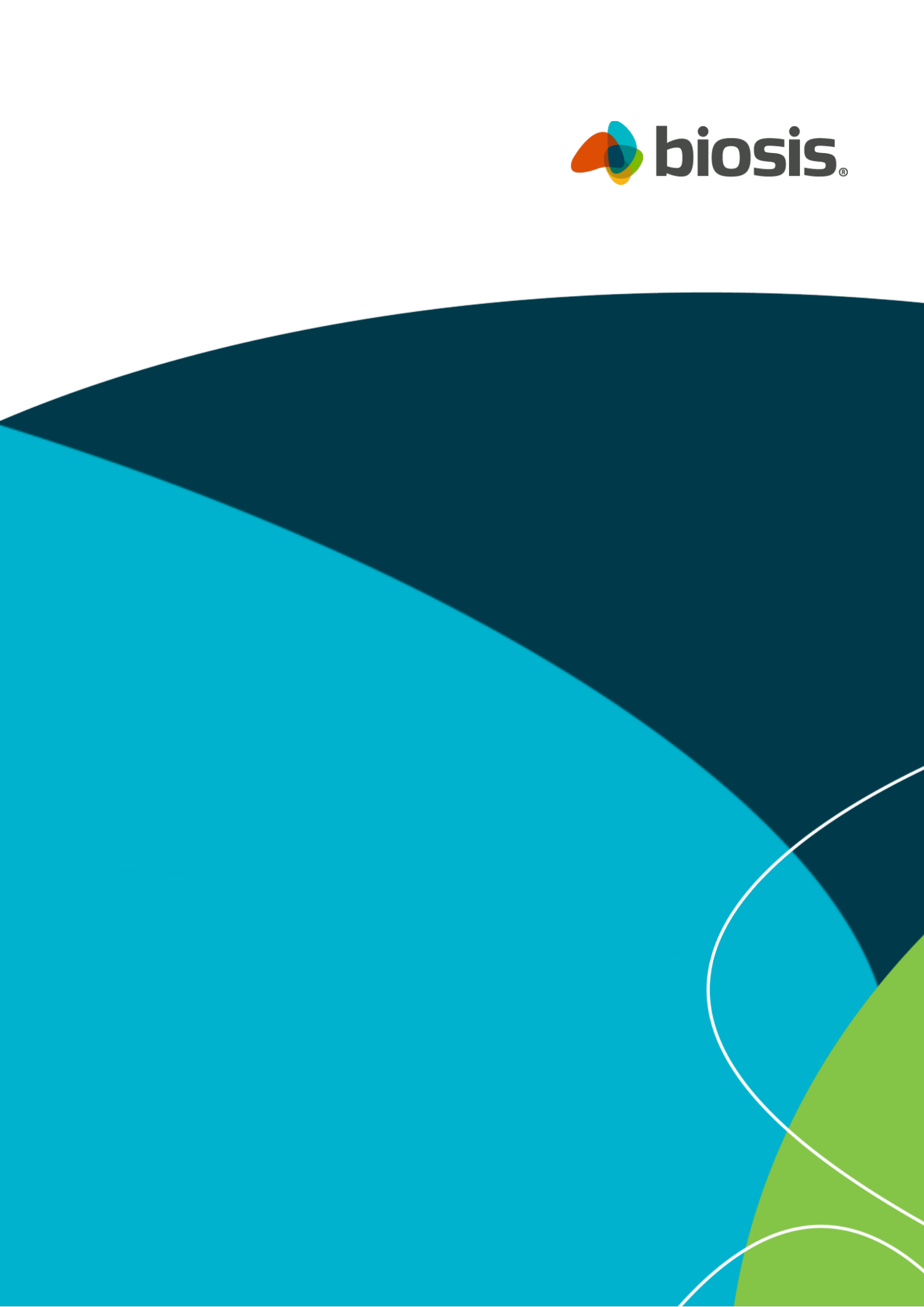
Photo 4 **Significant habitat disturbance in adjacent easement bordering on proposed offset area and confirmed occupied Swamp Skink habitat from illegal access of vehicles. Facing north into southern extent of proposed offset area, 2021.**

Photo 5 **Significant habitat disturbance in adjacent easement bordering on proposed offset area and confirmed occupied Swamp Skink habitat from illegal access of vehicles. Same location as shown in Photo 3 and Photo 4, photo taken February 2026, showing long-term and ongoing impacts from illegal access.**

Photo 6 **Significant habitat degradation of Swamp Skink habitat from illegal ATV/4WD access within the proposed offset property, 2023.**

Photo 7 **Habitat degradation of Swamp Skink habitat from illegal ATV/4WD access within the proposed offset property, 2024.**

Photo 8 **Habitat degradation of Swamp Skink habitat from illegal ATV/4WD access within the proposed offset property, including damage and litter from vehicles 'bogged' in the mud of the saltmarsh habitat, 2024.**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