

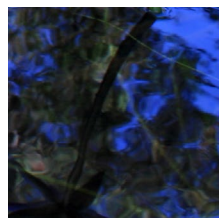
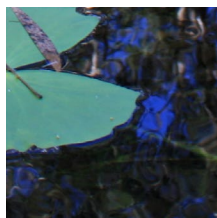
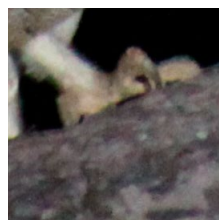
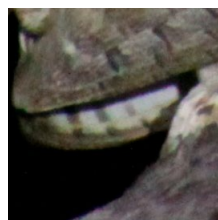
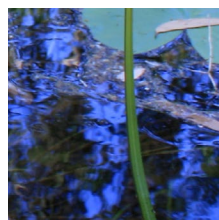
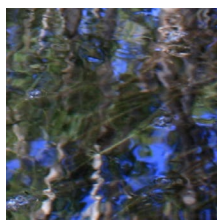
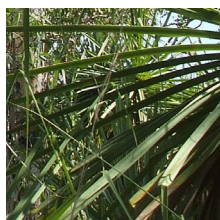
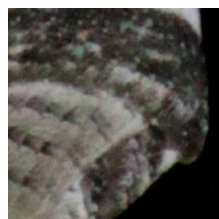
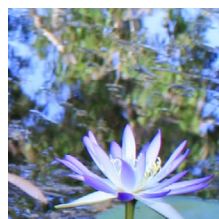
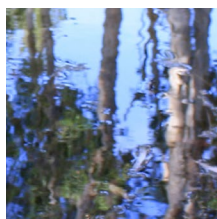
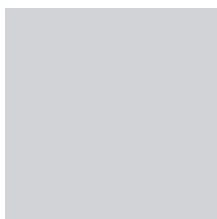
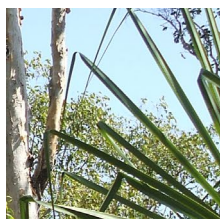
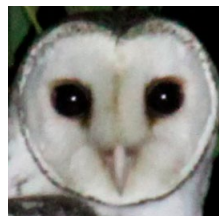
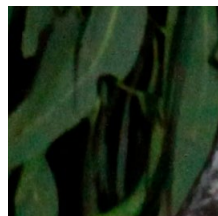
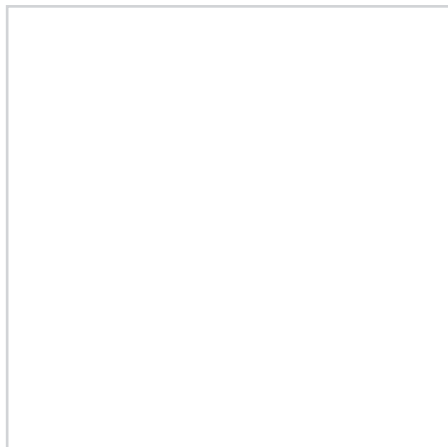
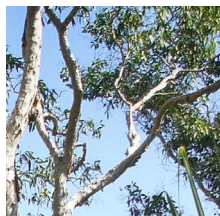
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GROOTE EYLANDT MINING COMPANY (GEMCO)

EASTERN LEASES PROJECT

BIODIVERSITY OFFSETS STRATEGY

JUNE 2021



HANSEN ENVIRONMENTAL CONSULTING

REPORT

Groote Eylandt Mining Company (GEMCO) Eastern Leases Project Biodiversity Offsets Strategy

for

Groote Eylandt Mining Company Pty Ltd

25 June 2021

Hansen Environmental Consulting
Level 15, 215 Adelaide St, Brisbane Qld 4000

DOCUMENT CONTROL

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ABBREVIATIONS

ABBREVIATION	DESCRIPTION
ALC	Anindilyakwa Land Council
ALC Rangers	Anindilyakwa Land & Sea Rangers
ALRA	<i>Aboriginal Land Rights (Northern Territory) Act 1976 (Cth)</i>
BOMP	Biodiversity Offsets Management Plan
BOS	Biodiversity Offsets Strategy
DAWE	Department of Agriculture, Water and the Environment
DENR	Department of Environment and Natural Resources (former department, now DEPWS)
DEPWS	Department of Environment, Parks and Water Security
DLRM	Department of Land and Resource Management (former department, now DEPWS)
DoE	Department of the Environment (former department, now DAWE)
DoEE	Department of Environment and Energy (former department, now DAWE)
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities (former department, now DAWE)
EIS	Environmental Impact Statement
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i>
GEMCO	Groote Eylandt Mining Company Pty Ltd
IPA	Indigenous Protected Area
ML	Mineral Lease
the project	GEMCO's Eastern Leases Project
TSMP	Groote Archipelago Threatened Species Management Plan 2019-2028
TSMPSC	Threatened Species Management Plan Steering Committee
TSSC	Threatened Species Scientific Committee
WMP	Weed Management Plan

REPORT

Eastern Leases Project Biodiversity Offsets Strategy for Groote Eylandt Mining Company Pty Ltd

1 INTRODUCTION

1.1 Purpose of the Document

This document has been prepared to outline the strategies adopted by the Groote Eylandt Mining Company Pty Ltd (GEMCO) to provide biodiversity offsets for the Eastern Leases Project (the project). Biodiversity offsets are required to be provided in accordance with the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) approval conditions for the project (EPBC 2014/7228).

The EPBC Act approval for the project requires that offsets be provided through GEMCO funding conservation programs that benefit the threatened species predicted to be impacted by the project. The value of the offset funding is specified in the EPBC Act approval. This Biodiversity Offset Strategy (BOS) describes the conservation programs to be funded (i.e. the “offset programs”) and describes the way in which the offset funds will be administered.

The offset programs are based on actions identified in the Threatened Species Management Plan (TSMP) (*Groote Archipelago Threatened Species Management Plan 2019-2028*) which was prepared by the Northern Territory Department of Environment and Natural Resources (DENR) (now Department of Environment, Parks and Water Security [DEPWS]), with support and involvement from the Anindilyakwa Land Council (ALC), Anindilyakwa Land & Sea Rangers (ALC Rangers), Department of Environment and Energy (DoEE) (now Department of Agriculture, Water and the Environment [DAWE]), and GEMCO. The TSMP is a strategic plan, which describes the management, research and monitoring actions required to address threats and impacts to threatened terrestrial fauna species in the Groote Archipelago over ten years (2019 to 2028) (DENR, ALC, DoEE, & GEMCO, 2019).

1.2 Document Structure

This BOS is structured as follows:

- Section 1 – Provides an introduction to the document.
- Section 2 – Provides an overview of the project and its geographic and regulatory setting. This section includes an overview of the potential impacts requiring offsets and the BOS requirements set out in the EPBC Act approval conditions.
- Section 3 – Provides an overview of the approach that has been adopted in developing the BOS, including the consultation undertaken as part of the process.
- Section 4 – Explains the selection of the offset program.
- Section 5 – Describes the proposed offset program.
- Section 6 – Describes the administration of the offsets, including funding arrangements, monitoring, reporting and adaptive management of the offsets.

2 PROJECT OVERVIEW AND BASIS FOR OFFSETS

2.1 Project Description

GEMCO operates a manganese mine (the existing mine) on Groote Eylandt in the Gulf of Carpentaria, approximately 650 km south-east of Darwin in the Northern Territory (Figure 1). Operations at the existing mine involve mining manganese ore by open cut mining methods, and then processing the ore in a concentrator to produce washed ore. The washed ore is transported from the mine by road train to GEMCO's port facility at Milner Bay (Figure 1). The mine has been operating for more than 55 years.

GEMCO is planning to develop the project in order to access additional mining areas, located to the east of the existing mine (Figure 1). The additional mining areas comprise two Mineral Leases which are termed the Eastern Leases. Mineral Lease (ML) 31219 is termed the Northern Eastern Lease, and ML31220 is termed the Southern Eastern Lease. The project will use the same open cut mining methods as the existing mine. The Eastern Lease mining areas will be connected to the existing mine via a new haul road. Manganese ore will be transported via this haul road to the existing mine for processing. Construction of the project is anticipated to commence in 2022, subject to the completion of feasibility studies and receipt of the necessary pre-construction approvals.

2.2 Project Setting

Groote Eylandt is Australia's third largest island, with a land area of approximately 2,285 km², and is the largest island in the Gulf of Carpentaria. It forms part of the Groote Archipelago. Groote Eylandt is Aboriginal land, scheduled under the *Aboriginal Land Rights (Northern Territory) Act 1976* (Cth) (ALRA). The ALC is the Land Council responsible for Groote Eylandt.

Groote Eylandt has significant ecological value because the terrestrial fauna species present on the island are relatively protected from key threatening processes and species (such as Cane Toads) that exist on the mainland. Development on Groote Eylandt is limited to the existing mine and three small townships, namely Alyangula, Angurugu and Umbakumba (Figure 1). The remainder of the island is undeveloped and is used primarily for traditional Aboriginal practices such as hunting and gathering. The Traditional Owners of Groote Eylandt maintain strong connections with the land and sea through active participation in cultural ceremony. There are no commercial agricultural activities on Groote Eylandt and introduced herbivores, such as deer, cattle or water buffalo, are absent from the island.

The Groote Archipelago is an Indigenous Protected Area (IPA). An IPA is an area of Indigenous-owned land or sea where the Traditional Owners have entered into an agreement with the Federal Government to promote biodiversity and cultural resource conservation (DAWE, n.d). The Groote Archipelago was declared the Anindilyakwa IPA in 2006, and is administered by the ALC. The ALC Rangers undertake land management activities within the IPA.

2.3 Potential Impacts Requiring Offsets

The project was subject to an Environmental Impact Statement (EIS) process in 2015/2016 and the EIS Assessment Report prepared for the project concluded that the project had the potential to have significant residual impacts on four threatened fauna species found within the project site. These species are listed in Table 1 and are referred to as the "impacted species" in this document.

Table 1
Threatened Species For Which Offsets Are Required (“Impacted Species”)

COMMON NAME	SCIENTIFIC NAME	EPBC ACT STATUS RELEVANT TO THE BOS	TERRITORY PARKS AND WILDLIFE CONSERVATION ACT 2006 (NT) STATUS
Northern Hopping-mouse	<i>Notomys aquilo</i>	Vulnerable ¹	Vulnerable
Brush-tailed Rabbit-rat	<i>Conilurus penicillatus</i>	Vulnerable	Endangered
Northern Quoll	<i>Dasyurus hallucatus</i>	Endangered	Critically Endangered
Masked Owl (northern)	<i>Tyto novaehollandiae kimberli</i>	Vulnerable	Vulnerable

The potential significant impact to these species arises from the clearing of habitat. Vegetation clearing is proposed to be undertaken progressively, with a total of 1,525 ha proposed to be cleared over the mine life.

Indirect impacts on fauna (e.g. lighting and noise) were also considered in the EIS, but were not predicted to give rise to significant impacts.

2.4 Biodiversity Offset Conditions

The project received EPBC Act approval (EPBC2014/7228) in June 2016. The EPBC Act approval includes conditions requiring biodiversity offsets to be provided for the project. Condition 11 of the EPBC Act approval specifies a requirement to prepare a BOS for the project. Table 2 lists the requirements from Condition 11 and indicates the location where each requirement has been addressed in this document.

The EPBC Act approval (Condition 12) also requires the proponent to develop a Biodiversity Offset Management Plan (BOMP) following approval of the BOS. The BOMP is required to provide additional details on the offset program/s.

Table 2
Eastern Leases Project EPBC Act Approval – Condition 11

BIODIVERSITY OFFSET CONDITION	LOCATION IN THIS DOCUMENT
11. The approval holder must prepare and submit a Biodiversity Offset Strategy (BOS) for the Ministers approval. The BOS must outline and describe the strategy for providing offsets for the significant residual impacts of the action on the impacted species. The approval holder must not commence the action unless the Minister has approved the BOS in writing. The BOS must:	This document
a) Be consistent with the offsets policy.	Section 2.5 and Appendix A
b) Describe how offsets delivered under the strategy will align with current conservation initiatives on Groote Eylandt and the Threatened Species Management Plan for Groote Eylandt.	Section 4
c) Be prepared in consultation with the Northern Territory Department of Land Resource Management and the Anindilyakwa Land Council.	Section 3

¹ The conservation status of the Northern Hopping-mouse was listed as vulnerable at the time the EPBC Act referral for the project was decided and hence this is the status relevant to the BOS. The status of the Northern Hopping-mouse was upgraded to Endangered in March 2021.

BIODIVERSITY OFFSET CONDITION	LOCATION IN THIS DOCUMENT
<p>d) Provide strategies for delivering conservation outcomes to the impacted species on Groote Eylandt. These strategies should address threats to impacted species. The BOS should describe how the following threats have been considered and evaluated in developing the preferred strategies for delivering optimum conservation outcomes:</p> <ul style="list-style-type: none"> ▪ Feral cats ▪ Cane toads ▪ Inappropriate fire regimes ▪ Weeds 	Section 4
e) Describe the outcomes to be achieved by the BOS.	Section 5.3
<p>f) Include a regime for:</p> <ul style="list-style-type: none"> ▪ Planning and setting a biennial (2 year) work program ▪ Reporting outcomes against the work program 	Section 6
g) Describe how monies required to be directed to the implementation of the Biodiversity Offset Management Plan (BOMP) (required by Condition 12) will be managed, including how monies will be acquitted.	Section 6.2
If the Minister approves the BOS, then the approved BOS must be implemented.	Noted

2.5 Consistency with EPBC Act Offsets Policy

Appendix A details how the biodiversity offsets proposed for the project meet the requirements of the EPBC Act Offsets Policy (Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC 2012). This includes a discussion on how the principles of the EPBC Act Offsets Policy have been considered.

3 DEVELOPMENT OF THE BIODIVERSITY OFFSET STRATEGY

This section provides background information relevant to the development of the BOS and describes the consultation undertaken as part of this process.

3.1 Relationship Between TSMP and Offsets

An EIS was prepared for the project in 2015 and an EPBC Act approval (EPBC2014/7228) was received in 2016. The EIS Addendum described the proposed approach for securing offsets. It indicated that:

- The NT government had received funding to prepare a TSMP for the Groote Archipelago. The Federal Department of the Environment (DoE) (now DAWE) was one of the agencies providing funding towards the development of the TSMP.
- The TSMP would be prepared by the NT Department of Land and Resource Management (DLRM) (now DEPWS), in collaboration with stakeholders including the ALC, ALC Rangers, GEMCO and DoE.
- The TSMP would provide evidence-based prioritisation of management actions for threatened species on Groote Eylandt and consequently would provide an informed basis to guide future investment and on-ground management activities.
- The TSMP was due to be prepared in 2017.

Given the imminent development of the TSMP, GEMCO indicated, during the negotiation of the EPBC Act approval conditions, that its preference was to secure offsets for the project through providing funding towards the implementation of TSMP programs that would benefit the impacted species and meet the objectives of the EPBC Act Offsets Policy. This concept was discussed at length with stakeholders and regulators, including the DoE, DLRM, ALC and ALC Rangers. All stakeholders agreed that securing offsets in this way presented an excellent opportunity to deliver optimum conservation outcomes for the impacted species. This was reflected in the EPBC Act approval conditions, which require GEMCO to implement conservation programs and/or actions to deliver conservation outcomes to the impacted species, and which take account of the TSMP. Condition 11(b) of the approval requires the BOS to describe the way in which offset program/s align with conservation initiatives in the TSMP. The EPBC Act approval noted that the TSMP was under preparation at the time the approval was granted.

GEMCO subsequently participated in the development of the TSMP, including attending a workshop where threats to species were assessed and management actions developed. A risk-based approach was adopted in determining the threats to each species and the management measures to be adopted. This workshop was attended by a range of other stakeholders, including representatives from the ALC, ALC Rangers, NT government and DoE (the Threatened Species Commissioner). The TSMP was published in 2019. It assesses all potential threats to terrestrial threatened species on Groote Eylandt and provides management, monitoring and research actions to address them.

3.2 Consultation

A TSMP Steering Committee (TSMPSC) was formed in 2019 to guide the implementation of the TSMP. The TSMPSC comprises representatives from the ALC, ALC Rangers, GEMCO and DEPWS, as well as an independent advisor (currently Professor Sarah Legge). The TSMPSC has held regular meetings to plan conservation programs and to determine which TSMP conservation programs would be most suitable to be funded by GEMCO as offset programs.

The TSMPSC initially nominated a wide range of TSMP programs as potential offset programs. A BOS was prepared in March 2020, which explained that numerous programs from the TSMP would be suitable as offsets. The BOS indicated that offset funds would be used to implement some combination of these TSMP actions, but that the subsequent BOMP would confirm the specific programs to be implemented.

DAWE reviewed the BOS and indicated that it could not be approved until the specific offset program/s were confirmed, and details, such as outcomes to be achieved by the offset programs, could be described. DAWE also provided guidance in relation to the level of information required in the BOS.

Since receiving this feedback, GEMCO has undertaken additional consultation in relation to the development of a revised BOS, particularly in relation to the selection of offset programs. Table 3 provides details of key meetings undertaken as part of this process. In addition, there have been several phone calls and email exchanges with stakeholders. Members of the TSMPSM also reviewed the revised BOS.

**Table 3
 Summary of Recent Meetings in Relation to BOS**

STAKEHOLDER GROUP	MEETING DATE
TSMPSM (including ALC, IPA Coordinator & Ecologist, DEPWS)	14 July 2020 16 December 2020
ALC, IPA Coordinator & Ecologist, DEPWS	19 January 2021
ALC, ALC Ranger Manager and IPA Coordinator & Ecologist	23 February 2021
DEPWS	4 March 2021
DAWE	23 March 2021
ALC Ranger Manager, IPA Coordinator & Ecologist and DAWE	4 May 2021

The specific offset program that will be included in the BOS has now been confirmed. The justification for the selection of the offset program is provided in Section 4, and Section 5 provides additional detail on the program. Although the offset program has been confirmed for inclusion in the BOS, it will be necessary for the offsets to have the capacity to adapt to changing circumstances (e.g. new knowledge becoming available). Section 6.5 describes the need for adaptive management and proposed mechanisms for achieving it.

4 SELECTION OF OFFSET PROGRAM

4.1 Introduction

As indicated in Section 2, the EPBC Act approval requires GEMCO to implement conservation programs and/or actions that would deliver conservation outcomes to the impacted species. Condition 13 of the approval prescribes the value of the conservation programs and/or actions as \$4,500 (excluding GST) per hectare of native vegetation cleared. This amounts to approximately \$7 million over the life of the project, assuming that the full extent of approved clearing is undertaken.

The EPBC Act approval includes the following requirements in relation to conservation programs:

- Condition 11(b) requires the BOS to describe how offsets will align with current conservation initiatives on Groote Eylandt and the TSMP for Groote Eylandt.
- Condition 11(d) requires that the conservation programs deliver conservation outcomes to the impacted species and address threats to the species.
- Condition 11(d) requires the BOS to describe how the following threats have been considered and evaluated in developing the preferred strategies for delivering optimum conservation outcomes:
 - Feral cats;
 - Cane toads;
 - Inappropriate fire regimes; and
 - Weeds.

In addition, offsets are required to be consistent with the EPBC Act Offsets Policy. To ensure compliance with the policy, offsets should achieve the following, amongst other things:

- Address key priority actions for the impacted species, as per any approved recovery plans, threat abatement plan, Conservation Advice, ecological character description or approved Commonwealth management plan;
- Be built around direct offsets;
- Effectively account for and manage the risks of the offset not succeeding;
- Be additional to anything already required by law and to existing conservation programs; and
- Be efficient, effective, timely, transparent, scientifically robust, and reasonable.

4.2 Alignment With Threatened Species Management Plan

The TSMP considers the range of threatening processes that currently impact or have the potential to impact threatened terrestrial fauna species in the Groote Archipelago (including the impacted species). It takes account of published Conservation Advice and was developed with input from subject area experts, in consultation with local land managers. The TSMP is the most comprehensive and up to date account of the threats to the impacted species on Groote Eylandt and it provides clear guidance on management measures required to address these threats. The TSMP therefore represents the best starting point for identifying key threats to the impacted species and suitable offset programs. This is consistent with the EPBC Act approval, which requires the BOS to describe how offset programs align with the TSMP.

For each threatened species, the TSMP evaluates the scope, severity and irreversibility of each threat and provides a summary of the threat level. The threats are listed as very high, high, medium, and low. This information from the TSMP has been replicated in Table 4 for the impacted species.

Table 4
Summary of Threat Ratings for Impacted Species (Based on the TSMP)

THREATS	MASKED OWL (NORTHERN)	NORTHERN HOPPING-MOUSE	BRUSH-TAILED RABBIT-RAT	NORTHERN QUOLL
Poisoning by Cane Toads	Low	Low	Low	Very High
Predation by feral cats	Medium	Very High	Very High	Medium
Weed invasion	High	High	High	High
Inappropriate fire regimes	High	High	High	High
Feral herbivores (deer/buffalo)	Low	High	High	Medium
Potential invasive species (ants, myrtle rust)	Medium	Medium	Medium	Low
Introduced rodents	Low	Medium	Medium	Low
Pigs	Low	Medium	Medium	Medium
Major habitat loss/alteration	Very High	Very High	High	Medium
Minor habitat disturbance/alteration	Medium	Medium	Medium	Low
Predation by feral/roaming dogs	Low	Low	Low	Low
Baiting	Low	Low	Low	Low

In selecting offset programs, threats rated as high or very high were considered further. The following threats meet these criteria:

- Poisoning by Cane Toads (very high for Northern Quoll);
- Predation by feral cats (very high for Northern Hopping-mouse and Brush-tailed Rabbit-rat);
- Weed invasion (high for all four impacted species);
- Inappropriate fire regimes (high for all four impacted species); and
- Feral herbivores (e.g. deer/buffalo) (high for Northern Hopping-mouse and Brush-tailed Rabbit-rat).

The TSMP lists actions to address these threats. These conservation actions were reviewed to determine their suitability as offset programs. Note that although the threat of major habitat loss/alteration was rated as very high for the Northern Hopping-mouse, this threat was not considered further because the conservation actions described in the TSMP to address this threat (e.g. avoiding habitat disturbance of specific areas) are not relevant as offset programs.

Numerous conservation actions in the TSMP may be suitable as offsets, but it was necessary to determine the optimum program/s for delivering offsets. The requirements of the EPBC Act approval and EPBC Act Policy were key considerations in the review of conservation actions. In addition, the TSMP rates each conservation action as being highly effective, effective, less effective and not effective, and this rating was considered in selecting offset programs. The review process culminated in GEMCO's decision that the offset would comprise actions related to the threat of weed invasion. The following sections describe why these conservation actions are suitable as offsets and why other conservation actions were not selected.

It should be noted that it will be necessary for the offsets to be adaptive and consequently there is the potential that the BOS may be revised at a later stage to amend the offset program/s and/or include additional conservation actions (e.g. in the event of additional scientific/traditional knowledge becoming available or once the offset program has been costed in detail). This is described further in Section 6.5.

4.3 Weed Management

4.3.1 Relevance to Impacted Species

The TSMP lists weed invasion as a high threat for the four impacted species. The TSMP notes that potential impacts from weeds include habitat degradation, productivity loss and the facilitation of a changed fire regime. Invasive plants and weeds can affect biodiversity by outcompeting and displacing native flora.

Transforming weeds such as gamba grass, grader grass and mission grass pose significant threats to threatened species on Groote Eylandt because they have the potential to lead to a deterioration of natural fire regimes. The TSMP identifies transforming weeds as an “emerging” situation in the Groote Archipelago. Invasive transforming weeds are described in the *Threat abatement plan to reduce the impacts on northern Australia's biodiversity by the five listed grasses* (DSEWPaC, 2012). This document outlines procedures to mitigate the threat posed by introduced grasses, and states that the four impacted species are all under “immediate threat” from introduced grasses.

In published Conservation Advice, weeds are listed as a threat for the Brush-tailed Rabbit-rat and the Northern Hopping-mouse, and a potential threat for the Masked Owl (northern) and the Northern Quoll. The relevant Conservation Advice and Recovery Plans for the threatened species includes:

- Brush-tailed Rabbit-rat Conservation Advice (Threatened Species Scientific Committee [TSSC], 2016):
 - There is no direct Objective/Action regarding weeds within this advice. However, invasive weeds have been listed as a potential threat due to their ability to exacerbate the cycle of intense late dry season fires. The Conservation Advice indicates that existing populations of exotic invasive grasses such as gamba grass, grader grass and mission grass need to be controlled and quarantine measures should be implemented to prevent the introduction of invasive grasses at other sites, especially islands. The Recovery Plan for the Brush-tailed Rabbit-rat (Woinarski, Hill & Ward, 2017) suggests actions should be implemented on Groote Eylandt to enhance control of, and quarantine for, exotic invasive grass species.
- Masked Owl Conservation Advice (TSSC, 2015):
 - This advice includes direct actions to reduce the impacts from weeds at a landscape scale, as well as to assess weed population trends in response to fire management and weed and feral species control programs.
- Northern Hopping-mouse Conservation Advice (TSSC, 2021):
 - This advice includes several direct actions in response to weed management. The advice indicates that an integrated Weed Management Plan for the Groote Archipelago should be developed. Invasive weeds causing degradation are listed as high severity impacts to the Northern Hopping-mouse. Conservation advice states that there is a “Low current impact however the scope, severity and irreversibility have the potential to increase in the future if [weeds are] not managed”.
- Northern Quoll Recovery Plan (Hill & Ward, 2010):
 - This plan does not include any direct Objective/Action regarding weeds, however it is listed as a potential threat as exotic pasture grasses inhibit quoll ground movement and hunting, and foster fire regimes that allow for more intense fires (which cause direct mortality, and reduce shelter and habitat heterogeneity).

4.3.2 Conservation Actions

The TSMP includes actions to address the threat of weeds, including developing and implementing an integrated Weed Management Plan for the Groote Archipelago and improving information systems (e.g. maintaining a spatial database of weeds). The TSMP rates the actions as being effective.

In consultation undertaken as part of the development of the BOS, the ALC and ALC Rangers have indicated that there is a significant weed problem in some locations on Groote Eylandt and that weed management is a

significant conservation issue for Groote Eylandt. The ALC has indicated that locations of particular concern are those in close proximity to communities and within other disturbed areas.

Several entities currently have a role in weed management on Groote Eylandt, for example, GEMCO has responsibility for weeds within its tenements, the East Arnhem Shire Council for weeds within local council areas (i.e. townships) and the ALC Rangers for the remainder of Indigenous Freehold land on the island. These entities, and others with a role in weed management, meet regularly in relation to weed management. However, the parties acknowledge that no single entity has overall responsibility for island-wide weed management and hence there is currently no coordinated, island-wide weed management plan. As noted in the TSMP, an island-wide weed management approach is required. Similarly, although some weed mapping has been undertaken on the island, there is no island-wide weed mapping and resources are currently not available to develop such a map.

4.3.3 Suitability as Offset Program

The weed management actions in the TSMP are suitable as an offset program, given that:

- Conservation Advice indicates that weeds are a threat or potential threat to all four impacted species. Offsets would therefore be focussed on key priority actions outlined in Conservation Advice, as required by the EPBC Act Offsets Policy.
- The weed management actions in the TSMP are described in sufficient detail to enable them to be implemented as an offset program and the actions are rated in the TSMP as being effective. This will minimise the risk of the offset not succeeding. The EPBC Act Offsets Policy indicates that offsets should account for and manage the risks of the offset not succeeding.
- The weed management actions are on-ground work (i.e. they are direct actions), with no research component other than that required to develop the weed management plan. This is consistent with the EPBC Act Offsets Policy, which requires the offset to focus on direct actions.
- The weed management actions in the TSMP are not being implemented at this stage and hence the additionality requirement from the EPBC Act Offsets Policy can be met.

4.4 Cane Toad Management

4.4.1 Relevance to Impacted Species

Groote Eylandt is currently free of Cane Toads and the introduction of Cane Toads is rated as being a very high threat for the Northern Quoll. The TSMP notes that elsewhere in Australia, the arrival of the Cane Toad has caused severe decline of Northern Quoll populations. A similar decline in the Northern Quoll population would be expected if Cane Toads established on Groote Eylandt.

The Northern Quoll Recovery Plan (Hill & Ward, 2010) identifies Cane Toads as a threat to the Northern Quoll. The Recovery Plan states that Northern Quolls are carnivorous marsupials and are susceptible to Cane Toad toxins. It also notes that Cane Toads are currently considered the main threat to Northern Quoll populations. The Recovery Plan includes several key Objectives/Actions regarding Cane Toad management. These include maintaining biosecurity of important offshore islands through quarantine, monitoring offshore islands supporting Northern Quoll populations to detect the presence of Cane Toads, and developing and implementing a strategy for rapid-response control of Cane Toad incursions.

Cane Toads are not listed as a threat for the other impacted species.

4.4.2 Conservation Actions

The TSMP specifies conservation actions for Cane Toads, including developing and implementing a management plan to keep Groote Eylandt free of Cane Toads (including implementing quarantine and biosecurity measures, surveillance measures, a response plan in the event of an incursion and community

education). The TSMP indicates that a similar plan is required for Bickerton and Winchelsea Islands. These actions are rated as highly effective.

Several, but not all, of the actions described in the TSMP to address the threat of Cane Toads are currently being implemented by GEMCO, the ALC and ALC Rangers (including work undertaken via the Quarantine and Biosecurity Coordinator who is employed by the ALC but funded via a grant from GEMCO).

4.4.3 Suitability as Offset Program

Although Cane Toads are identified as a threat to one of the impacted species, the management actions in the TSMP are not proposed as offsets at this time because the majority of the actions are already being undertaken. Actions already being undertaken would not be eligible as offsets because they do not meet the additionality criterion of the EPBC Act Offsets Policy.

However, GEMCO is currently reviewing its Cane Toad Management Plan and future reviews of the plan will be undertaken as part of a process of continual improvement. This review, or future reviews, may identify additional actions that would be suitable as offsets. In this event, these actions would be discussed with key stakeholders (e.g. ALC, ALC Rangers and DEPWS) and with DAWE and a determination would be made as to whether there is merit in amending the BOS to include additional actions related to Cane Toads. Refer to Section 6.5 for a discussion of adaptive management of the offset, including the potential for additional programs to be considered.

At this stage, actions related to the threat of Cane Toads are not being proposed as an offset program.

4.5 Feral Cat Management

4.5.1 Relevance to Impacted Species

The TSMP lists feral cats as a medium threat to the Masked Owl (northern) and the Northern Quoll, and a very high threat to the Northern Hopping-mouse and the Brush-tailed Rabbit-rat. Feral cats are versatile predators that can switch their diet as their preferred prey is depleted. Even at low densities, cats can have large impacts on native species. Predation by feral cats has been implicated as a major driver of mammal declines across northern Australia, and is listed as a Key Threatening Process under the EPBC Act. The TSMP notes that feral cats are widespread on Groote Eylandt and potentially Bickerton island, and despite their apparent low density on Groote Eylandt, feral cats may still exert significant predation on some species. The rarity and patchy distribution of the Northern Hopping-mouse and Brush-tailed Rabbit-rat may be due to predation by feral cats. Vulnerability to predation by cats may be further exacerbated by inappropriate fire regimes.

The national *Threat abatement plan for predation by feral cats* (Department of the Environment, Water, Heritage and the Arts, 2008) addresses management practices to reduce the threats to biodiversity from feral cats. The plan includes several key Objectives/Actions related to feral cat management on offshore islands, including an action to eradicate, or control, cats on offshore islands of high, or potentially high, biodiversity value.

In published Conservation Advice, feral cats are listed as a threat for the Masked Owl (northern), and a potential threat for the Northern Quoll and Brush-tailed Rabbit-rat. The relevant Conservation Advice and Recovery Plans for the threatened species includes:

- Brush-tailed Rabbit-rat Conservation Advice (TSSC, 2016):
 - Predation by feral cats is highlighted as a threat to the Brush-tailed Rabbit-rat. The maintenance of populations of the species on islands which are free of feral cats suggests that predation by feral cats was the likely causal factor in the species' decline in the NT. Direct conservation actions relate to the implementation of cost-effective control measures to reduce the abundance of feral cats, as well as to assess the impact of feral cats on the species and the abundance of feral cats in the species' habitat.

- Masked Owl (northern) Conservation Advice (TSSC, 2015):
 - There is no direct Objective/Action regarding feral cats within this advice. However, feral animals have been listed as a potential threat. Conservation actions related to feral animals include reducing the impact of feral animals at a landscape level.
- Northern Hopping-mouse Conservation Advice (TSSC, 2021):
 - Predation by feral cats is highlighted as a threat to the Northern Hopping-mouse. Feral cats are known to prey on small mammals such as the Northern Hopping-mouse. Predation by feral cats has been implicated as a major driver of decline in mammals across northern Australia. Direct action within this advice relates primarily to reducing feral cat density and, therefore, the impact of cats on Groote Eylandt with a focus on high conservation-value habitat. Other actions include limiting the cat source populations from communities, maintaining awareness of emerging cat control methods and technologies, and undertaking research to improve the understanding of the relationships between cat density and predation on the Northern Hopping-mouse, and the interactions between cat predation and other threats such as inappropriate fire regimes and habitat disturbance.
- Northern Quoll Recovery Plan (Hill & Ward, 2010):
 - This plan includes several Objectives/Actions regarding feral cats, including assessing the impacts of feral predators on populations of Northern Quolls, and developing and implementing a strategy for rapid-response control of feral cats.

4.5.2 Conservation Actions

The TSMP includes actions to:

- Reduce the numbers and impact of cats in communities and industrial areas across the Groote archipelago (rated as effective);
- Eradicate cats on Groote Eylandt (rated as not effective because it is not feasible with current technology and is not cost effective);
- Explore the establishment of fenced cat-free areas within Groote Eylandt (rated as less effective);
- Suppress feral cat population density over a large-scale area(s) supporting threatened species populations (rated as effective);
- Evaluate the efficacy and application options of Grooming Traps to support activities to reduce impacts of feral cats on threatened species on Groote Eylandt (rated as less effective); and
- Improve the understanding of relationships between cat population density, predation impact on threatened species, and other environmental factors, such as fire and habitat disturbance (rated as effective).

Work has commenced by the ALC Rangers on implementing some of these actions, particularly the action relating to reducing the numbers and impact of cats in communities. This work is being undertaken in collaboration with Territory Natural Resource Management, with funding from DAWE. The ALC Rangers have also commenced research into the use of Grooming Traps. The other actions described in the TSMP have not been progressed to date.

4.5.3 Suitability as Offset Program

Although feral cats are identified as a threat to the four impacted species, the management actions in the TSMP are not being progressed as an offset program at this time, given that:

- The actions related to cats in communities and Grooming Traps are currently being progressed by the ALC Rangers and hence the requirement for additionality in the EPBC Act Offsets Policy is not met.
- The action related to eradicating cats is not considered feasible at this time and the action related to fenced cat-free zones is rated as less effective. Adopting actions that are rated as not feasible or less effective would increase the risk of the offset not succeeding. Thus, accounting for and managing the risks of the offset not succeeding, in accordance with the EPBC Act Offsets Policy, would be difficult.

- The action related to improving the understanding of relationships between cat population density, predation impact on threatened species and other environmental factors comprises research with no direct action. Direct actions are required to comprise the majority (90%) of the offset program, as per the requirements of the EPBC Act Offset Policy. Although a small proportion of offset funding can be used for non-direct actions, this will likely be required for components of the weed program.
- DEPWS has indicated that recent research has shown that poison baits can be used on Groote Eylandt without impacting non-target species (e.g. Northern Quolls, monitor lizards), and hence it would be possible to embark on a program of feral cat suppression using baits. GEMCO may consider such a program in the future if changes are proposed to the offset program (refer Section 6.5 for a discussion on adaptive management), for example if detailed costing of the weed management actions showed that these actions do not require the full value of the offset funding. However, additional work (e.g. a pilot program) would be required on the feral cat suppression program to confirm the outcomes that could be achieved with such a program.

At this stage, actions related to the threat of feral cats are not being proposed as an offset program.

4.6 Fire Management

4.6.1 Relevance to Impacted Species

The TSMP lists inappropriate fire regimes and fire as a high threat to the four impacted species. The TSMP notes that Groote Eylandt and other islands in the Groote Archipelago have retained a relatively benign fire regime with many areas unburnt for at least five years. However, the fire regimes on Groote Eylandt have altered since cessation of traditional indigenous burning practices. Higher frequency burning occurs in localised areas.

Published Conservation Advice and Recovery Plans for the four impacted species is described below, and include:

- Brush-tailed Rabbit-rat Conservation Advice (TSSC, 2016):
 - There are several direct Objectives/Actions regarding fire within this advice. High frequencies of extensive and intense fires are outlined as a threat to this species. Increased fire frequency will lead to reduction in the incidence, size and productivity of understorey shrubs that produce critical dietary components for the species. Conservation Advice modelling highlights the risk of extinction of the species in the NT if fire management is not imposed.
- Masked Owl (northern) Conservation Advice (TSSC, 2015):
 - Fire is described as a threat to the Masked Owl (northern) within this advice. The Conservation Advice states that “the current regime of more intense, frequent and extensive fires may also reduce the availability of the large trees and hollows required for nesting”. A direct action within this advice includes the implementation of an appropriate fire management regime for preventing the loss of large, hollow-bearing trees, and to promote the density of prey.
- Northern Hopping-mouse Conservation Advice (TSSC, 2021):
 - Inappropriate fire regimes are considered a threat to this species within this advice. Intense fires could potentially reduce suitable habitat for the Northern Hopping-mouse and reduce population numbers. Direct action within this advice relates to monitoring and evaluating fire regimes on Groote Eylandt on an annual basis, and improving the understanding of fire regimes and management of fires through the development and implementation of site-specific Fire Management Plans.

- Northern Quoll Recovery Plan (Hill & Ward, 2010):
 - This plan notes that too-frequent burning may reduce the abundance of food for the Northern Quoll. The plan also mentions that the Northern Quoll may be vulnerable to increased predation following the removal of habitat by fire. Direct actions include undertaking interim fire management at potential key Northern Quoll populations.

4.6.2 Conservation Actions

The TSMP includes actions to address the threat of fire, by improving the understanding of fire regimes and management, and developing and implementing a Fire Management Plan. These actions are both rated as highly effective.

The ALC Rangers have recently received funding from the National Bushfire Recovery Fund to undertake consultation with Traditional Owners to review traditional and historical fire management practices. As part of this work, a series of workshops will be held with Traditional Owners to gain an understanding of the history of fire on the Groote Archipelago, the role it plays both culturally and environmentally, its impacts, and a management direction for the future. The consultation with Traditional Owners will inform the development of any future fire management plan and ensure that fire management is informed by traditional knowledge and cultural sensitivities. The ALC Rangers will commence work on this program in the second half of 2021.

4.6.3 Suitability as Offset Program

Groote Eylandt is Indigenous Freehold land and the Traditional Owners regularly light fires for a range of reasons. It is not known whether the current fire regime is optimal for threatened species (i.e. whether there is any need for a fire management program). It is also unknown whether the Traditional Owners would be supportive of proactive fire management work (e.g. controlled burns) and reactive measures (i.e. fighting fires). If the Traditional Owners are not wholly supportive of additional management measures, fire management programs would not be feasible. The program of work that the ALC Rangers will undertake to document traditional fire management practices is a critical first step in determining whether a Fire Management Plan is necessary and appropriate for Groote Eylandt.

Given the work currently underway and current uncertainties in relation to fire management programs, GEMCO is not proposing fire management actions as an offset program at this time. This uncertainty may be resolved once the ALC Rangers have completed the program of consultation with Traditional Owners. In this instance, fire management may be considered for offset funding if there are proposed changes to the offset program (refer Section 6.5 for a discussion on adaptive management).

4.7 Feral Herbivores

4.7.1 Relevance to Impacted Species

Feral herbivores and pigs are not established on Groote Eylandt, which is a likely contributing factor to its relative ecological health.

The TSMP lists feral herbivores and pigs as a threat for the four impacted species. Both feral herbivores and pigs are considered a low threat to the Masked Owl (northern) but are considered a medium to high threat for the Northern Hopping-mouse, Brush-tailed Rabbit-rat and Northern Quoll. The TSMP notes that introduced herbivores and pigs can reduce food resources for native herbivores and omnivores and, over time, can reduce overall productivity and diversity of terrestrial and riparian ecosystems. Foraging and trampling by feral herbivores and pigs can also alter floristic composition, reduce habitat structural complexity, and cause erosion and the contamination of waterways.

In published Conservation Advice and Recovery Plans, feral herbivores and pigs are listed as a threat for the majority of the impacted species, as follows:

- Brush-tailed Rabbit-rat Conservation Advice (TSSC, 2016):
 - There is no direct Objective/Action regarding feral herbivores and pigs within this advice. However, trampling from herbivores has been listed as a potential threat due to the removal of ground cover resulting in loss of shelter from predators.
- Masked Owl (northern) Conservation Advice (TSSC, 2015):
 - This advice identifies feral animals as a threat to the species population and includes a direct action to reduce the impacts from feral animals at a landscape scale.
- Northern Hopping-mouse Conservation Advice (TSSC, 2021):
 - This advice identifies grazing and trampling by introduced herbivores as a high threat to the Northern Hopping-mouse. Grazing and trampling by introduced herbivores can result in the loss of ground cover and, therefore, shelter from predators for small mammals such as the Northern Hopping-mouse. Foraging and trampling by feral herbivores can also alter floristic composition, reduce habitat structural complexity, cause erosion and foul waterways. Introduced herbivores can reduce food resources for native species and, over time, can reduce the overall quality and species richness of terrestrial and riparian ecosystems.
- Northern Quoll Recovery Plan (Hill & Ward, 2010):
 - This plan does not specifically mention feral herbivores or pigs.

4.7.2 Conservation Actions

The TSMP includes actions to address the establishment of feral herbivores and pigs, including improving community understanding and appreciation of the threats posed by introduced livestock, as well as actions to prevent incursions. The TSMP rates the actions as being effective.

Several of these actions are already funded. For example, the ALC Rangers receive funding from the Northern Australia Quarantine Strategy to report on feral herbivores and pigs in Indigenous communities. The ALC Rangers also have committed to managing feral animals through their National Indigenous Australians Agency funded work plan. Furthermore, the ALC Rangers have indicated that programs that raise community awareness of herbivores and pigs could have the unintended consequence providing some stakeholders with the idea of releasing the animals on Groote Eylandt for hunting.

4.7.3 Suitability as Offset Program

The feral herbivore and pig actions in the TSMP are not being proposed as an offset program, given that the majority of the work is already being undertaken by the ALC Rangers under existing funding arrangements. There is the potential that community awareness actions in the TSMP could have the perverse outcome of prompting some stakeholders to consider introducing livestock to Groote Eylandt.

4.8 Conclusion

Weed management actions have been selected as an offset program. These actions meet the requirements of the EPBC Act Offset Policy and address documented threats to the impacted species. The actions are clearly described in the TSMP, are not currently being undertaken and/or funded, and are considered to be effective. The proposed weed management actions are described further in Section 5.

The TSMP describes other conservation actions that may also be suitable as offsets at a future stage, including actions related to Cane Toads, feral cats and fire management. Section 6 notes that offsets will need to be adaptive and the BOS may need to be amended in future to include additional actions and/or amend the actions described in the current BOS. In this instance, some of these other conservation actions may be reconsidered in the future.

5 OFFSET PROGRAM

5.1 Introduction

As explained in Section 4, offsets will focus on weed management.

The proposed weed offset program relates to the following two actions in the TSMP:

- Develop an integrated Weed Management Plan for the Groote Archipelago; and
- Update priorities and plans through maintaining shared information, planning and reporting systems.

5.2 Overview of Weed Management Offset Program

The offset program will involve developing and implementing a Weed Management Plan (WMP) for Groote Eylandt. This plan will have a particular focus on “high priority weeds” (e.g. weeds, such as transforming grasses, with the ability to significantly impact habitat for Matters of National Environmental Significance).

The BOMP will describe the detail of the WMP, but at this stage it is anticipated that the following tasks will be undertaken in preparing the WMP:

- Define high priority weeds for the purpose of the WMP and identify high priority weeds for Groote Eylandt.
- Map current major infestations of weeds on Groote Eylandt, focusing on high priority weeds and taking into account the presence of features such as roads or waterways that could facilitate the spread of weeds.
- Audit existing systems in relation to weeds, including current measures to:
 - Prevent the introduction of weeds (i.e. quarantine measures);
 - Prevent the spread of weeds (weed hygiene);
 - Monitor for the presence of weeds; and
 - Control, reduce or eradicate weeds.
- Identify areas for improvement, based on the results of the audit.
- Develop an ongoing, island-wide quarantine, monitoring and control program for weeds, particularly high priority weeds. GEMCO has existing legal obligations regarding weeds in its tenements and so offset funding would not be used for routine weed control work in the existing tenements.
- Develop a response plan for high priority weeds and high-risk establishment areas (e.g. communities, transport points, roadsides).
- Develop a community awareness program related to weed management.
- Describe the training and resources that would be required to implement the WMP.

The implementation of the plan will involve:

- Work related to quarantine and biosecurity, as specified in the WMP. Some quarantine/biosecurity actions related to weeds are currently undertaken by the Quarantine and Biosecurity Coordinator (employed by the ALC, but funded via a grant from GEMCO). However, the work of the Biosecurity Coordinator is focussed on Cane Toads. The WMP may identify opportunities to enhance quarantine and biosecurity procedures in relation to weeds.
- Ongoing monitoring and control of weeds, as specified in the WMP.
- Ensuring that the necessary procedures, equipment and trained personnel are in place to implement a response plan for high priority weeds.
- Funding special projects (e.g. constructing a weed washdown bay), if any are specified in the WMP as being required to meet the objectives of the WMP and are found to be feasible and cost effective.
- Training and capacity-building for the ALC Rangers, and potentially other parties involved in weed management.

It is anticipated that offset funding would be used to fund a Weed Management Coordinator for Groote Eylandt. The Weed Management Coordinator would take overall responsibility for implementing the WMP. The Weed Management Coordinator would work closely with key stakeholders, such as the ALC Rangers, but would also manage any additional, external resources (e.g. contractors) required to implement the WMP.

The first step of the offset program will be the development of the WMP. The WMP will then be implemented for a 10-year period. The longevity of the offset will be achieved, beyond this 10-year period, through:

- Capacity building of ALC Rangers (e.g. training to identify weeds and ensuring that systems are in place for weed monitoring and control).
- The ALC Rangers seeking additional funding, if required, beyond the timeframe of the offset program (i.e. beyond the 10-year period) to continue undertaking weed management actions specified in the WMP.
- Raising the level of awareness of the Groote Eylandt community in relation to weeds, the threats posed by weeds and measures that community members can take to prevent the introduction and spread of weeds.

5.3 Outcomes to be Achieved

Environmental outcomes to be achieved by the offset are as follows:

- Foundation (first 2 years):
 - Major infestations of high priority weeds on Groote Eylandt are mapped. This will be demonstrated through the preparation of a weed map of Groote Eylandt.
 - The Groote Eylandt community agrees to the strategies to prevent the introduction and spread of weeds, and measures to control weeds. This will be evidenced through the results of GEMCO's consultation with the ALC, as the representative of the Traditional Owners of Groote Eylandt.
- Short Term (2-5 years):
 - Major infestations of high priority weeds on Groote Eylandt have been contained. This will be demonstrated through monitoring showing that there is no spread of high priority weeds beyond the areas mapped at the foundation stage.
- Medium Term (5-10 years):
 - Major infestations of high priority weeds on Groote Eylandt have been contained and reduced (when compared to the baseline weed mapping). This will be demonstrated through monitoring showing that there is no spread of high priority weeds beyond the areas mapped at the foundation stage and that the area occupied by weeds in areas of major weed infestation has been reduced. The WMP will identify a target for reducing major infestations (e.g. 50% reduction, 90% reduction). This target would be specific to the particular weed infestation. This information will be included in the BOMP.
- Long Term:
 - The ALC Rangers are trained and competent in weed management actions that would contain and reduce remaining infestations of high priority weeds on Groote Eylandt, and in weed monitoring. The BOMP, which will be guided by the WMP, will describe the measures for demonstrating that this outcome has been achieved. Potential measures include a specified number of ALC Rangers having completed training that meets specific competency requirements or the development of tools to assist with weed management training.
 - The Groote Eylandt community is aware of threats posed by weeds and actions that can be undertaken by community members to prevent the introduction and spread of weeds. This will be demonstrated through the results of a questionnaire administered to a sample of community members.

6 FRAMEWORK FOR MANAGEMENT

6.1 Planning Process

GEMCO will implement an annual planning process whereby the work on offset actions from the previous year will be reviewed and a work program for the next year will be developed. This process will include a review of any monitoring undertaken as part of offsets, expenditure and outcomes achieved. This annual planning process will be undertaken in consultation with key stakeholders, such as the ALC, ALC Rangers and DEPWS.

6.2 Funding

Biodiversity offsets are required to compensate for the clearing of up to 1,525 ha of land, which provides habitat for the four impacted species. The dollar value of the project's offset contributions is AUD \$4,500 (ex GST) per ha of native vegetation cleared (EPBC Act Approval - Condition 13a(i)). This is the value specified in the approval, which was granted in 2016. However, it is noted that contributions will be adjusted in accordance with the Darwin Consumer Price Index, as per the requirements of Condition 13a(ii).

GEMCO's funding obligations will be assessed annually based on the disturbance footprint of the previous twelve months. GEMCO will maintain a disturbance register for the project and will reconcile it against offset funds required to be spent. This is designed to ensure that GEMCO will fund offset programs described in the BOS up to the value of the project's offset contributions. Offset programs will generally be funded once land has been disturbed; however GEMCO may also choose to fund offset programs in advance of land being disturbed, with any such funds to be credited against future obligations. In some years (e.g. during mine construction), the value of the offset funds, based on the clearing undertaken, may be in excess of the value of the conservation programs planned to be delivered in that year. This will mean that the money is not able to be fully spent in the annual reporting period. In these instances, GEMCO will ensure that this money is captured in its re-forecast budget and remains allocated to agreed offset programs. GEMCO will be responsible for the administration of funds associated with offset programs described in the BOS.

6.3 Monitoring

Monitoring (e.g. weed monitoring) will be undertaken as part of implementing the offset actions and the WMP will describe the monitoring work associated with these actions. This information will be included in the BOMP. Monitoring will specifically focus on confirming that the outcomes specified in Sections 5.3 are being achieved.

6.4 Reporting

GEMCO will undertake the following reporting, as required by the EPBC Act approval:

- Preparation of an impact reconciliation report to account for the work completed and outcomes achieved in the two preceding calendar years against the agreed work program and the work program for the subsequent two-year period (Condition 13b). As part of the impact reconciliation, GEMCO is required to submit spatial data identifying the areas of native vegetation cleared during the previous two years. The methodology for calculating the monies required to be expended on offsets programs is also required to be described (Condition 13c). The report will specifically comment on the achievement of environmental outcomes.
- Annual compliance reporting on the EPBC Act approval conditions (Condition 3). The compliance report must be published on GEMCO's website, addressing compliance with each of the conditions of approval, including implementation of any management plans as specified in the EPBC Act approval (including the BOS and BOMP).

Any reports will be published on GEMCO's website, as required by Condition 7 of the EPBC Act approval.

6.5 Adaptive Management

Although the offset program has now been confirmed, there are circumstances in which some changes to this program may be required. During consultation, DAWE acknowledged that it will be necessary for the offsets to have the capacity to adapt to changing circumstances. Circumstances in which this may occur include, but are not limited to:

- Issues relating to the cost of the offset program. As specified in Section 6.2, the EPBC Act approval specifies the funding available for the offsets program (i.e. \$4,500/ha cleared, with 1,525 ha of clearing approved). Although initial work has indicated that the offset program specified in this BOS is a good match for the funding available, the offset program has not yet been fully costed. It will only be possible to accurately cost it once the WMP has been developed. Once the WMP has been developed and costed, it may transpire that offset funding is surplus to that required for implementing the WMP (and hence the scope of the offset program can be increased or additional offset programs funded). Conversely, it may indicate that there will be a funding shortfall (and hence the scope of work needs to be reduced to ensure that the offset program can be fully funded).
- New knowledge becoming available. The offset program is based on current scientific knowledge and circumstances on Groote Eylandt. As research is undertaken, it may be worthwhile to adjust the offset program in order to achieve a higher-level conservation outcome, based on the knowledge available. For example, new techniques for weed control may be developed that could be applied to Groote Eylandt and it would be advantageous for the offset to be able to adapt to incorporate these, where appropriate.
- Lessons learnt during implementation. As the offset program is implemented, lessons will be learnt which may present opportunities for improving the way in which the program is implemented.

The process for adjusting the offset program will depend on the nature of the change. It is anticipated that it would be desirable to apply to amend the BOS (if necessary) and BOMP in the event that proposed changes would:

- Lead to additional offset program(s) being adopted;
- Require a reduction in the scope of the offset program described in this BOS; or
- Require an amendment to the environmental outcomes specified in this BOS.

In contrast, smaller changes (e.g. changes relating to the methodology for weed management) can be addressed via the Impact Reconciliation Report prepared every two years (Section 6.4). In this instance, this report would specify the changes and confirm that they do not change the environmental outcomes to be achieved.

Finally, it is important to recognise that the EPBC Act approval places a limit on the offset funding required to be spent (Section 6.1). Even once the offset program has been fully costed, there may be unforeseen circumstances that influence the cost of implementation. If it transpires that the level of funding required by the EPBC Act approval is not sufficient to fully implement the program described in the BOS, GEMCO will notify DAWE in writing of this. As part of this notification, GEMCO will provide evidence that offset funding has been well spent and that proper governance was in place in spending the money. Once this notification has been provided, GEMCO will then consult with DAWE about an amendment to the BOS and/or BOMP to reflect the changed circumstances (e.g. reduce the scope of the offset program and associated environmental outcomes).

7 REFERENCES

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FIGURES



EASTERN LEASES PROJECT

Location Plan

FIGURE 1



*APPENDIX A: Consistency of Project Offsets with
EPBC Act Offsets Policy*

Consistency of Project Offsets with EPBC Act Offsets Policy

REQUIREMENT OF EPBC ACT OFFSETS POLICY	PROPOSED PROJECT OFFSETS
Offsets must deliver an overall conservation outcome that improves or maintains the viability of the protected matter	The proposed offsets will deliver an overall conservation outcome that will improve or maintain the viability of the protected matters by providing valuable contributions to actions that will address key threats to impacted species. Section 4 describes the selection of the offset program and how the chosen offset program is relevant to the impacted species. This section demonstrates that the offset program address threats listed in Conservation Advice and/or recovery plans.
Suitable offsets must be built around direct offsets but may include other compensatory measures	Section 5 describes the proposed offset program, which is based around direct actions that have been identified in the TSMP. Although some planning work is required at the foundation stage (i.e. development of the WMP), the vast majority of the work will be on-ground conservation work.
Suitable offsets must be in proportion to the level of statutory protection that applies to the protected matter	The EPBC Act approval specifies the value of the offset through specifying a rate of funding (i.e. dollars/ha cleared).
Suitable offsets must be of a size and scale proportionate to the residual impacts on the protected matter	The total value of the offset is based directly on the area of habitat cleared, given that funding is based on a dollar value per hectare cleared.
Suitable offsets must effectively account for and manage the risks of the offset not succeeding	As detailed in Section 4, one of the factors used in selecting the offset program was the TSMP's rating of whether the action is likely to be effective. Actions rated as effective or highly effective were selected as offsets in order to reduce the risk of the offset not succeeding. It is not possible to eliminate all risk and consequently it will be necessary to apply a process of adaptive management to address these risks and to maximise the conservation value obtained from the offset. Section 6.5 provides further detail.
Suitable offsets must be additional to what is already required, determined by law or planning regulations, or agreed to under other schemes or programs	Actions considered as offsets will be additional actions to what is already required or agreed to under law or other schemes or programs. Consultation with the ALC and ALC Rangers has confirmed that the offset program is additional to existing programs of work. Section 4.3.3 provides further detail.
Suitable offsets must be efficient, effective, timely, transparent, scientifically robust and reasonable	<ul style="list-style-type: none"> ▪ The proposed offsets will be efficient because they will be delivered through the sound allocation of resources. It is anticipated that resourcing will include the funding of a Weed Management Coordinator who would take overall responsibility for implementing the plan and who would work closely with key stakeholders, such as the ALC Rangers, and manage any additional, external resources (e.g. contractors) required to implement the WMP. This will maximise the efficiency of the resources provided to achieve the environmental outcomes of the offsets. ▪ The proposed offsets will be timely as they are delivered at the same time as the impacts are being realised. ▪ Consideration has been given to any approved recovery plans, threat abatement plan, Conservation Advice, ecological character description or approved Commonwealth management plan. ▪ The actions proposed in Section 5 are transparent, scientifically robust, and reasonable because they are based on the information available in the TSMP that summarises the best available knowledge on each species, including its habitat, distribution, status, and key threats.

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Suitable offsets must have transparent governance arrangements including being able to be readily measured, monitored, audited and reported	Funding is described further in Section 6.2 and, as noted in this section, GEMCO will fund the offsets to the value required based on the clearing undertaken. Any work undertaken as part of the offset program will be measured, monitored, audited and reported on as described in Section 6.
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