# Six Mile Creek Dam Safety Upgrade Project

# Flora & Fauna (Terrestrial) Management Plan

Document No: LMDIP-05829-GNL-ENV-MPL-00003

Revision 0 | April 2025

# Definitions and Abbreviations

| Term | Definition |
|---|---|
| AMP | Lake Macdonald Adaptive Management Plan |
| CGCR | Coordinator-General's change report – Construction (2025) |
| DETSI | Department of the Environment, Tourism, Science and Innovation |
| EMP | Environmental Management Plan |
| EPBC | *Environment Protection and Biodiversity Conservation Act 1999* |
| ESM | Environment and Sustainability Manager |
| FSC | Fauna Spotter Catcher – Have experience with wildlife (theoretical and practical), hold a rehabilitation and damage mitigation permit. |
| IAR | Impact Assessment Report |
| MNES | Matters of National Environmental Significance |
| MSES | Matters of State Environmental Significance |
| NJKHT | Non-juvenile koala habitat tree means a koala habitat tree that:<br>a. is more than 4m high; or<br>b. has a trunk with a circumference of more than 31.5cm at 1.3m above the ground |
| OCG | Office of the Coordinator-General |
| PM | Project Manager |
| SMP | Species Management Program |
| Sup | Supervisor |
| SQP (ECOLOGIST) | Suitably Qualified (Ecologist) - Minium of 5 years' experience practising as an ecology professional. Tertiary qualification in ecology or similar. Hold relevant permits and ethics approval for the relocating of wildlife. |
| TNP | Tewantin National Park |
| TPZ | The Tree Protection Zone (TPZ) is the means by which trees are protected on development sites and should protect both roots and crown spread simultaneously. The dimensions of the TPZ are determined from the Diameter of the Tree at Breast Height (DBH) |

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# 1. Scope

The Flora & Fauna (Terrestrial) Management Plan (this Management Plan) is applicable to all construction phase works associated with the Lake Macdonald Dam Improvement Project and applies to the management of terrestrial flora and fauna.

Note: The scope of this Management Plan does not include the management of aquatic flora and fauna associated with lake lowering activities. Management of flora and fauna within the lake and downstream Six Mile Creek, is addressed in:

- Lake Macdonald Flora & Fauna (Dewatering) Management Plan (FFMP-Dewatering)
- Species Management Program (SMP) for species listed under the *Nature Conservation Act 1992* (NC Act)
- Species Management Program for species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act)

Any control or monitoring requirement stated in the FFMP-Dewatering and/or either of the SMPs is re-stated in this Management Plan for emphasis as being applicable for all works on site.

This plan will be reviewed at a minimum annually in accordance with Section 10 of the Site Environmental Management Plan (SEMP).

This Management Plan has been compiled using information from and should be read alongside the:

- Site Environment Management Plan (SEMP) (LMDIP-05829-GNL-ENV-MPL-00001)
- SMEC Flora & Fauna (Dewatering) Management Plan (LMDIP-05327-GNL-ENV-MPL-00003)
- SMEC Species Management Program (LMDIP-05327-GNL-ENV-REP-00002.3, LMDIP-05327-GNL-ENV-REP-00003.5)
- SMEC Impact Assessment Report including the Draft Environmental Management Plan (Ref: Appendix B of the SMEC Impact Assessment Report)
- AWEC Environmental Consultants Protected Plant Impact Management Plan (LMDIP-05242-GNL-ENV-MPL-00018)

This Management Plan has been prepared to address the relevant imposed conditions outlined in the Coordinator-General's change report 2025 (CGCR) – Construction and recommendations (the addressable items).

## 1.1. Objectives

The objectives of this Management Plan are to:

- Minimise disturbance to fauna and flora; including habitation, reproductive cycles, and availability of selective food sources
- Minimise negative impacts on Commonwealth or State listed endangered species or endangered ecological communities outside of the project scope
- Minimise the loss of flora and ecological communities within, and bordering on, the project area, during construction
- Ensure vegetation management practices meet all legislative and contractual requirements
- Ensure retained vegetation is protected throughout the construction program

## 1.2. Stakeholder Consultation

In preparing this Management Plan the following stakeholders were consulted and feedback considered in the development of management measures:

- The Office of Coordinator General (OCG) through the review of the draft Management Plans provided in May 2024
- DETSI in relation to the submission of the Protected Plant clearing permit and the associated Impact Management Plan which required demonstrating that no Significant Residual Impact will result from the clearing of protected plants
- Specialist consultants that contributed to the detailed site surveys, including SMEC and Australia Wide Environmental Consultants (AWEC)
- John Holland Group on project design and proposed mitigation measures

# 2. Specific Performance Measures

The specific performance measures relevant to the implementation of this Management Plan have been detailed in Table 1.

**Table 1 Terrestrial Flora and Fauna Performance Measures**

| Specific Performance Measure | Measurable Target(s) |
|---|---|
| Vegetation clearing does not exceed the approved disturbance limits | Vegetation clearing does not exceed the maximum clearing extent described in the approved project footprint (3 hectares (ha)) as per the conditions of approval |
| | Remnant vegetation to be retained abutting the works area is fenced off prior to works commencing |
| Minimise Project impacts threatened fauna and flora | No fatality/injury to any threatened fauna species and no loss of threatened flora species beyond that identified within project Protected Plant Impact Management Plan |
| | Pre-clearance surveys for listed threatened species and ecological communities are undertaken in accordance with conditions of approval, in particular targeting Koala and Native Guava |
| | Pre-clearance surveys are carried out by a suitably qualified person/s |
| | Implementation of this Management Plan to mitigate potential impacts on the Koala and Native Guava, including contingency plans in case EPBC Act listed species or threatened ecological communities are encountered during the pre-clearance surveys |
| | No-go zones are established around threatened flora within 25 m of the clearing area and around identified areas of Myrtle Rust infection, and these areas are not disturbed by project contractors |
| | Sequential/staged clearing is conducted and limits on the area of habitat that can be cleared at any one time are implemented |

| Specific Performance Measure | Measurable Target(s) |
|---|---|
| | A fauna spotter/catcher is used prior to and during all clearing activities |
| Impacts to Native Guava are offset | Clearing of Native Guava individuals are replaced at a minimum ratio of 3 individuals replanted per individual removed during project clearing |
| | Mitigation measures described in the Project Protected Plant Impact Management Plan are implemented |
| | Seed/cutting collection of Native Guava with no visible sign of Myrtle Rust infection within clearing area is conducted prior to clearing |
| | Propagation and offsite replanting activities are implemented as guided by the National Myrtle Rust Working Group and Noosa and District Land Care Group |
| Ongoing data collection, monitoring and corrective actions | Monitoring is undertaken by a suitably qualified person/s in accordance with Section 9 and corrective actions are implemented in accordance with Section 10 |

# 3. Roles and Responsibilities

Roles and responsibilities applicable to the implementation of this Management Plan have been detailed in Table 2. These roles and responsibilities are in addition to those described in Table 9 of the SEMP.

**Table 2 Roles and Responsibilities**

| Role | Responsibility |
|---|---|
| Seqwater | • Manage the construction process as the Project proponent.<br>• Allocate sufficient resources to prepare, review and update this Management Plan.<br>• Ensure that the requirements of any statutory approvals, legislation and this Management Plan are included in the contract documentation and are implemented.<br>• Undertake audits of the contractor to verify compliance with any legislative requirements and this Management Plan. |
| Contractor Project Manager (PM) | • Maintain a master copy of this Management Plan, a record of the completion of management measures, monitoring records and reports.<br>• Provide sufficient resources to ensure the effective implementation of this Management Plan.<br>• Participate in any audits initiated by Seqwater.<br>• Coordinate required monitoring.<br>• Provide relevant and timely information about construction activities that may impact on the amenity of stakeholders. |
| Contractor Construction Manager (CM) | • Ensure all flora and fauna management measures are conducted in accordance with this Management Plan.<br>• Report any incidents, non-compliances and complaints Contractor Project Manager. |

| Role | Responsibility |
|---|---|
| | • Participate in any investigations of complaints or non-conformances.<br>• Ensure all staff are trained/inducted to the Project. |
| Contractor Environment and Sustainability Manager (ESM) | • Primary responsibility for implementation and compliance with this Management Plan, statutory approvals and legislation.<br>• Undertake regular inspections of work activities to ensure adherence to this Management Plan.<br>• Participate in toolbox talks as required to ensure staff are aware of key concerns associated with flora and fauna.<br>• Report any incidents, non-compliances and complaints to Seqwater.<br>• Lead any investigations of complaints or non-conformances and report any findings and corrective actions to Seqwater. |
| Contractor Health and Safety Manager (HSM) | • Liaise with the ESM to minimise impacts to vegetation, while ensuring all relevant works while ensuring that site safety measures are achieved. |
| Contractor Community & Stakeholder Manager (CSM) | • Ensure community members are appropriately notified of project work involving flora and fauna management.<br>• Manage the project enquiries and responses.<br>• Register and report community complaints and ensure adherence to the complaints procedure. |
| Engineers (Eng) | • Ensure environmental controls are established prior to commencement of construction activities.<br>• Participate in the preparation of Risk Management documentation.<br>• Immediately report any non-conformances, near misses or environmental incidents to the ESM.<br>• Ensure and verify that corrective actions are undertaken when required for non-conforming work. |
| Contractor Supervisors (Sup) | • Ensure requirements of this Management Plan are communicated to all personnel and are being fully implemented on site.<br>• Undertake any rectifications as required by the Contractor ESM. |
| All Project personnel (including Subcontractors) | • Comply with reasonable directions given by the Principal Contractor regarding environmental matters.<br>• Comply with the requirements of this Management Plan as relevant to the subcontracted works.<br>• Environmental incidents, non-conformances and near misses are to be reported. |

# 4. Legislative and Other Compliance Requirements

## 4.1. CGCR / Commonwealth Addressable Items

Details of the applicable CGCR and Commonwealth conditions of approval addressable items and how these have been addressed in the Management Plan have been detailed in Table 3.

**Table 3 CGCR and Commonwealth Approval Addressable Items Relevant to this Management Plan**

| CGCR Approval Reference | Type | Addressable Items | How addressed in this Management Plan |
|---|---|---|---|
| *Coordinator-General Conditions* | | | |
| Appendix A. Imposed Conditions, Schedule 1, Condition 1 (c) Site Environmental Management Plan (SEMP) | Imposed Condition | The SEMP must include the following construction EMPs:<br>(B) flora and fauna (terrestrial) management plan | This Flora & Fauna (Terrestrial) Management Plan is a construction environmental plan and sub-plan of the SEMP |

## 4.2. Legislation

Details of relevant legislation applicable to this Management Plan have been detailed in Table 4.

**Table 4 Other legislation applicable to this Management Plan**

| Legislation | How it Applies to this Management Plan |
|---|---|
| *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) | The Project was deemed a controlled action for impacts on MNES and has an EPBC Approval (EPBC 2017/8078) for impacts to Listed Threatened Species and Communities (Section 18 and 18A).<br>Under the EPBC Approval Seqwater must avoid, where possible, impacts on threatened species listed under the EPBC Act. The Giant Barred Frog and Mary River Turtle are both listed fauna species that may be impacted by the Project. |
| *Environment Protection Act 1994* (EP Act) | The EP Act provides the key legislative framework for environmental management and protection in Queensland. Under Section 319 of the EP Act, the proponent must comply with the general environmental duty whereby "A person must not carry out any activity that causes, or is likely to cause, environmental harm unless the person takes all reasonable and practicable measures to prevent or minimise the harm".<br>Seqwater has a duty to notify, and duty to restore the environment under the EP Act to prevent environmental harm. |
| *Nature Conservation Act 1992* (NC Act) | The NC Act provides the regulatory foundation for conserving the State's natural values via the protection of native flora and fauna and their habitats and the designation and management of protected areas.<br>The majority of native flora and fauna species are protected under the NC Act in order to be able to manage and sustain viable populations in the wild. The NC Act regulates environmental impacts of development through requirements for vegetation clearing permits, species management programs and other permits. |
| *Nature Conservation (Koala) Conservation Plan 2017* | The main purposes of the *Nature Conservation (Koala) Conservation Plan 2017* are to promote the continued existence of viable koala populations in the wild and to prevent the decline of koala habitats.<br>There are three koala districts (A, B and C), with the Project located within koala district A. District A covers the South East Queensland region and is home to the highest koala population densities in Queensland. Further, district A is highly threatened as a result of |

| Legislation | How it Applies to this Management Plan |
|---|---|
| | habitat loss and human impacts with habitat often in areas zoned for urban and rural purposes.<br>The *Nature Conservation (Koala) Conservation Plan 2017* prescribes specific clearing requirements that must be complied with when clearing koala habitat trees. In districts A and B, there are 'sequential clearing conditions' which are in place to prevent the injury or death of koalas when clearing koala habitat and must be complied with irrespective of other approvals or exemptions. |
| *Vegetation Management Act 1999* (VM Act) | The VM Act regulates the clearing of remnant vegetation in Queensland and aims to conserve Queensland's biodiversity through vegetation management. |
| *Noosa Plan 2020* | The *Noosa Plan 2020* strives to protect the look and feel of Noosa while providing a blueprint to shape the shire's growth over the next 20 years. The *Noosa Plan 2020* sets the requirements for development including new or changing land uses, subdivision, building works, landscaping and clearing of vegetation and all forms of engineering works.<br>Under the *Noosa Plan 2020* the land around the Project is zoned as Rural, Rural Residential and Environmental Management and Conservation. |

# 5. Terrestrial Flora and Fauna

Six Mile Creek Dam has the capacity to hold 8,018 megalitres (ML) of water in Lake Macdonald, which is one of two raw water sources supplying potable drinking water to Noosa Shire residents. Seqwater proposes to remove and replace the existing Six Mile Creek Dam spillway and earth embankments. The spillway will be reconstructed with new, deeper, reinforced concrete foundations that will be better able to withstand erosion at the foot of the dam when water overtops in high flow events. The upgraded dam will work in a similar way to the existing dam, allowing water to spill over into Six Mile Creek when it exceeds full supply level. The upgraded dam will have the same capacity and inundation area as the current dam and all existing Lake Macdonald recreational uses will be reinstated following completion of the Project.

Lake Macdonald offers extensive open water and shallow wetland habitats, surrounded by various forest communities. These forest communities consist of wet and dry eucalypt forest and swamp forest and are mapped as remnant or high value regrowth Regional Ecosystems (RE). SMEC undertook a comparative analysis of ecological surveys conducted in 2018 and 2023 to assess the terrestrial ecosystems across Lake Macdonald and downstream of Six Mile Creek. The aim was to evaluate existing ecological values and potential impacts on threatened species as a result of the dam upgrade and associated works. In the 2018 and 2023 surveys, a comprehensive terrestrial ecological assessment was performed, encompassing flora and fauna surveys, habitat assessments, Threatened Ecological Communities (TEC) assessments, and RE verification.

A terrestrial ecology survey and associated reporting was carried out in 2018 and 2019 to inform and support the Impact Assessment Report (IAR) and subsequent approvals for the Project. The Project was deemed to be a 'controlled action' pursuant to the provisions of the EPBC Act for impacts to Listed Threatened Species and Communities (Section 18 and 18A), with approval obtained on 19 May 2019. However, the decision was made to pause the Project and not proceed to construction at that time.

In 2022, Seqwater made the decision to recommence the Project. However, due to the amount of time that has elapsed between the original EPBC Act approval date and the rescheduling of the construction commencement

date (March 2024), Seqwater engaged SMEC to undertake a second round of field surveys, and it is those survey reports that form the basis of this Management Plan.

Please refer to the following field survey reports for detailed information:

- LMDIP - Protected Plants Survey Report - Report – SMEC (Seqwater Doc Ref LMDIP-05327-GNL-ENV-REP-00004).
- LMDIP - Adaptive Management Plan - SMEC (Seqwater Doc ref LMDIP-05327-GNL-ENV-MPL-00002)
- LMDIP - Species Management Program for Species Listed under the Environment Protection and Biodiversity Conservation Act 1999 - Report – SMEC (Seqwater Doc Ref LMDIP-05327-GNL-ENV-REP-00002)
- LMDIP - Species Management Program for Species Listed under the Nature Conservation Act 1992 - Report – SMEC (Seqwater Doc Ref LMDIP-05327-GNL-ENV-REP-00003) (and SMPs).

Outcomes of these documents have been included in this plan and are available for advisory agency review upon request.

## 5.1. Terrestrial Ecology Values

The Project area retains areas of vegetation and fauna habitat which remain contiguous with vegetation associated with Tewantin National Park (TNP). The boundary of the TNP is located approximately 20 m north of the Project. The following description of ecological values associated with the area covered by this Management Plan has been derived from Chapter 8 Terrestrial Ecology of the Seqwater EIS for the Project and the *Terrestrial Ecology Field Survey Report* (SMEC 2024).

### 5.1.1. Vegetation Communities (REs)

There are two REs with a VM Act status of 'of concern' and a mixed polygon RE comprising an 'endangered' RE (12.3.1a) identified within and adjacent to the maximum clearing extent for the Project which are likely to be cleared (refer Figure 1), resulting in direct impacts to a MSES (Chapter 8, Seqwater EIS). The REs that will be subject to clearing are comprised of:

- RE 12.9-10.1 / RE 12.9-10.17 - Tall open forest often with *Eucalyptus resinifera*, *E. grandis*, *E. robusta*, *Corymbia intermedia* on sedimentary rocks / *Eucalyptus acmenoides*, *E. major*, *E. siderophloia* +/- *Corymbia citriodora* subsp. *variegata* woodland on sedimentary rocks
- RE 12.3.2 - *Eucalyptus grandis* tall open forest on alluvial plains
- RE 12.3.11/12.3.2/12.3.1a - *Eucalyptus tereticornis* +/- *Eucalyptus siderophloia*, *Corymbia intermedia* open forest on alluvial plains usually near coast / *Eucalyptus grandis* tall open forest on alluvial plains / Complex notophyll vine forest. Typical canopy species include *Castanospermum australe, Elaeocarpus grandis, Grevillea robusta, Cryptocarya obovata, Beilschmiedia obtusifolia, Dysoxylum mollissimum* subsp. *molle*, *Pseudoweinmannia lachnocarpa, Argyrodendron trifoliolatum, Planchonella australis, Ficus watkinsiana, F. macrophylla* forma *macrophylla*, *Aphananthe philippinensis, Toona ciliata* and *Syzygium francisii*

The Subtropical Eucalypt Floodplain Forest and Woodland TEC occurs within the overall Project area (SMEC 2024). It is analogous with RE 12.3.2. This RE is largely avoided by the maximum clearing extent boundary.

Indirect impacts to REs are also anticipated as a result of edge effects. These impacts could include altered microclimate, incursion of invasive flora and pest fauna species, reduced species richness, and increased risk of predation.

### 5.1.2. Threatened Flora

The 2018 flora survey recorded a total of 227 species comprising 172 native species and 55 exotic species. Of the exotic species identified, two are classified as Weeds of National Significance, five are listed as category three

biosecurity matters under the Queensland *Biosecurity Act 2014* and 11 are regarded as environmental weeds by Noosa Shire Council.

No threatened flora species were recorded during the Project ecological assessment during the 2018 survey. Two flora species listed as critically endangered under the NC act and EPBC Act were identified within/adjacent to the Project area in a follow up survey in 2023: Scrub Turpentine (*Rhodamnia rubescens*) and Native Guava (*Rhodomyrtus psidioides*) (refer Figure 1 for locations). The 2023 survey also identified a species listed as Near Threatened under the NC Act downstream of the Project area: Hairy Hazelwood (*Symplocos harroldii*) (SMEC 2024).

There are a large number of previous threatened species database records from the local area. Fourteen species were identified as having a moderate likelihood of occurrence in the EIS studies, most of which are associated with rainforest and/or wet sclerophyll forest. In particular Southern penda, which is listed as vulnerable under both state and Commonwealth legislation, has been recorded on the eastern side of Six Mile Creek downstream of the dam wall and within one kilometre of the proposed construction footprint. The likelihood of occurrence assessment was revised based on the results of the follow up survey in 2023. Three threatened flora species are known to occur, two species are a high likelihood, and 12 species are a moderate likelihood (refer Table 5).

A portion of the maximum clearing extent for the Project is mapped as a high-risk area on the flora survey trigger map. The regulatory timeframes required for survey of this area require that a flora survey report must be submitted within 12 months of the date of survey and clearing must be completed within 2 years of submission of the report. This additional protected plant flora survey has not yet been completed. The protected plant flora survey will need to be conducted within 12 months of the Project commencing.

**Table 5 Threatened flora known, high or moderate likelihood to occur (SMEC 2024)**

| Flora species | Commonwealth Listing | State Listing | Notes |
|---|---|---|---|
| Bacon Wood (*Archidendron lovelliae*) | Vulnerable | Vulnerable | Not recorded during surveys. May occur on alluvium in moist forest around or below the existing dam. Moderate likelihood to occur. |
| Hairy Jointgrass (*Arthraxon hispidus*) | Vulnerable | Vulnerable | Not recorded during surveys. May occur in seepages in pasture around the dam and in wet areas in forest. Moderate likelihood to occur. |
| Yellow Satinheart (*Bosistoa transversa*) | Vulnerable | Least Concern | Not recorded during surveys. Most forested areas are potential habitat. Moderate likelihood to occur. |
| Thready-barked Myrtle (*Gossia inophloia*) | - | Critically Endangered | Not recorded during surveys. Habitat likely to occur in the area, particularly RE 12.3.2. Moderate likelihood to occur. |
| Macadamia Nut (*Macadamia integrifolia*) | Vulnerable | Vulnerable | Not recorded during surveys. Vegetation mapped downstream (RE 12.3.1) is potential habitat for this species. Moderate likelihood to occur. |
| Gympie Nut (*Macadamia ternifolia*) | Vulnerable | Vulnerable | Not recorded during surveys. Vegetation mapped downstream (RE 12.3.1) is potential habitat for this species. Moderate likelihood to occur. |
| Green Kamala (*Mallotus megadontus*) | - | Endangered | Not recorded during surveys. Potential habitat in RE 12.3.1 downstream of the existing dam. Moderate likelihood to occur. |
| *Nothoalsomitra suberosa* | - | Near Threatened | Not recorded during surveys. Potential habitat present (RE 12.3.2). Moderate likelihood to occur. |

| Flora species | Commonwealth Listing | State Listing | Notes |
|---|---|---|---|
| Richmond Birdwing Vine (*Pararistolochia praevenosa*) | - | Near Threatened | Not recorded during surveys. Potential habitat in the area, particularly downstream of the existing dam. High likelihood to occur. |
| *Prostanthera spathulata* | Vulnerable | Vulnerable | Not recorded during surveys. Suitable floristic associations present below existing dam. Moderate likelihood to occur. |
| *Ricinocarpos speciosus* | - | Vulnerable | Not recorded during surveys. Potential habitat in the area. Moderate likelihood to occur. |
| Scrub Turpentine (*Rhodamnia rubescens*) | Critically Endangered | Critically Endangered | Recorded at three sites within/adjacent to the Project area during the 2023 survey. |
| Native Guava (*Rhodomyrtus psidioides*) | Critically Endangered | Critically Endangered | Approx. 19 seedlings, 89 juveniles and 27 mature plants recorded within/adjacent to the Project area during 2023 survey. Records within maximum clearing extent. |
| *Romnalda strobilacea* | Vulnerable | Vulnerable | Not recorded during surveys. Potential habitat present. Moderate likelihood to occur. |
| Hairy Hazelwood (*Symplocos harroldii*) | - | Near Threatened | Recorded at one site downstream of Project area during 2023 survey. |
| Glossy Spice Bush (*Triunia robusta*) | Endangered | Endangered | Not recorded during surveys. Vegetation in the area (RE 12.3.2) is suitable habitat. Moderate likelihood to occur. |
| Southern Penda (*Xanthostemon oppositifolius*) | Vulnerable | Vulnerable | Not recorded during surveys. Vegetation in the area (RE 12.3.2) is suitable habitat. High likelihood to occur. |

### 5.1.3. Threatened Fauna

The 2018 fauna survey recorded a total of 105 species comprising six amphibians, 83 birds, six reptiles, nine mammals (all bat species), and one significant invertebrate species. The 2023 survey identified 109 fauna species. The surveys identified 11 fauna species listed as conservation significant including:

- Two species listed as threatened under the EPBC Act: Giant Barred Frog (*Mixophyes iteratus*) (Endangered) and Grey-headed Flying-fox (*Pteropus poliocephalus*) (Vulnerable)
- Two species listed as threatened only under the NC Act: Tusked Frog (*Adelotus brevis*) and Richmond Birdwing (*Ornithoptera richmondia*) (both Vulnerable)
- One species listed as Special Least Concern under the NC Act: Platypus (*Ornithorhynchus anatinus*)
- Five bird species listed as Migratory under the EPBC Act): Caspian Tern (*Hydroprogne caspia*), Spectacled Monarch (*Symposiarchus trivirgatus*), Black-faced Monarch (*Monarcha melanopsis*), Satin Flycatcher (*Myiagra cyanoleuca*) and Rufous Fantail (*Rhipidura rufifrons*)

The EPBC Act referral identified potential impacts to a number of threatened species listed under the EPBC Act, The Giant Barred Frog is the only terrestrial fauna species noted in the referral. Field survey results identified suitable habitat and presence of giant barred frogs along Six Mile Creek downstream of the dam. The Project has the potential to result in temporary and localised impacts to Giant Barred Frog and its habitat within Six Mile

Creek. Impacts to aquatic species including Giant Barred Frog and Tusked Frog are to be managed under the Project AMP and are not referred to further in this Management Plan.

The Project area is mapped on the State Planning Policy's South East Queensland Koala habitat values (which is used for infrastructure projects assessed under the State Government Supported Infrastructure – Koala Conservation Policy (April 2023)), as containing low and medium value bushland habitat and low and medium value rehabilitation habitat. The Project area is mapped as containing core Koala habitat and containing areas within a Koala priority area under section 7B of the *Nature Conservation (Koala) Conservation Plan 2017* and shown on the Koala Conservation Plan Map. Vegetation communities within the Project area are eucalypt dominated and therefore contain non-juvenile Koala habitat trees. A likelihood of occurrence assessment considered Koala as a high likelihood to occur (Table 6). Despite anecdotal reports of Koalas within Tewantin National Park, no evidence of koalas was detected during the 2018 or 2023 field surveys. An assessment was undertaken to determine whether a significant residual impact to Koala was possible and considered the Project is unlikely to adversely affect habitat critical to the survival of Koala.

There are a large number of previous threatened species database records from the local area. Twenty-one fauna species were identified as having a moderate or high likelihood of occurrence in the EIS studies. This includes six aquatic or semi-aquatic (frogs) species for which specific impacts are addressed in the Project AMP. The likelihood of occurrence assessment was revised based on the results of the follow up survey in 2023. Four threatened fauna species are known to occur, four species have a high likelihood, and 16 species have a moderate likelihood (Table 6).

**Table 6 Threatened fauna known, high or moderate likelihood to occur (SMEC 2024)**

| Fauna Species | Commonwealth Listing | State Listing | Other Notes |
|---|---|---|---|
| Richmond Birdwing Butterfly (*Ornithoptera richmondia*) | - | Vulnerable | Recorded on east tributary of dam (east of Project area) in 2018 survey. Larval host plant is recorded within 1 km of the Project area. |
| Mary River Cod (*Maccullochella mariensis*) | Endangered | Endangered | Not recorded during surveys. Known to occur in the Mary River, Lake Macdonald (Six Mile Creek) and downstream waterways. High likelihood to occur. |
| Australian Lungfish (*Neoceratodus forsteri*) | Vulnerable | Vulnerable | Not recorded during surveys. Known to occur in the area. High likelihood to occur. |
| Tusked Frog (*Adelotus brevis*) | - | Vulnerable | Recorded close to Project area and on east tributary of dam (east of Project area). |
| Giant Barred Frog (*Mixophyes iteratus*) | Vulnerable | Vulnerable | Recorded downstream of dam wall along Six Mile Creek. The closest record is 185 m downstream and within Project area. |
| Cascade Tree Frog (*Litoria pearsoniana*) | Critically Endangered | Vulnerable | Not recorded during surveys. Potential habitat present downstream of the existing dam, but no fast-flowing rocky streams present. Moderate likelihood to occur. |
| Common Death Adder (*Acanthophis antarcticus*) | - | Vulnerable | Not recorded during surveys. Potential habitat present within the Study area where deep leaf litter is present, particularly downstream adjacent to Six Mile Creek. Moderate likelihood to occur. |
| Three-toed Snake-tooth Skink | Vulnerable | Least Concern | Not recorded during surveys. May occur in notophyll vine forest (RE 12.3.1) and flooded gum-dominated |

| Fauna Species | Commonwealth Listing | State Listing | Other Notes |
|---|---|---|---|
| (*Coeranoscincus reticulatus*) | | | tall open forest (RE 12.3.2) in the area. Moderate likelihood to occur. |
| Regent Honeyeater (*Anthochaera Phrygia*) | Critically Endangered | Critically Endangered | Not recorded during surveys. Winter flowering swamp mahogany, forest red gum and grey ironbark present in the area. Moderate likelihood to occur. |
| Australasian bittern (*Botaurus poiciloptilus*) | Endangered | Endangered | Not recorded during surveys. May occur along the margins of the existing dam. Moderate likelihood to occur. |
| Curlew Sandpiper (*Calidris ferruginea*) | Critically Endangered<br>Migratory<br>Marine | Critically Endangered | Not recorded during surveys. May occasionally use the lake margins. Moderate likelihood to occur. |
| Glossy Black-cockatoo (southeast) (*Calyptorhynchus lathami lathami*) | Vulnerable | Vulnerable | Not recorded during surveys. Depending on the availability of *Allocasuarina* spp. in the area. Some observed during surveys. Moderate likelihood to occur. |
| Coxen's Fig-parrot (*Cyclopsitta diophthalma coxeni*) | Critically Endangered | Critically Endangered | Not recorded during surveys. Depending on the availability of figs in the area. Some observed during surveys. Moderate likelihood to occur. |
| Red Goshawk (*Erythrotriorchis radiatus*) | Endangered | Endangered | Not recorded during surveys. Suitable habitat for this species occurs. Moderate likelihood to occur. |
| White-throated Needletail (*Hirundapus caudacutus*) | Vulnerable<br>Migratory<br>Marine | Vulnerable | Not recorded during surveys. Suitable foraging habitat occurs in the area. High likelihood to occur. |
| Swift Parrot (*Lathamus discolor*) | Critically Endangered<br>Marine | Endangered | Not recorded during surveys. Winter flowering swamp mahogany, forest red gum and grey ironbark present in the area. Moderate likelihood to occur. |
| Australian Painted Snipe (*Rostratula australis*) | Endangered<br>Marine | Endangered | Not recorded during surveys. Likely to forage around the edges of the existing dam when muddy substrate is exposed. Moderate likelihood to occur. |
| Black-breasted Button-quail (*Turnix melanogaster*) | Vulnerable | Vulnerable | Not recorded during surveys. May occur in viney or Lantana infested areas within RE 12.3.1 (notophyll vine forest) and RE 12.3.2. Moderate likelihood to occur. |
| Spotted-tailed Quoll (*Dasyurus maculatus maculatus*) | Vulnerable | Endangered | Not recorded during surveys. Suitable rainforest and open forest mapped as occurring in the area. Moderate likelihood to occur. |
| Greater Glider (southern and central) (*Petauroides volans*) | Endangered | Endangered | Not recorded during surveys. May occur within remnant eucalypt forest in the area. Moderate likelihood to occur. |
| Koala (*Phascolarctos cinereus*) | Endangered | Endangered | Not recorded during surveys. Preferred feed trees, such as Swamp Mahogany, Forest Red Gum and Tallowwood are present in the Study area. High likelihood to occur. |

| Fauna Species | Commonwealth Listing | State Listing | Other Notes |
|---|---|---|---|
| Grey-headed Flying-fox (*Pteropus poliocephalus*) | Vulnerable | Least Concern | Recorded onsite during 2023 survey. A variety of suitable flowering and fruiting trees present in the area. |
| Large-eared Pied Bat (*Chalinolobus dwyeri*) | Endangered | Endangered | Not recorded during surveys. Sandstone cliffs for roosting within several kilometres of the area. Moderate likelihood to occur. |

# 6. Potential Impacts

The construction activities, aspects and potential impacts relevant to this Management Plan have been detailed in Table 7.

**Table 7 Potential Impacts – Flora and Fauna**

| Construction Activity | Potential Impact Number | Potential Impact – Flora and Fauna |
|---|---|---|
| Vegetation clearing | PI1 | Direct loss of remnant vegetation and diversity of vegetation communities |
| | PI2 | Retained vegetation/habitat is compromised by site clearing works or gross mechanical disturbance |
| | PI3 | Terrestrial fauna are injured during vegetation clearing activities |
| | PI4 | Spread of Myrtle Rust and/or non-compliance with proposed offset activities (for Native Guava) |
| Mobile plant and vehicle movement and materials storage | PI5 | Fauna mortality as a result of increased vehicle traffic or excavations |
| | PI6 | Introduction and/or increase in of weeds or other pest fauna |
| | PI7 | Damage to vegetation/habitat areas as a result of plant and vehicle movement, parking and/or storage |
| | PI8 | Retained vegetation/habitat is compromised by pollutants from the works area |
| | PI9 | Smothering of adjacent vegetation, resulting in impacts to photsynthesis |
| Artificial lighting during night works | PI10 | Light disturbance in fauna habitats including avoidance of foraging, breeding and/or nesting habitat by fauna |
| Waste management | PI11 | Introduction and/or increase in pest fauna |
| Excessive noise during construction and demolition works | PI2 | Potential avoidance of foraging, breeding and/or nesting habitat by nocturnal fauna and avian species |
| Fuel and chemical storage | PI13 | Fuels and/or chemicals leaking into adjacent vegetation or Six Mile Creek, thereby temporarily impacting habitat quality |
| Mulching vegetation | PI14 | Weed invasion of the Project site and surrounding area |

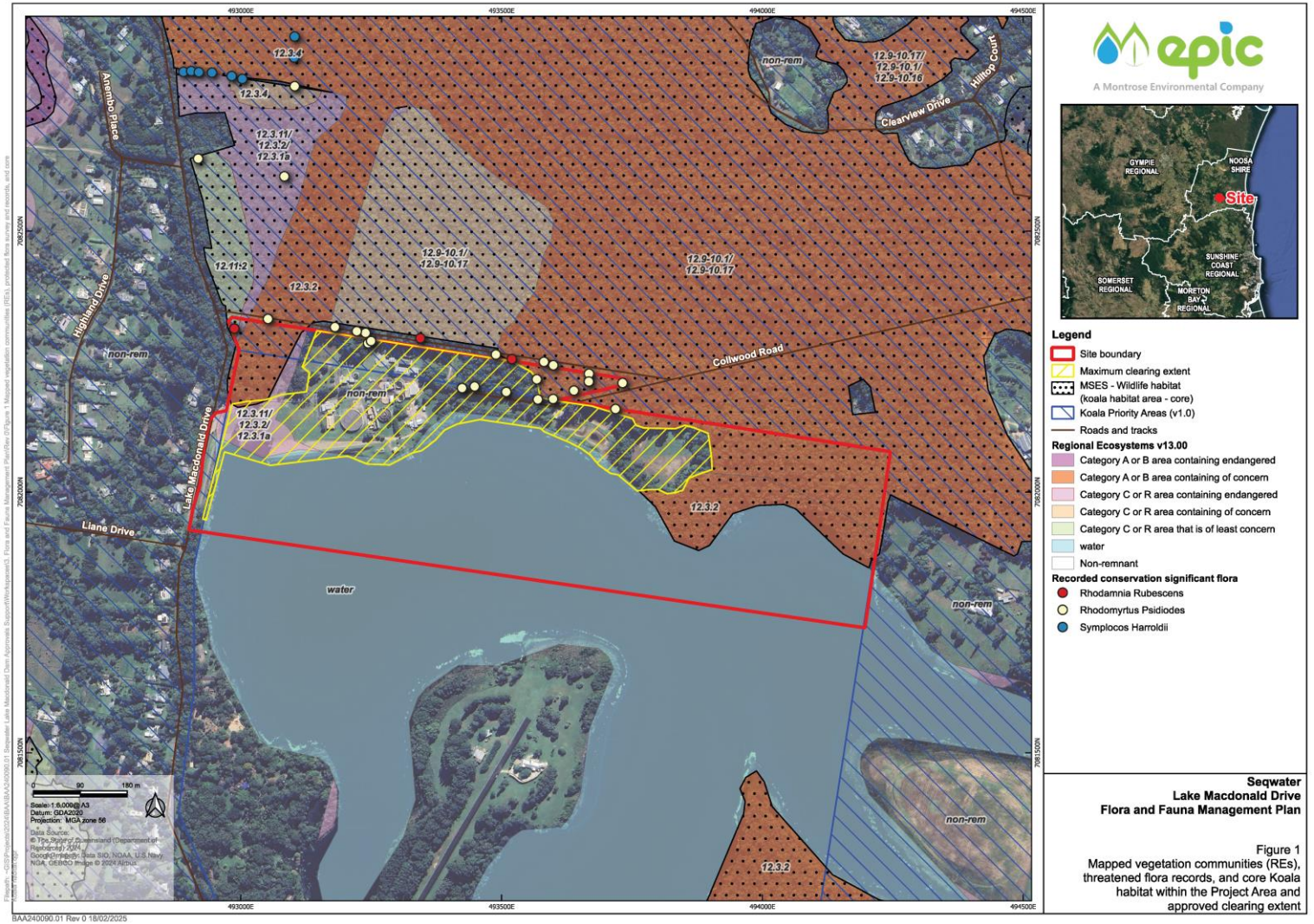


**Figure 1 Mapped vegetation communities (REs), threatened flora records, and core Koala habitat within the Project Area and approved clearing extent**

# 7. Management Measures

The general management measures that will be implemented to minimise the potential for impacts associated with vegetation clearing have been detailed in Table 8.

**Table 8 General Management Measures**

| No. | Hold Point | Actions | Related Potential Impact | Staff Responsible | When |
|---|---|---|---|---|---|
| MM1 | | Review and comply with approved versions of the SEMPs<br>Note: The Approved SEMPs will be kept on site with this Management Plan and the EMP. | PI1-PI14 | All personnel | At all times |
| MM2 | | The Approved Protected Plant Clearing Permit and associated documentation will be kept on site with this Management Plan and the SEMP. | PI2 & PI4 | All personnel | At all times |
| MM3 | Y | A pre-clearing survey will be undertaken prior to works by a suitably qualified person (SQP). The pre-clearing survey will identify if there are animal breeding places that will be tampered with during construction.<br>Habitat trees and NJKHT's must be clearly identified by the SQP with flagging tape or similar before clearing operations begin. Habitat trees are defined as those trees that provide suitable foraging, refuge and nesting resources for arboreal and avian fauna and microbats. These include hollow bearing trees, trees with fissures, trees with food resources (e.g. pollen, nectar, foliage, arthropods). Dead (stag) trees are also regarded as important habitat trees as they provide roosting and nesting resources.<br>Where possible, removal of habitat trees should be conducted in a manner that maximises the chance of fauna survival, including pushing rather than cutting, and cushioning the tree fall with other felled timber and foliage.<br>Trees with identified habitat features will be inspected by the fauna spotter/catcher with an elevated work platform prior to felling. Where this is not possible, fauna spotter/catcher to inspect immediately following tree felling. | PI1, PI2 & PI3 | ESM | Prior to construction / clearing |

| No. | Hold Point | Actions | Related Potential Impact | Staff Responsible | When |
|---|---|---|---|---|---|
| MM4 | | Implement slow speed limits of 10 km per hour onsite to allow for animals to move out of the way and for drivers to have the ability to safely stop if an animal is identified within the vehicle path. | PI5 | CM | At all times |
| MM5 | | No construction employee on the project shall intentionally damage or injure native flora or fauna. | PI3 | All personnel | At all times |
| MM6 | | No feeding of native fauna by project personnel. No domestic animals are to be brought to site. | PI3 | All personnel | At all times |
| MM7 | | Cover, protect or ensure escape measures are installed in excavations to prevent fauna from becoming trapped. | PI5 | CM/ESM | At all times |
| MM8 | | Orientate temporary construction lighting to prevent light overspill into fauna habitat areas and in accordance with the Light Management Plan (LMDIP-05829-GNL-ENV-MPL-00004) | PI10 | CM/ESM | At all times |
| MM9 | | Re-use uncontaminated topsoil (including any stored seed bank) in any revegetation/landscaping activities. | PI1 | CM/ESM | At all times |
| MM10 | | Undertake revegetation during the appropriate planting season for the species being planted. | PI1 | ESM | At all times |
| MM11 | | No dumping of soil or vegetative material on top of vegetation to be retained (i.e. outside maximum clearing extent). | PI2 | ESM | At all times |
| MM12 | Y | All handling of fauna will be conducted by suitably qualified fauna spotter-catchers, engaged prior to and for the duration of vegetation clearing. | PI3 | ESM | At all times |
| MM13 | | Location of stockpiles should not be altered or placed in natural drainage. | PI8 | CM/ESM | At all times |
| MM14 | Y | Tree protection zones (TPZ) shall be demarcated prior to clearing where there is a high risk of incursion into the zone (i.e. adjacent to the maximum clearing extent). TPZs will be established as described in Section 7.2.2.<br>Define work boundaries and no-go zones and install physical barriers and high visibility flagging tape to prevent accidental damage to habitats (i.e. adjacent to maximum clearing extent boundary) including TPZs associated with trees adjacent to the project clearing boundary.<br>Areas to be retained will be clearly identified and no unauthorised access permitted. | PI1 & PI3 | CM/ESM | At all times |

| No. | Hold Point | Actions | Related Potential Impact | Staff Responsible | When |
|---|---|---|---|---|---|
| | | Fences and/or trunk girdles will be provided to prevent unintended physical damage to the root system, trunk or canopy of native vegetation, which may be impacted upon by clearing works. | | | |
| MM15 | | Materials, plant and equipment shall not be stored within TPZs. | PI7 | CM/ESM | At all times |
| MM16 | | Parking shall be prohibited within TPZs. | PI7 | CM/ESM | At all times |
| MM17 | Y | Aa Protected Plant Clearing Permit is to be has been obtained (under Section 86 of the *Nature Conservation (Plants) Regulation 2020*) for the clearing of any protected plants (including *Rhodamnia rubescens* and *Rhodomyrtus psidioides*) from within the maximum clearing extent area (refer Section 7.2.3).<br>Strictly NO Clearing must occur until the permit and accompanying Impact Management Plan has been reviewed. All workers involved in the clearing activity must review and sign on to the permit prior to commencement of clearing works. | PI1, PI2 & PI4 | Sup/ESM | Prior to clearing |
| MM18 | Y | Review the pre-clearing survey recommendations for any potential relocations and perform works if/as required and/or as per the requirements of the project Protected Plant Clearing Permit and Impact Management Plan. This includes the following activities required prior to clearing:<br>• Temporary fencing to be installed around Native Guava (*Rhodomyrtus psidioides*) trees that are not being removed but are with 25 m of clearing and construction works.<br>• Inspection of clearing area for Myrtle Rust infection including removal and treatment of infected plants. Areas with infected plants to be flagged as no-go areas.<br>• Collection of seed and/or cuttings from Native Guava trees preferentially within clearing site for propagation for replanting mitigation activity | PI1, PI2 & PI4 | ESM | Prior to construction / clearing |
| MM19 | | Construction works shall be carried out in accordance with *Australian Standard 2436 - 2010, Guide to noise control on construction, maintenance and demolition sites* (Standards Australia, 2010) and the Noise and Vibration Management Plan (LMDIP-05829-GNL-ENV-MPL-00005) | PI2 | Sup/ESM | At all times |
| MM20 | | Implement dust management measures in the Dust and Air Quality Management Plan (LMDIP005829-GNL-ENV-MPL-00006), including dust suppression measures and avoid undertaking earthworks activities during dry/high wind weather | PI9 | CM | At all times |

| No. | Hold Point | Actions | Related Potential Impact | Staff Responsible | When |
|---|---|---|---|---|---|
| MM21 | | Storage and transport of hazardous materials and dangerous goods and refuelling activities are conducted in accordance with the Hazardous Substances Management Plan (LMDIP-05829-GNL-ENV-MPL-00007) | PI13 | CM | At all times |
| MM22 | | Provide bins across the work site for food waste in accordance with the Waste and Resource Use Management Plan (LMDIP-05829-GNL-ENV-MPL-00008). These should be emptied on a regular basis to prevent overflow and attraction of rodents. | PI11 | CM | At all times |
| MM23 | | Clearing of vegetation must remain within the extents shown in Figure 1 of this Plan. No disturbance to any vegetation (native and non-native) shall occur outside of the project boundary. | PI1 & PI2 | All personnel | Prior to construction and at all times |
| MM24 | | Removal of flora not previously identified requires client approval and/or changes to permit conditions must be in place prior to clearing. | PI1, PI2 & PI4 | Sup/ESM | At all times |
| MM25 | | Damage to flora not pre-approved for clearing should be immediately reported to ESM and treated as an incident and as a non-conformance. | PI1, PI2 & PI4 | All personnel | At all times |
| MM26 | | Plans detailing the staging of works, areas of exclusion (i.e. outside maximum clearing extent), and other relevant issues will be provided to the Construction Manager and Clearing Contractor before any site preparation activities are undertaken in the proposed construction area. | PI1 & PI2 | ESM | Prior to construction |
| MM27 | | Within the TPZ, the following activities will not be permitted:<br>• Storage and mixing of materials<br>• Vehicle parking<br>• Liquid disposal<br>• Machinery repairs and/or refuelling<br>• Construction of site office or shed<br>• Combustion of any material<br>• Stockpiling | PI7 | Sup/ESM | Prior to and during clearing |

| No. | Hold Point | Actions | Related Potential Impact | Staff Responsible | When |
|---|---|---|---|---|---|
| | | • Filling or excavation including trench line, topsoil skimming and/or surface excavation, unless otherwise approved by the Construction Manager<br>• Unauthorised pesticide, herbicide or chemical applications. | | | |
| MM28 | | Where works are required within the TPZ of trees to be retained, seek advice from a suitable qualified arborist prior to the commencement of the work. | PI7 & PI8 | ESM | At all times |
| MM29 | | Where possible, minimise vegetation removal by trimming limbs rather than removing entire trees or bushes. | PI1 | Sup/ESM | At all times |
| MM30 | | Strictly no burning of cleared vegetation. | PI1 | All personnel | At all times |
| MM31 | | As construction activities may impact on retained vegetation, erosion and sediment controls shall be installed as early as practicable and preferably prior to site preparation and earthworks, in accordance with the Erosion and Sediment Control Plan. | PI8 | Sup/ESM | Prior to clearing |
| MM32 | | Minimise areas of exposed earth by only stripping/clearing areas immediately prior to works and rehabilitating the area as soon as possible. | PI8 | Sup/ESM | At all times |
| MM33 | | All mulch produced on site from cleared vegetation will specifically exclude material from weed species. Vegetation mulching will be suitably controlled to avoid contamination. | PI14 | Sup | Following clearing |
| MM34 | | Mulch containing weed species material will be treated separately and disposed of a licenced landfill. | PI14 | Sup | Following clearing |
| MM35 | | Vehicles entering the site follow washdown procedures in the Pest and Weed Management Plan (LMDIP-05829-GNL-ENV-MPL-00009). | PI6 | Sup | During Construction |
| MM36 | | All clearing will be staged, allowing fauna to move into adjacent habitats on their own accord. As a minimum this will include compliance with Part 3, Section 10 of the *Nature Conservation (Koala) Conservation Plan 2017* (refer Table 9 and Section 7.2.1).<br>The staging of clearing will be undertaken such that smaller non-habitat trees are removed in the first stage with larger habitat trees removed three to five days after the initial clearing, allowing fauna time to relocate as required under the *Nature Conservation (Koala) Conservation Plan 2017*. | PI3 | ESM/Sup | During Construction |

| No. | Hold Point | Actions | Related Potential Impact | Staff Responsible | When |
|---|---|---|---|---|---|
| | | | | | |
| MM37 | | Vegetation clearing activities must conform to:<br>• Physically demarcated areas of vegetation to be trimmed or removed<br>• Marked areas of vegetation to remain and 'no go' zones (i.e. maximum clearing extent boundary and TPZs). | PI1, PI2 & PI4 | Sup/ESM | At all times |
| MM38 | | Ensure a fauna spotter/catcher is available and present during tree/habitat clearing.<br>Where practicable, clearance should avoid hollow bearing trees.<br>Where unavoidable, hollow bearing trees should be flagged and left standing as long as possible.<br>Hollow logs must not be mulched until inspected by a fauna spotter/catcher. | PI3 | Sup/ESM | At all times |
| MM39 | | Hollow bearing logs to be retained as fauna habitat features where practicable and carefully repositioned into adjacent vegetation areas as fauna to be retained at the end of the project. Where hollows cannot be salvaged, nest boxes will be provided in retained vegetation.<br>Retain root balls of large, felled trees for use in fish habitat structures, to be coordinated with Seqwater. | PI3 & PI7 | Sup/ESM | At all times |
| MM40 | | The fauna spotter/catcher will transport any injured animal to a licensed wildlife carer or wildlife facility. Appropriate local vet or rescue organisation/wildlife carers/facilities for tree clearing activity for the project have been identified. Contact details are as follows:<br>• RSPCA QLD – To report sick, injured or orphaned wildlife - 1300 ANIMAL (1300 264 625)<br>• Cooroora Veterinary Clinic (Monday to Friday 7.30am to 5.30pm, Saturday and Sunday 8.30am to 5pm) - (07) 5447 6733<br>• Animal Emergency Centre Noosa (Monday to Friday 6pm to 8am, Weekends 24/7) - (07) 5353 7005<br>Any threatened fauna requiring treatment or care will be recorded by the ESM in a dedicated project fauna register and transferred to a veterinarian or licensed carer. | PI3 | Sup/ESM | At all times |
| MM41 | | All disturbed land no longer required for operation will be rehabilitated to achieve stable and sustainable soil cover and minimise sediment run off. | PI8 | ESM | During rehab |

| No. | Hold Point | Actions | Related Potential Impact | Staff Responsible | When |
|---|---|---|---|---|---|
| MM42 | | The construction site will be rehabilitated in accordance with the approved plans and specifications AND in accordance with relevant regulatory approvals. | PI1 | ESM | During rehab |
| MM43 | | Temporary erosion control measures will be left in place until a competent person determines the site to be appropriately stabilised. | PI8 | ESM | At all times |

## 7.1. Clearing Protocol for Koala Habitat areas

The management measures that will be implemented to minimise the potential for impacts associated with clearing of Koala Habitat have been detailed in Table 9.

**Table 9 Koala Habitat clearing protocol**

| No. | Hold Point | Actions | Related Potential Impact | Staff Responsible | When |
|---|---|---|---|---|---|
| MM45 | Y | Area to be cleared will be subject to a pre-clearing survey | PI2 | ESM | Prior to Clearing |
| MM46 | Y | If after action 2, a Koala has been identified this will be communicated to the ESM. The area is to be barricaded with a 50 m exclusion zone and linked to the surrounding habitat. Area cannot be cleared until Koala has moved on without human interference. Clearing of the area associated with the exclusion zone cannot be carried out without permission from the ESM. | PI5 | SQP/ESM | When Koala Identified |
| MM47 | | All clearing is to be conducted in compliance with Part 3, Section 10 of the *Nature Conservation (Koala) Conservation Plan 2017* (refer Section 7.2.1). | PI5 | Sup | During Clearing |
| MM48 | | The fauna spotter/catcher is to maintain a visual inspection of the clearing area. This must be conducted while always maintaining a safe distance away from the clearing activities. | PI5 | SQP | During Clearing |

| No. | Hold Point | Actions | Related Potential Impact | Staff Responsible | When |
|---|---|---|---|---|---|
| MM49 | Y | No clearing activities are to take place without the presence of a spotter/catcher. | PI5 | Sup | During Clearing |
| MM50 | Y | If at any time during the clearing a Koala is located clearing works must stop immediately. | PI5 | Sup | If Koala detected |
| MM51 | Y | If after action 7 a Koala has been identified this will be communicated to the ESM. The area is to be barricaded with a 50 m exclusion zone and the area is to be linked to the surrounding habitat. Area cannot be cleared until Koala has moved on without human interference. Clearing of the area associated with the exclusion zone cannot be carried out without permission from the ESM. | PI5 | SQP/ESM | After detection |

## 7.2. Additional Management Guidance

### 7.2.1. Koala

Areas of remnant vegetation are present within the Project area and are mapped as Regulated Vegetation Essential Habitat for the koala.

The Project area is mapped on the State Planning Policy's Southeast Queensland Koala habitat values as containing low and medium value bushland habitat and low and medium value rehabilitation habitat.

The Project area is mapped as containing core koala habitat and containing areas within a Koala priority area under section 7B of the *Nature Conservation (Koala) Conservation Plan 2017* and shown on the Koala Conservation Plan map, refer to Figure 1. At this stage no Core Koala Habitat is planned to be cleared.

A 2018 ecological survey identified primary and secondary feed trees present in the Project area, however no direct observations or signs of Koala usage were found. Despite targeted searches, the 2023 field survey also did not identify any evidence of Koala onsite. Regardless, the species has been recently recorded within 2 km of the Project area, adjacent to TNP.

The Lake Macdonald Project is within Koala District A. District A covers the South East Queensland region and is home to the highest koala population densities in Queensland. District A is highly threatened as a result of habitat loss and human impacts with habitat often in areas zoned for urban and rural purposes. Any clearing in Koala Districts A or B must be done in accordance with the *Nature Conservation (Koala) Conservation Plan 2017* which prescribes specific clearing requirements that must be complied with when clearing Koala habitat trees. In Districts A and B, there are 'sequential clearing conditions' which are in place to prevent the injury or death of koalas when clearing koala habitat and must be complied with irrespective of other approvals or exemptions. Given the sequential clearing conditions in Koala district A, the following requirements will be adhered to:

- A person clearing koala habitat trees in koala district A or koala district B must ensure the clearing is carried out in a way that complies with the sequential clearing conditions.

This section applies in addition to any other requirement applying to the clearing under an Act.

Section 10 (3) of the *Nature Conservation (Koala) Conservation Plan 2017* defines ***sequential clearing conditions*** (in Koala districts A and B) as all of the following conditions—

- Clearing of the koala habitat trees is carried out in a way that ensures koalas on the area being cleared (the clearing site) have enough time to move out of the clearing site without human intervention
- If the area being cleared is more than 3 ha
    - carrying out the clearing in stages
    - If the area being cleared is less than 6 ha, no more than 50% of the area being cleared can be cleared in any one stage
    - If the area is more than 6 ha, no more than 3 ha or 3% of the site's area, whichever is the greater can be cleared at any one stage
    - Between each stage and the next there is at least 1 period of 12 hours (starting at 6p.m. on a day and ending at 6a.m. on the following day) during which no trees are cleared on the site

- clearing of the koala habitat trees is carried out in a way that ensures, while the clearing is carried out, appropriate habitat links are maintained within the clearing site and between the site and its adjacent area, to allow koalas living on the site to move out of the site
- If koala is in a tree, that tree is not cleared
- If the crown of a tree overlaps with a tree that a koala is in, that tree is not to be cleared.

**Fauna spotter needed for clearing in koala habitat area**

As per the *Nature Conservation (Koala) Conservation Plan 2017* a Koala spotter will be present for any clearing in Koala habitat areas onsite and the Project will comply with the requirements of Part 3, Sections 10 and 11 of the *Nature Conservation (Koala) Conservation Plan 2017* whilst undertaking any clearing of koala habitat trees in a Koala habitat area, Part 3, Section 11 of the *Nature Conservation (Koala) Conservation Plan 2017* states:

1. This section applies to a person clearing, in a Koala habitat area, koala habitat trees having a trunk of a diameter of more than 10cm at 1.3m above the ground.
2. The person must ensure the clearing is carried out in the presence of a Koala spotter who has the primary role of locating koalas in the trees for the person.
3. This section applies in addition to any other requirement applying to the clearing under an Act.
4. In this section—Koala spotter means a person who has qualifications and experience, or demonstrated skills and knowledge, in:
    i. locating Koalas in koala habitats; or
    ii. conducting arboreal fauna surveys.

**Non-Juvenile Koala Habitat Trees**

A total of 739 Non-Juvenile Koala Habitat Trees (NJKHT) were identified during a targeted field survey to assess and count the NJKHT's within the Project clearing boundary in July 2024. There were nine different species of NJKHT recorded during the survey including: *Corymbia citriodora*, *Corymbia intermedia*, *Eucalyptus cloeziana*, *Eucalyptus grandis*, *Eucalyptus microcorys*, *Eucalyptus tereticornis*, Lophostemon *confertus*, *Lophostemon suaveolons* and *Melaleuca quinquenervia*.

## 7.2.2. Tree protection Zones

Any trees that are not to be cleared (i.e. adjacent to the edge of the maximum clearing extent boundary) will be protected using the Australian Standard *AS 4970-2009 Protection of trees on development sites*. At a minimum this will apply to trees adjacent to the edge of the maximum clearing extent boundary. Where trees located within the maximum clearing extent are deemed as to be retained during the construction period (i.e. not required for construction purposes) these trees will also be subject to protection as per AS 4970-2009.

The tree protection zone (TPZ) will be demarcated prior to any vegetation clearing. TPZs will be marked by temporary fencing around the base of trees to be retained during works to protect the root zone, rhizosphere and the tree stem from mechanical injury, compaction and fuel or chemical spills. A diagram of a TPZ and how it is established is shown in Appendix 1.

### 7.2.3. Protected Plants

The maximum clearing extent intersects an area mapped as 'high risk' on Queensland's Protected Plants Flora Survey Trigger mapping layer. This triggers the requirement for a survey for protected plants carried out as per the *Flora Survey Guidelines – Protected Plants* (DES 2020) prior to any clearing occurring. The resulting report is required to be submitted to DETSI within 12 months of the survey occurring. If a protected plant is present the report will require an attached Impact Management Plan. Where a protected plant is to be cleared the project requires a protected plant clearing permit.

It is noted that a search for protected plants was carried out as part of the 2023 survey works carried out by SMEC. Protected plants (Scrub Turpentine and Native Guava) were recorded within and adjacent to the maximum clearing extent (refer Figure 1). The survey was carried out in October 2023. The report associated with the survey has been submitted to DETSI and a protected plant clearing permit has been obtained for the Project (permit number: WA0064218).

The permit has a two-year lifespan in which clearing works can be carried out. Works will have to be carried out as per the Impact Management Plan (IMP) accompanying the submission of the survey report (as required to obtain the permit). The IMP describes mitigation works associated with the removal of 120 Native Guava trees within the disturbance footprint. These include the following:

- Vegetation offsets will be provided at the minimum ratio of 3:1 implemented by planting trees in nearby areas (i.e. 3 replanted trees per tree removed). Priority will be given to collecting seed/cuttings from Native Guava found onsite with no visible myrtle rust infection. Cuttings and/or seeds will be collected under the supervision of a suitable qualified ecologist or botanist, nursery staff, and collectors from Noosa and District Land Care Group. The collection of seeds, propagation and replanting will also work under the advice of the National Myrtle Rust Working Group. Noosa and District Land Care Group has advised on five locations for the replanting.
- Myrtle rust was identified in some of the specimens of native guava recorded within the disturbance area. Myrtle rust is a disease that threatens trees and shrubs in the Myrtaceae family of plants, caused by the fungus *Austropuccinia psidii*. It is impossible to eradicate myrtle rust in its entirety, therefore, spreading myrtle rust due to works on site can negatively impact plants from the Myrtaceae family adjacent to the site. Mitigation measures include inspecting the clearing area and removing and treating infected plants and establishing no-go zones around identified areas of infection.
- Prior to clearing temporary fencing will be installed around identified Native Guava trees that are not being removed but are within 25 m of clearing/construction areas. These trees will be designated as no-go zones.

# 8. Hold Points

The hold points that will be adopted for vegetation, flora and fauna management have been detailed in Table 10.

**Table 10 Project hold points**

| Hold Point Number | Related management measure | What | When does it occur | Staff responsible | Construction activities restricted until Hold Point completed |
|---|---|---|---|---|---|
| 1. | MM3 | Pre-clearing survey/s | Pre-clearing | ESM | Clearing |
| 2. | MM3 | Low risk Impact - tampering of breeding sites | Determined if needed based on result of pre-clearing survey (Hold point 1) | ESM | Clearing |
| 3. | MM3 | High Risk Impact - tampering of breeding sites | Determined if needed based on result of pre-clearing survey (Hold point 1) - where there has been identified breeding locations of threatened fauna species (except Koala), or colonial breeding species | ESM | Clearing |
| 4. | MM14 | Demarcation of TPZ | Pre-clearing | CM/ESM | Clearing |
| 5. | MM17 | Review protected plants survey and report and Protected Plants Clearing Permit (including the Impact Management Plan) and acknowledgement by all personnel | Pre-clearing | Sup/ESM | Clearing of habitat comprising listed protected plants |
| 6. | MM18 | Implementation of the conditions of the Protected Plant Clearing Permit and Impact Management Plan | Pre-clearing | ESM | Clearing |
| 7. | MM45 | Survey and physical demarcation of koala habitat | Pre-clearing | ESM | Clearing |
| 8. | MM46 | Physical demarcation of no-go/exclusion clearing areas and Koala habitat areas | Pre-clearing and clearing | SQP/ESM | Clearing |
| 9. | MM49 & MM12 | Engagement of fauna spotter/catchers | Pre-clearing and clearing | Sup | Clearing |
| 10. | MMN50 | Works stop if a Koala is located | During clearing | Sup | Continued clearing |
| 11 | MM51 | Physical demarcation of no-go/exclusion clearing areas and Koala habitat areas | Pre-clearing and clearing | SQP/ESM | Continued clearing |

# 9. Monitoring

To verify this Management Plan is achieving its performance measures, the following monitoring (Table 11) program has been proposed.

**Table 11 Monitoring Program**

| No. | What | Who | When / Frequency |
|---|---|---|---|
| 1. | Daily informal observations will occur of vegetation clearance and works to confirm that specific controls have been implemented and appropriate work practices are being used to achieve the performance criteria. Daily observations to be recorded in site diaries/register. | ESM | During clearing |
| 2. | All exclusion barriers, no-go zones, excavations which could contain trapped fauna shall be inspected daily and maintained as required. Any resulting actions arising shall be raised in site register/records and through weekly inspections. | ESM | Daily |
| 3. | Inspection of exclusion/buffer zones to occur during weekly inspections and any actions arising recorded in site register. | ESM | Weekly and preceding any works in buffer zone |
| 4. | General monitoring of construction areas for evidence of adverse impact which may result from construction activities. Any actions arising shall be raised through weekly inspections. | ESM | Weekly |
| 5. | Establish a series of photo monitoring points within areas of direct and indirect impact to monitor impacts associated with construction. This includes identifying sites, taking pre-construction photos and recording GPS location, photo direction (north, east, etc.) at each point. Once prior to construction, monthly throughout lowering and construction, and quarterly until the lake has refilled and vegetation communities are re-established. | ESM | Throughout construction |
| 6. | Quarterly (internal) and annual (external) audits of this Management Plan will be undertaken as part of the SEMP auditing process | ESM | Quarterly/Annual |

# 10. Corrective Actions

Corrective actions that will be implemented in the event that a performance measure has not been achieved, are listed in Table 12.

**Table 12 Corrective Action Plan**

| Issue / Event | Event Response |
|---|---|
| 1. Any breach of this Plan | • A person may make a reasonable request to instruct works to cease at any time if a breach of the Management Plan performance criteria occurs or is at risk of occurring. |
| 2. Over clearing of flora / Clearing outside of permitted clearing area | • Stop work<br>• Re-establish boundaries<br>• Notify the relevant parties<br>• Investigate possibility of rehabilitating the area<br>• Review construction methods, control effectiveness and device design<br>• Re-train staff/operator(s) with regards to keeping within site boundaries and not clearing flora without permission<br>• Enter incident into site register |
| 3. Animal injured or killed | • Stop work<br>• Attempt to prevent further harm to animal and/or other animals in vicinity - establish a 10 m radius no-go zone around injured animal<br>• The project fauna spotter/catcher will take injured fauna to a wildlife hospital/veterinary surgery<br>• Notify the relevant parties<br>• Investigate incident and implement controls to prevent reoccurrence<br>• Enter incident into site register |
| 4. Fauna trapped in active work areas | • Stop works and remove potential risks to fauna<br>• Contact ESM<br>• Determine an escape route for fauna out of the construction area and move all personnel and equipment clear of the route<br>• If fauna does not leave on its own accord, ESM to organise a registered and qualified carer or spotter/catcher to arrange capture and release<br>• Once fauna is removed, inspect and secure fauna exclusion fencing layout or other entry points to prevent fauna entry<br>• Enter incident into site register |
| 5. Inappropriate methods of conducting works to remove flora or handle fauna | • Review Management Plan and implement the appropriate controls and methods<br>• Evaluate controls and procedures to minimise impacts to flora and fauna and implement the correct methods appropriately<br>• Re-train staff/operator(s) with regards to methods to remove flora or handle fauna |
| 6. Insufficient maintenance of controls (e.g. no-go zones) | • Repair/reinstate controls.<br>• Review maintenance schedule, staff responsible and resources |
| 7. Non-conformance with this Management Plan | • Notify supervisor responsible for the area of non-conformance |

| Issue / Event | Event Response |
|---|---|
| | • ESM will provide the supervisor instructions to resolve the non-conformance<br>• ESM will check the non-conformance is rectified 24 hours after the instruction was given |

# 11. Reporting

Reporting that will be undertaken in accordance with this Management Plan has been detailed in Table 13.

**Table 13 Reporting Plan**

| No. | Reporting Required | By Whom | By When | To Whom |
|---|---|---|---|---|
| 1. | Details of field observations shall be recorded in site register via weekly environmental inspection checklist, and communicated to all staff during pre-starts, toolbox and team meetings. | ESM | At all times | All personnel |
| 2. | Record all fauna relocations that occur in a fauna relocation register.<br>*Spotter-catcher returns*<br>The following information relates to data to be collected regarding the relocation of fauna which will be submitted to the ESM as part of the Spotter-catchers returns:<br>• Fauna species relocated<br>• Location of capture<br>• Location of release<br>• Date of relocation | ESM | At all times | Administering authority |
| 3. | Record all disturbance/clearing of protected flora as per the requirements of the Protected Plant Clearing Permit | ESM | At all times | Administering authority |
| 4. | All incidents regarding flora and fauna shall be reported immediately to the ESM and recorded in the relevant site register/s. In the event of a fauna/vehicle strike by project staff to and from the project site, the normal incident reporting process shall be followed as well as notifying the ESM who will then contact the project fauna spotter/catcher to take the animal to a wildlife carer or for medical attention if required. Fauna deaths as a result of vehicle strike by project staff will be recorded as an incident in site records and reported to Seqwater. | All personnel | Following incident | Seqwater |
| 5. | Incident reports shall be completed and forwarded to the PM. | ESM | Following incident | PM |

| No. | Reporting Required | By Whom | By When | To Whom |
|---|---|---|---|---|
| 6. | Seqwater is to be immediately informed of any incident that has caused or has potential to cause material harm to the environment and will advise on the notification of relevant regulators and stakeholders. | PM/ESM | Following incident | Seqwater |
| 7. | Any incident that has caused or is likely to cause material harm will be reported to Seqwater. Immediately report any incident that contravenes the objectives of the Management Plan to the supervisor and ESM.<br>Any impacts to threatened fauna (Vulnerable, Endangered or Critically Endangered) are to be reported to DETSI within 24 hours of occurrence. | PM / ESM | Following incident | Seqwater and/or administering authority |
| 8. | Summary of environmental flora and fauna incident management to be provided in the project monthly report. Monthly report to Seqwater that includes details of monitoring results, audits, non-compliances, training, and incidents. | ESM | Monthly | Seqwater |
| 9. | Quarterly report to the CG as per the requirements of schedule 2, condition 2. Report will include:<br>• An evaluation of compliance with the SEMP<br>• Monitoring data required by the Imposed Conditions included in Schedule 2 of the CGCR (2025) for the period and an interpretation of the results<br>• Details of any environmental incident during the reporting period, including a description of the incident, resulting effects, corrective actions (including site remediation activities), revised activity practices to prevent a recurrence, responsibility and timing<br>The reports must be provided to the Coordinator-General and also be made available on the Project website within 20 business days of the end of the three-month period to which the report relates and continue to be available on the project website for the duration of the Project. | Seqwater | Quarterly | Coordinator-General |

# 12. Training and Awareness

Site inductions will include the following specific components for flora and fauna management:

- Identification of threatened flora and fauna species known or with a high likelihood of occurrence
- Potential impacts to flora and fauna associated with construction activities, e.g. vegetation clearing, vehicle incidents

- Mitigation and management measures for flora and fauna during construction, particularly:
  - Vegetation clearing protocols
  - Fauna interaction protocols
  - Clearing requirements and penalties (including fines) for over-clearing
  - Construction exclusion zones
  - Protected area (TNP) requirements
  - Project identified sensitive flora and fauna locations and responsibilities in relation to these
  - Recognition of the physical attributes of species protected under the EPBC Act & NC Act and their habitat to STOP, MANAGE and NOTIFY when encountered
- Reporting hierarchy with regards to flora and fauna management and incidents

**Note: The Project induction will contain specific additional details (including photos and images of threatened/ protected species) and species described as known or high likelihood to occur (refer Table 5 and Table 6).**

It is anticipated that a SQP (ecologist) will be engaged to assist the ESM with implementation of this Management Plan throughout the construction period.

However, it is also important that all site personnel involved in construction activities have general awareness and understanding around this Management Plan. Ongoing induction, toolbox talks, posters/information sheets and training will be provided to all personnel to ensure their understanding of the measures outlined in this Management Plan.

# 13. Review and Continual Improvement

This Management Plan shall be reviewed within the first three months of site mobilisation to ensure the plan is fit for purpose and any identified incidents, issues or hazards are addressed in the Management Plan accordingly. Follow up reviews are to be undertaken annually during construction.

This Management Plan shall be reviewed out of the normal cycle, in the event of a legislative breach, incident, or community complaint or when a new hazard or impact has been discovered.

# 14. Appendix A Tree protection zone diagram