

# NORTHERN PIPELINE INTERCONNECTOR PROJECT STAGE 2

## MANAGEMENT PLAN

### FAUNA MANAGEMENT PLAN

Document number: NNA001-A-PLN-007

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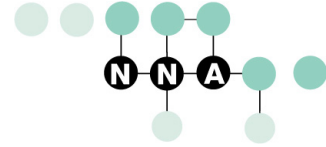
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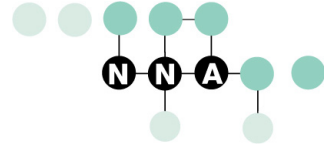
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# 1 INTRODUCTION

This Fauna Management Plan is one component of the Construction Environmental Management Plan (CEMP) (NNA001-A-PLN-017) which provides a system and procedures to ensure that Northern Network Alliance (hereafter referred to as the “Alliance”) establishes and maintains best practice controls to manage potential environmental impacts during the construction of the Northern Pipeline Interconnector (NPI) Stage 2 and associated infrastructure (hereafter referred to as the ‘Project’) and, wherever practicable, realise opportunities for enhanced environmental outcomes.

The Project is a key component of the SEQ grid. Initially, the Project will transport water under existing utilised entitlement (up to 55% or 3600 ML/a has been used by Noosa Shire in the past) authorised under the *Water Resource (Mary Basin) Plan 2006* (Mary Basin WRP). This existing entitlement comprises 6500 ML/a (18 ML/d) interim water allocation (high priority) held by the SEQ Water Grid Manager within the Upper Mary River Water Supply Scheme. However, the pipe will be sized and designed to accommodate flows from future bulk water sources on the Sunshine Coast, including the Traveston Crossing Dam, should it be approved.

The Alliance consists of the following partners:

- LinkWater
- Abigroup Contractors Pty Ltd
- McConnell Dowell Constructors (Aust) Pty Ltd
- Kellogg, Brown & Root Pty Ltd.

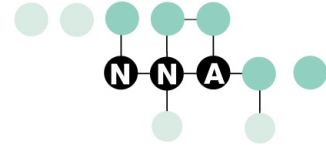
The Alliance is committed to providing the services it offers in a manner that conforms to the contractual requirements and to all relevant regulatory and legislative requirements. To achieve this, the Alliance will plan, implement and control an integrated management system that achieves the stated environmental outcomes.

The Alliance will ensure that controls are properly implemented and regularly monitored and audited to assess their effectiveness. Changes to the controls will be instigated if they are not achieving their objectives.

## 1.1 Project Description

The Project forms part of the drought contingency pipeline to connect existing and future water infrastructure on the Sunshine Coast with the Brisbane network. The Project will be constructed in two stages and will allow the transfer of up to 65 ML/d of potable water between the Sunshine Coast and Brisbane. Stage 1 of the Project—between Landers Shute water treatment plant (WTP) and Morayfield—is due for completion by 31 December 2008.

The completed Project (Stage 1 and Stage 2) will supply a target volume of 65 ML/d of potable fresh water to existing facilities at Caboolture for distribution to localities in the greater Brisbane region. Project Stage 2 will have the capacity to deliver up to 18 ML/d (under existing entitlements for the Noosa Shire).



Subsequent interconnection of Stages of the Project may be constructed to link with the proposed Traveston Crossing Dam and/or other bulk water sources proposed for the Sunshine Coast. These subsequent Stages are not considered in this report. However, the use of a large diameter pipe capable of transporting bulk water is a basis for the design of both Stages 1 and 2 of the Project.

The key components of the Project are as follows:

- approximately 48 km of underground pipe between Noosa water treatment plant (WTP) and the termination point of Project at Eudlo;
- a balance tank with a 5 ML capacity;
- three new pump stations; and
- a new water quality management facility (WQMF) and upgrades to an existing WQMF at Landsborough.

A number of additional above-ground facilities would be required for commissioning, operation and maintenance of the system. These include:

- water quality maintenance structures
- water branch mains; and
- cleaning and communications stations.

## 1.2 Purpose and Scope

LinkWater has a commitment to effective environmental management and lists the environment as a key component of its overall vision to become an effective partner in delivering water security to south-east Queensland (LinkWater 2008). LinkWater is committed to adding value to the management of the natural and built environments by adhering to all appropriate local, state and federal environmental guidelines, with an underlying principle of sustainability and positive environmental outcomes (LinkWater 2008).

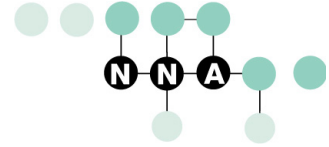
The purpose of the Fauna Management Plan is to identify measures to mitigate the potential impacts of construction activity on fauna species within the Project area, and to ensure that all works are carried out in accordance with the requirements of the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act), the *Nature Conservation Act 1992* (Qld) (NCA), the *Environmental Protection Act 1994* (Qld) and other relevant legislation.

This Plan will address the requirements of all applicable legislation and aims to ensure that the commitments made by the Alliance within the Project Environmental Impact Statement (EIS) regarding fauna management are met.

## 1.3 Related Management Plans

The Fauna Management Plan forms part of the overall CEMP (*NNA001-A-PLN-017*) for the Project. Where relevant, reference should also be made to the following associated management plans (MPs):

- Vegetation Management Plan (*NNA001-A-PLN-013*)
- Weed and Disease Management Plan (*NNA001-A-PLN-016*)



- Revegetation and Rehabilitation Management Plan (*NNA001-A-PLN-010*)
- Soil and Water Management Plan (*NNA001-A-PLN-011*)

#### **1.4 Objectives and Targets**

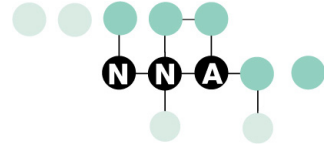
The objectives of this management plan are to:

- Minimise the impact of construction on native fauna
- Result in no significant long-term impacts on fauna species within the Project area.

The targets associated with this management plan are:

- No disturbance to fauna and their habitats within and adjacent to the corridor except where deemed unavoidable for construction access
- Safe relocation of 100 per cent of captured fauna within the corridor.

The above performance criteria have been developed for this MP to assist in the delivery of desirable environmental outcomes. The performance criteria will be linked to key performance indicators (KPIs) for the Project.



## 2 LEGISLATION AND REGULATORY REQUIREMENTS

### 2.1 Licenses/Permits

There are no licenses, permits or additional approvals required for the management of fauna related impacts throughout construction.

### 2.2 Guidelines/References

Key Legislation relevant to this MP includes:

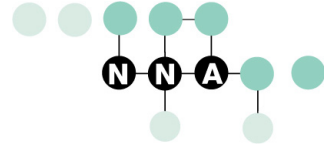
- *Environmental Protection and Biodiversity Conservation Act 1999*
- *Nature Conservation Act 1992*
- *Nature Conservation (Koala) Conservation Plan 2006 and Management Program 2006-2016.*
- *Environmental Protection Act 1994*

### 2.3 Commitments

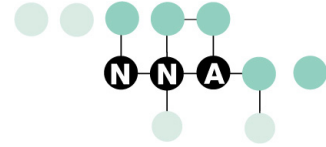
The following commitments are made in the Project EIS and are relevant to this MP. Table 1 lists these commitments.

Table 1 Fauna Management Plan Commitments from the Project EIS

Project 2 EIS Section (December 2008)	Requirement/Commitment
3.2	Generally the construction corridor will be 30-40 m wide.
3.3	Trench management techniques to minimise the potential for harm to native fauna and domestic stock will be used during construction.
3.3	Construction will limit and/or avoid impacts on endangered remnant ecosystems.
3.3	Hollow-bearing and habitat trees will be avoided where possible and/or relocated to suitable areas.
3.3	Any required approvals will be obtained for the clearing of remnant native vegetation.
3.3	All landforms will be restored as close as possible to their previous construction contours, including waterway bank slopes.
3.3 & 4	Monitoring of the recovery of impacted ecosystems and/or species will be undertaken as required.
3.3 & 4	Construction in or adjacent to endangered vegetation communities, sensitive riparian communities, or threatened species habitats will be managed through the implementation of sensitive area plans (SAPs). The corridor width will be minimised where possible through these areas.



Project 2 EIS Section (December 2008)	Requirement/Commitment
3.4	Waterway crossing methodologies are selected to reflect the size and ecological significance of individual waterways.
3.12 & 3.13	Construction sites will be managed to minimise the risk of bushfire to personnel and the environment.
3.3	Construction will not have significant impacts on species of national or state significance.
3.3	Construction in or adjacent to endangered ecological communities or threatened species habitats will be managed through specific mitigation plans.
3.3	Monitoring of the recovery of impacted ecosystems and/or significant species will be implemented prior to construction and will be implemented and updated as necessary.



## 3 EXISTING ENVIRONMENT

### 3.1 General Description

The route intersects a number of remnant areas supporting vegetation communities and/or fauna species now uncommon or rare in the region. Most are associated with riparian and floodplain forest remnants that occur where the corridor intersects permanent freshwater streams. These species include many protected under State and/or Commonwealth Legislation.

The broad approach adopted for assessing ecological features in the study area combined initial desktop reviews with subsequent field studies to ascertain the potential for impact on ecological communities and individual species.

This approach comprised of four key components:

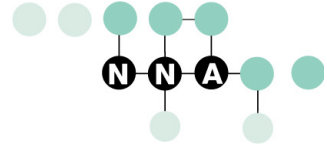
- identification of the types and locations of vegetation communities and potential habitat areas from aerial photography and existing mapping (e.g. regional ecosystem mapping)
- listing endangered, vulnerable, rare (EVR)/migratory species potentially occurring within the Project area from database records (e.g. EPBC Online Protected Matters Search Tool, Queensland Museum database, Birds Australia Atlas), and their habitat requirements
- undertaking reconnaissance surveys to ground-truth RE types and record the presence of EVR species of suitable habitat; and
- undertaking detailed flora and fauna survey in areas of high sensitivity or where valuable habitat features could be adversely affected by the Project.

Potential habitat areas were visited by qualified fauna consultants to conduct a series of fauna and habitat assessments over six days and two nights during October and November 2007 (BAAM), and 5.5 days during January and February 2008 (QFC). Detailed survey methodologies are outlined in the respective fauna reports (see BAAM 2007; QFC 2008).

Field investigations recorded a range of habitat types in the Project area. These are:

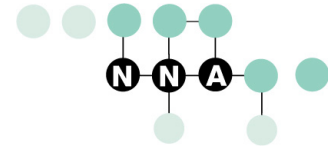
- narrow bands of vine forest along waterways, sometimes with eucalypt emergents;
- patches of lowland gallery rainforest;
- eucalypt forests on coastal ridges, with vine forest understorey on lower slopes and in gullies;
- dams with fringing vegetation;
- hollow-bearing trees.

Appendix 1 details the occurrence and potential occurrence of protected fauna species within the Project as identified during desktop and field investigations. Appendix 1 also outlines potential impacts and recommended mitigation measures for each of the fauna species listed.



### 3.2 Environmentally Sensitive Areas/Features

Sensitive Area Plans (SAPs) will be developed on a site by site basis and will provide detailed information for individual species as relevant to the Project. The SAPs will include information on the specific habitat values that are important to the species, any potential impacts and mitigation measures for each species for both construction and post-construction phases (Alliance EIS 2008). SAP's will form part of the Pre-clearing Verification Package.



## 4 POTENTIAL IMPACTS

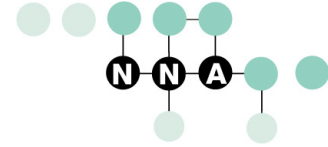
The impacts on native fauna assemblages associated with the construction of linear infrastructure such as the proposed pipeline include the loss of, or the fragmentation, of previously intact or regionally connected corridor habitats (e.g. riparian corridors). The potential effects of these impacts include reduction in plant-specific food resources, loss of shelter or breeding sites and the creation of barriers to safe movement along a distribution range preventing mixing of populations or restricting access of individuals to their former habitat.

However, the proposed corridor generally represents a temporary disturbance to habitat areas and will not result in long-term impacts provided that appropriate mitigation strategies are implemented and assessment and monitoring works for particular species are undertaken.

Appendix 1 outlines potential impacts and mitigation measures for fauna species which occur, or have the potential to occur, within the Project area.

Fauna-specific impacts requiring management include the following:

- Clearing may temporarily or permanently limit food resources/foraging habitat (especially for nectarivores and frugivores) and decreased linkages between intact habitats.
- Refuge and breeding grounds of ground-dwelling animals may be destroyed by clearing and construction works.
- Vegetation removal may result in direct mortality for individual animals, particularly arboreal species, and may result in temporary barriers to movement during construction.
- Changes to understorey vegetation and community floristics as a result of greater weed infestation may encourage pest species to colonise an area, or restrict the occurrence of native species previously present.
- Trenches may act as large pitfall traps for reptiles and small mammals.
- Fauna mortality may result from increased construction traffic on local roads.
- Direct loss of aquatic habitat may occur due to trenching activities and increased turbidity due to increased entrained sediment.
- Food waste/scraps may encourage pest species to enter an area.



## 5 ENVIRONMENTAL MITIGATION MEASURES

### 5.1 General

The following details outline the management measures to be employed to manage potential impacts on fauna relevant to the following categories:

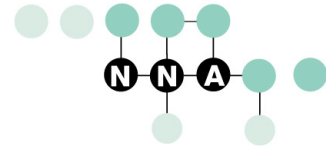
- General activities. Effective communication and the education of all site personnel are key measures for ensuring the mitigation of potential impacts on fauna
- The employment of fauna monitors in critical habitat areas will decrease the risk of mortality.

### 5.2 Verification Procedure

The verification procedure is a mechanism to ensure that the easement has been inspected, all the environmentally sensitive areas are known and delineated, and the construction supervisor has been advised of and acknowledges environmentally sensitive areas. The verification package is a written record and tangible reminder to the construction supervisor that he/she has environmental obligations ahead of him/her; and if he/she doesn't have signoff, then he/she doesn't have approval to enter that section of the ROW. The verification procedure and associated roles and responsibilities are outlined in Table 2.

In practical terms, the verification procedure is as follows:

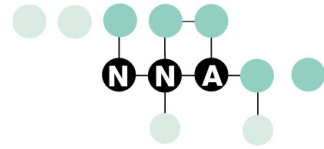
- The Environmental Officer reviews the environmental information available for the easement some days ahead of construction.
- The Environmental Officer identifies from the GIS and Sensitive Area Plan (SAP) (NNA001-A-PLN-005) resources and alignment sheets all those areas that represent an environmentally sensitive area. These areas may include rare or endangered flora, particular water crossings, habitat of rare or endangered animals, heritage areas (Aboriginal or European), and noise-sensitive receptors.
- The Aboriginal Heritage Officer will locate and tag known aboriginal heritage sites with construction tape and certify that this task is complete within the designated section of ROW. A 50 metre buffer is to be maintained around aboriginal heritage sites. The Contractor will construct a delineation fence to define the buffer zone. There is to be no activity of any sort within this buffer zone.
- The Environmental Officer should inspect the easement and physically identify all other known sensitive areas with construction tape.
- The details of the site; instructions and description of marking should be recorded and noted in the Verification Checklist process.



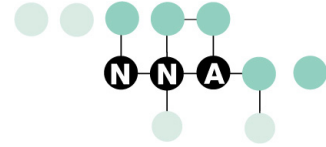
- If the Environmental Officer is unfamiliar with a particular environmental aspect (e.g. rare animal capture or plant identification) he/she should call in suitably qualified personnel who can assist. Sufficient time should be allowed to ensure availability of specialist environmental advisers.
- Once all environmental issues have been identified and flagged out on a specified section of ROW, the Environmental Officer shall point out all the issues in that section with the construction supervisor. The construction supervisor will explain what actions will be taken to protect environmental values and that suitable machinery and material (e.g. spill containment kit) is available to protect flagged out areas.
- The Environmental Officer and the Construction Engineer shall sign off on the verification package prior to the commencement of works. Construction can then commence on that section of the ROW described in the general purpose record.

Table 2 Verification Procedure Roles and Responsibilities

Activity	Management Mitigation Measures	Responsibility	Timing
<b>General</b>	All construction personnel must complete a site induction containing fauna management prior to commencing works on site.	Environmental Manager	Pre-construction
	Periodic toolbox training to be provided to all construction personnel to present new information or reiterate information relating to management of fauna throughout construction.	Environmental Manager	Pre-construction
	Ensure 'no go zones' are clearly sign-posted/ delineated on site prior to the commencement of works.	Environmental Officers	Pre-construction
	Width of construction corridor to be constrained to 15-20 metres when working in areas of 'endangered' vegetation and fauna and, where practicable, within other sensitive areas. Ensure these constrained areas are clearing defined to construction personnel and marked with 'no go' fencing prior to the commencement of works in each area.	Construction Managers/ Environment Manager	At all times throughout construction
<b>Trenching</b>	Erect exclusion fencing on either side of open trenches during times when trenches are unattended overnight or for periods greater than 24 hours. Fencing should be suitable for keeping out large herbivores as well as smaller mammals.	Environmental Officers	As required
	Placing structures such as trench plugs and ramps within open trenches to encourage trapped animals to leave of their own accord.	Environmental Officers	As required
	Where practical and appropriate, provide shade cloth over open trenches to protect trapped animals from extreme temperature and stress until they can be removed.	Environmental Officers	As required
	Monitoring of open trenches and using trained fauna monitors to remove all trapped animals into nearby areas of native vegetation.	Environmental Officers	Daily
<b>Vegetation Removal</b>	Carry out all vegetation clearance in accordance with Vegetation Management Plan (NNA001-A-PLN-0013)	Environmental Manager /	Ongoing



Activity	Management Mitigation Measures	Responsibility	Timing
	and Weed & Disease Management Plan (NNA001-A-PLN-016)	Environmental Officers	
	Old growth trees with hollows to be retained wherever possible. Habitat trees to be retained to be clearly marked on site.	Environmental Officers	Pre-construction
	Where habitat trees cannot be retained and are adjacent to areas of bush, the portion of the limb that supports the hollow shall be removed and re-affixed to a nearby tree that will be retained.	Project Ecologist/ Environmental Officers	Pre-construction/ following vegetation clearing
	Replacement of lost hollows with constructed hollows as required.	Environmental Manager	Ongoing
	Disturbance to other structural elements such as fallen tress, logs and other litter in vegetated areas adjacent to the construction corridor to be avoided.	Environmental Officers	Ongoing
	In line with landowner wishes for his/her timber, retain selected felled trees to replace structural elements.	Environmental Officers	During construction/ post-construction
	Ensure no tree dwelling animals are present in trees to be cleared. In the event of sick, injured or orphaned animals being located during clearing activities, contact the Environmental Protection Authority (EPA) hotline on 1300 130 372.	Environmental Officers	As required
Site access and traffic movements	Construction traffic to be limited to clearly designated areas.	Environmental Officers	Ongoing
	Traffic speeds to be limited when working in potential habitat areas and at dusk and dawn when many species are more active.	Environmental Officers	Ongoing



## 6 CORRECTIVE AND PREVENTATIVE ACTIONS

### 6.1 Community Liaison and Complaint Management

Refer to Section 8.1 in the Construction Environmental Management Plan (CEMP)

*(NNA001-A-PLN-017)*

### 6.2 Environmental Incident/Emergency Reporting

Refer to Section 8.2 in the Construction Environmental Management Plan (CEMP)

*(NNA001-A-PLN-017)*

### 6.3 Incident/Emergency Preparedness and Response

Refer to Section 8.3 in the Construction Environmental Management Plan (CEMP)

*(NNA001-A-PLN-017)*

### 6.4 Incident Investigation

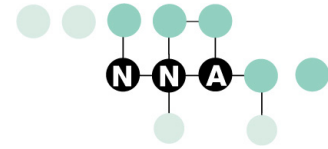
Refer to Section 8.4 in the Construction Environmental Management Plan (CEMP)

*(NNA001-A-PLN-017)*

### 6.5 Non-conformances

Refer to Section 8.5 in the Construction Environmental Management Plan (CEMP)

*(NNA001-A-PLN-017)*



# 7 INSPECTION AND MONITORING

## 7.1 Inspections

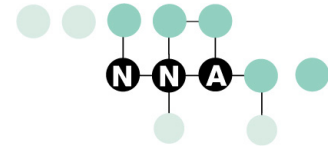
Inspections will be undertaken on a weekly basis to ensure compliance with measures detailed in this FMP. Results of these inspections will be recorded in the Weekly Inspection Checklist (*G-FRM-001*).

## 7.2 Monitoring Requirements

In general, the Alliance is responsible for monitoring its own, and any subcontractor's, conformance with the FMP. Key monitoring requirements and responsibilities with respect to fauna management are summarised in **Table 3**

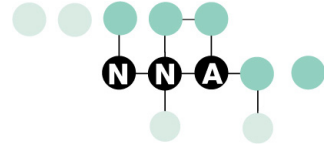
Table 3 Construction Monitoring Requirements for Project

Monitoring requirement	Frequency/timing	Performance criteria	Responsibility
Ensuring appropriate facilities are installed in trenches (trench ramps/plugs or branches/bagging)	Daily	All open pipes capped at night and fauna are able to leave trenches of their own accord. Trapped fauna protected from extremes of temperature until they can be removed.	Site Supervisor/ Environmental Officer
Monitoring open trenches for trapped fauna	Daily	All trapped fauna relocated to adjacent areas prior to commencement of works	Environmental Officer/ Fauna monitor
Visual inspection for fauna of areas to be cleared of vegetation	On the day prior to clearing	All visible fauna relocated prior to the commencement of clearing.	Fauna monitor
Habitat trees to be retained are clearly marked prior to clearing	On the day prior to clearing	No hollow-bearing trees off ROW are inadvertently removed from the work site.	Environmental Officer
Hollows from habitat trees to be cleared are removed and re-affixed to trees in adjacent areas or alternative shelter provided	In the week prior to clearing	No net loss of habitat for arboreal fauna	Environmental Officer
Appropriate access and traffic management measures are in place and are complied with	Daily	No fauna mortalities as a result of vehicles	Environmental Officer/ Site supervisor
All construction personnel have received appropriate training	Prior to entering work site	Compliance with fauna management measures	Environmental Manager/ Construction Manager
Visual inspection of re-established habitat areas	Monthly following reestablishment	Successful rehabilitation of potential fauna habitat.	Environmental Officer



## 8 DEFINITIONS AND ACRONYMS

Acronym	Glossary
Aust	Australia
BAAM	Biodiversity Assessment and Management Pty Ltd
CEMP	Construction Environmental Management Plan
Cwth	Commonwealth (of Australia)
EIN	Environmental Improvement Notice
EIS	Environmental Impact Statement
EPA	Queensland Government Environmental Protection Agency
EPBC Act	<i>Environmental Protection and Biodiversity Conservation Act 1999</i> (Cwth)
EVR	Endangered, vulnerable and rare (as listed under state or federal legislation)
FMP	Fauna Management Plan
Frugivore	An animal which feeds primarily on fruit
GIS	Geographical Information Systems
KPI	Key Performance Indicator
LinkWater	SRWPCo now trading as LinkWater and is 100 per cent owned by the Queensland Government
Mary Basin WRP	<i>Water Resource (Mary Basin) Water Resource Plan 2006</i>
ML	Megalitre (equivalent to 1 million litres)
ML/d	Megalitres per day
MP	Management Plan
MSDS	Material Safety Data Sheet
NCA	<i>Nature Conservation Act 1992</i> (Qld)
NCR	Non-conformance Report
Nectarivore	An animal which feeds primarily on sugar-rich nectar produced by flowering plants
NNA	Northern Network Alliance
NPI	Northern Pipeline Interconnector
QESE	Quality Environmental Safety Engineering database
QFC	Queensland Fauna Consultancy Pty Ltd
Qld	Queensland
RE	Regional Ecosystem
ROW	Right-of-way
SAP	Sensitive Area Plan ( <i>NNA001-A-PLN-005</i> )
WMS	Work Method Statement
WQMF	Water Quality Management Facility
WTP	Water Treatment Plant



## 9 REFERENCE DOCUMENTS

Biodiversity Assessment and Management Pty. Ltd. 2007, 'Maroochy Shire to Noosa Shire Northern Pipeline Interconnector Stage Two: Preliminary terrestrial vertebrate fauna habitat assessment', report prepared for Southern Regional Water Pipeline Alliance.

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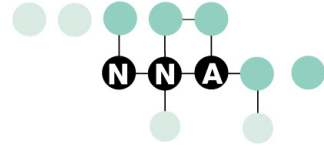
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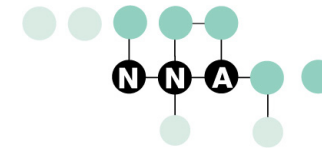
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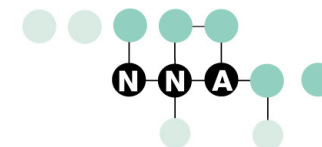
Weed and Disease Management Plan (*NNA001-A-PLN-016*)



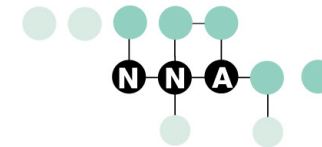
# APPENDIX 1

Table 4 Significant Fauna Species Occurring or Potentially Occurring in the Project Area

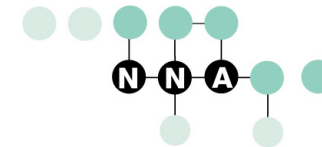
Species	Status	Habitat and ecology	Potential habitat and potential impacts
<b>BIRDS</b>			
Australian Cotton Pygmy-goose, Nettapus coromandelianus albipennis	Migratory, Marine (EPBC)	Requires freshwater swamps with aquatic vegetation. Distribution along eastern coast of Queensland from Cape York Peninsula south to Brisbane.	Potential habitat: No suitable habitat for this species was recorded during field investigations. Low likelihood of occurrence. Potential impacts: No significant impacts are expected for this species.
Australian Painted Snipe, <i>Rostratula australis</i>	Vulnerable (EPBC; NCA)	Rare, secretive and cryptic species. Feeds at the edge of water associated with mudflats, shallow vegetated and freshwater swamps or inundated grasslands.	<i>Potential habitat:</i> No suitable habitat for this species was recorded during field investigations. Low likelihood of occurrence. <i>Potential impacts:</i> No significant impacts are expected for this species.
Black-breasted Button Quail, <i>Turnix melanogaster</i>	Vulnerable (EPBC, NCA)	Occurs in drier rainforests, vine thickets, scrubby woodlands, thickets of lantana on rainforest fringes. Distribution is patchy in suitable habitat in south-east Queensland and north-east New South Wales.	<i>Potential habitat:</i> No suitable habitat for this species was recorded during field investigations. Low likelihood of occurrence. <i>Potential impacts:</i> No significant impacts are expected for this species.
Black-faced Monarch, <i>Monarcha melanopsis</i>	Migratory, Marine (EPBC)	Occurs in rainforests, eucalypt woodlands, coastal scrubs and damp gullies in rainforest. Distribution along the eastern coast of Australia and islands - coastward of the Great Dividing Range.	<i>Potential habitat:</i> Potential to occur in tall wet forested areas and riparian vegetation. <i>Potential impacts:</i> No significant impacts are expected for this species.
Black-necked Stork, Ephippiorhynchus asiaticus	Rare (NCA)	Distribution along east coast of Queensland, although presence is dependent upon availability of preferred habitat. Frequents larger, established swamps, wetlands, lakes and mangroves. Also forages in temporary wetlands associated with inundated and low lying farmland.	Potential habitat: South Maroochy River, Eudlo Creek tributaries. Potential impacts: No significant impacts are expected for this species. Temporary and localised disturbance to potential forage areas.



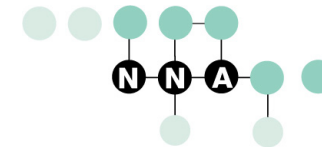
Species	Status	Habitat and ecology	Potential habitat and potential impacts
Cattle Egret, <i>Ardea ibis</i>	Migratory, Marine (EPBC)	Occurs in a wide variety of habitats - a common water bird.	<i>Potential habitat:</i> South Maroochy River, Eudlo Creek tributaries. <i>Potential impacts:</i> No significant impacts are expected for this species. Temporary and localised disturbance to habitat.
Coxen's Fig Parrot, <i>Cyclopsitta diophthalma coxeni</i>	Endangered (EPBC, NCA)	Uses lowland subtropical rainforest and dense canopy eucalypt forest habitat. Food resources include <i>Ficus</i> spp. and other native fruit and nectar-bearing trees and plants.	<i>Potential habitat:</i> Although species not detected during field investigations, although potential forage habitat within riparian forests. <i>Potential impacts:</i> Route alignment largely avoids clearing of native riparian. Minimal loss of habitat. No significant impacts are expected for this species.
Fork-tailed Swift, <i>Apus pacificus</i>	Migratory, Marine (EPBC)	Occurs over open country, from semi-deserts to coasts, islands and sometimes over forests and cities. A non-breeding aerial migrant to Australia.	<i>Potential habitat:</i> No suitable habitat for this species was recorded during field investigations. <i>Potential impacts:</i> Aerial, non-breeding migrant. No significant impacts are expected for this species.
Glossy Black Cockatoo, <i>Calyptorhynchus lathami</i>	Vulnerable (NCA)	Requires large tree hollows for nesting (generally over-mature eucalypts). Preferred food resources are the cones of She-oaks ( <i>Allocasuarina</i> spp.), particularly large-fruited varieties (e.g. <i>A. littoralis</i> , <i>A. cunninghamii</i> ). Breeding occurs from March to August; with chicks fledging after 60 days.	<i>Potential habitat:</i> Casuarina groves within Ferntree special investigation area. <i>Potential Impacts:</i> Short-term disturbance to feeding resources where <i>Allocasuarina</i> spp. are removed. Potential loss of nesting sites where hollow-bearing trees are removed. No significant impacts are expected for this species.
Great Egret, <i>Ardea alba</i>	Migratory, Marine (EPBC)	Occurs in a wide variety of habitats - a common water bird.	<i>Potential habitat:</i> South Maroochy River, Eudlo Creek tributaries. <i>Potential impacts:</i> No significant impacts are expected for this species. Disturbance to potential habitat will be localised and temporary.
Grey Goshawk, <i>Accipiter novaehollandiae</i>	Rare (NCA)	Wide-ranging and highly mobile, foraging in rainforest habitats, tall open forests, woodlands, farmland and along timbered watercourses in high rainfall areas. Breeds August to December, nesting in tall trees.	<i>Potential habitat and impacts:</i> Likely to use the study area as part of forage range. <i>Potential impacts:</i> No significant impacts are expected for this species. Disturbance to potential habitat will be localised and temporary.
Ground Parrot, <i>Pezoporus wallicus</i>	Vulnerable (NCA)	This species is generally found in dry heathland in Queensland. Distribution from north-east of Gympie and Fraser Island in Queensland to east and south-east Victoria.	<i>Potential habitat:</i> Adjacent to the corridor at Eudlo Creek tributaries. <i>Potential impacts:</i> No clearing of potential habitat required. No significant impacts are expected for this species.



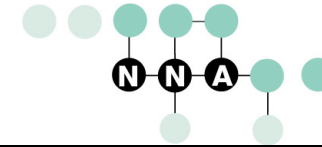
Species	Status	Habitat and ecology	Potential habitat and potential impacts
Latham's Snipe, <i>Gallinago hardwickii</i>	Migratory (EPBC)	Inhabits freshwater and brackish swamps, marshes and flooded paddocks. Mostly coastal and sub-coastal, but substantial movement inland.	Potential habitat: Minimal suitable habitat within the corridor. Potential impacts: No significant impacts are expected for this species.
Lewin's Rail, <i>Rallus pectoralis</i>	Rare (NCA)	Prefers swamplands wet heaths and wet grass lands with dense vegetation. Forages a range of insects, crustaceans and plant matter.	<i>Confirmed habitat:</i> South Maroochy River. Potential Impacts: Temporary loss of a small area of reed beds along alignment. These are expected to rapidly regrow. No significant impacts are expected for this species.
Magpie Goose, <i>Anseranas semipalmata</i>	Marine (EPBC)	Found in large, seasonal wetlands and well-vegetated dams with rushes and sedges. Distribution extends coastally from about Broome (Western Australia) to Brisbane in Queensland.	<i>Potential habitat:</i> No suitable habitat for this species was recorded during field investigations. <i>Potential impacts:</i> No significant impacts are expected for this species.
Marbled Frogmouth, <i>Podargus ocellatus plumiferus</i>	Vulnerable (NCA)	Inhabits pockets of closed subtropical rainforests, particularly those with an understorey of palms or ferns. Nests are located mostly on horizontal branches or epiphytic plants.	<i>Potential habitat:</i> No suitable habitat for this species was recorded during field investigations. <i>Potential impact:</i> No significant impacts are expected for this species.
Powerful Owl, <i>Ninox strenua</i>	Vulnerable (NCA)	Forages along the margins of dense wet sclerophyll forest along coastal uplands and hills. Require large tracts of intact forest to support their prey and breeding sites in hollow-bearing trees.	<i>Potential habitat:</i> Foraging possible along upland riparian areas within Ferntree special investigation area <i>Potential impacts:</i> Potential disturbance to hunting habitats, although likely to be temporary and localised. No significant impacts are expected for this species.
Rainbow Bee-eater, <i>Merops ornatus</i>	Migratory, Marine (EPBC)	Habitat includes open woodlands with sandy, loamy soil, sand ridges, riverbanks, road cuttings, beaches, dunes, cliffs, rainforest and woodlands. Breeding resident in Australia - inland and dry west coast. Mostly a passage migrant. Primarily an aerial species.	<i>Potential habitat:</i> Foraging possible along upland riparian areas within Ferntree special investigation area. <i>Potential impacts:</i> Potential disturbance to hunting habitats, although likely to be temporary and localised. No significant impacts are expected for this species.
Red Goshawk, <i>Erythrotriorchis radiatus</i>	Vulnerable (EPBC); Endangered (NCA)	Coastal and sub-coastal distribution. Rare across range. Preferred forage habitats are tall open forest and woodlands and along the margins of riverine gallery forest.	<i>Potential habitat:</i> Likely to be an infrequent visitor to the Ferntree special investigation area as part of forage range. <i>Potential impacts:</i> Minimal disturbance to forage range. No significant impacts are expected for this species.
Red-browed Treecreeper, <i>Climacteris erythrops</i>	Rare (NCA)	Uses tall eucalypt forest and woodland, predominantly in hilly areas. May be found in remnant riparian habitats if connected to tall forest habitats. Requires large forested areas for foraging.	<i>Potential habitat:</i> Ferntree special investigation area <i>Potential impacts:</i> Loss of potential habitat areas, although likely to be localised. No significant impacts are expected for this species.



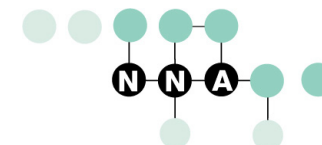
Species	Status	Habitat and ecology	Potential habitat and potential impacts
Regent Honeyeater, <i>Xanthomyza phrygia</i>	Endangered, Migratory (EPBC)	Inhabits dry open eucalypt forest and woodlands. Patchy distribution - occurs mostly on the inland slopes of the Great Dividing Range.	<i>Potential habitat:</i> No suitable habitat for this species was recorded during field investigations. <i>Potential impacts:</i> No significant impacts are expected for this species.
Rufous Fantail, <i>Rhipidura rufifrons</i>	Migratory, Marine (EPBC)	Distribution along coastal north and eastern Australia and islands. Occurs in undergrowth of rainforest/wetter eucalypt forests and gullies.	<i>Potential habitat:</i> Wet eucalypt forest in gullies of Ferntree special investigation area, riparian forests. <i>Potential impacts:</i> Disturbance of potential habitat areas likely to be minimal. No significant impacts are expected for this species.
Satin Flycatcher, <i>Myiagra cyanoleuca</i>	Migratory, Marine (EPBC)	Occurs in heavily vegetated gullies in forest, taller woodlands, usually above the shrub layer. During migration this species inhabits coastal forests, woodlands, mangroves, trees in open country and gardens. Distribution along the eastern coast of Australia and islands - from Cape York to Tasmania.	<i>Potential habitat:</i> Wet eucalypt forest in gullies of Ferntree special investigation area, riparian forests. <i>Potential impacts:</i> Disturbance of potential habitat areas likely to be minimal. No significant impacts are expected for this species.
Sooty Owl, <i>Tyto tenebricosa</i>	Rare (NCA)	Occur in wet eucalypt forests and rainforests where tall emergent trees are present. Territorial species dependent on hollows for nesting.	<i>Potential habitat:</i> Ferntree special investigation area. <i>Potential impacts:</i> No significant impacts are expected for this species. Potential loss of some foraging habitat, although likely to be localised.
Spectacled Monarch, <i>Monarcha trivirgatus</i>	Migratory, Marine (EPBC)	Occurs in understorey of mountain/lowland rainforests, thickly wooded gullies, waterside vegetation - mostly well below the canopy. Summer breeding migrant to south-east Queensland.	<i>Potential habitat:</i> Wetter gullies within Ferntree special investigation area. <i>Potential impacts:</i> No significant impacts are expected for this species.
Square-tailed Kite, <i>Lophoictinia isura</i>	Rare (NCA)	Habitat is generally tall, open forest and woodland; however, also uses dense, wet forest along watercourses. Mated pairs require permanent home ranges of approximately 800–1000 ha for adequate food resources (possums, gliders, small mammals).	<i>Potential habitat:</i> Wide ranging species with potential to utilise habitats along the corridor. <i>Potential impacts:</i> No significant impacts are expected for this species. Disturbance to potential habitat will be temporary and localised.
Swift Parrot, <i>Lathamus dicolor</i>	Endangered (EPBC, NCA)	Occurs in woodlands, riparian vegetation and remnant eucalypt forests, preferring dry sclerophyll forests. This species breeds in Tasmania during spring and summer, dispersing widely across south-eastern Australia during winter. Considered nomadic and irruptive, moving in response to food resources.	<i>Potential habitat:</i> No suitable habitat for this species was recorded during field investigations. Low likelihood of occurrence. <i>Potential impacts:</i> No significant impacts are expected for this species.



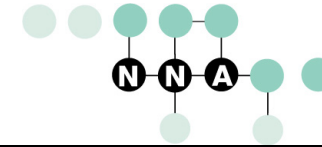
Species	Status	Habitat and ecology	Potential habitat and potential impacts
White-bellied Sea Eagle, <i>Haliaeetus leucogaster</i>	Migratory, Marine (EPBC)	Generally associated with marine and estuarine habitats and larger wetlands. Occurs in coastal areas of Australia, islands, estuaries, inlets, large rivers, inland lakes and reservoirs. Builds large nest in tall trees near water.	<i>Potential habitat:</i> This species was observed along the corridor (over-fly). <i>Potential impacts:</i> No loss of habitat will occur. No significant impacts are expected for this species.
White-throated Needletail, <i>Hirundapus caudacutus</i>	Migratory, Marine (EPBC)	Occurs in airspace of forests, woodlands, farmlands, plains, lakes, coasts and towns. Feeding companies frequently patrol back and forward along favoured hilltops and timbered ranges. Regular summer migrant to eastern Australia. Arrives from mid-October and departs by mid-April. Locally common, particularly in eastern Queensland.	<i>Potential habitat:</i> No suitable habitat for this species was recorded during field investigations. <i>Potential impacts:</i> No significant impacts are expected for this species.
<b>AMPHIBIANS</b>			
Cascade Treefrog, <i>Litoria pearsoniana</i>	Vulnerable (NCA)	Inhabits streams in rainforest and adjacent wet sclerophyll forest at elevations of 200 - 1000m in south-eastern Queensland and north-eastern New South Wales. Prefers shaded rainforest gullies in association with fast flowing rocky streams.	<i>Potential habitat:</i> No suitable habitat for this species was recorded during field investigations. Not likely to occur within the corridor. <i>Potential impacts:</i> No significant impacts are expected for this species.
Giant Barred Frog, <i>Mixophyes iteratus</i>	Endangered (EPBC; NCA)	Deep, slow-flowing creeks with overhanging banks in lowland vine forest and riparian gallery forest habitat. Most movements are restricted to within 20 m of the stream. Breeding occurs in spring and summer, often on leaf litter near streams and ponds.	<i>Potential habitat:</i> Paynters Creek, Petrie Creek, Tuckers Creek <i>Potential impacts:</i> Temporary displacement from and loss of potential habitat. Temporary disruption of movements along riparian habitats. Transport of sediment into downstream reaches with temporary impacts on water quality. Impacts expected to be short-term and localised.
Green-thighed Frog, <i>Litoria brevipalmata</i>	Rare (NCA)	Patchy distribution restricted to Northern NSW & SE Qld. Rainforest & wet sclerophyll forest & sometimes flooded areas bordering forest when surface water present after rain. Generally in denser vegetation, leaf-litter & ground debris (Hines et al 1999; Cogger 2000).	<i>Potential habitat:</i> Low-lying and seasonally inundated eucalypt habitat within the Ferntree special investigation area. <i>Potential impacts:</i> Disturbance to potential habitat will be localised and temporary. No significant impacts are expected for this species.
Pouched Frog, <i>Assa darlingtonia</i>	Rare (NCA)	Monotypic species restricted to coastal ranges of SE Qld & Northern NSW border region. Inhabits damp leaf-litter & ground debris in rainforest, Antarctic beech & wet sclerophyll forest. Generally at cooler, higher altitude (Robinson 1993; Cogger 2000).	<i>Potential habitat:</i> No suitable habitat for this species was recorded during field investigations. Not likely to occur within the corridor. <i>Potential impacts:</i> No significant impacts are expected for this species.



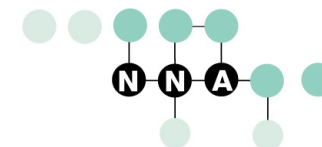
Species	Status	Habitat and ecology	Potential habitat and potential impacts
Southern Dayfrog, Taudactylus diurnus	Extinct (EPBC), Endangered (NCA)	This species has not been recorded since 1980 and is presumed extinct.	Potential habitat: No suitable habitat for this species was recorded during field investigations. Not likely to occur within the corridor. Potential impacts: No significant impacts are expected for this species.
Southern Gastric Brooding Frog, Rheobatrachus silus	Extinct (NCA)	This species has not been recorded since 1978 and is presumed extinct.	Potential habitat: No suitable habitat for this species was recorded during field investigations. Not likely to occur within the corridor. Potential impacts: No significant impacts are expected for this species.
Tusked Frog, Adelotus brevis	Vulnerable (NCA)	Occupies a wide range of habitats, including disturbed/degraded areas. Slow moving streams and dams in vine forest habitat, particularly around accumulated leaves and small woody debris. Breeding occurs between September and April, when males construct nests in concealed sites at the edge of ponds or stream pools.	Confirmed habitat: Winston Road, Woombye; Sandy Creek; Paynters Creek; Rocky Creek; Six Mile Creek (left branch). Potential habitat: Many other numerous waterways along the alignment. Potential impacts: Temporary displacement from and loss of existing habitat within the easement. Changes in water quality may also adversely impact eggs or tadpoles.
Wallum Froglet Crinia tinnula	Vulnerable (NCA)	Occurs in 'acid' swamps with a pH 4.3-5.2. The conservation status of this species reflects the loss of suitable acid habitat throughout its range. Breeding occurs in swamps, dams and flooded ditches primarily in autumn but also in late winter, spring and late summer.	Potential habitat: No suitable habitat for this species was recorded during field investigations. Potential impacts: No significant impacts are expected for this species.
Wallum Rocketfrog, Litoria freycineti	Vulnerable (NCA)	Distributed across coastal regions of New South Wales to south-eastern Queensland. Usually encountered after rain in spring and summer within a wide variety of heath and forest habitats.	Potential habitat: No suitable habitat for this species was recorded during field investigations. Potential impacts: No significant impacts are expected for this species.
Wallum Sedgefrog, Litoria longburensis	Vulnerable (EPBC, NCA)	Found throughout north-eastern New South Wales and south-east Queensland. Occurs in emergent vegetation and reeds within swampy or marshy lowland "wallum" habitats.	Potential habitat: No suitable habitat for this species was recorded during field investigations. Potential impacts: No significant impacts are expected for this species.



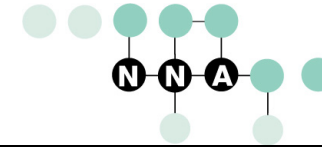
Species	Status	Habitat and ecology	Potential habitat and potential impacts
<b>INSECTS</b>			
Australian Fritillary Butterfly, <i>Argyreus hyperbius incana</i>	Endangered (NCA)	Species distribution is dependent on its larval food plant, <i>Viola betonicifolia</i> . Preferred habitat consists of open sedge-land, wetlands and swamps in coastal areas.	<i>Potential habitat:</i> No suitable habitat for this species was recorded during field investigations. <i>Potential impacts:</i> No significant impacts are expected for this species.
Pink Underwing Moth, <i>Phyllodes imperialis</i>	Endangered (EPBC)	Occurs mainly in thick, lower montane rainforests. Specifically depends on <i>Carronia multisepealea</i> in collapsed, shrub-like form as a larval food plant.	<i>Potential habitat:</i> No clearing of larval food plant ( <i>Carronia multisepealea</i> ) is likely to be required. <i>Potential impacts:</i> No significant impacts are expected for this species.
Richmond Birdwing Butterfly, <i>Ornithoptera richmondia</i>	Vulnerable (NCA)	Occurs in subtropical rainforest, littoral rainforest and gallery forest in upland and lowland areas, predominantly on volcanic soils where the larval food plants ( <i>Pararistolochia praevenosa</i> ) grow. Breeding occurs from September to November and February to April.	<i>Confirmed habitat:</i> Ferntree special investigation area. <i>Potential impacts:</i> Species is known from the broader area, but has not been located within or adjacent to the proposed corridor. No significant impacts are expected for this species.
<b>REPTILES</b>			
Common Death Adder, <i>Acanthophis antarcticus</i>	Rare (NCA)	Uses a wide range of habitats, including rainforest, shrublands, heaths and woodlands. Requires undisturbed forested areas with heavy leaf litter substrate. Often associated with rocky outcrops and forested slopes at wet/dry sclerophyll forest ecotones.	<i>Potential habitat:</i> Wildlife corridors from Ferntree Creek National Park to the west. <i>Potential Impact:</i> Temporary loss of habitat associated with vegetation clearing. No significant impacts are expected for this species.
Cooloolool Blind Snake, <i>Ramphoiphlops silvia</i>	Rare (NCA)	Endemic to coastal south-east Queensland between and including Fraser Island and Noosa. Occurs in rainforest, wet sclerophyll forest, and heath communities. Fossorial, shelters in sand, under logs and in chambers of ant and termite nests. Little known about this species (Cogger 2000; Wilson 2005).	<i>Potential habitat:</i> No suitable habitat for this species was recorded during field investigations. <i>Potential impacts:</i> No significant impacts are expected for this species.
Elf Skink, <i>Eroticoscincus graciloides</i>	Rare (NCA)	Requires damp leaf litter, logs and stones for shelter and forages in shaded, moist environments. Breeding occurs in spring to mid-summer.	<i>Confirmed habitat:</i> Petrie Creek crossing. <i>Potential habitat:</i> Several other similar creek crossings. <i>Potential impacts:</i> Minor, short-term disturbance to logs and leaf litter layer. Temporary disruption to movement within proposed corridor. No significant impacts are expected for this species.
Short-limbed Snake–	Rare (NCA)	Known from moist forests of the Blackall Range,	<i>Potential habitat:</i> Ferntree special investigation area.



Species	Status	Habitat and ecology	Potential habitat and potential impacts
skink, <i>Ophioscincus truncatus</i>		inhabiting rainforests and wet sclerophyll forests. Likely to be adversely affected by disturbance to upper layers of soil and leaf litter.	<i>Potential impacts:</i> Minor, short-term disturbance to logs and leaf litter layer will have minimal impacts on this species. No significant impacts are expected for this species.
Mammals			
Grey-headed Flying Fox, <i>Pteropus poliocephalus</i>	Vulnerable (EPBC)	Uses a wide range of habitats for foraging—including rainforests, open eucalypt forests and woodlands. Camping sites are typically within dense vegetation close to water where breeding occurs during the spring months.	<i>Potential habitat:</i> No camp sites located along the corridor. <i>Potential impacts:</i> Localised loss of intermittent food resources. No significant impacts are expected for this species.
Koala, <i>Phascolarctos cinereus</i>	Vulnerable (NCA)	Uses a variety of trees for feeding, shelter and breeding purposes but are generally associated with open eucalypt habitat types in Queensland.	<i>Potential habitat:</i> Several forest areas by waterways along the alignment. <i>Potential impacts:</i> Temporary disruption to movement corridors. Removal of food resources. No significant impacts are expected for this species.
Large-eared Pied Bat, <i>Chalinolobus dwyeri</i>	Vulnerable (EPBC); Rare (NCA)	Habitat and roosting requirements of this species are poorly understood. It is thought to forage in a range of vegetation types, including rainforest, open eucalypt forest and around sandstone outcrops. Natural preferred roosts are primarily sandstone outcrops but this species also uses disused mine shafts, caves, tree hollows and rock overhangs.	<i>Potential habitat:</i> No suitable habitat for this species was recorded during field investigations. <i>Potential impacts:</i> No significant impacts are expected for this species.
Long-nosed Potoroo, <i>Potorous tridactylus</i> <i>tridactylus (SE Mainland)</i>	Vulnerable (EPBC)	Fragmented distribution across Eastern Australia, but known populations in south-east Queensland & Northern New South Wales coastal regions. Utilises a wide-range of vegetation types but prefers dense undergrowth with thick ground cover and light, sandy soils (Johnston 1995; Maxwell et al 1996; Johnson 2003; Menkhorst & Knight 2004).	<i>Potential habitat:</i> No suitable habitat for this species was recorded during field investigations. <i>Potential impacts:</i> No significant impacts are expected for this species.
Platypus, <i>Ornithorhynchus anatinus</i>	Culturally significant (NCA)	Generally found in clearer water areas with sandy gravel to sandy silty bottom sediments that better suit foraging behaviour. Constructs stream bank burrows around slow-moving water. Mating season occurs around August in Queensland, with young weaned	<i>Potential habitat:</i> Eudlo Creek, Tuckers Creek, South Maroochy River, North Maroochy River and Rocky Creek. <i>Potential impacts:</i> Changes to riparian bank structure and potential loss of burrows. Sediment release into aquatic habitats downstream of construction sites. No significant impacts are



Species	Status	Habitat and ecology	Potential habitat and potential impacts
		around 4-5 months after hatching.	expected for this species.
Short-beaked Echidna, <i>Tachyglossus aculeatus</i>	Culturally significant (NCA)	Uses a wide range of habitat types and shelters in logs, crevices, burrows and leaf litter. Mating takes place in July and August with juveniles seen from September.	<i>Potential habitat:</i> North Maroochy River and several other locations along the alignment. <i>Potential Impacts:</i> Minor, short-term loss of habitat. No significant impacts are expected for this species.
Spotted-tailed Quoll (SE Mainland), <i>Dasyurus maculatus maculatus</i>	Endangered (EPBC); Vulnerable (NCA)	Uses a variety of habitat types including sclerophyll forest, woodland, coastal heathland and rainforest. Requires a relatively large territory (estimated minimum 800 ha) of intact vegetation.	<i>Potential habitat:</i> No suitable habitat for this species was recorded during field investigations. <i>Potential impact:</i> Temporary disruption to movement corridors. No significant impacts are expected for this species.
<b>AQUATIC FAUNA</b>			
Australian Lungfish, <i>Neoceratodus forsteri</i>	Vulnerable (EPBC)	Adults prefer deep pools (3-10 m) with submerged structure for shelter. Spawning and juvenile habitat found in slow-flowing reaches of shallow-moderate depth where macrophyte cover exceeds 70%. Closely associated with overhanging vegetation, woody debris and macrophyte beds.	<i>Potential habitat:</i> Six Mile Creek main channel <i>Potential impacts:</i> No significant impacts are expected for this species.
Honey Blue-eye, <i>Pseudomugil mellis</i>	Endangered (EPBC); Vulnerable (NCA)	Coastal wallum waterways and lakes, characterised by dystrophic, acidic, darkly stained waters with siliceous sand substrates and abundant submerged and emergent vegetation.	<i>Potential habitat:</i> Tolerable conditions were recorded at Six Mile Creek (left branch); however, this reach lacks dense macrophyte cover. <i>Potential impacts:</i> No significant impacts are expected to occur.
Mary River Cod, <i>Maccullochella peelii mariensis</i>	Endangered (EPBC)	Endemic to the Mary River catchment but stocked elsewhere for recreational angling. Found in high gradient upland streams to large-flowing pools in lowland areas. Prefers shaded, deep water pool habitat with abundant submerged woody debris or other structural features.	<i>Confirmed habitat:</i> Known to occur in Six Mile Creek main channel. <i>Potential habitat:</i> Sub-optimal habitat recorded in left branch and anabranch. <i>Potential impacts:</i> Waterway crossings impacts include: loss of snag habitat and removal of woody debris, infilling of deep pools, temporary restriction of fish passage during construction. No significant impacts are expected for this species.



Species	Status	Habitat and ecology	Potential habitat and potential impacts
Mary River Turtle, <i>Elusor macrurus</i>	Endangered (EPBC)	Endemic to the Mary River and major tributaries. Occurs in flowing, well-oxygenated sections of streams in riffles to allow cloacal respiration and shallower stretches alternating with deeper, flowing pools. This species commonly emerges to bask on protruding logs and rocks.	<i>Potential habitat:</i> Six Mile Creek main channel. <i>Potential impacts:</i> No significant impacts are expected for this species.
Oxleyan Pygmy Perch, <i>Nannoperca oxleyana</i>	Endangered (EPBC); Vulnerable (NCA)	Coastal lowland waterways and lakes with darkly tannin-stained, dystrophic water, riparian cover and extensive macrophyte and/or leaf litter cover. Most frequently observed in areas of low water velocity, mud and sand substrates in moderate depths.	<i>Potential habitat:</i> Six Mile Creek (left branch) and anabranch. <i>Potential impacts:</i> Temporary restriction of fish movement and removal of leaf litter habitat. No significant impacts are expected for this species.

EPBC - Environmental Protection and Biodiversity Conservation Act 1999

NCA - Nature Conservation Act 1992