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GROOTE EYLANDT MINING COMPANY (GEMCO)

EASTERN LEASES PROJECT
ENVIRONMENTAL MANAGEMENT PLAN

AUGUST 2021

HANSEN ENVIRONMENTAL CONSULTING

GEMCO

Eastern Leases Environmental Management Plan

for

Groote Eylandt Mining Company Pty Ltd

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DOCUMENT CONTROL

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ABBREVIATIONS

Abbreviation/Acronym	Definition
ALC	Anindilyakwa Land Council
CTDD	Cane Toad Detection Dog
DAWE	Department of Agriculture, Water and the Environment (Cth)
DENR	Department of Environment and Natural Resources (NT) (former department, now DEPWS)
DEPWS	Department of Environment, Parks and Water Security (NT)
DOEE	Department of Environment and Energy (Cth) (former department, now DAWE)
DSEWPC	Department of Sustainability, Environment, Water, Population and Communities (Cth) (former department, now DAWE)
eDNA	Environmental DNA
EIS	Environmental Impact Statement
EL	Exploration License
EMP	Environmental Management Plan
EP Act	*Environment Protection Act 2019* (NT)
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cth)
ESO	Emergency Services Officer
FIFO	Fly-In Fly-Out
G360	Global360
GEMCO	Groote Eylandt Mining Company Pty Ltd
GIS	Geographic Information System
GPS	Global Positioning System
Ha	hectare
ICAM	Incident Cause Analysis Method
ID	Identification
km^2	Square kilometres
L	Litres
ML	Mineral Lease
NT	Northern Territory
NT EPA	Northern Territory Environment Protection Authority

1 INTRODUCTION

1.1 PURPOSE OF THE DOCUMENT

The Groote Eylandt Mining Company Pty Ltd (GEMCO) has approval to extend manganese mining operations into the Eastern Leases (Mineral Lease [ML]31219 and ML31220) (the project). The project was approved under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act) in June 2016 (EPBC 2014/7228).

The EPBC Act approval for the project requires that an Environmental Management Plan (EMP) (this document) be prepared. The plan relates to management measures for the following four species, which are termed "impacted species" in the EPBC Act approval:

- Northern Quoll (*Dasyurus hallucatus*);
- Northern Hopping-mouse (*Notomys aquilo*);
- Brush-tailed Rabbit-rat (*Conilurus penicillatus*); and
- Masked Owl (*Tyto novaehollandiae kimberli*).

The key direct impact of the project on these species is vegetation clearing, which will result in a loss of habitat for these species. However, biodiversity offsets will be provided to compensate for this impact, in accordance with the requirements of the EPBC Act approval. This EMP therefore describes management measures to address potential indirect impacts on the impacted species. The EPBC Act approval lists the specific measures to be addressed by the EMP and this plan has been prepared to address these requirements.

1.2 DOCUMENT STRUCTURE

This EMP 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.
- Section 3 – Lists the EMP requirements set out in the EPBC Act approval conditions and provides cross references to the sections of the EMP that address the requirements.
- Section 4 – Provides an overview of the Weed Management Plan that has been prepared for this project, and its compliance with the relevant Threat Abatement Plan.
- Section 5 – Provides an overview of the Cane Toad Management Plan that has been prepared for this project, and its compliance with the relevant Threat Abatement Plan.
- Section 6 – Describes other management measures to be adopted for the project in relation to the impacted species.

2 PROJECT OVERVIEW

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 (NT) (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. ML31219 is termed the Northern Eastern Lease, and ML31220 is termed the Southern Eastern Lease. The Eastern Lease mining areas will be connected to the existing mine via a defined access corridor AA31711 in which a new haul road will be constructed (Figure 2). For the purpose of this EMP, the project site encompasses the Eastern Leases plus the haul road corridor.

The project will use the same open cut mining methods as the existing mine. Manganese ore will be transported via the new haul road to the existing mine for processing. Disturbed areas within the Eastern Leases will be progressively rehabilitated as mining is completed.

Where possible, infrastructure (e.g. concentrator, stockpiles) at the existing mine will be utilised and consequently, there is limited infrastructure required to be constructed within the project site. Infrastructure proposed to be constructed in the project site includes:

- Water storage dams and associated water fill points;
- Crib huts (i.e. small demountable structures providing basic staff facilities, such as potable water, ablution facilities, dining area and kitchenette);
- Separate light and heavy vehicle parking areas, adjacent to the crib huts. These also include areas for basic servicing of vehicles and equipment; and
- Temporary laydown storage areas.

In accordance with Condition 8 of the EPBC Act approval for the project, no more than 1,525 ha of native vegetation will be cleared as part of the project.

Construction of the project is planned 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 km^2, 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). The Anindilyakwa Land Council (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.

2.3 PROJECT SITE

The project site is located in the south-western part of Groote Eylandt. The Eastern Leases are 2 km east of the existing mine at the closest point.

The project site is characterised by elevated rocky outcrops and gently sloping valleys. Elevations within the project site range from approximately 10 m to 120 m Australian Height Datum. The project site is located in the catchments of the Angurugu River, Emerald River and Amagula River. The Emerald River and its tributaries drain the majority of the Northern Eastern Lease. A small section of the Amagula River traverses the Southern Eastern Lease in the south-east corner of the tenement. The land within and surrounding the project site comprises natural bushland that is mainly eucalypt dominated open forest, woodland and shrubland. The most common eucalypts are Darwin Woollybutt (*Eucalytpus miniata*) and Darwin Stringybarks (*Eucalyptus tetrodonta*), but a wide variety of other native plants occur.

The land within the project site is used for traditional Aboriginal practices such as hunting and gathering of bush foods. The majority of land within the project site is burnt annually or biennially by Traditional Owners. The other key land use within the project site is the proponent's ongoing exploration drilling activities, which have been occurring since 2001. No farming or agricultural activities are undertaken within or in the vicinity of the project site, nor have such activities been undertaken in the past.

2.4 PROJECT APPROVAL STATUS

The project was subject to an Environmental Impact Statement (EIS) process in 2015/2016. In March 2016, at the conclusion of the EIS process, an Assessment Report was issued by the NT Environment Protection Authority (NT EPA). The Assessment Report included several recommendations relevant to the protection of the impacted species. In particular, Recommendation 3 of the Assessment Report requires that a Weed Management Plan be prepared for the project and Recommendation 4 requires the preparation of a Cane Toad Management Plan. These plans have been prepared and submitted to the NT Department of Environment, Parks and Water Security (DEPWS) for comment. The plans were finalised in mid-2021 taking into account feedback from DEPWS.

EPBC Act approval for the project was granted in June 2016. The EPBC Act approval refers to the recommendations in the Assessment Report, including the recommendation to prepare a Weed Management Plan and Cane Toad Management Plan. Condition 10 of the EPBC Act approval requires GEMCO to prepare an EMP to allow for the better protection of impacted species. Condition 10e and 10f require the EMP to demonstrate how the Weed Management Plan and Cane Toad Management Plan have considered the relevant Threat Abatement Plans. Conditions 10c-d and Condition 10g relate to other measures to be included in the EMP, including those related to vehicle collisions with the impacted species, the prohibition of pets and firearms, waste management measures and staff inductions. This EMP addresses these conditions.

3 CONDITIONS OF APPROVAL

Table 1 lists the requirements from Condition 10 of EPBC Act approval (EPBC 2014/7228) and indicates the location where each requirement has been addressed in this document.

TABLE 1 EASTERN LEASES PROJECT EPBC ACT APPROVAL – CONDITION 10

Environmental Management Condition	Location in this Document
10. For the better protection of the impacted species, the approval holder must prepare and submit an Environment Management Plan (EMP) for approval by the Minister. The EMP must include, but is not limited to:	
a. A staff induction program that provides information to all employees and contractors on the impacted species and activities/actions that may result in a direct or indirect impact on these species.	Section 6.6
b. Measures to mitigate vehicle collisions with impacted species through installation of relevant signage on roads and entry points to the project site noting the presence of the impacted species.	Section 6.2
c. The prohibition of pets and firearms on the project site.	Section ▪
d. Measures to control waste on the project site in order to avoid attracting and propagating vermin and feral cats.	Section 6.4
e. Demonstrate how the Weed Management Plan, prepared in accordance with recommendation 3 of Assessment Report 77, has considered, where relevant, the Threat abatement plan to reduce the impacts on northern Australia's biodiversity by the five listed grasses (Department of Sustainability, Environment, Water, Population and Communities, Canberra, 2012).	Section 4
f. Demonstrate how the Cane Toad Management Plan, prepared in accordance with recommendation 4 of Assessment Report 77, has considered, where relevant, the Threat abatement plan for the biological effects, including lethal toxic ingestion, caused by cane toads. (Department of Sustainability, Environment, Water, Population and Communities, Canberra, 2011).	Section 5
g. A requirement for all employees and contractors to report all observations of feral cats, cane toads and the impacted species in the project site to the approval holder's environmental department. The approval holder must report any incidents that result in death or injury to impacted species in the annual compliance report required by condition 3.	Section 0
The EMP must be submitted to the Minister for approval prior to the commencement of the action. Construction must not occur until the EMP has been approved by the Minister. The approved EMP must be implemented.	This document.

4 WEED MANAGEMENT PLAN

4.1 INTRODUCTION

Weeds are plant species that grow out of place and are often introduced and spread by people. Weeds have the potential to alter landscapes and can have serious impacts on the economy and the environment (NT Government, 2021). Currently, there are only limited weeds present within the project site but there is the potential for weeds to be introduced or spread as project activities take place. Project activities relating to vegetation clearing and ongoing earthmoving activities have the potential to introduce and spread weeds, which could lead to impacts on threatened species as well as other biodiversity values. Weed species that occur in the existing mine are likely to have the highest potential to establish in the project site.

Weeds have the potential to out-compete native plant species for resources such as nutrients, sunlight and space. The invasion of weeds within native vegetation can alter the diversity and functioning of vegetation communities and reduce the availability of food sources, shelter and nesting sites for wildlife. Some weed species are known to have a particularly negative impact on ecosystems. In recognition of this, in 2012 the following threat was added to the EPBC Act list of key threatening processes: 'Ecosystem degradation, habitat loss and species decline due to invasion of northern Australia by introduced gamba grass (*Andropogon gayanus*), para grass (*Urochloa mutica*), olive hymenachne (*Hymenachne amplexicaulis*), mission grass (*Pennisetum polystachion*) and annual mission grass (*Pennisetum pedicellatum*)".

GEMCO has established a weed management framework to reduce the risk of weeds impacting native plant and animal species within its tenements. To support this framework, a Weed Management Plan has been developed and was submitted to DEPWS for review. The Weed Management Plan was finalised in mid-2021 and addresses the comments received from DEPWS.

The following sections provide a high-level overview of the Weed Management Plan, and discuss the way in which the plan considers the *Threat abatement plan to reduce the impacts on northern Australia's biodiversity by the five listed grasses* (Department of Sustainability, Environment, Water, Population and Communities [DSEWPC], 2012).

4.2 MANAGEMENT ACTIVITIES AND CONTROLS

4.2.1 INTRODUCTION

GEMCO recognises that the introduction and spread of weeds represents a significant risk to the ecological, cultural and recreational values of Groote Eylandt.

The Weed Management Plan identifies a large number of weed species that are present on Groote Eylandt, with 26 weed species currently identified as a particular priority for management. These priority species have been allocated to three priority classes, ranging from those that require immediate eradication, to those that only require their growth and spread to be controlled. Priority weed species and their priority classes have been chosen using a risk-based approach that considers the following:

- Species listed within the *threat abatement plan to reduce the impacts on northern Australia's biodiversity by the five listed grasses* (DSEWPC, 2012);
- The declaration status of the species under NT and Commonwealth legislation;
- Infestation location/s and extent, risk due to the proximity of the infestation to transport hubs, density and growth stage/s;

- Impact on the environment, fire risk, and on mine rehabilitation areas;
- Feasibility of control and eradication; and
- Potential for collaboration with the ALC, community and other land users.

Risks posed by the identified priority weed species are managed via:

- Maintaining a baseline map of the current distribution of weeds across GEMCO's tenements;
- Implementing measures to prevent the introduction of weeds and/or prevent their propagation and spread;
- Managing current weed infestations via weed control and treatment activities;
- Monitoring for the presence of weeds; and
- Implementing a weed response program.

These management measures will also be implemented for the project and are described in the following sections.

4.2.2 MAPPING OF EXISTING WEED DISTRIBUTION

A baseline weed survey of historic exploration gridlines, drill pads and tracks was undertaken in 2021 within the project site, and the data obtained from this survey will be used for future monitoring and management. Weeds will also be identified, and GPS co-ordinates will be recorded, as part of pre-clearance surveys for the project.

The Weed Management Plan explains that GEMCO maintains a GIS weed mapping database to capture any weed infestation data gathered during weed surveys and on an ad-hoc basis. The database also captures treatment activities that are undertaken.

4.2.3 WEED PREVENTION AND MITIGATION MEASURES

Prevention of weed spread is the most successful and cost-effective type of weed management strategy. The Weed Management Plan describes the following measures that will be employed to prevent the introduction of weeds and/or prevent their propagation and spread:

- Quarantine inspections – All GEMCO barge freight, including vehicles and equipment, that arrives on Groote Eylandt is inspected at the Alyangula Freight Port for soil, seeds or plant matter. These inspections are also completed by the barge crew prior to the barge departing from Darwin. Any vehicles or equipment found to have noticeable traces of soil/seeds during inspections are detained at the port facility until wash down/weed treatment is completed.
- Vegetation clearing procedures - Clearing procedures include:
  - A Permit to Clear process (facilitated by pre-clearance surveys) is undertaken prior to any areas being cleared. This process includes inspecting the area proposed to be cleared for weeds so that topsoil from weed infested areas can be separated from topsoil that does not contain weeds. Depending on the severity of the weed infestation, the topsoil may be buried or stockpiled in separate, designated areas.
  - At the conclusion of clearing activities, if the earthmoving equipment has been operating in an area that contains weeds, the equipment is washed on site prior to relocation to ensure that weeds are not spread.

- Mine rehabilitation – Establishing a dense cover of native vegetation in mine rehabilitation is important for suppressing weeds. The best rehabilitation results are achieved if topsoil is used in mine rehabilitation within two weeks of being stripped. Consequently, topsoil is only stockpiled as a last resort when there is no area available for direct return. Topsoil stockpiles are located in open areas away from sources of airborne weed seed. If a stockpile becomes infested with weeds, further management requirements are assessed prior to the topsoil being utilised in rehabilitation.
- Other general preventative measures to avoid weed germination and spread, include:
  - The use of established roads and tracks.
  - Using appropriate disposal techniques for weeds, with the method used being dependent on the type of weed and whether it contains reproductive parts. Techniques include burying the weeds within mining voids or at the landfill (where a concrete weed bay has been constructed in the green tip area).
  - A prohibition on Alyangula residents and GEMCO visitors and contractors importing plants (including aquatic plants), soil and mulch material from non-approved sources.
  - Educating all GEMCO employees and contractors on weed management and reporting obligations through the site induction process. This induction highlights how weeds impact the environment and what employees and contractors should do to help reduce risks associated with weeds.

4.2.4 WEED CONTROL AND TREATMENT ACTIVITIES

As discussed in Section 4.2.1, a risk-based approach has been applied in determining weed management priorities, and there are presently 26 weed species that have been identified as requiring priority management. Each priority species has been allocated a priority class which provides guidance on how the weed should be controlled and/or treated. For example, Priority 1 species are to be eradicated immediately and require ongoing treatment, survey and management. In the case of Priority 3 species, regular weed treatment processes are applied to control growth and spread. It is noted that not all 26 priority weed species are listed as Class A species under the *Weed Management Act 2001* (NT), or Weeds of National Significance under the National Weeds Strategy.

In order to control weeds, GEMCO implements an integrated weed management strategy that uses complementary weed control methods targeted to individual species. This strategy aligns with guidance provided in the NT Weed Management Handbook (DENR, 2018). A wide variety of control methods are used, including physical control methods such as slashing/mowing, mulching and cultivation, and chemical control methods such as aerial spray and the application of herbicides to targeted plants and topsoil. Land management control measures are also utilised, which include isolating areas of infestations and preventing access to these areas via road closures and the installation of signage.

In order to treat existing weeds, treatment methods have been identified for each priority weed species (along with other non-priority weed species located on Groote Eylandt), and these methods are described in detail in the Weed Field Guide (appended to the Weed Management Plan). The Weed Field Guide lists each weed species, provides details regarding the priority, classification and taxonomy of the species, the physical characteristics of the species, and what treatment methods are suitable for controlling the species (including optimum treatment times).

4.2.5 MONITORING PROGRAM

GEMCO has established a comprehensive weed monitoring and evaluation program, which consists of pre and post-wet season surveys at known weed locations, priority treatment areas, and newly established rehabilitation sites across Groote Eylandt. The monitoring program aims to:

- Identify the effectiveness of control measures;
- Assess the rate at which weeds are spreading;
- Assess the growth stages of weeds in previously treated areas; and/or
- Detect the presence of new weeds that have been established.

The information collected from these surveys is used to map and plan further weed treatment activities.

4.2.6 RESPONSE PROGRAM

GEMCO has implemented a Trigger, Action and Response Plan which outlines the response required for certain incidents related to weeds. The triggers include:

- Introduction of a new declared weed to Groote Eylandt or spread of a declared weed to a new area;
- Introduction of priority weeds to areas previously weed free (particularly Exploration Licenses);
- Spread of environmental weeds to areas previously weed free (particularly the Exploration Licenses); and
- Wildfire or controlled burns on GEMCO Leases.

Actions, responsibilities and timeframes are allocated to each trigger, as detailed in the Trigger, Action and Response Plan. Further detail is provided in the Weed Management Plan.

4.3 REPORTING, EVALUATION AND REVIEW

4.3.1 INTRODUCTION

This section describes the reporting, evaluation, and review framework for the Weed Management Plan.

4.3.2 INCIDENT REPORTING AND INVESTIGATION

GEMCO uses a risk management system called Global360 (G360), which is an integrated event management platform that assists in managing risks to the business. All new weed outbreaks are recorded as environmental incidents and reported in G360. New weed outbreaks include the first sighting of a new weed species or detection of a weed species in a distinct area where it has not been seen before. Corrective actions will be initiated for new weed outbreaks through G360.

In the event of weeds being identified in areas that were previously weed free, an investigation is undertaken, which includes:

- The Environment Specialist(s) is notified.
- A trace-back of the origin of the outbreak is undertaken to investigate where the weed came from (for example drainage lines, roads/tracks, a cleared area, topsoil stockpiles or heavy equipment).
- GEMCO's control and/or treatment measures for the identified species is reviewed and updated if a potential pathway for spread that could be managed by GEMCO is confirmed.
- Assessments of nearby drainage lines, roads/tracks, topsoil stockpiles and surrounding vegetation are undertaken to determine if there are any other associated outbreak areas.

Procedures are also in place for providing notification to the NT Government if a weed is identified in an area not previously recorded within GEMCO's tenements. GEMCO also provides an annual report to the NT Government that describes the performance of the Weed Management Plan in relation to the four statutory weeds that occur on Groote Eylandt. A summary of weed management actions is also included in the GEMCO Operational Performance Report required under the *Mining Management Act 2001* (NT).

4.3.3 EVALUATION OF PERFORMANCE

All weed treatment activities and outcomes are verified during the monitoring programs described in Section 4.2.5. Specifically, in relation to the project, the key measures of success will be:

- Existing weeds within the project site will be contained and areas of infestation will be reduced; and
- No additional weed species will be brought into the project site.

Measurement of performance against these targets will be monitored through weed mapping within the project site.

4.3.4 REVIEW AND REFINEMENT OF PLAN

The Groote Eylandt Weed Management Working Group consists of representatives from GEMCO and other organisations that operate in the Groote Archipelago (such as the ALC, and Groote Eylandt and Bickerton Island Enterprises), with the NT Weeds Management Branch (part of DEPWS) attending selected Working Group meetings. The Working Group meets biannually and reviews the priorities in the Weed Management Plan and the performance of treatment programs. This information is used to inform subsequent annual treatment and monitoring programs and may trigger the need to update the Weed Management Plan, as required.

A detailed review of the Weed Management Plan's objectives, priorities and actions will also be conducted every three years. The review will be undertaken in consultation with the Groote Eylandt Weed Management Working Group and the NT Weed Management Branch, and amendments made to the plan, if required.

4.4 RESPONSIBILITIES

Several personnel have responsibilities in relation to the Weed Management Plan, including the Environment Specialist, the Superintendent Rehabilitation and Superintendent Operations Services, Project Superintendent, the Exploration Superintendent and GEMCO's Rehabilitation Team. The Weed Management Plan provides a full account of roles and responsibilities.

4.5 CONSIDERATION OF THE THREAT ABATEMENT PLAN

Ecosystem degradation, habitat loss and species decline due to the invasion of northern Australia by introduced Gamba Grass, Para Grass, Olive Hymenachne, Mission Grass and Annual Mission Grass was listed as a key threatening process under the EPBC Act in 2009. A threat abatement plan for this key threatening process was developed by the Commonwealth Government in 2012.

The threat abatement plan provides a "framework for prioritising investment in threat abatement and identifies management and other actions required to ensure the long-term survival of native species and ecological communities affected by these grasses". The threat abatement plan lists threatened species that are under immediate threat from the five listed grass species and the listed species include three of the impacted species for the project (the Brush-tailed Rabbit-rat, Northern Quoll and Northern Hopping-mouse).

The threat abatement plan is relevant to the project, given the presence of these threatened species within the project site and because the majority of the listed grass species (all but Olive Hymenachne) have been recorded on Groote Eylandt.

The threat abatement plan notes that weed management is based on the principles of prevention, eradication, containment and asset protection. This is consistent with the approach described in GEMCO's Weed Management Plan, where an emphasis is placed on quarantine measures designed to prevent the introduction of new weed species to Groote Eylandt and weed hygiene measures designed to prevent the spread of the existing weeds. The Weed Management Plan also describes eradication and containment methods. This approach will achieve asset management, preventing habitat for threatened species being degraded by weeds, particularly by the five listed grass species.

The threat abatement plan also encourages a coordinated approach to weed management. This is achieved through GEMCO's involvement in the Groote Eylandt Weed Management Working Group, which considers broader weed management priorities for Groote Eylandt.

The threat abatement plan is supported by a background document, which provides information on each of the five grass species, their biology and the impacts they may have (environmental, social and economic). It also describes the way in which each species is managed by the States and Territories. GEMCO's Weed Management Plan has drawn on this background document for information about the biology of the five grass species.

5 CANE TOAD MANAGEMENT PLAN

5.1 INTRODUCTION

Groote Eylandt has extremely high conservation values and provides a critical refuge for several threatened species, such as the Northern Quoll (Department of Natural Resources [DENR], ALC, Department of the Environment and Energy [DoEE], & GEMCO, 2019). The absence of Cane Toads on the island has contributed to the persistence of such species, and establishment of Cane Toads on the island would be catastrophic for the survival of these species.

The biological effects, including lethal toxic ingestion, caused by Cane Toads, was added to the EPBC Act list of key threatening processes in 2005, in recognition of the risks posed by Cane Toads.

GEMCO has a Cane Toad Management Plan, which provides a detailed account of all the environmental management activities and controls in place to manage the risk of Cane Toad establishment on Groote Eylandt and avoid any associated negative impacts. The Cane Toad Management Plan applies to all of GEMCO's operations on Groote Eylandt, including the project. The Cane Toad Management Plan has been prepared in consultation with DEPWS, and reflects feedback received from DEPWS' review of the Cane Toad Management Plan.

The following sections provide a high-level overview of the Cane Toad Management Plan and outline the way the plan considers the *Threat abatement plan for the biological effects including lethal toxic ingestion, caused by Cane Toads* (DSEWPC, 2011).

5.2 MANAGEMENT ACTIVITIES AND CONTROLS

5.2.1 INTRODUCTION

A risk-based approach was used in developing the Cane Toad Management Plan. The plan identifies the highest risk pathways for potential Cane Toad introduction and describes controls to reduce the risks associated with these pathways. Key risks relate to the transport of freight and passenger luggage from the mainland. Risks are managed via:

- Measures designed to prevent Cane Toads being introduced via freight and passenger luggage (e.g. installing Cane Toad exclusion fencing in freight yards, undertaking inspections of freight).
- An education and awareness program for employees, residents and visitors of Groote Eylandt, aimed at ensuring that they report sightings of Cane Toads and take measures to reduce the potential for their activities to introduce Cane Toads.
- An ongoing monitoring program, involving environmental DNA (eDNA) and spotlighting surveys, to ensure that any Cane Toads that arrive on Groote Eylandt are detected quickly.
- A Cane Toad incursion response program to ensure that a quick and effective response can be enacted in the event of a Cane Toad being detected on Groote Eylandt.

Further detail on these programs is provided in the following sections.

GEMCO funds a Biosecurity Coordinator, who plays a key role in the implementation of the Cane Toad Management Plan. The Biosecurity Coordinator undertakes Cane Toad management actions across the island and also undertakes Cane Toad detection work using a specialist Cane Toad Detection Dog (CTDD). A second

Biosecurity Officer will be appointed by the end of 2022 and the two Biosecurity Coordinators will be funded for the life of GEMCO's operations.

5.2.2 RISK MANAGEMENT OF FREIGHT AND PASSENGER LUGGAGE

The following actions are taken to reduce the risks associated with GEMCO's operations (freight and airline passengers) transporting stowaway Cane Toads to Groote Eylandt:

- Cane Toad exclusion and containment fencing – Cane Toad exclusion fencing is deployed and will continue to be maintained at key freight and barge operator facilities on the mainland to minimise the risk of Cane Toads entering freight yards and accessing freight destined for Groote Eylandt. Cane Toad containment fencing has also been deployed and will continue to be maintained in key areas where GEMCO's freight is unloaded/unpacked on Groote Eylandt. This ensures that even if there are Cane Toads in freight, they will be contained within freight yards. These fencing systems are required to be checked multiple times a week by the operators of the facilities to ensure that the systems are still intact. Exclusion and containment areas are required to be kept in a condition that is not conducive to Cane Toads hiding within or close to the yard.
- Cane Toad trapping – Cane Toad traps are deployed and will continue to be maintained within all exclusion and containment areas in Darwin and on Groote Eylandt. The traps are for the purpose of ensuring that any Cane Toads that have entered these areas are trapped before either accessing freight destined for Groote Eylandt (in the case of mainland areas) or escaping containment areas (in the case of Groote Eylandt areas). A minimum number of traps are required in each area (dependent on the size of the perimeter), and traps are required to be kept in good condition and checked multiple times a week. Forms are submitted to GEMCO for the purpose of confirming that these checks have taken place, and reporting on whether any Cane Toads have been detected.
- Cane Toad inspections – Inspection of GEMCO's freight for the presence of Cane Toads will be undertaken at multiple points along the journey from the mainland freight facility to its destination (i.e. locations on Groote Eylandt). Inspections of freight include:
  - Visual inspections of freight undertaken by barge operators during and after freight is packed on the mainland, and also before being unloaded from barges on Groote Eylandt. All freight inspections are undertaken according to a set procedure and forms are submitted to GEMCO confirming that the inspections have taken place. In the event of a Cane Toad being detected during inspections:
    - The Biosecurity Coordinator is immediately notified;
    - The freight is held back and not permitted to be shipped to Groote Eylandt until it has been thoroughly inspected for further Cane Toads; and
    - The freight is only permitted to be shipped to Groote Eylandt once GEMCO provides approval for its release.
  - Inspections of freight undertaken by the CTDD and Biosecurity Coordinators, at multiple locations across Groote Eylandt where freight is unloaded and unpacked. The Cane Toad Incursion Response Program (outlined in the Cane Toad Management Plan) is enacted if a Cane Toad is detected during these inspections (see Section 5.2.5). The CTDD undergoes maintenance training sessions on a weekly basis, and validation assessments each year, to ensure that it remains effective at detecting Cane Toads.
- Monthly reporting - The Biosecurity Coordinators are required to submit a monthly report to GEMCO to summarise the quarantine actions that have been undertaken during the month.

Actions relating to risks associated with passenger luggage include awareness programs requesting that travellers are mindful of the risk of Cane Toads when packing their luggage. Seat pocket information cards are also provided to passengers on flights[1], along with an in-flight biosecurity announcement, both providing information about Cane Toads.

5.2.3 CANE TOAD AWARENESS INITIATIVES

Comprehensive awareness initiatives have been put in place to raise public awareness and knowledge of Cane Toads and their potential impacts, as well as provide advice on how this risk can be managed. These include:

- Inductions for GEMCO employees, contractors, visitors, and suppliers, that discuss Cane Toads;
- Awareness sessions that cover relevant biosecurity issues, including Cane Toads;
- Awareness signage, promotional material and information packs providing information on Cane Toads;
- A biosecurity stall, organised annually, to increase public awareness of all biosecurity issues on the island, including Cane Toads; and
- Contracting requirements to ensure that vendors servicing GEMCO are made aware of the risk of Cane Toads and their contractual obligations to manage this risk.

5.2.4 MONITORING

A robust monitoring system has been developed and will be implemented to ensure that any Cane Toads that arrive on Groote Eylandt, and escape containment areas, are detected quickly. The monitoring program is risk-based, with higher risk sites being monitored more frequently. Monitoring sites have been selected based on a consideration of where Cane Toads are likely to enter Groote Eylandt, how Cane Toads could be transported throughout the island, the location of suitable Cane Toad habitat and breeding sites, and the location of previous Cane Toad incursions. The monitoring program includes the following:

- A comprehensive spotlighting program undertaken at multiple locations across Groote Eylandt, including various waterbodies and disturbed areas where water may pond. The spotlighting program is undertaken throughout the wet season.
- A supplementary eDNA monitoring program undertaken at several waterbodies across Groote Eylandt, with samples collected throughout the wet season.
- Surveys for the presence of Cane Toad metamorphs or tadpoles within waterbodies undertaken at multiple waterbodies across Groote Eylandt throughout the wet season.

The monitoring program is undertaken by at least two trained personnel, in accordance with a detailed procedure.

[1] Use of seat pocket information cards was temporarily halted during the Covid 19 pandemic for hygiene reasons.

5.2.5 CANE TOAD INCURSION RESPONSE PROGRAM

A response program has been developed to ensure that a quick and effective response can be enacted in the event of a Cane Toad being detected on Groote Eylandt. This response program includes a procedure for reporting of Cane Toad sightings, and the enactment of the Cane Toad Incursion Response Program.

REPORTING OF CANE TOAD SIGHTINGS

The GEMCO Emergency Services Officers (ESOs) manage a 24-hour phone line for emergencies. This number is circulated across the island in awareness programs and is called in the event of a Cane Toad sighting. Awareness programs have been designed to educate the community to phone the ESO line immediately in the event of a Cane Toad being sighted or a Cane Toad call being heard.

The ESOs maintain a Cane Toad Report Response Procedure to be enacted in the event of a Cane Toad being sighted or a call being heard and a report phoned in. The procedure lists several Environment Contacts (including the Biosecurity Coordinators) that can be contacted by the ESOs in the event of a report, and these contacts are listed in order of priority, to ensure that a contact is able to be reached.

CANE TOAD INCURSION RESPONSE PROGRAM

If a Biosecurity Coordinator positively identifies a Cane Toad on the island or if Cane Toads are detected via eDNA monitoring, the Cane Toad Incursion Response Program will be enacted. The Cane Toad Incursion Response Program includes five levels of response, based on the location and severity of the incursion.

Response methods include spotlighting, deployment of the CTDD, placing holds on the movement of freight, manual removal of Cane Toads, eDNA sampling, tadpole trapping and netting, diurnal searches for Cane Toad eggs, and installing temporary fencing around waterbodies. A training program will be undertaken on a regular basis to ensure that trained personnel are available to respond quickly and effectively, and equipment required to be used in a response has been purchased and maintained on the island.

5.3 REPORTING, EVALUATION AND REVIEW

5.3.1 INTRODUCTION

This section describes the reporting, evaluation, and review framework for the Cane Toad Management Plan.

5.3.2 TASK MONITORING AND VALIDATION

GEMCO use G360 (see Section 4.3.2) to monitor and validate the actions described in the Cane Toad Management Plan. Establishment of Cane Toads has been identified as a material business risk in G360, and under this risk, controls have been identified to manage this risk, with standards applied to each control. To ensure the standards are being met, several critical control tasks are identified for each control, including who is required to implement the task, and when the task is required. To ensure that these tasks are being implemented, the tasks are also allocated critical control observation and verification tasks. These tasks are scheduled and G360 will automatically inform the control owner when the observation or verification task is required to be completed. Critical control observation and verification tasks relating to Cane Toads will include the following (to be undertaken by GEMCO):

- Risk Management of Freight:
  - Quarterly audits of measures undertaken at key barge supplier facilities as well as the GEMCO Warehouse, including inspections of Cane Toad containment and exclusion fencing/gating, traps, and yard integrity.

  - Twice yearly audits of all freight inspection procedures that are undertaken.
  - A quarterly review of forms being submitted by barge suppliers contracted to GEMCO, as well as the GEMCO Warehouse.
  - A quarterly review of the monthly Biosecurity Coordinator reports submitted to GEMCO.
  - Yearly on-site independent validation of the CTDD and Biosecurity Coordinators, undertaken by an independent operation that trains detection dogs.
- Risk Management of Passenger Luggage:
- Yearly survey of Fly-in Fly-out (FIFO) workers upon arriving to Groote Eylandt Airport to verify whether passengers received a seat-pocket information card, whether the in-flight announcement occurred, and whether the FIFO worker had been provided with induction information on Cane Toads prior to departing for Groote Eylandt. Cane Toad Awareness Initiatives:
  - Yearly audits of GEMCO induction modules.
  - Yearly audits of the awareness signage, including ensuring that all signage deployed is in good condition and does not require replacing.
  - Yearly audit of the Cane Toad Stakeholder Engagement Schedule.

If any of the aforementioned critical control observation and verification tasks reveal that the management measures in place to manage the risk of Cane Toad establishment are not being undertaken effectively, corrective action is undertaken to rectify the issue.

5.3.3 INCIDENT REPORTING AND INVESTIGATION

GEMCO's risk management system (G360) also allows for the reporting of incidents. These can be entered into G360 if an issue is found whilst conducting critical control observation/verification tasks or if any other issue is found which may have an impact on the material risk of Cane Toad establishment. Incidents are entered into G360 as a hazard, event near-miss, or event. Once a hazard, event near-miss or event is reported into G360, the incident is given a severity level (ranging from 1-7), and actions are assigned to a particular owner to rectify the incident or undertake an investigation, to be completed within a specified timeframe. Timeframes are provided for initiating the investigation, gathering and analysing data and developing recommendations. The entire process is required to be completed within 28 days of the incident occurring. This investigation process will result in actions being identified that are required to prevent reoccurrence.

5.3.4 EVALUATION OF PERFORMANCE

The key measure of success for the Cane Toad Management Plan is that no Cane Toads establish on Groote Eylandt as a result of GEMCO's activities.

Performance measures are listed below:

- All yards identified as requiring Cane Toad fencing are fenced as per the specifications in the Cane Toad Management Plan and fencing is inspected and repaired as per the process described in this plan.
- All yards identified as requiring Cane Toad traps have the specified number of traps in place, with traps inspected as per the process described in the Cane Toad Management Plan.
- All barge freight being transported to Groote Eylandt on GEMCO's behalf is visually inspected on the mainland and inspected again on Groote Eylandt.

- All Roll-on Roll-off and palletised freight transported to Groote Eylandt on GEMCO's behalf is inspected by a CTDD before being released.
- Spotlighting and eDNA monitoring are undertaken as per the process described in the Cane Toad Management Plan.
- All equipment required for the Cane Toad Incursion Response Program is in place, is functioning and the resource plan lists sufficient trained and available personnel to resource a response to a Cane Toad incursion.
- Prior to departing for Groote Eylandt, all GEMCO's employees, contractors and visitors are provided with Cane Toad information requesting that they check their luggage.

Achievement of these performance measures will be evaluated as part of the audit process, described in Section 5.3.5.

5.3.5 REVIEW AND REFINEMENT OF PLAN

An audit (undertaken by an independent third party) will be undertaken every two years to ensure that the actions described in the Cane Toad Management Plan are being undertaken, and to evaluate the existing controls to ensure they are suitable for managing the risk of Cane Toad establishment on Groote Eylandt.

A review and update of the Cane Toad Management Plan following each audit will also be undertaken. This review will ensure the following:

- Any recommendations that arise from the audit process are considered and evaluated and, where necessary, incorporated into the plan and implemented.
- The plan is still current.
- Any results of Cane Toad event investigations are incorporated into the management plan.

Along with the auditing and review processes, the controls, standards, and critical control tasks described in G360 will also undergo a review every two years, and all associated GEMCO documentation will be updated to reflect the changes made to the management plan.

5.4 RESPONSIBILITIES

Actions described in the Cane Toad Management Plan are predominantly required to be undertaken by the Biosecurity Coordinators, however, other GEMCO departments and suppliers/contractors are also required to undertake some tasks, including the ESOs. The Cane Toad Management Plan provides a full account of roles and responsibilities.

5.5 CONSIDERATION OF THE THREAT ABATEMENT PLAN

The biological effects, including lethal toxic ingestion, caused by Cane Toads was listed as a key threatening process under the EPBC Act in 2005, in recognition of Cane Toads having an adverse impact on a number of matters of national environmental significance, with impacts expected to continue as Cane Toads expand their range. A threat abatement plan for this key threatening process was developed in 2011. The threat abatement plan was prepared for the purpose of providing a "national strategy to guide investment and effort by the Australian Government, jurisdictions, research organisations and non-government organisations in abating the impacts of cane toads across their known and anticipated range".

The threat abatement plan explains that considerable effort and funding has been dedicated to broad-scale Cane Toad control and eradication, without success. It concludes that it is not currently possible to contain or eradicate Cane Toads across the nation and consequently effort should be focussed on a priority list of "key assets" (i.e. threatened species most at risk from Cane Toads). To this end, the threat abatement plan has the following objectives:

1. Identify native species and ecosystems at risk due to Cane Toads;
2. Reduce the impact of Cane Toads on native species and ecosystems; and
3. Communicate information about Cane Toads and their impacts.

In relation to the first objective, the threat abatement plan identifies species that are known to have experienced high or moderate population level threats due to Cane Toads. The Northern Quoll (one of the impacted species for the project) is one such species. The threat abatement plan includes a list of islands, currently free of Cane Toads, that support populations of the Northern Quoll and other species that are known to be adversely impacted by Cane Toads. Groote Eylandt is identified on this list and is consequently a priority for Cane Toad management.

In relation to the second and third objectives, the threat abatement plan includes actions, for the Australian Government, such as preparing or monitoring the development and implementation of guidelines related to Cane Toad management for high priority species (e.g. Northern Quoll). The threat abatement plan includes actions related to the development of a factsheet and a webpage on Cane Toads, with the webpage intended to contain up-to-date information on the threat of Cane Toads, management actions and management plans (as they are developed). These resources were consulted as part of the development of the Cane Toad Management Plan, and the biological information about the Cane Toad and its lifecycle that is included in the factsheet was utilised in designing management and monitoring measures.

GEMCO's Cane Toad Management Plan is consistent with the threat abatement plan in that it focuses on ensuring that GEMCO's actions do not lead to the introduction or establishment of Cane Toads on Groote Eylandt, which is an area identified as a priority in the threat abatement plan. As per the approach promoted in the threat abatement plan, it recognises that efforts must focus on preventing Cane Toads from arriving on Groote Eylandt, rather than later attempting a broad-scale eradication program. To this end, considerable effort has been placed on quarantine measures designed to prevent an incursion (e.g. Cane Toad fencing, freight inspections, community awareness). There is also a monitoring program, which will provide for early detection of an incursion to enable Cane Toad/s to be eradicated before they establish. The successful implementation of GEMCO's Cane Toad Management Plan will assist with meeting the threat abatement plan's objective of reducing the impact of Cane Toads on populations of priority native species.

6 OTHER MANAGEMENT MEASURES

6.1 INTRODUCTION

Management measures, in addition to those related to weeds and Cane Toads, are required to minimise the impacts of the project on EPBC Act listed threatened species. These additional measures are listed in Condition 10 of the EPBC Act approval and are discussed in this section. They apply to activities undertaken within the project site.

6.2 SIGNAGE IN RELATION TO VEHICLE COLLISIONS WITH IMPACTED SPECIES

6.2.1 INTRODUCTION

Condition 10b of the EPBC Act approval requires that the EMP includes:

"Measures to mitigate vehicle collisions with impacted species through installation of relevant signage on roads and entry points to the project site noting the presence of the impacted species".

Haul roads will be developed as part of the project, including a haul road connecting the Eastern Leases to the existing GEMCO mine. This section details the signage that will be installed to caution drivers about the risk of collisions with the impacted species.

6.2.2 MANAGEMENT ACTIVITIES AND CONTROLS

Signage will be installed as follows to minimise the risk of vehicle collisions with impacted species:

- Signs warning drivers about the presence of wildlife will be installed in the locations shown in Figure 2. These locations have been selected to maximise the effectiveness of the signage and will ensure that there are warnings about the presence of wildlife at the entrance to the major haul roads and at strategic locations as drivers enter the two tenements (i.e. the Northern Eastern Lease and Southern Eastern Lease).
- Signs will be installed at the time that the haul roads are constructed and will be maintained for as long as the haul roads are used by project/mine-related traffic.
- The signs will show images of wildlife such as the Northern Quoll and include wording such as "Watch for Wildlife".
- Signage shall comply with, and be installed in accordance with, the requirements of *Australian Standard AS 1742: Manual of Uniform Traffic Control Devices*.
- Signs will be made of reflective material to ensure that they are visible at night. Minimum reflectivity shall be as per *Australian Standard AS/NZS 1906: Retroreflective materials and devices for road traffic control purposes*.
- Any text will be of size legible for the set speed limit.

In addition, the induction process described in Section 6.6 includes information on appropriate road safety and site vehicle hazards. This includes information about the risk of vehicle strike with wildlife, including the impacted species.

6.2.3 MONITORING, REPORTING AND ADAPTIVE MANAGEMENT

- Signs will be inspected quarterly by the GEMCO Mining Department to confirm that they are in good condition, reflective, clean and legible.
- In the event of the inspection indicating that the signs require repair or cleaning, this will be entered into the GEMCO's maintenance workflow process and repair, cleaning or replacement will be scheduled.
- Instances of vehicle collisions with impacted species within the project site will be recorded as follows:
  - Vehicle collisions with impacted species will be reported to the shift supervisor as soon as it is safe to do so and before the end of shift.
  - The report will include the location, date and time of the collision and whether the impacted species has been injured or killed.
  - The data will be entered into G360. Refer Sections 4.3.2, 5.3.2 and 5.3.3 for a description of G360.
- On an annual basis, the Environment Specialist will review the data on vehicle collisions with impacted species to determine if there are trends (e.g. locations where collisions frequently occur or particular times of day when collisions occur more frequently).
- Based on these trends, the GEMCO Mining Department will determine whether additional measures are required to reduce the risk of vehicle collisions with impacted species. These may include, but are not limited to:
  - Installation of additional/revised signage; and/or
  - Review of the induction material and training to determine if improvements could be made to the material; and/or
  - Issuance of a Site Wide Alert to GEMCO employees and contractors. This is an alert sent out via email to alert employees and contractors to safety or environmental issues and encourage them to exercise additional caution in relation to that issue.
- Any incidents of injury or death to impacted species will be reported in the Annual Compliance Report prepared by the Environment Specialist in accordance with Condition 3 of the EPBC Act approval.

6.2.4 RESPONSIBILITIES

Roles and responsibilities are as follows:

- The GEMCO Mining Department is responsible for the installation, maintenance and repair of signage. Following the completion of an annual review of data on vehicle collisions with impacted species, the GEMCO Mining Department is responsible for determining whether additional measures are required to reduce the risk of vehicle collisions with impacted species.
- Drivers are responsible for driving to conditions and reporting collisions with impacted species to their shift supervisors,
- Shift supervisors are responsible for reporting collisions to the Environment Specialist.
- The Environment Specialist is responsible for inputting data on collisions into G360, reviewing it on an annual basis and preparing the Annual Compliance Report.
- GEMCO's Training Department is responsible for preparing, scheduling review and evaluation of induction material and ensuring that it is delivered in an effective manner to GEMCO's employees and contractors.

6.3 PROHIBITION OF PETS AND FIREARMS

6.3.1 INTRODUCTION

Condition 10c of the EPBC Act approval requires that the EMP includes:

"The prohibition of pets and firearms on the project site".

This section discusses the way in which the prohibition of pets and firearms will be enforced within the project site.

6.3.2 MANAGEMENT ACTIVITIES AND CONTROLS

The following activities and controls will be implemented on the project site:

- GEMCO operates in accordance with its *Prohibited, Banned and Restricted Items Procedure*. This procedure prohibits animals (including pets[2]) and firearms from being brought on to the project site.
- As part of the induction process described in Section 6.6, employees and contractors are informed that pets and firearms are prohibited items and cannot be brought on to the project site.

6.3.3 MONITORING, REPORTING AND ADAPTIVE MANAGEMENT

The following steps will be taken in the event of pets or firearms being brought on to the project site:

- The incident will be reported to the relevant GEMCO Department Manager as well as the Mine Manager, and the pet and/or firearm will be removed from the project site.
- An investigation will be undertaken into the incident.
- The person responsible for bringing the pet and/or firearm to the project site will be subject to penalties. In the case of bringing a firearm on to the project site, this will include having their employment or contract terminated and being removed from Groote Eylandt. In the event of a firearm being brought on to the project site, GEMCO will also notify the Groote Eylandt Police Department, which in turn may impose further penalties.

6.3.4 RESPONSIBILITIES

Roles and responsibilities are as follows:

- Area Managers and superintendents/supervisors are responsible for ensuring that all personnel under their direct management/supervision or on contract are informed about what constitutes prohibited items (including pets and firearms).
- GEMCO's employees, contractors and visitors are responsible for complying with GEMCO's prohibition in relation to pets and firearms being brought on to the project site.

[2] This policy does not prevent working dogs, including the CTDD, from being brought on to the project site.

- The relevant GEMCO Department Manager and Mine Manager are responsible for investigating incidents of pets or firearms being brought to the project site. They are also responsible for taking disciplinary action.
- GEMCO's Training Department is responsible for preparing induction material and ensuring that it is effectively delivered to GEMCO's employees and contractors.

6.4 WASTE MANAGEMENT

6.4.1 INTRODUCTION

Condition 10d of the EPBC Act approval requires that the EMP includes:

"Measures to control waste on the project site in order to avoid attracting and propagating vermin and feral cats".

As discussed in Section 2.1, activities to be conducted within the project site predominantly relate to mining and transportation of ore, and rehabilitation of mined areas. Limited infrastructure is required to be constructed within the project site, and this serves to limit the type and volumes of general waste generated. The typical sources of general waste that will be generated within the project site include:

- Waste from crib huts, such as food scraps, packaging and personal protective equipment.
- Waste generated from the on-site maintenance of light and heavy vehicles (e.g. engine air filters, waste oils, grease, oily water, miscellaneous hydrocarbon wastes, tyres and spent vehicle batteries).
- Waste generated during the construction phase (e.g. scrap metals, wooden pallets).

This waste is not disposed of within the project site and is transported off-site for reuse, recycling or disposal, in accordance with GEMCO's waste management system. This waste management system is based on regulatory requirements, values and principles of the *Waste Management and Pollution Control Act 1998* (NT), *Waste Management and Pollution Control (Administration) Regulations 1998* (NT), and the Waste Management Strategy for the Northern Territory 2015–2022 (NT EPA, 2015). The waste management system adopts the principles of the waste management hierarchy as far as practicable.

The following sections describe measures to be adopted within the project site to control waste, in order to avoid attracting and propagating vermin and feral cats.

6.4.2 MANAGEMENT ACTIVITIES AND CONTROLS

The following waste management actions will be adopted within the project site to avoid attracting and propagating vermin and feral cats:

- Sealed, labelled waste containers will be provided at all crib huts and other locations where waste is generated.
- For waste that cannot be stored in sealed containers (e.g. wooden pallets), the waste will be neatly stored in designated areas prior to its collection.
- All designated waste storage areas will be clean and well-maintained, and isolated from surface water drainage systems.
- Waste will be collected and taken off-site on a regular schedule (at least weekly for putrescible waste).
- Spills will be cleaned up using absorbent materials, suitable for the type and volume of the spill. GEMCO has a *Land Based Spill Response Procedure* which describes methods and materials for cleaning up spills.

- The induction process described in Section 6.6 includes information on waste management (i.e. disposing of waste in the appropriate bins) and reporting and/or cleaning up spills. The induction process also includes information about feral cats and explains that there is an obligation for all GEMCO's employees, contractors or visitors to report sightings of feral cats.

6.4.3 REPORTING, EVALUATION AND REVIEW

Inspections of waste storage areas in the project site will be undertaken as follows:

- Waste storage areas will be inspected by the waste management provider weekly to confirm that they are sealed, clean and well-maintained and to check for signs of pests (e.g. rodent droppings).
- In the event of the inspection indicating that replacement, repair or cleaning of the waste storage area is required or if vermin are sighted, this will be raised as part of GEMCO's maintenance workflow system.
- In the event of waste not being collected as scheduled, the waste management provider will confirm the reason for the delay and whether any additional actions are required to ensure timely collection of waste in future.

Sightings of feral cats will be reported and acted upon as follows:

- All GEMCO employees and contractors will be required to report sightings of feral cats within the project site as per section 6.5.
- If the feral cat has been recorded in the vicinity of GEMCO's infrastructure (e.g. crib huts), the Environment Specialist, in consultation with the waste management provider, will determine if there are any additional actions that can be undertaken to avoid attracting feral cats to the facility (e.g. increasing the frequency of waste collection).

6.4.4 RESPONSIBILITIES.

Roles and responsibilities are as follows:

- The waste management provider is responsible for ensuring that waste containers are provided and maintained, waste is collected on a regular basis (maximum weekly putrescible waste), and regular inspections are undertaken as per the requirements of this EMP.
- GEMCO's employees and contractors are responsible for disposing of waste in accordance with the waste management system and for reporting sightings of feral cats.
- The Environment Specialist is responsible for inputting sightings of feral cats into G360 and responding to reports of feral cats, as per the requirements outlined in Section 6.4.3.
- GEMCO's Training Department is responsible for preparing induction material and ensuring that it is delivered effectively to GEMCO's employees and contractors.

6.5 REPORTING OBSERVATIONS OF PARTICULAR SPECIES

6.5.1 INTRODUCTION

Condition 10g of the EPBC Act approval requires that the EMP includes:

"A requirement for all employees and contractors to report all observations of feral cats, cane toads and the impacted species in the project site to the approval holder's environmental department. The approval holder must report any incidents that result in death or injury to impacted species in the annual compliance report required by condition 3."

6.5.2 FERAL CATS AND IMPACTED SPECIES

The following approach will be adopted for reporting observations of feral cats and the impacted species:

- GEMCO employees and contractors will report sightings of feral cats or impacted species in the project site to their shift supervisor who will communicate this to the GEMCO Environment Specialist.
- The following information must be recorded as part of the report and will be captured in G360:
  - Feral cats: The date, time and location of the sighting and a description of the feral cat (if possible).
  - Impacted species: The date, time and location of the sighting, the species sighted and the condition of the animal (including if it is dead or injured).
- Any incidents that result in death or injury to impacted species will be reported in the annual compliance report that is required to be prepared in accordance with Condition 3 of the EPBC Act approval.
- The Environment Specialist will report the sightings of feral cats to the ALC. The ALC undertakes several programs of work related to feral cat control and information on the location of feral cats may be of value as part of this ongoing work.

Responsibilities are as follows:

- All GEMCO employees and contractors are responsible for reporting sightings of feral cats and the impacted species to their shift supervisor, and the shift supervisors are responsible for reporting these sightings to the Environment Specialist.
- The Environment Specialist is responsible for inputting sightings of feral cats and the impacted species into G360 and responding to reports of feral cats, as per the requirements outlined in Section 6.4.3 of the EMP.
- The Environment Specialist is responsible for preparing an annual compliance report that reports on any incidents that result in death or injury to the impacted species.
- GEMCO's Training Department is responsible for preparing induction material and ensuring that it is effectively delivered to GEMCO's employees and contractors.

6.5.3 CANE TOADS

Section 5.2.5 describes the process for reporting Cane Toad sightings. The sighting of a Cane Toad on Groote Eylandt is a serious event and the Cane Toad Incursion Response Program (outlined in the Cane Toad Management Plan) is required to be enacted immediately if this occurs.

6.6 INDUCTIONS

6.6.1 INDUCTION PROGRAM

Information relevant to this EMP is included in inductions as follows:

- All GEMCO employees and contractors must undergo a full online induction prior to arriving on the island and commencing work (as well as an online "re-induction" every two years thereafter), which includes being required to complete an online "environment" module. All GEMCO personnel are also required to undergo a "face-to-face" induction process. Both induction types will include information relevant to this EMP, including:
  - A profile of the impacted species, including a photograph and brief description of each species to enable employees and contractors to recognise the impacted species.
  - A description of the kinds of activities that may result in direct or indirect impacts to the species, and the actions that must be taken by all employees and contractors to minimise impacts on the impacted species. These include the requirement to:
    - Drive to conditions, given the potential for collisions with impacted species. The induction content will include information on appropriate road safety and site vehicle hazards, including the risk of vehicle strike with wildlife.
    - Report any collisions with the impacted species.
    - Abide by the prohibition of pets and firearms within the Eastern Leases.
    - Dispose of waste in accordance with GEMCO's waste management system, in the appropriate labelled, sealed waste receptacles.
    - Report sightings of feral cats, Cane Toads and impacted species.
- The Environment Specialist, in collaboration with GEMCO's Training Department, will review the induction content on an annual basis to confirm that it meets the requirements of this EMP.
- There is specific induction content related to weeds and Cane Toads, which is described in Sections 4 and 5, respectively.

6.6.2 RESPONSIBILITIES

Roles and responsibilities are as follows:

- GEMCO's Training Department is responsible for preparing induction material and ensuring that it is delivered effectively to GEMCO's employees and contractors.
- The Environment Specialist, in collaboration with GEMCO's Training Department, is responsible for reviewing the induction content on an annual basis to confirm its suitability and identify improvements that can be made to make the training more relevant and effective.

7 REFERENCES

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FIGURES

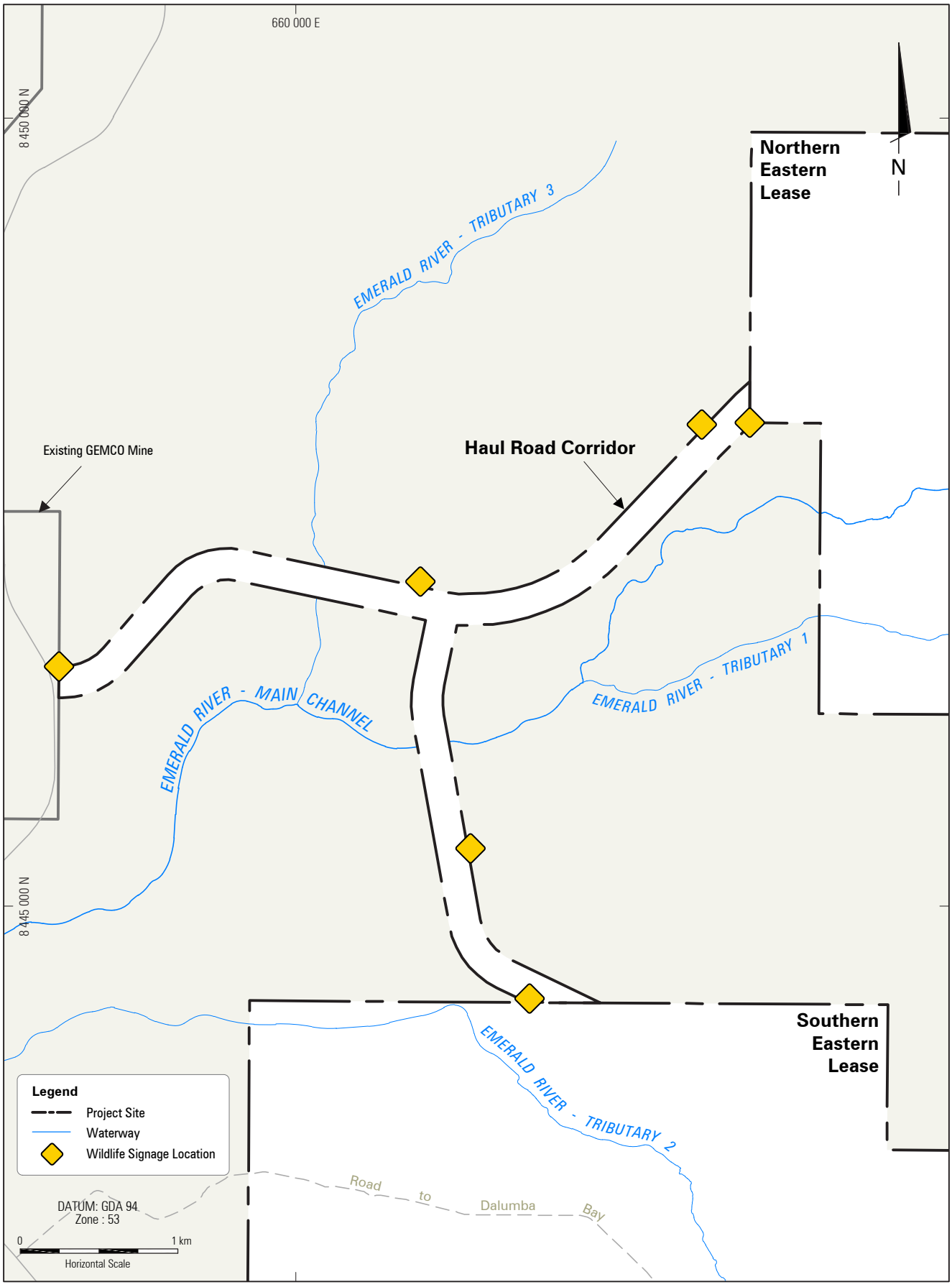
HANSEN
ENVIRONMENTAL
CONSULTING

HANSEN ENVIRONMENTAL CONSULTING

EASTERN LEASES PROJECT

Location Plan

FIGURE 1



EASTERN LEASES PROJECT

HANSEN ENVIRONMENTAL CONSULTING

Haul Road Corridor - Wildlife Signage Locations

FIGURE 2