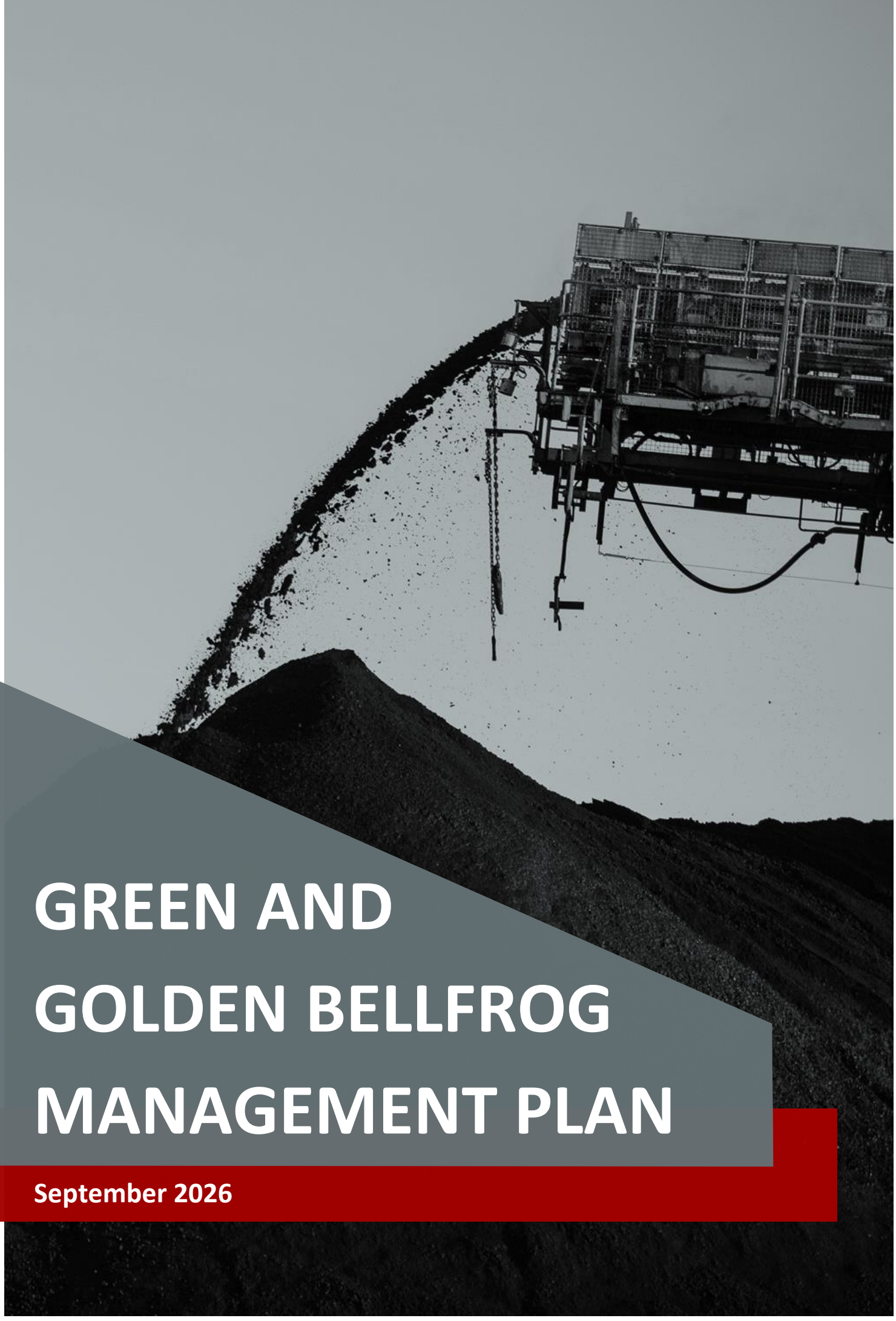


GREEN AND GOLDEN BELLFROG MANAGEMENT PLAN

September 2026

Contents

Definitions 3
1. INTRODUCTION 5
1.1 Purpose 5
1.2 Background 5
1.3 Scope 5
2. RESPONSIBILITIES 6
3. LEGISLATIVEAND OTHER REQUIREMENTS 7
3.1 Environmental Protection Licence (EPL No. 1625) 7
3.2 Policies and Standards 8
4. BACKGROUND 10
4.1 Discovery of GGBF Cluster at PKCT 10
4.2 Notifications and Actions 10
5. EXISTING ENVIRONMENT 11
5.1 GGBF Sightings and Surveys 11
5.2 Greenhouse Park Habitat 12
5.3 Adjacent Activities to PKCT and GGBF Environment 12
5.4 Hazards to GGBF 13
6. SITE OPERATIONS 15
6.1 AIE Site Interactions with PKCT 15
7. MANAGEMENT STRATEGY 17
7.1 GGBF Habitat, Movement Corridors and Behavior 17
7.2 Environment Management and Controls 17
7.3 GGBF Habitat at Greenhouse Park 18
7.4 Awareness, Training and Competency 18
7.5 Frog Surveys on PKCT's Site 18
7.6 GGBF and other Frog Sightings Procedure 18
8. WATER MANAGEMENT ON PKCT'S SITE 20

8.1 General 20
8.2 GGBF Considerations 20
9. STAKEHOLDER INVOLVEMENT AND CONSULTATION 21
9.1 Northern Inner Harbour Stakeholders 21
10. AGENCY CONSULTATION 23
11. REFERENCES 24
Appendix A: Section 5A Assessments (Seven Part Test) 25

Definitions

BEC refers to Biosphere Environmental Consultants Pty Ltd

DECC refers to the Department of Environment, Climate Change and Water

DPIE refers to the Department of Planning, Industry and the Environment

EES refers to the Environment, Energy and Science Group (part of DPIE)

EPA refers to the Environment Protection Authority

EPL refers to Environment Protection Licence

GGBF refers to Green and Golden Bell Frogs

NSWP refers to NSW Ports

OEH refers to the Office of Environment and Heritage

PKCT refers to Port Kembla Coal Terminal

PRP refers to Pollution Reduction Program

WCC refers to Wollongong City Council

Version	Date	Reviewer	Comments
10	21st February 2019	Luke Pascot	Annual document review. Delay in review was due waiting for a response from Dept. following submission after last audit. As no response was received, review has been undertaken. No changes.
11	21st August 2019	Luke Pascot	Review following submission of AEMR. Minor changes to role titles only.
13	30th June 2020	Luke Pascot	Annual Review
14	11th September 2020	Luke Pascot	Review following 2020 Triennial Independent Audit, no material changes, no suggestions made by auditors, only minor updates.
15	12th February 2021	Luke Pascot	Review and update following DPIE RFI and PKCT site separation for AIE site.
16	10th September 2022	Michael Curley	Annual review – no changes made.
17	21st August 2023	Luke Pascot	Annual review – no material changes made. Updates to document I.D's where required.
18	14th August 2024	Luke Pascot	Annual review – no material changes made. Updates to document I.D's where required.
19	15th August 2025	Luke Pascot	Annual review – no material changes made. Updates to document I.D's where required.
20	15th April 2026	Luke Pascot	Review following 2026 Triennial Independent Audit. No changes made.
21	4th September 2026	Luke Pascot	Review following AEMR submission. Minor updates only.

1. INTRODUCTION

1.1 Purpose

The purpose of this Green and Golden Bell Frog Management Plan (GGBFMP) is to outline the plan and processes in place to enable Port Kembla Coal Terminal (PKCT) to meet its legal and environmental obligations to Green and Golden Bell Frogs (GGBF) and their habitat.

1.2 Background

Port Kembla Coal Terminal (PKCT) provides a coal product receival, storage and shipping loading service to its customers. PKCT is located on the northern side of the inner harbour and operates premises leased from NSW Ports (NSWP).

PKCT has been in operation since 1990 and operates under an Environment Protection Licence (EPL) No. 1625 in accordance with the *Protection of the Environment Operations Act 1997* (POEO Act).

1.3 Scope

This Management Plan applies to PKCT's site and associated operations and sets out actions established after the initial discovery of a cluster of GGBF sheltering on PKCT's premises in May 2008.

In noting the GGBF's behavioural characteristics, in particular, its mobility, willingness to move and relocate if disturbed, and its habitat needs, this Plan has been developed with consideration to the northern inner harbour precinct and adjacent premises.

2. RESPONSIBILITIES

The roles and responsibilities relevant to environmental management at PKCT are defined in Table 1 below.

Table 1 Responsibilities

Role	Responsibility
PKCT employees, contractors and site personnel	All PKCT employees, contractors and other site personnel are responsible to comply with this Management Plan. PKCT employees, contractors and other site personnel must take appropriate action detailed in this Management Plan for any GGBF sighting and to avoid harm to GGBFs in accordance with PKCT's legal and environmental obligations.
Environmental Specialist	Is responsible to the Superintendent Process, Reliability and HSEC for the coordination and implementation of this Management Plan to PKCT site operations.
Superintendent Process, Reliability & HSEC	Is responsible to the General Manager for site monitoring and operation of environmental control systems.
Operations Manager	Is responsible for managing and supporting the shift and daywork teams to effectively and safely operate the business in line with customer, community and regulator expectations.
Maintenance Superintendent	Is responsible to the General Manager for work execution, ensuring environmental control equipment is maintained, reliable and effective.
Asset Manager	Is responsible for asset management and planning, ensuring environmental control equipment is fit for purpose, reliable and effective.
General Manager	Is accountable for PKCT's legal and environmental compliance.

3. LEGISLATIVEAND OTHER REQUIREMENTS

3.1 Environmental Protection Licence (EPL No. 1625)

Actions have included the development of this Plan under an Environment Protection Authority (EPA) Pollution Reduction Program (PRP) U4 which was attached to PKCT's Environment Protection Licence (EPL) No. 1625. Details of the PRP are summarised in Table 2 below.

Table 2 Conditions of Approval

Condition Details	Area addressed in GGBFMP
U4 Green and Golden Bell Frog Management Plan **U4.1 Objective** To minimise the risk of harm or damage to the Green and Golden Bell Frog and its habitat from any actual or potential pollution from PKCT's premises. **Management Plan** Port Kembla Coal Terminal must develop and implement a Green and Golden Bell Frog management plan for the site in consultation with the Department of Environment, Climate Change and Water (now DPIE). The licensee must engage a suitably qualified ecologist to assist in the development of the plan. The Plan must be developed in accordance with Appendix 3 of the 'Draft Recovery Plan: GGBF (Lesson 1829) Recovery Plan' (DECC 2005), Best Practice Guidelines: GGBF Habitat (DECC 2008) and the associated actions in NSW Priorities Action Statement. Plan must include, but need not be limited to: 1. Identification of any known or likely populations/ habitats of the GGBF on premises 2. For areas of known habitat, identification of any actual or potential threats from pollution on these populations and habitats 3. For areas of known habitat, identification of appropriate actions to prevent or minimise these threats. 4. Details of how the licensee will monitor and report on the effectiveness of the management plan 5. Recommendations on the management of the GGBF and its known and likely habitats, including timelines for any identified actions or works recommended. Plan must be developed and implemented by 30 June 2009	Section 7,8 and 9

The GGBFMP was submitted to the DPIE Environment, Energy and Science (EES) Group by PKCT in June 2009 which satisfied PRP condition U4, and is now closed.

This Management Plan has been prepared with reference to Appendix 3 of the "Draft Recovery Plan-GGBF (Lesson 1829) Recovery Plan (DECC 2005)" which provides a guide for the effective

management of GGBF populations. It is compliant to the extent that an established GGBF population has not as yet been found supported by all the necessary habitat elements including breeding habitat.

3.2 Policies and Standards

PKCT is managed by GM3 (Illawarra Coal) and has a management system in place which operates in accordance with its Sustainability Policy (PO.003), Environment Policy (PO.002) and Quality Policy (PO.004). These policies are summarised in Table 3 below.

Table 3 PKCT Policies and Standards

Policy / Standard	Description
Sustainability Policy	The sustainability policy outlines the objectives PKCT undertake to ensure site operations are undertaken in a sustainable manner which considers the following key concepts: • The health and safety values of PKCT staff, contractors and site personnel • Set and achieve sustainable development targets with respect to energy and water efficiency targets which promotes the efficient use of resources and include reducing and preventing pollution throughout the lifecycle of PKCT products • Develop partnerships that foster the sustainable development of our local communities, enhance economic benefits from our operations • Ongoing consultation with customers, employees, indigenous land owners and the local community.
Environmental Policy	The environmental policy outlines PKCT commitment to improved environmental performance and ensuring site operations are undertaken in an environmentally responsible manner which includes: • Understanding and controlling impacts of site operations on the environment and community • Maintain the highest possible standards of environmental management and monitoring • Compliance with regulatory requirements, conditions of approval and licence conditions • Ongoing consultation with customers, employees, indigenous land owners and the local community.
Quality Policy	PKCT Business Management System provides a framework for managing quality and establishing, achieving and reviewing quality objectives in compliance with the requirements of AS/NZS ISO 9001:2016 and ISO 14001:2015. PKCT staff, contractors and site personnel will fulfil the requirements detailed in the AS/NZS ISO 9001:2016 and ISO 14001:2015 and continually seek opportunities to improve system effectiveness

PKCT has an environment management system is place which is certified to ISO 14001:2015. The system includes documented policies and procedures, environmental aspects assessed and registered with processes for their control and continual improvement. The system is subject to audit and review including biannual surveillance visits by PKCT's external certifier (Lloyd's Register Quality Assurance Limited).

4. BACKGROUND

4.1 Discovery of GGBF Cluster at PKCT

On the 21st of May 2008, a cluster of fifteen frogs were discovered in an outdoor storage area (referred to as the "Spares Area" on the north side of PKCT's store building). The frogs were huddled together and, when disturbed, they dispersed.

Frogs were subsequently identified as being GGBF which are considered 'endangered' in New South Wales and specifically protected under the NSW *Threatened Species Conservation Ac*t 1995 and the Commonwealth's *Environmental Protection and Biodiversity Conservation Act* 1999.

GGBF are also listed in the International Union for Conservation of Nature (IUCN) Red List of Threatened Species and the species is rated as vulnerable.

4.2 Notifications and Actions

Following the discovery within the PKCT site, immediate advice and assistance was sought and the EES Group was notified. A consultant, Biosphere Environmental Consultants Pty Ltd (BEC), was engaged to investigate and advise on short and long term actions associated with the discovery. BEC provided PKCT with management plans in June 2008 and December 2008 and further advice as actions were implemented and as this Management Plan was developed. Actions have progressed in consultation with the EES. Immediate actions were undertaken at the PKCT which includes:

- Surveys by a frog expert detected 7 frogs in the vicinity of the discovery. The frogs were captured because they were at risk and put into care
- Stores area was cordoned off with signage
- Communication of the discovery was issued to the workforce and neighbours outlining legal obligations and actions to be taken if there were further sightings
- Some shelter boards were installed in the area where the frogs were found
- Frogs were micro chipped by BEC
- Based on an initial assessment of possible movement corridors by BEC, some frog fencing was installed as recommended.

5. EXISTING ENVIRONMENT

5.1 GGBF Sightings and Surveys

BEC undertook spring/ summer surveys in 2008 to determine the location of any GGBF habitats and gather information to enable a management plan to be developed. Survey included PKCT's site, Greenhouse Park and surrounds, J.J Kelly Park, Wollongong Golf Course and Wollongong Sewerage Treatment Plant.

The Office of Environment and Heritage (OEH) engaged Gaia Research P/L to also assess the potential for GGBF habitat in the northern Inner Harbour precinct and surrounds.

Both consultants identified sites potentially suited for GGBF habitat. There were no GGBF sightings during their fieldwork.

Subsequent to this work, there have been further GGBF sightings mostly around PKCT's Settlement Lagoon area during 2009 through to autumn 2010. The Lagoon is located adjacent to the Garungaty Waterway and south of a site controlled by NSW Ports (NSWP). During this period, this site was not in use, contained accumulated material and was overgrown with vegetation.

This land has now been cleared and a hard stand area has been established for port-related activities. Across the 2010/11 spring-autumn period there was one sighting in the Lagoon area in the month of December 2010.

BEC has supplied a Plan of Management to PKCT which has provided guidance in the development of this Management Plan. Further, BEC has been providing ongoing advice when sightings have occurred, which includes:

- With regard to the initial GGBF discovery at PKCT, frogs "were apparently seeking over-winter shelter sites when they were found. Their presence at PKCT during the colder months of the year does not necessarily mean these frogs also feed and breed on the Site; they may have dispersed from surrounding properties"
- "While providing at least some elements for GGBF, PKCT remains as a potentially dangerous site for frogs".....For the effective management of GGBF at PKCT, it is in PKCT's interests to facilitate the development of a Bell Frog Conservation Area nearby"
- "As the Terminal occupies a long narrow peninsula, all frog entry to the site must be from the north. The most likely location for a Frog Conservation Area will be either on the northern boundary of the Terminal land or on land close by"
- GGBF "species breeds opportunistically and responds to certain types of habitat disturbance that trigger movement and breeding"
- With regard to the initial GGBF discovery at PKCT and subsequent sightings, it is noted that the northern inner harbour area has undergone significant development in recent years involving a high level of disturbance, construction and new operations. New port users such as the car industry has moved in and commenced operations, resulting in a significant increase in activity
- In BEC's Plan of Management, BEC recommended the following:
    - Regarding the frogs in care, consideration to be given to breeding and tadpole harvesting, providing a potential for release

- A habitat be established at Greenhouse Park to enable the following:
  - Attract any GGBF in the area
  - Provide a relocation site for any GGBF discovered on PKCT's premises or surrounds and found to be at risk
  - Provide a potential release site for tadpoles bred from the frogs in care.

The site at Greenhouse Park was recommended "as it is alongside the presumed frog movement corridors of the western and northern channels, has extensive grassed areas that can provide foraging habitat, has areas that are not heavily visited by people and has areas of high sun exposure".

5.2 Greenhouse Park Habitat

In accordance with BEC's recommendations, Greenhouse Park GGBF habitat was constructed in consultation with BEC, the site was moved south to a location acceptable to Wollongong City Council (WCC). The Project was undertaken by PKCT and WCC (land owner) and was completed in April 2010 as shown in Figure 1 below.

Figure 1: GGBF Ponds – April 2010 (left) and July 2020 (right)

5.3 Adjacent Activities to PKCT and GGBF Environment

Adjacent activities to the PKCT and GGBF environment include the following activities summarised in Table 3 below.

Table 4 Activities Adjacent to PKCT and GGBF Environment

Direction	Activity Description
North	NSWP land developed as an unsealed hardstand area. Further north is Tom Thumb Road – vehicle traffic, rail corridor and PKCT's road and rail receival.
South	Access road to Berth 103 – vehicular traffic and AIE Terminal access.

Direction	Activity Description
East	PKCT roadway, vehicular traffic; further east is PKCT's coal berth stockyard, reclaiming and stacking operations. Road No.8 (Seawall), a NSWP owned asset used for access to PKCT, AIE and Berth 201
West	Berth 103 operates as a grain terminal with bulk storage facilities, conveyors and general vehicular traffic.

5.4 Hazards to GGBF

There are numerous hazards to GGBF on the PKCT site, including the following:

- Operating conveyors, reclaimers, stackers, ship loaders
- Vehicular traffic on roadways
- Mobile plant operations in stockyards
- Electrical equipment
- Rail way lines and train movements
- Truck operations
- Maintenance and construction activities
- Marine waterways
- Water collection system – operating pumps, fluctuating water levels, potential for salt water ingress during storm conditions, pond cleaning activities
- Weed control, herbicide spraying (this is essential activity on site to control noxious weeds and nuisance vegetation).

Similar hazards exist on adjacent premises including:

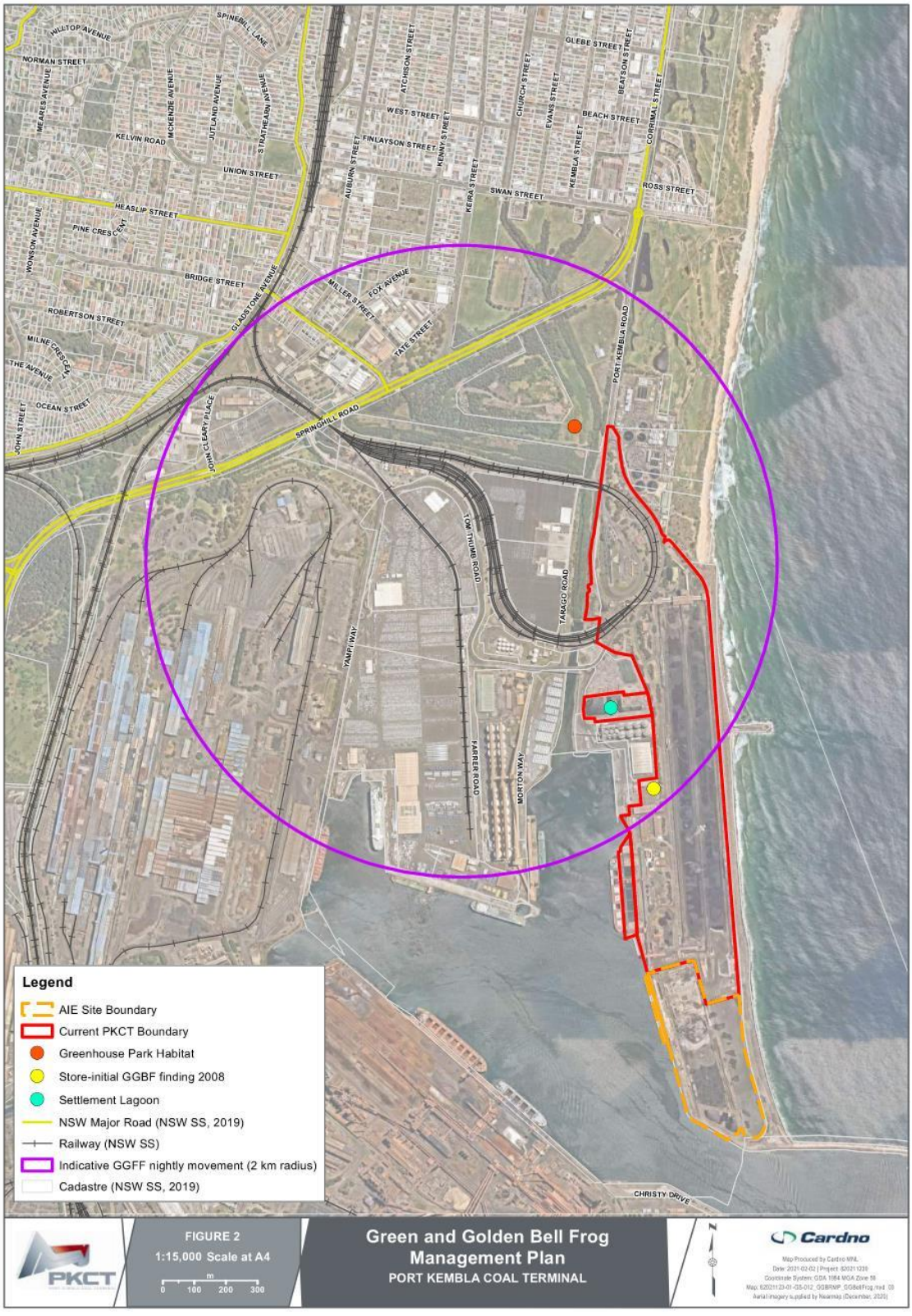
- Grain Terminal – conveyors, ship loading, and vehicular traffic
- Berth 101 – general cargo, bulk materials, mobile equipment, and vehicle movements
- Car Terminal – vehicular movements, ship unloading
- Pacific National – train movements, shunting, maintenance activities
- NSWP unsealed hardstand area – truck movements, mobile equipment, container storage and the rail corridor for PKCT road receival
- AIE Terminal – truck movements, mobile equipment

The many identified hazards to GGBF on the PKCT site makes it imperative that GGBF are not encouraged into the terminal area.

To the extent reasonably possible, GGBF will be discouraged from entering PKCT premises by reducing the potential for attractive GGBF habitat. Stormwater basins will be kept clear of vegetation and shelter materials will be minimised. Barriers may be used where practical.

In general, harm to GGBF may occur through contact with operating equipment and vehicular movements. Figure 2 shows the road and rail network, industrial, residential and recreational precinct surrounding Greenhouse Park / Tom Thumb Wetlands / Garungaty Waterway. These areas include a high level of traffic movements and activities.

Figure 2: GGBF movements



6. SITE OPERATIONS

6.1 AIE Site Interactions with PKCT

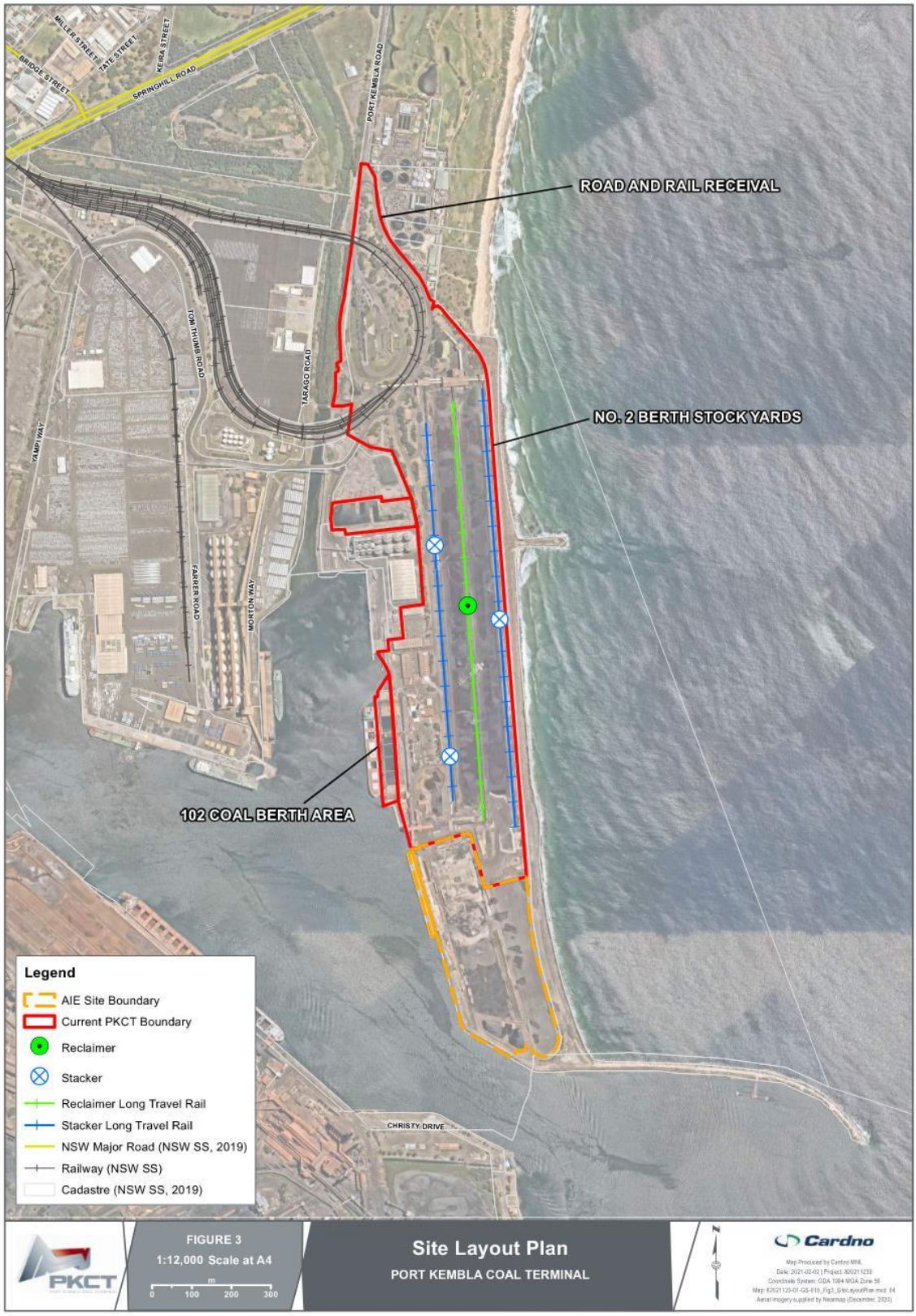
Australian Industrial Energy (AIE) is working to develop Australia's first liquefied natural gas (LNG) import terminal at PKCT's Berth 101. PKCT has reached a commercial agreement with NSW Ports and AIE to surrender the southern area of its lease for AIE to construct and operate the LNG import terminal. The date of surrender is 31/03/2021. The revised site boundary for PKCT, as shown in Figure 3, has resulted in a change in PKCT's site operations, infrastructure and environmental management strategies.

The changes include:

- Reduced lease area due to the surrender of the Bulk Products, Berth 101 and Seawall Road
- The removal of five (5) collection ponds / sumps and two (2) wet weather discharge points from the PKCT Contaminated Water Collection Treatment System (CWCT), which include:
  - Pump 1 – Southern Pond (wet weather discharge point)
  - Pump 8 – T3 Pond (wet weather discharge point)
  - Pump 9 – Conveyor C7 Sump
  - Pump 16 – Berth 101 North Sump
  - Pump 17 – Berth 101 South Sump
- The addition of two (2) collection ponds / sumps and two (2) wet weather discharge points to the CWCT System, which include:
  - Pump 24 – TS8 Sump (wet weather discharge point)
  - Pump 25 – South Eastern Pond (wet weather discharge point)
- Amendment to the Air Quality Monitoring network which includes the relocation of the southernmost continuous dust monitor (nominated as C1)
- Traffic management and site access arrangements from the southern end of the revised PKCT site boundary.

PKCT and AIE will work collaboratively during the operation of the AIE site to ensure environmental obligations are met, site operations for PKCT and AIE can be run effectively and safely and any issues raised are dealt with in a timely manner.

Figure 3: PKCT Site Layout



7. MANAGEMENT STRATEGY

7.1 GGBF Habitat, Movement Corridors and Behaviour

The typical GGBF movements and behaviour indicate the following:

- GGBF are mobile with a potential to travel up to 2 kilometres in a night
- GGBF can establish themselves at one site for longer periods of time, but occasionally also move from site to site if disturbed or if habitat needs aren't met
- Frogs are active from spring to autumn
- During winter, GGBF shelter in quiet locations and go into torpor
- GGBF have tended to appear in industrial, disturbed sites, perhaps to avoid other natural competitors.

7.2 Environment Management and Controls

The following management and controls are in place:

- Maintain the initial GGBF habitat at Greenhouse Park to facilitate the following:
    - Attract any GGBF which may be in the area
    - Have a site where any GGBF found on PKCT's site or adjacent premises can be relocated.
- Continue to monitor PKCT's site operations and address any GGBF sightings or habitats which may be found on PKCT's premises. This shall be done in consultation with the OEH. Expert advice shall be obtained as required. Particular consideration shall be given to the following:
    - Site operations and business requirements
    - Potential risks to GGBF
    - PKCT's legal and other obligations to GGBF together with other obligations which apply e.g. PKCT environmental protection licence
    - If compatible with adjacent activities and operations, leaving GGBF undisturbed in the first instance rather than relocating to the Greenhouse Park habitat or other release site
- Participate in stakeholder forums and encourage other northern harbour port users' proactive involvement so that further GGBF initiatives identified can be resourced and implemented
- Development of an off-site, safe habitat for relocation of GGBF found at risk on industrial premises
- Use of expert consultants where required
- Liaison with the OEH and working within stakeholder group to manage GGBF
- Education of Site personnel, instruction, awareness
- Management of frog sightings as they are identified by PKCT staff and contractors
- Relocation / release process for frogs encountered on site and at risk
- Similarly, process for management of sick / injured frogs within PKCT's site boundary
- Documentation and records held
- Consideration shall be given to known GGBF habitat when planning site based work
- Training for selected personnel on frog handling and management.

7.3 GGBF Habitat at Greenhouse Park

WCC's Greenhouse Park site personnel will provide ongoing monitoring and basic maintenance of the habitat, including the following controls:

- A habitat located in an area attractive to GGBF adjacent to movement corridors and in a green belt consistent with Port Kembla Port Corporation management plan
- If successful, the habitat could provide a base for other GGBF sites. Ideally located, this site has the best potential for an ongoing, source GGBF population
- A relocation site for any GGBF found on adjacent port, industrial or other premises, found to be at risk and cannot be otherwise accommodated. This will provide an effective control for all northern inner harbour port users, residential and recreational surrounds.

7.4 Awareness, Training and Competency

Site personnel shall be informed and kept up to date on GGBF, including information on the associated legal and other obligations, in the following activities / formats:

- Site inductions
- Alert
- Team meeting reports and briefings
- Stakeholder communications
- Documented management plan.

7.5 Frog Surveys on PKCT's Site

Where required, formal frog monitoring required on PKCT's site will be carried out by a qualified consulting herpetologist. Other surveys or follow up to any site GGBF sightings may be undertaken by a suitably trained person.

Surveys shall normally be undertaken over the September- April period (spring/ summer/ autumn) when GGBF are known to be active. At least one formal survey involving the EES and / or an expert consultant shall be undertaken over the period. The location and frequency of surveys will be determined based on expert advice and in consultation with the EES with consideration to information at hand.

7.6 GGBF and other Frog Sightings Procedure

Monitoring of site operations by PKCT personnel shall continue as part of normal works processes, with sightings reported to EES. Personnel that observe a frog (including deceased) on the PKCT site or in surrounding areas shall report it initially to their team Supervisor, then to the Environmental Specialist or an available Superintendent. The frog shall be left undisturbed unless at risk. When left undisturbed, frogs will often move on of their own accord. Note shall be taken of time and location of sighting, size and appearance and, wherever possible, a photo shall be taken to assist in subsequent identification and reporting. There are many different types of frogs.

If it is necessary to capture a frog at risk, frog handling shall be avoided or at least kept to a minimum. It is best to do so using a container (e.g. a bucket) rather than trying to secure a frog by hand, which can be quite difficult if the frog is active. Place the container in front of the frog in the direction of movement and try to coax it in. Correct handling requires the use of latex disposable gloves and they should be held in a sterilised container. If a frog is caught, handling shall be kept to a minimum and the frog secured in a plastic storage container. Suitable containers are held on site in the Environmental Specialist's office.

The EES and/or appropriate consultant shall be contacted to determine what further actions are required. If necessary, a trained frog handler shall be engaged to assist. Requirements for handling frogs (dead, sick or alive) would be applied. Appendix A provides an assessment tool which can be used when considering actions which may impact on the GGBF and its habitat.

Consideration shall be given to risks when frogs are found and/or caught on PKCT's site, and a suitable release site shall be determined in consultation with the OEH. The Greenhouse Park site is considered the most suitable, safe release site. If other GGBF habitats in the Garungaty Waterway / Greenhouse Park green corridor are established, these may present other alternative release options.

8. WATER MANAGEMENT ON PKCT'S SITE

8.1 General

In accordance with PKCT's EPL, PKCT has a water collection system, known as the CWCT system, which collects and contains site stormwater and runoff water.

The system consists of a number of satellite collection ponds and a Settlement Lagoon to which water is transferred for treatment. Water is reused primarily by the water cart. Excess water overflows and discharges into harbour waters. Ponds require periodic desilting. Desilting operations entail prior dewatering.

PKCT's Settlement Lagoon forms a critical part of PKCT's CWCT system. It is an EPL discharge point (nominated as DP16) where water collected on site is treated to accelerate the settling of coal fines so that harbour discharges meet EPL water quality requirements. A dosing unit is located at the eastern end of the Lagoon. There is an overflow weir and pump / valve arrangement at the western end of the Lagoon that supplies water to a water cart filling station at the north eastern side of the Lagoon. Water is needed for road washing and dust suppression activities.

Activities in the Lagoon area include:

- Maintenance activities
- Water cart filling
- Periodic cleanout of sediments / vegetation from lagoon involving lowering the water level / emptying the pond
- Vegetation clearing / whipper snipping / herbicide spraying to control vegetation / noxious weed growth
- Storage area for branches, trees and mulch associated with site landscaping activities.

8.2 GGBF Considerations

GGBF sightings have occurred in and around the Settlement Lagoon area. In particular, frogs have been observed from time to time in reed clumps in the Lagoon. Though the reed clumps provide foraging and refuge habitat, there has been no evidence of breeding / tadpole activity in Lagoon waters.

Water quality within the Lagoon is variable and turns over during storm events when water is pumped from other ponds. Water entering the Lagoon is treated with a flocculant to settle out coal fines, passes through the Lagoon and overflows to the harbour when the Lagoon is full. Water quality parameters such as suspended solids, nutrients, algae and pH are variable.

The Lagoon's water management operations and the variable water quality therein may not be compatible with GGBF habitat needs and present a risk to GGBF. Also, since NSWP's northern area adjacent to the Lagoon was cleared, there has only been one GGBF sighting. Though this area is not in use currently, it is expected that NSWP will be seeking to utilise this site. The lagoon surrounds are now open and subject to vehicular traffic and port-related activities as shown in Figure 4.

Figure 4: PKCT Lagoon

9. STAKEHOLDER INVOLVEMENT AND CONSULTATION

9.1 Northern Inner Harbour Stakeholders

Following the GGBF finding at PKCT in 2008, the EES facilitated the formation of a stakeholder group to consider the implications of identifying GGBF on the PKCT site and surrounding areas and to ensure a longer term strategy was developed. The stakeholder group includes:

- EES
- Sydney Water
- Wollongong Golf Club
- BlueScope Steel
- PKCT
- NSWP
- Conservation Volunteers Australia
- Consultant representatives e.g. Biosphere (Dr White).

This group is not currently active, but the group may be activated in response to a GGBF sighting or an initiative by a member or entity or event external to the group. Other stakeholders in the northern precinct may include:

- Australian Industrial Energy (AIE)
- Pacific National
- AAT
- Grain Terminal
- Qube (establishing an operation at Berth 103)

It is likely that GGBF movements are occurring across the Port Kembla Harbour northern inner harbour precinct (refer Figure 2). Accordingly, there is potential for GGBF to appear on other port users' premises and the associated legal obligations will pertain to the responsible party. Further to

Port Kembla Port Corporation and BlueScope Steel, who are already represented in the stakeholder group, involvement and support will be sought from other port users such as the Grain Terminal, AIE and AAT.

The OEH has sought to have discussions with Wollongong City Council, Sydney Water and Wollongong Golf Club on the potential for establishing other GGBF habitats on their sites. This is beyond the scope of this Management Plan.

10. AGENCY CONSULTATION

Consultation has occurred between PKCT and the DPIE Biodiversity Conservation Division (Previously part of the Department of Environment, Climate Change and Water) in the development of this Management Plan.

Consultation began with the initial discovery of Green and Golden Bell Frogs at PKCT in May 2008. Plans were submitted in various forms commencing with an Interim Management Plan then a Management Plan in June 2009 (Version 2.2). Further revisions in 2011 were made and the most recent version was submitted on the 24/8/11 (Version 5) to DECC's Paul Wearne.

By letter dated 5th December 2011, the DECC acknowledged that consultation between the EPA and PKCT on the Green and Golden Bell Frog Management Plan was complete.

This acknowledgement satisfied Schedule 3, Condition 14a of PKCT's Project Approval 08_0009 that consultation was undertaken with the Department's Biodiversity Conservation Division (previously part of DECC).

Annual reviews of the GGBFMP will be undertaken following the submission of the AEMR. The reviewed documents will be submitted to the Department annually. Additionally, the Plan will be reviewed after each triennial audit to incorporate the auditor's findings.

11. REFERENCES

Biosphere *GGBF Plan of Management EX.HS.193*

Biosphere *Interim GGBF Plan of Management EX.HS.194*

Department of Environment and Conservation Management Plan (2007), *The Green and Golden Bell Frog Key Population at Port Kembla*

NSW EPA, *Environmental Protection Licence (EPL) 1625*, New South Wales Environment Protection Authority.

NSW DOP *Project Approval 08_009*. New South Wales Government Department of Planning.

PKCT *Sustainable Development Policy PO.003*. Port Kembla Coal Terminal.

PKCT *Quality Policy PO.004*. Port Kembla Coal Terminal.

PKCT *Emergency Management Plan MP.001*. Port Kembla Coal Terminal.

PKCT *Environmental Aspects and Impacts Register RG.001*. Port Kembla Coal Terminal.

PKCT *Environment Policy PO.002*. Port Kembla Coal Terminal.

PKCT *Pollution Incident Response Management Plan MP.013*, Port Kembla Coal Terminal.

Department of Environment and Conservation (2005) *Green and Golden Bell Frog (Lesson 1829) Recovery Plan*

IUCN, *Red List of Threatened Species*

Department of Environment and Climate Change (2008) *OEH Best Practice Guidelines for Bell Frog Habitat*

Gaia Research P/L (2009), *OEH Report: Assessment of Habitat, Dispersal Corridors and Management Actions to Conserve the Northern Port Kembla Key Population of Green and Golden Bell Frog,*

NSW National Parks and Wildlife Service (2001), *Threatened Species Circular 6 -– Hygiene Protocol for the Control of Disease in Frogs*

Appendix A: Section 5A Assessments (Seven Part Test)

As Green and Golden Bell frogs are an endangered species (listed under Schedule 1 of Part 1 of the *Threatened Species Conservation Act 1995*), any actions that may impact upon this species or their habitat must be assessed. The Seven Part Test is a rapid assessment tool to determine if the actions may have a detrimental impact on the species.

This Seven Part Test has been applied on the understanding that the recommended mitigation measures including the erection of frog-exclusion fences and the modification of road run-off will take place. The assessment is therefore based on the likely outcomes when these measures are in effect.

1. In the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction;

2. In the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction;

3. In the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:

a) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction ,or

b) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction ,or

4. In relation to the habitat of a threatened species, population or ecological community:

a) the extent to which habitat is likely to be removed or modified as a result of the action proposed, and

b) whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action, and

c) the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality;

5. Whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly);

6. Whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan, and:

7. Whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.

References Cited

- Pyke, G.H. and A.W. White (2001). A Review of the Biology of the Green and Golden Bell Frog *Litoriaaurea. Aust. Zool.* **31**(4): 563-598.

White, A.W., and G.H. Pyke (1996). Distribution and conservation status of the Green and Golden Bell Frog *Litoria aurea* in New South Wales. *Aust. Zool.* **30**: 177- 189.