

BELL BAY PULP MILL  
MANAGEMENT PLAN

Revision	Date	Revision Description	Prepared	Reviewed	Approved
A0	12 November 2007	For submission to DEM for approval	IW	JD	JC
B0	30 November 2007	Revision B0 of plan prepared following DTAE comments on revision A0 and submitted informally for comment without submission cover	IW	JD	CF
C0	18 January 2008	Revision of plan submitted to DEM for approval following revisions responding to DPIW comments on the informal submission of revision B0	SW	JD	CF
D0	30 January 2008	Revision D0 of plan submitted to DEM for approval following revision responding to comment from DPIW on C0	SW	JD	CF
E0	13 July 2009	Revision E0 of plan submitted to DEM for approval following revision to include subsequent surveys and marine species management	SW	IW/CD	LB

Gunns reference number of this document:

GNS-PLN-1000-1400-0005-E-00

Fauna Management Plan	
<b>Purpose:</b>	To protect and manage fauna species listed as threatened under the <i>Threatened Species Protection Act 1995</i> and/or the <i>Environment Protection and Biodiversity Conservation Act 1999</i> and native species listed as specially protected or protected wildlife under the <i>Nature Conservation Act 2002</i> .
<b>Scope:</b>	Pulp mill site, wharf, water supply and effluent pipelines, marine outfall, workers accommodation facility, landfill and local water reservoir.
<b>Objectives:</b>	This Fauna Management Plan provides management prescriptions for fauna during clearing and construction activities. The fauna management prescriptions have aimed at achieving the following: <ul style="list-style-type: none"> <li>• Minimising disturbance of native fauna and habitat.</li> <li>• Protecting biodiversity values.</li> <li>• Minimising disturbance of native vegetation.</li> </ul>
<b>Target:</b>	No impact on native fauna species beyond that detailed in the DIIS, Supplementary Information or prescribed by permit conditions.
<b>Technical Documents:</b>	The following technical documents detail the extensive fauna studies and surveys which have been conducted to determine the potential impacts on native fauna species as a result of the clearing and construction activities for the pulp mill: <ul style="list-style-type: none"> <li>• Draft Integrated Impact Statement (<a href="http://www.gunns.com.au">www.gunns.com.au</a>).</li> <li>• Supplementary Information (<a href="http://www.gunns.com.au">www.gunns.com.au</a>).</li> <li>• Preliminary Information under the EPBC Act (<a href="http://www.gunns.com.au">www.gunns.com.au</a>).</li> </ul>
<b>Key Issues:</b>	The technical documents, surveys and studies conducted, in conjunction with the environmental risk assessment, have identified a range of potential impacts on fauna, with the level of impact varying significantly depending upon species and location. These potential impacts include: <ul style="list-style-type: none"> <li>• Habitat loss or damage (native vegetation, aquatic/ocean environment);</li> <li>• Habitat fragmentation through clearing of vegetation utilised by fauna species for shelter and linkages between areas of habitat;</li> </ul>

	<ul style="list-style-type: none"> <li>• Loss, damage or disturbance of threatened, conservation significant, marine or migratory species;</li> <li>• Trapping of fauna in trenches, with subsequent injury or inability to escape;</li> <li>• Altered fire regimes, resulting in changes in habitat quality;</li> <li>• Local changes to understorey and floristics including the introduction of weed species or pathogens;</li> <li>• Altered surface water runoff and water quality into wetlands and waterways;</li> <li>• Changes in noise levels;</li> <li>• Changes in light levels; and</li> <li>• Changes in air quality.</li> </ul>
<b>Environmental Outcomes:</b>	<p>The environmental outcomes covered by this Fauna Management Plan include:</p> <ul style="list-style-type: none"> <li>• Minimised vegetation clearance;</li> <li>• Minimised disturbance to areas containing threatened or conservation significant species;</li> <li>• Minimised disturbance to sites of environmental sensitivity;</li> <li>• Minimised risk of stock or wildlife entering trenches and effective management of trapped fauna;</li> <li>• Impacts on aquatic and water dependant species limited to the immediate construction area; and</li> <li>• Lighting used in a manner that does not cause unacceptable disturbance or distress to listed migratory or nocturnal species.</li> </ul> <p>Other Environmental Outcomes, which have the potential to impact on fauna, however are managed specifically in other management plans for the project ie Construction Environment Management Plan (CEMP) include:</p> <ul style="list-style-type: none"> <li>• Minimised risk of weed and pathogen introduction and transportation;</li> <li>• Minimised discharge of sediments to water bodies;</li> <li>• Trench and other applicable areas returned to pre-construction contours, land cover and vegetation cover (noting exclusion of some species);</li> <li>• Minimised erosion and land, including stream bank, disturbance and destabilisation;</li> <li>• Avoiding or minimising impacts on groundwater; and</li> <li>• Minimised construction noise and vibration impacts.</li> </ul>
<b>Attachments</b>	<p>Fauna Surveys            ECT-RPT-1000-1400-0001-A-00 ECOTAS_PulpMill_Eagles            ECT-RPT-1000-1400-0005-A-00 ECOTAS_PulpMill_Mammals            ECT-RPT-1000-1400-0002-A-00 ECOTAS_PulpMill_MaskedOwl            ECT-RPT-1000-1400-0004-A-00 ECOTAS_PulpMill_PeregrineFalcon            ECT-RPT-1000-1400-0003-A-00 ECOTAS_PulpMill_SwiftParrot            GNS-SRPT-0141 FPA_WTE #130activity2007            GNS-SRPT-0349 FPA_WTE#130activity2008            GNS-SPRT-0394 ECOTAS_Report_PulpMill_Workers            GNS-SPRT-0392 ECOTAS_Report_PulpMill_Mammals_Pipeline            GNS-SPRT-0391 ECOTAS_Report_PulpMill_Eagles_Pipeline            GNS-SPRT-0389 ECOTAS_Report_PulpMill_ParrotFalconOwl_Pipeline            GNS-SPRT-0133 ECOTAS_BurrowingCrayfishDeviations            GNS-SPRT-0287 ECOTAS_BurrowingCrayfish            GNS-SPRT-0395 Aquanel_GunnsScrewShell</p>

Project phase(s):

Construction

Commissioning

Operations

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<p>Permit Conditions</p> <p>TS1 33 TS1 34</p> <p>EPBC 20 EPBC 20b,c EPBC 24f</p> <p>NC1 3 NC1 5 NC1 6</p> <p>LU1 5FN1.1 LU1 6FN1.1 LU3 FN5.1 LU4 FN5.1</p>	<h2>1. Planning of works</h2> <p>All native fauna, including threatened species, specially protected and protected wildlife, will be managed in accordance with this Fauna Management Plan.</p> <p>Planning activities will be aimed at minimising the disturbance to native species using the management measures detailed in this Fauna Management Plan. The relevant management measures detailed in this plan has been incorporated into the relevant sections of the Construction Environment Management Plan’s site specific Site Environmental Plans.</p> <p>Vegetation clearing is required for the development of the pulp mill and this has the potential to impact on native fauna species, with the level of impact dependent on the species and location. Estimated areas of different native and non-native vegetation types to be impacted as a result of this development are detailed in the Supplementary Information. Planning activities have to date and will continue to aim to minimise vegetation disturbance and clearing activities.</p> <h3>1.1 Pulp Mill Site</h3> <p>A comprehensive analysis has been undertaken throughout the planning process for the pulp mill site to ensure potential disturbance to cultural and natural values (including occurrences or potential occurrences of threatened species, protected or specially protected wildlife) has been avoided where possible, or where not avoidable kept to a minimum.</p> <p>The following management measures will apply:</p> <ul style="list-style-type: none"> <li>• <i>The final footprint area will be clearly marked out on site and delineated with flagging tape (other flagging options will include delineator rope or electric fencing tape); and</i></li> <li>• <i>All construction materials and activities to remain within the delineated boundary.</i></li> </ul> <h3>1.2 Other Construction Areas</h3> <p>Surveys for the other construction areas, e.g. pipelines, workers accommodation facility, are complete with detailed planning currently being undertaken. Planning, in particular for the pipelines, will involve the use of micro-siting where practicable. This will provide the capacity to avoid many sites of significance (e.g. threatened flora localities, cultural heritage sites), and provide the additional opportunity to minimise the area of native vegetation disturbed for the construction of the pipelines.</p> <p>Planning activities will include the following management measures:</p> <ul style="list-style-type: none"> <li>• <i>Inspect the easement and identify all construction areas, access tracks, car parks and other infrastructure and delineate them with flagging tape (other flagging options will include delineator rope or electric fencing tape);</i></li> <li>• <i>Identify from available documentation, maps and plans, all construction areas and their respective land use and significance (i.e. pasture or native vegetation, threatened species locations etc). Note that not all sensitive areas will be retained and/or protected; and</i></li> <li>• <i>Delineate all sensitive areas which are to be retained and protected with proximity to construction areas with flagging tape (other flagging options will include delineator rope or electric fencing tape).</i></li> </ul> <p>In planning for the pipelines access tracks have the capacity to have a local impact on fauna and flora species. To minimise this potential impact the following will be applied:</p> <p><b>Existing Tracks:</b></p> <ul style="list-style-type: none"> <li>• <i>All vehicle access will be confined to existing roads and tracks that have been subject to flora and fauna surveys. Permanent access tracks located in native vegetation areas must be as narrow as practicable in order to minimise the clearance of native vegetation.</i></li> </ul>
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	<p>Where upgraded tracks are required, they will:</p> <ul style="list-style-type: none"> <li>• follow the shortest routes;</li> <li>• follow ridge lines, spur crests and flat areas wherever possible;</li> <li>• be constructed to relevant safety and regulatory authority standards and able to withstand projected traffic volumes;</li> <li>• be constructed in a manner which minimises land clearance;</li> <li>• implement correct drainage and sediment and erosion controls (refer to Erosion Control procedure);</li> <li>• minimise disruption to existing drainage patterns; and</li> <li>• be located to avoid all localities of <i>Xanthorrhoea. aff. bracteata</i> species.</li> </ul>
<p>Permit Conditions</p> <p>TS1 36 TS1 37 TS1 38 TS1 40 TS1 41 TS1 42 TS1 43 TS1 44 TS1 45 TS1 46 TS1 47 TS1 48 TS1 51 TS1 52</p> <p>NC1 8 NC1 9 NC1 10 NC1 11 NC1 12 NC1 13 NC1 14 NC1 15 NC1 16 NC1 17</p> <p>EPBC 14a,b,c EPBC 15a,b,c EPBC 23 EPBC 26 EPBC 27 EBBC 28a,b,c EPBC 29</p> <p>LU1 2FN2.1 LU1 2FN9.1 LU3 FN2.1 LU3 FN3.1 LU4 FN2.1 LU4 FN3.1</p> <p>EM1 FN1.1</p>	<h2>2. Fauna Surveys and Management Measures</h2> <h3>2.1 Fauna surveys</h3> <p>The construction areas and surrounds have been the subject of numerous investigative fauna surveys, the methodology and results of which are documented within the Draft IIS and Supplementary Information. These surveys determined the presence and/or potential presence, based on habitat types, of a number of species listed under Tasmanian and Commonwealth legislation.</p> <p>Tasmanian Pulp Mill Permit and Commonwealth Approval requirements determined that further fauna surveys were required. These surveys include:</p> <ol style="list-style-type: none"> <li>(1) A survey to determine the presence of Tasmanian devil, spotted-tailed quoll and common wombat den sites at all locations where construction activities are to occur (construction areas);</li> <li>(2) A survey to determine the presence of wedge-tailed eagle, white bellied sea eagle, masked owl - Tasmanian, swift parrot and peregrine falcon nest sites within all construction areas;</li> <li>(3) An annual activity check on eagle nest #130;</li> <li>(4) A pre-construction survey for the Gunns screw shell prior to marine construction activities;</li> <li>(5) A desktop based sound impact study (to minimise potential impacts on the Australian grayling);</li> <li>(6) Establishment of baseline monitoring for roadkill along the East Tamar Highway and mill site access road.</li> <li>(7) A pre-construction survey of the shoreline for nesting shorebirds prior to effluent pipeline construction at that locality.</li> <li>(8) A survey to determine the presence of the central north burrowing crayfish and Mt Arthur burrowing crayfish.</li> </ol> <h3>2.2 Fauna survey reports</h3> <p>Surveys (1) and (2) have been undertaken by qualified and experienced ecologists and zoologists for all construction areas. The complete reports, including methodology and results, are attached in Appendix A.</p> <p>The nest activity check, survey (3), has been undertaken for the 2007/08 and 2008/09 breeding seasons, with the reports also attached in Appendix A.</p> <p>The Gunns screw shell survey (4) has also been completed, with previous survey methodology and results determined to achieve the requirements of the permit condition. The report is attached in Appendix A.</p> <p>The Australian grayling sound impact study (5) has been completed, the report published on Gunns</p>

website.

The baseline monitoring for roadkill (6) has also been completed.

The shorebird survey (7) will be undertaken in the weeks immediately prior to construction of the shore crossing.

The burrowing crayfish survey (8) has been conducted, the methodology and results are attached in Appendix A.

No new threatened fauna localities have resulted from fauna surveys. As always, if any localities are identified in any subsequent surveys results will be provided to DPIPW in an electronic form within 90 days of collection. The data will include species name, location information (including grid reference in GDA 94 and location variation in metres), observer name, observation date, number of individuals and area occupied.

## 2.3 Summary of results

### 2.3.1 Wedge-tailed eagle (*Aquila audax fleayi*)

No new nests of the wedge-tailed eagle were located. Annual nest activity inspections of wedge-tailed eagle nest #130 have been implemented to monitor use of this nest site. Activity checks of nest #130 were undertaken in 2007 and 2008 with the nest found to be active in both breeding seasons.

### 2.3.2 White-bellied sea eagle (*Haliaeetus leucogaster*)

No new nests of the white-bellied sea-eagle were located.

### 2.3.3 Tasmanian masked owl (*Tyto novaehollandiae* subsp. *castanops*)

No masked owl nests were located.

### 2.3.4 Peregrine falcon (*Falco peregrinus*)

No peregrine falcon nests were located.

### 2.3.5 Swift parrot (*Lathamus discolor*)

No swift parrot nests were located.

### 2.3.6 Common wombat (*Vombatus ursinus* subsp. *tasmaniensis*)

Eight wombat burrows were located during the surveys. Three burrows were active, two at the effluent pipeline's shore crossing and one on the water supply pipeline above West Riverside. Five old burrows were also located, three on the water supply pipeline alignment, one on the effluent pipeline alignment and the other in near the landfill site. No burrows were located on the pulp mill site or workers accommodation facility site.

### 2.3.7 Spotted-tailed quoll (*Dasyurus maculatus* subsp. *maculatus*)

No spotted-quoll dens were located.

### 2.3.8 Tasmanian devil (*Sarcophilus harrisii*)

No Tasmanian devil dens were located.

### 2.3.9 Central north burrowing crayfish (*Engaeus granulatus*) and Mt Arthur burrowing crayfish (*Engaeus orramakunna*)

No individuals of either of these crayfish species were located.

### 2.3.10 Gunns screw shell (*Gazameda gunnii*)

The number of live *G. gunnii* collected in the vicinity of the diffuser indicates their presence is in moderate to low density.

## 2.4 Management measures resulting from the surveys

The following management measures have been incorporated into the relevant CEMP operational controls for Fauna Management:

### 2.4.1 Birds

No nests for the identified bird species have been located during surveys; as a result no specific management measures are warranted. However, the following are included in the CEMP:

- *Inspect all trees for nest sites particularly trees containing hollows within the construction areas for signs of use by bird species. Management options for identified potential nest sites will be determined in consultation with appropriate authorities (where required) and/or relevant personnel.*

With specific management prescriptions incorporated and applied for eagle nests:

- *Previously unrecorded eagle nest sites, if noted during clearing and/or construction activities, will be reported to the DEWR and DPIPWE. If a new nest is located within 500 m of clearing or construction activities or 1 km line of sight during the breeding season (1 August to 1 February), work within that buffer must cease immediately and the DEWR and DPIPWE notified as soon as practicable.*
- *During the period between 1 August and 1 February construction activities, or maintenance activities which last for a continuous period of greater than 30 minutes, or maintenance activities which last for more than a total period of 60 minutes within a 24 hour period, must not occur within: (a) 1000 metres of an active wedge-tailed eagle or a white-bellied sea-eagle nest if the construction activities or maintenance activities are in line-of-sight of the nest; or (b) 500 metres of an active wedge-tailed eagle or a white-bellied sea-eagle nest; unless approved in writing by the Director, DTAE and the Secretary, DPIPWE.*

Nest #130 is located in the vicinity of the pulp mill site (approximately 900m from the nearest boundary of the construction footprint), but not within 1km line of sight of any of the vegetation clearance areas or construction activities. Annual nest inspections will be carried out to monitor the use of this nest site, with the following incorporated in the CEMP:

- *Annual nest activity inspections of wedge-tailed eagle nest #130 has been implemented. These inspections will be conducted during September and November. Results of the activity check will be provided to DEWR and DPIPWE. In the event that #130 is abandoned as a result of construction activities during construction or in the first breeding season after the commencement of construction an offset strategy will be prepared within 6 months and submitted to the DEWR.*

### 2.4.2 Mammals

No den sites for threatened mammal species (Tasmanian devil and spotted tailed quoll) have been located as a result of surveys.

Eight common wombat dens were located during surveys. Where possible these sites will be avoided through micrositing during pipeline construction activities. The SEPs will identify protected den sites. In addition, the following is included in the CEMP and will be applied for these den sites.

- *In areas where dens have been identified, a follow up survey must occur at least one week prior to the commencement of construction activities, to identify those dens that can not be avoided by construction activities. If a den is located as a result of the survey written approval must be sought from the DPIPWE Secretary before any further action that impacts on the identified den can be taken.*

#### *Data and report provision*

The following has been incorporated into the CEMP to detail data management and report provision requirements:

- *Threatened fauna survey data: Data must be provided to the Secretary DPIPWE in an electronic form suitable for entry into the Natural Values Atlas within 90 days of collection.*

	<p><i>Data must include species name, location information (including grid reference in GDA 94 and location variation in metres), observer name, observation date, number of individuals and area occupied.</i></p> <ul style="list-style-type: none"> <li>• <i>Fauna survey reports: Reports outlining the findings of pre-construction fauna surveys must be submitted to the Secretary DPIPW E prior to the commencement of construction activities.</i></li> <li>• <i>A survey report detailing numbers of fauna species, including threatened species, specially protected and partially protected wildlife, taken must be submitted to the Secretary DPIPW E within 30 days of completion of construction activities for the project.</i></li> </ul>
<p>Permit Conditions</p> <p>TS1 5 NC1 19</p>	<h3>3. Induction and training</h3> <p>All relevant staff will be inducted into the requirements of the Fauna Management Plan and the Construction Environmental Management Plan.</p> <p>The Design Consultants will be briefed on the design aspects of the Fauna Management Plan and CEMP Operational Control Flora and Fauna Management.</p> <p>All employees, consultants and subcontractors involved will be inducted into the environmental aspects and controls related to the CEMP Operational Control Flora and Fauna Management. Awareness instructions will be provide to all relevant staff, contractors and field personnel. The objectives of the awareness training include:</p> <ul style="list-style-type: none"> <li>• Matters requiring protection;</li> <li>• Risk of encountering unexpected matters;</li> <li>• Fauna handling; and</li> <li>• Fauna and flora hygiene</li> </ul> <p>All staff, contractors, and field personnel will be encouraged and empowered to report observed fauna related issues to the supervisor and directly remediate fauna issues where safe and practical. Environmental briefings will emphasise site-specific control requirements including, but not limited to, the following provisions:</p> <ul style="list-style-type: none"> <li>• No domestic dogs to be brought into the construction areas;</li> <li>• Removal of refuse from construction areas;</li> <li>• No feeding of any native wildlife;</li> <li>• No deliberate lighting of fires within construction areas;</li> <li>• Checking of machinery prior to start-up for the presence of native wildlife; and</li> <li>• Reduction in speed of vehicle movement between dusk and dawn within construction areas.</li> </ul>
<p>Permit Conditions</p> <p>TS1 1 TS1 2 TS1 49 TS1 50</p> <p>NC1 1 NC1 2</p> <p>LU1 5FN1.1 LU1 5FN2.1 LU1 5FN3.1 LU1 5FN4.1</p>	<h3>4. Fauna protection</h3> <h4>4.1 Vegetation clearing and construction</h4> <p>Clearing and construction activities have the potential to directly impact on fauna. Individual animals may be encountered during clearing and construction activities.</p> <p>The Pulp Mill Permit has provisions to allow the ‘taking’ of wildlife and threatened fauna (except whales, seals and turtles) during the course of clearing and construction activities, ceasing at commissioning of the mill. The following permit conditions apply:</p> <ul style="list-style-type: none"> <li>• <i>The person responsible must not take the following as listed under Schedules 3, 4 and 5 of the Threatened Species Protection Act 1995:</i></li> <li>• <i>Whales (Balaenoptera musculus, B. physalus, Eubalaena australis, and Megaptera novaeangliae);</i></li> </ul>



LU1 6FN2.1  
 LU1 6FN3.1  
 LU1 6FN4.1  
 LU3 FN6.1  
 LU3 FN7.1  
 LU3 FN8.1  
 LU4 FN6.1  
 LU4 FN7.1  
 LU4 FN8.1  
 LU4 FN9.1

EPBC 19  
 EPBC 21b

- *Seals (Arctocephalus forsteri, A. tropicalis and Mirounga leonina,); and*
- *Turtles (Caretta caretta, Chelonia mydas, Dermochelys coriacea, and Eretmochelys imbricata).*
- *The person responsible must not take any threatened flora species or any threatened fauna species or wildlife or products of wildlife at or following the commissioning of the pulp mill.*

Procedures will be implemented to minimise the number of native species individuals impacted. Vegetation clearing activities have the potential to directly impact on individuals. The following management measures have been incorporated into the CEMP for clearing activities:

- *Fauna encountered during clearing activities will not be unduly stressed and will be provided with opportunities to disperse into surrounding native vegetation. Fauna unable to disperse or noted to be in distress will be managed in accordance with the guidelines detailed in Table 1 (attached); and*
- *Where safety allows, prior to the felling of large trees, check tree hollows for fauna and allow them to move away from the clearing area.*

## 4.2 Trench and pipeline management

Fauna have the potential to become accidentally trapped in trenches within the construction areas. Table 1 details guidelines for native and domestic fauna protection and handling to be implemented as per the CEMP.

The following specific management measures are incorporated into the relevant section of the CEMP for trench and pipeline management:

- *Trenches will be kept open for a minimal period to conduct works. Trench plugs and ramps will be placed at regular intervals to enable trapped fauna to escape from trenches. Pipe ends will be blocked off at night. All sections of open trench must be monitored daily for trapped animals. Only trained personnel may remove fauna from trenches; and*
- *If practicable, the water intake from Lake Trevallyn must include an effective screen or similar to prevent eels entering the pipe for the duration of the pipeline usage.*

Threatened frog species are generally located in restricted locations in the region. No threatened frog species, or potential habitat is located on the pulp mill site, landfill, local water reservoir, workers accommodation facility or water supply pipeline.

Two small discrete areas of potential habitat for the green and gold frog have been identified on the effluent pipeline route, north of George Town, although notably no threatened frog species have been recorded at these localities. These localities will be avoided through micro-siting of the pipeline route. In the event that any additional areas of identified habitat for the green and gold frog is identified during construction it will also be avoided through micro-siting of the pipeline route. No habitat for the striped marsh frog has been identified. In the event that areas of striped marsh frog habitat is identified during construction and cannot be avoided by micro-siting the following management measure will be added to the relevant SEPs:

- *If the striped marsh frog (Limnodynastes peronii) is located and can not be avoided, individuals must, where practicable, be relocated using measures outlined as follows:*
  - Individuals should be collected and placed in an appropriate container/bag for relocation.*
  - Individuals should be relocated to a location nearby providing similar habitat appropriate for that species.*
  - Numbers and location of individuals relocated must be recorded.*
  - Hygiene protocols for control of chytrid fungus must be followed in accordance with Frog Disease - Chytrid Fungus - Information for Researchers, DPIPWE 2004.*
  - The time taken for relocation must, where practicable, be kept to a minimum.*
- *A report outlining the potential relocation must be submitted to the DPIPWE Secretary prior to the commencement of construction activities.*

	<p><b>5. Fauna Hygiene</b></p> <p><b>5.1 Domestic Fauna</b></p> <p>Domestic fauna have the potential to carry disease, and that disease may be transmitted via construction activities between properties. The following management measures are incorporated into the CEMP to ensure any risk of livestock disease is recorded and the risk of transportation/spread of disease is minimised:</p> <ul style="list-style-type: none"> <li>• <i>Interview/discuss with landowners potential presence of livestock diseases or concerns on or adjacent to their property. Document results and determine appropriate quarantine methodology;</i></li> <li>• <i>No employees, other than a trained fauna handler, may touch or handle any domesticated animals; and</i></li> <li>• <i>Gates will be left as found to prevent unauthorised livestock movements. Any unintentional livestock movements, e.g. through fences or gates, will be reported immediately to the Environmental Manager who will seek landowner advice for management</i></li> </ul> <p><b>5.2 Marine Quarantine</b></p> <p>To minimise the risk of introduction of any pests the following have been incorporated into the CEMP:</p> <ul style="list-style-type: none"> <li>• <i>All vessels arriving in Australian waters from overseas will meet relevant quarantine controls, guided by the AQIS Maritime Awareness Kit. The provisions of the Domestic Ballast Water Management Arrangements and the National Best Management Practice Guidelines for Commercial Non-Trading Vessels will be implemented when available.</i></li> </ul>
<p>Permit Conditions</p> <p>LU1 2FN3.1 LU3 FN4.1 LU4FN4.1</p>	<p><b>6. Lighting controls</b></p> <p>Permanent and temporary lighting has the potential to impact on nocturnal and migratory species. No light sensitive areas for fauna species, e.g. threatened birds nests, have been identified adjacent to the construction areas.</p> <p>The following management measures have been incorporated into the CEMP to minimise this potential impact:</p> <ul style="list-style-type: none"> <li>• <i>Design permanent project lighting so that it does not cause unacceptable disturbance to the community or to listed migratory species, or other significant migratory or nocturnal species;</i></li> <li>• <i>Identify any light-sensitive areas on the Site Environmental Plan; and</i></li> <li>• <i>Direct temporary lighting away from light-sensitive areas, as identified on the SEP. Light shades and low lighting must be applied to construction and operational areas located adjacent to remnant native vegetation.</i></li> </ul> <p>Whilst no listed migratory species routes have been identified within or adjacent to the construction areas, the following management measures will be adopted:</p> <ul style="list-style-type: none"> <li>• <i>Where a listed migratory species route is identified, working hours will be restricted to daylight hours, as far as practicable. This will be identified on the SEP; and</i></li> <li>• <i>Indicate any identified migratory pathways on the SEP.</i></li> </ul>
<p>Permit Conditions</p> <p>LU1 2FN4.1 LU1 2FN5.1 LU1 2FN6.1</p>	<p><b>7. Powerline management</b></p> <p>Powerline construction has the potential to impact bird species. There are no overhead powerlines for the project that traverse or run close to a wetland and therefore no special management measures are necessary.</p>

<p>LU1 2FN7.1 LU1 2FN8.1</p>	<p>For the construction and maintenance of powerlines for the project the following permit requirements have been incorporated into the CEMP.</p> <ul style="list-style-type: none"> <li>• <i>The spacing of the conductors, return line and earth wire on all overhead powerlines must be greater than 1.59 metres; and</i></li> <li>• <i>Where practicable, and in consultation with the utility owner, retain vegetation less than 1.65 m in height beneath power lines. Maintenance activities on overhead powerlines must include the regular removal of any nesting material.</i></li> </ul>
<p>Permit Conditions</p> <p>TS1 53</p> <p>NC1 18</p> <p>LU1 3MR6.1 LU1 3MR6.2 LU1 3MR7.1 LU1 3MR8.1 LU1 3MR9.1 LU1 3MR10.1 LU1 3MR11.1 LU1 3MR12.1 LU1 3MR13.1</p> <p>EM1 FN1.1 EM1 FN1.2 EM1 FN2.1 EM1 FN3.1 EM1 FN4.1 EM1 FN5.1 EM1 FN6.1 EM1 FN7.1 EM1 FN9.1</p>	<h2>8. Marine Species</h2> <p>Marine mammal observers (MMOs) will maintain watch to detect whether any marine mammals enter their safety zone (or preceding that their alert zone). As a minimum the MMOs will have a demonstrable familiarity with the Australian Petroleum Production and Exploration Association (APPEA) CD-based identification and reporting package.</p> <p>Table 1 outlines the guidelines for marine fauna protection for both shore observers and vessels.</p> <h3>8.1 Ocean outfall</h3> <p>At least one marine mammal observer will be on duty at the ocean outfall site at all times during any activity that could generate underwater noise.</p> <p>MMOs will be equipped with appropriate equipment (e.g. range finder binoculars, camera and recording documents) and will be sited at strategic vantage points on the shore or on board vessels, as is most appropriate for the circumstances. The observer location will be whatever is necessary on a particular day (and time of day) to observe the area around the outfall construction without obstruction or glare. Potential observer sites include on patrol vessels, on the berm (if constructed) and on shore.</p> <p>MMOs will be in direct or radio contact with the person overseeing construction activities to enable communications regarding any whale, dolphin or seal observations. When construction activities that generate underwater noise are occurring at the outfall, regular visual surveillance at 10 to 15 minute intervals within the alert zones will be conducted.</p> <p>A trigger level of a single marine mammal or turtle entering the relevant safety zone will be adopted. A 2 km radius alert for whales will be implemented with a 1 km radius safety zone, within which underwater noise generating activities will be ceased if a whale approaches. A 1 km radius alert for seals, turtles and dolphins will be implemented with a 0.5 km radius safety zone, within which underwater noise generating activities will be ceased if a seal, turtle or dolphin approaches.</p> <p>Observations will be recorded, including date, time first observed, species (if possible), entry and exit times from safety and alert zones, and response actions, and reported to Site Environmental Officer at the end of the day.</p> <p>Pulp mill vessels will be speed limited - the maximum allowed vessel speed during construction manoeuvres will be 2 knots and the maximum allowed vessel speed when transiting the Tamar Estuary will be 5 knots.</p> <p>Vessel skippers and deck officers will keep watch for marine mammals and turtles and take avoidance action when necessary (deviation or stopping), aiming to leave a minimum separation distance of 500 m, see Table 1 for specific guidelines. The shore based marine mammal observers will also advise vessels in the vicinity when a marine mammal is within the alert zone of the pulp mill site.</p> <h3>8.2 Wharf</h3> <p>At least one marine mammal observer (MMO) will be on duty at the wharf site at all times during pile driving and any other activity that could generate significant underwater noise.</p> <p>At the start of each continuous pile driving period there will be gradual build-up in the hammering rate over at least a 10 minute period so that marine mammals have time to leave and/or avoid the area before the full hammering rate is reached.</p>

MMOs will be equipped with appropriate equipment (e.g. range finder binoculars, camera and recording documents) and will be sited at strategic vantage points on the shore or on board vessels, as is most appropriate for the circumstances. The observer height and location will be whatever is necessary on a particular day (and time of day) to observe the entrance to Long Reach (the arm of the estuary within which the wharf is located) without obstruction or glare. Potential observer sites include on patrol vessels, the wharf site itself, the nearby power station, the observation point at Bell Bay, the wharf at Bell Bay and at Rowella.

MMOs will be in direct or radio contact with the person overseeing construction activities to enable communications regarding any whale, dolphin or seal observations. When construction activities that generate underwater noise are occurring at the wharf, regular visual surveillance at 10 to 15 minute intervals within the alert zones will be conducted. When construction activities that generate underwater noise are occurring, continual visual surveillance will occur within the relevant safety zones when marine mammals are present in those zones.

A trigger level of a single marine mammal or turtle entering the relevant safety zone will be adopted. A 2 km radius alert for whales will be implemented with a 1 km radius safety zone, within which underwater noise generating activities will be ceased if a whale approaches. A 1 km radius alert for seals, turtles and dolphins will be implemented with a 0.5 km radius safety zone, within which underwater noise generating activities will be ceased if a seal, turtle or dolphin approaches.

Observations will be recorded, including date, time first observed, species (if possible), entry and exit times from safety and alert zones, and response actions, and reported to Site Environmental Officer at the end of the day.

Pulp mill vessels will be speed limited - the maximum allowed vessel speed during construction manoeuvres will be 2 knots and the maximum allowed vessel speed when transiting the Tamar Estuary will be 5 knots.

Vessel skippers and deck officers will keep watch for marine mammals and turtles and take avoidance action when necessary (deviation or stopping), aiming to leave a minimum separation distance of 500 m, see Table 1 for specific guidelines. The shore based marine mammal observers will also advise vessels in the vicinity when a marine mammal is within the alert zone of the pulp mill site.

#### *Data provision*

The following permit condition applies for data management:

- *Data regarding occurrences of listed threatened cetacean, pinniped and/or turtle species identified in the DIIS and subsequent observed sightings when monitoring as required by the relevant EMPCA Schedule of the Pulp Mill Permit, must be provided to the Secretary in an electronic form suitable for entry into the Natural Values Atlas within 90 days of collection. Required data includes species name, location information including grid reference in GDA 94 and location variation in metres, observer name, observation date, number of individuals and area occupied.*

Table 1: Guidelines for fauna protection and handling	
All Species	<ul style="list-style-type: none"> <li>Trenches should be checked first thing in the morning, at regular intervals during the day, and in the evening once works have concluded for the day.</li> <li>Trenches to include trench ramps and plugs to enable fauna to escape of their own accord.</li> <li>When an animal is noted as trapped, work in the immediate vicinity (ie. 50 m) to stop immediately and the Site Supervisor notified.</li> <li>Fauna trapped in trenches should be removed as soon as possible. No operations are to commence or continue until fauna have been removed. Surviving fauna are to be relocated to a suitable habitat by personnel trained fauna handling procedures. Records must be kept of all live and dead fauna, including amphibians, removed from the trench.</li> </ul> <p>No untrained personnel should approach or unduly stress fauna.</p>
Native Species	<ul style="list-style-type: none"> <li>Only to be handled by trained personnel, or by untrained personnel under the direct visual supervision of a trained person.</li> <li>Trained personnel may encourage the animal to leave, or physically capture/trap the animal where required.</li> <li>Fauna should be relocated to a safe area of suitable habitat in the vicinity of the trap site.</li> <li>Injured fauna should be captured/trapped and taken to a veterinarian for assessment and treatment.</li> <li>Dead fauna should be removed and disposed of only by a trained person.</li> <li>Dead fauna should be recorded and buried in an appropriate location.</li> </ul>
Domesticated Species	<ul style="list-style-type: none"> <li>Only to be handled by trained personnel, or by untrained personnel under the direct visual supervision of a trained person.</li> <li>Landowner/owner should be immediately notified of trapped domestic species.</li> <li>Only to be removed in collaboration or under instruction of the landowner/owner.</li> <li>Injured animals should be taken to a veterinarian for assessment and treatment in consultation with landowner/owner.</li> <li>Dead animals should be disposed of in accordance with landowner/owner requirements.</li> </ul>
Marine mammals and turtles - shore observers	<ul style="list-style-type: none"> <li>Keep watch (at least every 15 minutes) for marine mammals and turtles within the alert and safety zones shown on the relevant SEP.</li> <li>If marine mammals or turtles are observed within the alert zone, inform the site supervisor, who should then minimise any work that may cause significant underwater noise until the animal has left the alert zone.</li> <li>If marine mammals or turtles are observed within the safety zone, inform the site supervisor, who should then cease any work that may cause significant underwater noise until the animal has left the safety zone.</li> <li>Record observations, including date, time first observed, species (if possible), entry and exit times from safety and alert zones, and response actions, and report these to Site Environmental Officer at the end of the day.</li> <li>Report any signs of distressed marine mammals or turtles to the Environmental Manager who should contact the Tasmanian whale sightings and strandings hotline (0427 WHALES or 0427 942 537).</li> </ul>
Marine mammals and turtles - vessels	<ul style="list-style-type: none"> <li>Keep watch for marine mammals and turtles during approach to work areas.</li> <li>If marine mammals or turtles are observed at a distance greater than 300 m, deviate to avoid a closer approach.</li> <li>If marine mammals or turtles are observed at a distance less than 300 m, reduce speed to less than 8 knots and deviate to avoid closer approach.</li> <li>If marine mammals or turtles are observed at a distance less than 100 m, reduce speed to the slowest speed at which safe control of the vessel is still possible, deviate to avoid and do not increase speed until a separation distance greater than 100 m is achieved (unless vessel safety requirements demand otherwise).</li> </ul>