

## **Addendum Report: Further Information under the EPBC Act for the Proposed Delburn Wind Farm, Victoria**

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### **1 Introduction**

Ecology and Heritage Partners Pty Ltd was commissioned by Delburn Wind Farm Pty Ltd (OSMI Australia), to prepare an addendum report to the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) referral documentation for Delburn Wind Farm.

Additional information is provided on:

- Clarification on impacts to Strzelecki Gums;
- Demonstration of an assessment of the impact of collision with turbines for bird species;
- Swift Parrot and migratory birds, including Latham's Snipe and White-throated Needletail (an assessment against the EPBC Act Significant Impact Guidelines);
- Growling Grass Frog – suitable habitat over the project area, targeted survey locations, measures to prevent impacts on GGF populations;
- CEMP to address Matters of National Environmental Significance (MNES);
- Location of cabling; and
- Decommissioning Plan.

### **2 Study Area**

The study area comprises HVP pine and blue gum plantations, as well as remnant native vegetation, located south of Moe and the Princess Freeway and north of Boolarra-Mirboo North Rd. The proposed development site is located at the plantation land centred in the Delburn area, covering the HVP Plantations Thorpdale Tree Farm. The site is generally bounded by Hernes Oak to the north, Coalville, Narracan and Thorpdale to the west, Darlimurla to the south, and Driffield, Boolarra and Yinnar to the east. The study area is approximately 144 kilometres east of Melbourne's CBD (Figure 1) and intersects the Gippsland Plain and Strzelecki bioregions and is applicable to the West Gippsland Catchment Management Authority (CMA).

The study area is composed of a mosaic of native vegetation, pine plantations and private agricultural properties. The mapped remnant native vegetation within the study area represents seven Ecological Vegetation Classes (EVCs) from two bioregions: Gippsland Plain and Strzelecki Ranges. Adjacent remnant native vegetation includes Sayers Trig Bushland Reserve (north), Darlimurla Forest Block (east) and Mirboo North Regional Park (west). In particular, Darlimurla Forest Block (340 hectares) supports significant ecological values and is represented by seven EVCs of the Gippsland Plain bioregion: Herb Rich Foothill Forest, Lowland Forest, Dry Valley Forest, Heathy Woodland, Riparian Forest, Swampy Riparian Complex and Swamp Scrub (Biosis 1998).

Tributaries of the Morwell River, Ten Mile Creek and associated wetlands occur within and surrounding the study area. Artificial waterbodies including dams also provide habitat for waterbirds and other water dependent species.

### **3 Clarification on the impacts to Strzelecki Gum**

While Strzelecki Gum is present throughout the project area, potential impacts from works associated with the construction of the windfarm, including road widening and underground cable installation, have been managed by design changes to completely avoid both direct and indirect impacts (e.g. impacts to the root zone) to Strzelecki Gum.

The development footprint sought to widen an existing dirt road intersecting the northern reaches of Luxford Pond at one of three potential locations; Clarks Road, Nursery Track or the unnamed existing road in between these two roads (Figure 2l). Nursery Track was selected as the preferred crossing, as it completely avoids all Strzelecki Gum. A small number of trees located along Golden Gully Road and along drainage lines across the plantation area will also be avoided.

As such, the project will not result in a significant impact to Strzelecki Gum.

#### **3.1 Strzelecki Gum Contingency Protocols**

In the event of incidental findings of Strzelecki Gum during construction works, DWFPL will implement a contingency protocol, which will be included in the Construction Environmental Management Plan (CEMP) (a CEMP Framework is provided as Appendix 1 of this report). This will describe in detail the processes for identifying potential Strzelecki Gums, marking out No Go zones in accordance with advice from a qualified arborist, and how to avoid impacts to any additional trees identified.

## **4 Birds**

#### **4.1 Bird utilisation surveys**

Bird utilisation surveys are the most commonly used method for generating quantitative data on bird use of a potential wind farm site. Bird utilisation surveys were conducted over Winter (4-6 June and 11-13 June 2019) and Spring (2-4 October 2019, 30 and 31 October 2019, 1 November 2019, and 6-8 November 2019) (Ecology and Heritage Partners 2020a).

The bird utilisation surveys were designed to comply with the guidelines described in AusWEA – Wind Farms and Birds: Interim Standards for Risk Assessment (2005). According to these guidelines, bird utilisation surveys are undertaken to ascertain:

- The species composition of birds that use the study area;
- The frequency with which each of those species use the study area;
- The height at which each of these species fly in the study area; and,
- The distribution of these species across the landscape.

Bird utilisation surveys are a minimum requirement for proposed wind farm sites and are used to inform the design of higher-level investigations, if required. The total number of point counts was determined based on both the habitat conditions of the study area and the number of turbines proposed, in addition to any existing data that has already been collected (e.g. detailed significant species data).

#### 4.1.1 *AusWEA Wind Farms and Birds: Interim Standards for Risk Assessment*

The Australian Wind Energy Association (AusWEA 2005) has developed interim standards for risk assessment of birds for wind farm developments in Australia. This document outlines the type of investigations required, the order in which they should be undertaken and a systematic approach for assessing risk of bird impact at wind farms. This process allows for more detailed studies should a potentially significant risk be identified during preliminary studies.

The AusWEA (2005) interim standards recommend three levels of investigations, with each level involving increasing levels of detail. These levels include:

- Level 1 investigations provide an initial assessment of the risk of significant bird impacts from the operation of the proposed wind farm; Level One investigations involve a regional overview, review of existing data, an indicative bird utilisation survey and roaming surveys.
- Level 2 investigations refine the risk assessment from the Level One investigation, using more intensive methods. Level Two investigations involve roaming surveys and risk modelling.
- Level 3 investigations are initiated if the results of the Level Two investigations indicate a greater than low level of residual risk of significant bird impacts from the operation of the proposed wind farm. Level Three investigations involve population assessment and population viability analysis.

For the proposed wind farm development a Level One investigation was undertaken.

#### 4.1.2 *Fixed Point Bird Counts*

Bird point count survey locations were distributed fairly evenly across the study area and capture a representative sample of vegetation and habitat type. Given the majority of the study area is eucalypt and pine forest, most bird point count survey locations are situated in forested areas. This may be a factor in the low number of birds observed in the RSA, with birds predominantly moving between canopy trees at no greater than canopy height.

Zoologists, experienced in bird identification, undertook the fixed-point count surveys to the specifications outlined below. 10 × 42 binoculars were used to identify the bird to species, or for some species, generic level (e.g. non-calling Raven species).

The following was undertaken as part of the fixed-point bird counts:

- Eight locations were established at which to undertake fixed point counts. The locations chosen were to ensure that a range of habitat types were represented in the sample, including two outside of the study area near waterbodies;
- The search radius from the point was at least 100 metres for small birds and up to 800 metres for large birds (e.g. birds of prey, waterbirds), or further, if accurate identification to species level was achievable, using prominent landmarks;
- The duration of each fixed-point count was 20 minutes;
- The height at which each bird flew through the survey area was estimated to the nearest 10 metres;
- The direction of flight of each bird was recorded to the nearest 45 degrees of the compass;
- Each point was surveyed at different times of day (e.g. early morning, late morning, early afternoon and late afternoon) to account for diurnal differences in bird activity; and,

- Each point was surveyed eight times over the course of the survey period.

In addition to bird species recorded during the fixed-point count surveys, incidental observations of bird species were recorded while travelling between point counts and during other field-based activities. Birds seen adjacent to the study area were also recorded. Where suitable habitat for wading birds (principally *Chadriiformes*) and other waterbirds (ducks and herons) was observed, this habitat was surveyed for these species as per the 'Industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species' (DoEE 2017).

Two fixed-point bird counts were taken outside of the study area. Point counts were selected to detect the presence of water-dependent species, including the potential for migratory birds. This approach was also taken to detect 'Species of Concern', including significant species and/or species with specialised habitat requirements (Lumsden et al. 2019).

The significant impact assessment for Swift Parrot *Lathamus discolor*, White-throated Needletail *Hirundapus caudacutus* and migratory shorebirds is provided below and the location of previously documented records of migratory and marine species is shown in Figure 1.

To detect the presence of Wedge-tailed Eagles *Aquila audax* in the study area, searches for nests were undertaken during bird utilisation surveys. All species observed within the Rotor Swept Area were common birds and not listed as threatened on DELWP's Advisory list, or listed under the EPBC Act or FFG Act. No birds recorded during the bird utilisation surveys, or recorded during the detailed field surveys are defined as 'species of interest' as outlined in Lumsden et al. (2019).

No raptors were observed flying in the RSA. However, several raptors species were observed in or near the study area, including Black-shouldered Kite *Elanus axillaris*, Wedge-tailed Eagle and Nankeen Kestrel *Falco cenchroides*. Wedge-tailed Eagles are likely to fly at and above RSA when foraging. Based on the results of the bird utilisation surveys, the proposed wind farm footprint may be located within the territory of at least one pair of Wedge-tailed Eagles.

Large parrots, including Gang Gang Cockatoo *Callocephalon fimbriatum* and Sulphur-crested Cockatoos *Cacatua galerita*, whilst recorded below RSA, may also fly in the RSA as they move daily between roosts and feeding areas. No significant wetlands are present in or near the study area, however some waterbird species recorded during point count surveys – such as White-faced Heron *Egretta novaehollandiae* – may fly in the RSA when moving between habitat areas. The study area was driven extensively and very few waterbirds likely to fly in the RSA were identified flying overhead.

#### 4.2 Collision Risk Assessment

Generally, non-passerine birds such as raptors, wetland/waterbirds and parrots generally have flight characteristics that make them prone to collisions with wind turbines. These species are usually larger, less mobile, occur in flocks (particularly parrots) and forage in more open areas. Some minor changes in local distribution and abundance of these species may be expected as a consequence of ongoing operation of the turbines, and although these impacts are not predicted to be significant, post construction monitoring (as outlined in a Bat and Avifauna Management Plan) will be established to further assess the impact of the project on bird species and populations.

#### 4.2.1 *Migratory shorebird collision risk*

An assessment against the EPBC Act Significant Impact Guidelines for migratory shorebirds has been provided below (Table 5) (DoEE 2017).

Previous avoidance studies at operating wind farms have shown that migratory shorebirds generally demonstrate a high degree of wind turbine avoidance behaviour. An example of directly observed avoidance rates (i.e. observations of birds passing through a wind turbine array, but avoiding collision) at an operating wind farm include:

- 99% - migrating birds, Holland (both diurnal and nocturnal data) (Winkelman 1992a);
- 97.5% - waterfowl and waders, Holland (Winkelman 1992b, 1994); and,
- 87% - waterfowl and waders at night, Holland (Winkelman 1990).

In addition, the calculated avoidance rates (i.e. recorded fatalities compared with measured utilisation rates) at an overseas operating wind farm documented a 99% avoidance rate for waterfowl, waders, cormorants, UK (Percival 2001). This is consistent with other avoidance studies conducted in Australia.

Shorebird migration behaviour has also been described by several authors and the key findings of these studies include:

- Flock sizes during departure typically range from small flocks (less than 10 birds) up to larger flocks comprising hundreds of birds (author pers obs.);
- Observations have shown that birds usually ascend rapidly and steeply, and are often still ascending before lost from sight;
- The use of weather radar technology has revealed that during migration shorebirds typically fly between 0.5 and six kilometres in altitude (Williams *et al.* 1981; Piersma *et al.* 1990; Tulp *et al.* 1994); and,
- During migration shorebirds generally fly in a V-shaped formation called 'echelon' (Piersma *et al.* 1990).

As such, any Latham's Snipe, Common Greenshank and/or Sharp-tailed Sandpiper flights over the study area during migration are expected to be well above the rotor swept area, while any flights (again low numbers of birds) across the study area are likely to be localised between the few wet depressions within the study area and suitable wetlands outside of the study area.

#### 4.2.2 *White-throated Needletail*

White-throated Needletail flight patterns commonly intersect with RSA height. Flocks may fly across the study area during summer, and while the species is known to collide with turbines in Australia, the risk for the species in the study area is low. This is primarily due to their wide distribution and large migrating population in south-eastern Australia. They have high turbine avoidance capability given their flight behaviour and it is highly unlikely that large numbers of birds would fly over the study area on a regular basis. There may be a small number of days a year when the birds may fly across the study area.

#### 4.2.3 *Swift Parrot*

Swift Parrot migrates north from Tasmania through Victoria and into NSW during autumn months, with few sightings of the species south of the Great Dividing Range (Figure 2 and 3). There are two documented records

(1981) of Swift Parrot 5-10 kilometres of the study area (Figure 2). Overall the collision risk to this species is negligible. A significant impact assessment for this species is provided below.

#### 4.2.4 *Fork-tailed Swift*

Fork-tailed Swift *Apus pacificus* is known to fly at RSA height, however there are very few examples of turbine collision for this species. The species' population in Australia is estimated to be over 100,000 individuals (DoEE 2017), and while they have been recorded within 20 kilometres of the study area in the past 10 years, their population size means the risk of turbine collision to the species is very low.

The remaining migratory species are considered to have negligible direct (turbine collision risk) and indirect impacts (e.g. displacement).

## 4.3 Significant Impact Assessments

### 4.3.1 White-throated Needletail

White-throated Needletail is listed as vulnerable and also as a migratory species under the EPBC Act.

White-throated Needletail is a summer migrant, occurring in open spaces above a variety of habitats including ranges, oceans, headlands (Morcombe 2003). The species is found right across eastern and south-eastern Australia, including all coastal regions of Queensland, New South Wales and Victoria and over the Great Dividing Range, and is predominantly aerial (1-1000 metres) while in Australia (DAWE 2019). While the species is widespread, there are no published estimates of the extent of White-throated Needletail occurrence in Australia (DAWE 2019).

**Table 1.** EPBC Act significant impact assessment for White-throated Needletail.

Significant Impact Criteria - will the activity / development:	Feature and Conservation Status
Lead to a long-term decrease in the size of an important population of a species	<p>The population likely to visit the study area does not meet the following criteria:</p> <ul style="list-style-type: none"> <li>• A key source population either for breeding or dispersal;</li> <li>• Population that is necessary for maintaining genetic diversity; or</li> <li>• Population nearing the limit of the species' range.</li> </ul> <p>The species is a northern hemisphere breeding migrant, and has a large distribution across Australia, with a species range extending well beyond the project area. There is little knowledge of the species genetic diversity.</p> <p>White-throated Needletail was not recorded during bird utilisation surveys when the species is known to occur in southern Australia. While it is likely that moderate numbers of birds could conceivably fly over the study area several days a year when the species is in southern Australia (i.e. between November and March), it is not known whether an ecologically significant population would fly over the site.</p> <p>The species flight patterns commonly intersect with Rotor Swept Area height and flocks may fly across the study area during summer. While the species is known to collide with turbines in Australia (Hull 2013; DAWE 2019), the risk for the species in the study area is low due in part due to their wide distribution, the species' highly manoeuvrable flight behaviour which enables birds to avoid turbines (author pers. obs.), and the fact that the species is highly mobile and has the ability to cover large distances in a day. It is also unlikely that birds would fly over the study area for extended periods of time (i.e. only an occasional visitor). This is consistent with the DAWE Conservation advice regarding the assessment of threats to the White-throated Needletail, namely that 'collision with wind turbines is of low severity and affects a small number of birds' (Page 5, DAWE 2019).</p> <p><b>The project footprint is unlikely to support an important population of the species, and therefore will not lead to a long-term decrease in its size.</b></p>
Reduce the area of occupancy of an important population	<p>The project will not result in the reduction in the area of suitable autumn roosting habitat for White-throated Needletail and therefore will not reduce the area of occupancy of the species throughout the species distributional range.</p>
Fragment an existing important population into two or more populations	<p>Given the mobility and dispersive nature of White-throated Needletail, the proposed activity will not restrict access to retained areas of potential habitat in the locality, nor will it fragment an existing population into two or more populations.</p>
Adversely affect habitat critical to the survival of a species	<p>No critical habitat for these species is listed under the EPBC Act, nor is the project footprint critical to the survival of these species. While White-throated Needletail may occupy habitats on an occasional basis there is no important or limiting habitat present within the project area for this species.</p>

Significant Impact Criteria - will the activity / development:	Feature and Conservation Status
<b>Disrupt the breeding cycle of an important population</b>	The species is not reliant on habitat in the project area for breeding purposes. Breeding of the species occurs in the northern hemisphere.
<b>Modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline</b>	<p>No threshold area of habitat loss can be determined for White-throated Needletail due to a lack of data (DoE 2015). However, given the species' large population and widespread distribution along the east coast, no habitat within or adjacent to the project area constitutes important habitat for White-throated Needletail.</p> <p>Although White-throated Needletail is a migratory bird species that is likely to periodically use the project area (high flying species) and project locality for foraging purposes, the project area is not important for the species in that it does not contain:</p> <ul style="list-style-type: none"> <li>• Habitat utilised by a migratory species occasionally or periodically within a region that supports an ecologically significant proportion of the population of the species;</li> <li>• Habitat utilised by a migratory species which is at the limit of the species range; or,</li> <li>• Habitat within an area where the species is declining.</li> </ul>
<b>Result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat</b>	It is not likely that invasive species (such as introduced predators) that are potentially harmful to White-throated Needletail would become further established as a result of the project.
<b>Introduce disease that may cause the species to decline</b>	It is not likely that disease would be increased by the project.
<b>Interfere substantially with the recovery of the species</b>	White-throated Needletail may conceivably fly over the site on occasion, there are few reports of turbine strike to the species in Australia. The project is therefore considered unlikely to interfere substantially with the recovery of the species. This is consistent with the DAWE Conservation advice regarding the assessment of threats to the White-throated Needletail, namely that 'collision with wind turbines is of low severity and affects a small number of birds' (Page 5, DAWE 2019).
<b>Conclusion</b>	The small loss of remnant trees and the very low likelihood of turbine strike (mortality) will not lead to the long-term decrease in the size of the population. The proposed development will not significantly impact White-throated Needletail either directly or indirectly.



#### 4.3.2 Swift Parrot *Lathamus discolor*

Given the lack of high quality foraging habitat for Swift Parrot there is a very low likelihood that the species would regularly occupy habitats within the study area. At best, the species may be a vagrant visitor to the study area and very small numbers of birds may fly over the study area on rare occasions. Based on the Victorian Biodiversity Atlas the species has been recorded on four occasions (most recent record from 1981) within the project locality (i.e. within 2.5 kilometres of the project area). There are no recent records of the species within at least 50 kilometres surrounding the study area (Figure 2). This species breeds in Tasmania from September to April and then migrates to the mainland during April. On mainland Australia, Swift Parrots largely inhabit dry open eucalypt forests and woodlands, especially Box-ironbark Forests (not present within the study area). The species is regularly recorded in urban Melbourne during late autumn and over the winter months feeding on flowering trees (and lerp), particularly planted eucalypts such as Mugga Ironbark *Eucalyptus sideroxylon*, Yellow Gum *Eucalyptus leucoxylon*, River Red-gum *Eucalyptus camaldulensis* and Spotted Gum *Corymbia maculata*.

**Table 2.** EPBC Act significant impact assessment for Swift Parrot.

Significant Impact Criteria - will the activity / development:	Feature and Conservation Status
Lead to long-term decrease in the size of a population	The small loss of remnant trees and any potential impact (highly unlikely) on the species associated with turbine mortality will not lead to the long-term decrease in the size of the population as the project area is not their preferred habitat.
Reduce the area of occupancy of the species	The project will not result in the reduction in the area of suitable over-wintering foraging habitat for Swift Parrot and therefore will not reduce the area of occupancy of the species throughout the species distributional range.
Fragment an existing population into two or more populations	Given the mobility and dispersive nature of these species, the proposed activity will not restrict access to retained areas of potential habitat in the locality, nor will it fragment an existing population into two or more populations.
Adversely affect habitat critical to the survival of a species	No critical habitat for these species is listed under the EPBC Act, nor is the project footprint critical to the survival of these species.
Disrupt the breeding cycle of a population	Swift Parrots breed in Tasmania during spring and summer, migrating to south-eastern Australia during autumn and winter. While Swift Parrots are dependent on flowering resources across a wide range of habitats (woodlands and forests) in its wintering grounds, the proposed wind farm is not considered likely to disrupt their migratory patterns. As such it is not likely to affect their breeding cycle.
Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	In the context of the availability of similar or higher quality habitat across the species' range (i.e. central and north eastern Victoria, and east coast of NSW and SEQ), the proposed removal of forest habitat (including scattered remnant trees) will not cause the Swift Parrot to decline.
Result in a harmful invasive species becoming established in the species' habitat	It is not likely that invasive species (such as introduced predators) that are potentially harmful to Swift Parrot would become further established as a result of the project.
Introduce disease that may cause the species to decline	It is not likely that disease would be increased by the project.

Significant Impact Criteria - will the activity / development:	Feature and Conservation Status
<b>Interfere with the recovery of the species.</b>	The proposed vegetation removal and the presence of operating turbines will not interfere with the recovery of the species as the study area is not located in an area where the species is known to frequent over the winter period. At best, the species may be a vagrant visitor to the study area, where only individual birds or small numbers may periodically forage within the study area on very rare occasions. As such, the project and proposed removal of forested habitats is not expected to interfere with the recovery of either of these species.
<b>Conclusion</b>	The small loss of remnant trees and the very low likelihood of turbine strike (mortality) will not lead to the long-term decrease in the size of the population. The proposed development will not significantly impact Swift Parrot either directly or indirectly.

#### 4.3.3 *Migratory and marine species*

Several EPBC Act-listed migratory species have previously been recorded within a 10 kilometre radius of the project area (Table 4) (Figure 1). Suitable habitat within the project area for EPBC Act migratory species is limited to the very small low-lying areas (drainage lines and creeks) that would be inundated periodically, and the primary migratory species that would use these habitats include Latham's Snipe, while the main areas of suitable habitat for migratory species are several kilometres to the east and south of the study area (i.e. in intertidal areas along the coast and throughout the Gippsland Lakes and Corner Inlet Ramsar sites).

Migratory species listed under the EPBC Act are those protected under international agreements to which Australia is a signatory. These include the Japan Australia Migratory Bird Agreement (JAMBA), the China Australia Migratory Bird Agreement (CAMBA), the Republic of Korea Migratory Bird Agreement (ROKAMBA), and the Bonn Convention on the Conservation of Migratory Species of Wild Animals. Migratory species are considered matters of NES under the EPBC Act.

While migratory bird species may periodically utilise the project area and project locality for foraging purposes, the project area does not constitute 'important habitat' as defined under the EPBC Act Policy Statement 1.1 Matters of National Environmental Significance Significant impact guidelines 1.1 (DoE 2013), in that it does not contain:

- Habitat utilised by a migratory species occasionally or periodically within a region that supports an ecologically significant proportion of the population of the species;
- Habitat utilised by a migratory species which is at the limit of the species range; or,
- Habitat within an area where the species is declining.

In addition, as outlined in DoEE (2017):

'Important habitats in Australia for migratory shorebirds under the EPBC Act include those recognised as nationally or internationally important. The widely accepted and applied approach to identifying internationally important shorebird habitat throughout the world has been through the use of criteria adopted under the Ramsar Convention on Wetlands. According to this approach, wetland habitat should be considered internationally important if it regularly supports:

- 1 per cent of the individuals in a population of one species or subspecies of waterbird OR
- a total abundance of at least 20 000 waterbirds.

Nationally important habitat for migratory shorebirds can be defined using a similar approach to these international criteria, i.e. if it regularly supports:

- 0.1 per cent of the flyway population of a single species of migratory shorebird OR
- 2000 migratory shorebirds OR
- 15 migratory shorebird species'.

Based on the criteria outlined above, no habitat within or adjacent to the project area constitutes important habitat for any migratory species.

#### 4.3.4 *Latham's Snipe*

Given that Latham's Snipe does not commonly aggregate in large flocks or use the same habitats as many other migratory shorebird species, habitat important to this species is not regularly identified by applying the criteria outlined above, and different criteria are applied (DoEE 2017). As outlined in DoEE (2017):

'important habitat for Latham's Snipe is described as areas that have previously been identified as internationally important for the species, or areas that support at least 18 individuals of the species.

It is unlikely that the project area will support more than 18 individuals at any given time and therefore the project area is not likely to contain an ecological important population of Latham's Snipe as defined under the EPBC Act (DoEE 2017). An assessment of potential impact to migratory species against the 'Industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species' (EPBC Act Policy Statement 3.21) (DoEE 2017) is provided below (Table 5).

An assessment of potential impact to migratory species against the Significant Impact Criteria for Listed Migratory Birds (DoEE 2013) is provided below.

**Table 3.** Migratory and marine species recorded or predicted to occur within the project locality (i.e. all land within 20 kilometres of the project area)

Common name	Scientific name	Last record	Treaty <sup>1</sup>	EPBC Act Status
Australian Painted Snipe	<i>Rostratula australis</i>	-	CAMBA	Marine
Black-faced Monarch	<i>Monarcha melanopsis</i>	2006	Bonn (A2H)	Migratory/ Marine
Caspian Tern	<i>Hydroprogne caspia</i>	1978	CAMBA, JAMBA	Migratory/ Marine
Cattle Egret #	<i>Ardea ibis</i>	-	CAMBA, JAMBA	Marine
Clamorous Reed Warbler	<i>Acrocephalus stentoreus</i>	2014	Bonn (A2H)	Marine
Common Greenshank #	<i>Tringa nebularia</i>	-	Bonn, CAMBA, JAMBA, ROKAMBA	Migratory/Marine
Common Sandpiper #	<i>Actitis hypoleucos</i>	-	BONN (A2H), CAMBA, JAMBA, ROKAMBA	Migratory/ Marine
Curlew Sandpiper #	<i>Calidris ferruginea</i>	-	BONN (A2H), CAMBA, JAMBA, ROKAMBA	Migratory/ Marine
Eastern Curlew #	<i>Numenius madagascariensis</i>	-	BONN (A2H), CAMBA, JAMBA, ROKAMBA	Migratory/ Marine
Eastern Great Egret	<i>Ardea modesta</i>	2017	CAMBA, JAMBA	Marine
Fork-tailed Swift	<i>Apus pacificus</i>	2001	CAMBA, JAMBA, ROKAMBA	Migratory/ Marine
Glossy Ibis	<i>Plegadis falcinellus</i>	2019	Bonn (A2H), CAMBA	Marine
Hooded Plover #	<i>Thinornis rubricollis</i>	-	BONN	Migratory/ Marine
Latham's Snipe	<i>Gallinago hardwickii</i>	2014	BONN (A2H), CAMBA, JAMBA, ROKAMBA	Migratory/ Marine
Osprey #	<i>Pandion haliaetus</i>	-	BONN (A2H)	Migratory/ Marine
Lewin's Rail	<i>Lewinia pectoralis pectoralis</i>	2010	-	Migratory/ Marine
Pectoral Sandpiper #	<i>Calidris melanotos</i>	-	Bonn, JAMBA, ROKAMBA	Migratory/ Marine
Rainbow Bee-eater	<i>Merops ornatus</i>	1978	JAMBA	Migratory
Regent Honeyeater	<i>Anthochaera phrygia</i>	1970	-	Migratory
Rufous Fantail	<i>Rhipidura rufifrons</i>	2015	Bonn (A2H)	Migratory/ Marine

Common name	Scientific name	Last record	Treaty <sup>1</sup>	EPBC Act Status
Satin Flycatcher	<i>Myiagra cyanoleuca</i>	2015	Bonn (A2H)	Migratory/ Marine
Sharp-tailed Sandpiper	<i>Calidris acuminata</i>	2009	BONN (A2H), CAMBA, JAMBA, ROKAMBA	Migratory/ Marine
Swift Parrot	<i>Lathamus discolor</i>	1980	-	Marine
White-bellied Sea-eagle	<i>Haliaeetus leucogaster</i>	2014	CAMBA	Marine
White-throated Needletail	<i>Hirundapus caudacutus</i>	2007	CAMBA, JAMBA, ROKAMBA	Migratory/ Marine
Yellow Wagtail #	<i>Motacilla flava</i>	-	CAMBA, JAMBA, ROKAMBA	Migratory/ Marine

**Notes:**

1) Bonn: Convention on the Conservation of Migratory Species of Wild Animals, CAMBA: China-Australia Migratory Bird Agreement, JAMBA: Japan-Australia Migratory Bird Agreement, ROKAMBA: Republic of Korea-Australia Migratory Bird Agreement. # - Species only nominated by the EPBC Act PMST.

**Table 4.** EPBC Act significant impact assessment for migratory and marine species.

Significant Impact Criteria - will the activity / development:	Migratory Species
<p>Substantially modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species</p>	<p>Given the sub-optimal nature of habitat within the study area (i.e. absence of important inter-tidal mudflats and large wetlands that are known to be used regularly by migratory species), and the fact that a large proportion of species' populations are principally restricted to the Victorian coastline and marine habitats (e.g. Corner Inlet and Gippsland Lakes Ramsar wetlands / sites) when in Victoria, it is considered, at best, that small to numbers of migratory species could occasionally use habitats within the study area on rare occasions.</p> <p>While a small number of migratory species (primarily Latham's Snipe) may occupy wetland habitats within the project area on rare occasions, the project study area would not support an ecologically important migratory species population. The proposed wind farm will not modify (including by fragmenting, altering fire regimes, altering nutrient cycles or altering hydrological cycles), destroy or isolate an area of important habitat for a migratory species.</p>
<p>Result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species</p>	<p>The proposed development will not result in an invasive species that is harmful to the migratory species becoming established in an area of important habitat for the migratory species. Wetland habitat (waterways and farm dams) within the Project Area provide marginal habitat for Latham's Snipe. All other migratory shorebirds that have been recorded from the locality (within 10 kilometres surrounding the project area) would primarily reside in high quality habitat throughout the Gippsland Lakes (i.e. not within the study area).</p>
<p>Seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species</p>	<p>As outlined above, given the low quality habitat for migratory species and the fact that only small numbers of individuals may temporarily reside within the study area (i.e. not support an ecological significant proportion of any migratory species population), the proposed development will not seriously disrupt the lifecycle (breeding, feeding, migration or resting behaviour) of an ecologically significant proportion of the population of a migratory species.</p>
<p>Conclusion</p>	<p>While a small number of migratory and marine species may occupy habitats within the study area on rare occasions, the study area and areas surrounding it do not contain marine or large freshwater habitat where large numbers of migratory or marine species would congregate. Furthermore, the study area does not provide habitat for an ecologically significant proportion of any migratory species.</p> <p>Based on the significant impact thresholds on migratory species as outlined in DoEE (2017), the project will not impact an '<i>important habitat</i>' for a migratory species. The removal of potential marginal habitat within the project area will not significantly impact any migratory or marine species.</p> <p>The likely impact of the proposed Delburn Wind Farm on migratory and marine species as a result of turbine collision and loss of habitat is expected to be negligible due to the low numbers of birds predicted to fly over the study area, the lack of important wetland habitat, and the high avoidance rates of migratory shorebirds and waterbirds observed at other sites.</p> <p>Bird monitoring is likely to be undertaken prior to and during the operational stages of the wind farm and this is likely to be a requirement of the planning permit condition.</p>

## 5 Growling Grass Frog

### 5.1 Survey locations and methods for Growling Grass Frog

All areas of suitable and potentially suitable habitat across the study area (including at locations where disturbance is proposed) were surveyed. A habitat assessment at drainage lines and free-standing waterbodies (e.g. dams) was undertaken across the entire study area to determine the presence, or otherwise, of potentially suitable habitat (breeding and terrestrial habitat) for Growling Grass Frog. After these habitat assessments were completed targeted surveys (diurnal and nocturnal surveys) were undertaken at or in the vicinity of all potentially suitable habitats across the study area (e.g. Luxford Pond, the drainage line along Clarks Road, and along a section of Stony Creek in the southern portion of the study area), and in areas directly adjacent to the study area (Figure 4).

Targeted diurnal (auditory surveys) and spotlight surveys were conducted between 2 and 4 October 2019 with a large chorus of over 10 Growling Grass Frog heard on 2 October 2019 at Luxford Pond (Figure 2l, in Ecology and Heritage Partners 2020b). Additionally, Growling Grass Frog was recorded where Clark's Road intersects Silver Creek, approximately 1.2 kilometres north of Luxford Pond (Figure 2l). Growling Grass Frog was also recorded on 4 October 2019 approximately one kilometre east of Ten Mile Creek Road and 700 metres south of Strzelecki Highway, situated where the wetland and waterway intersect with the forestry access track (Figure 2o). All targeted survey sites are shown in Figure 4.

Based on the detailed targeted surveys and the fact that no important or limiting habitat for this vulnerable species will be directly or indirectly impacted by the proposed development the project will not trigger the significant impact thresholds for this species.

The survey was conducted with reference to the prescribed methods detailed in the following guidelines:

- Significant Impact Guidelines for the Vulnerable Growling Grass Frog (*Litoria raniformis*) EPBC Act Policy Statement 3.14 (DEWHA 2009); and
- Commonwealth Survey Guidelines for Australia's Threatened Frogs (DEWHA 2010).

Survey methodology is outlined below:

- Nocturnal surveys (spotlighting, active searching, call play-back) was undertaken by two qualified zoologists visiting each site on three occasions, targeting both adults and metamorphs;
- Nocturnal surveys were conducted on still nights when air temperatures were above 15°C, and within 24 hours of rain;
- An initial period of five minutes was spent recording any calling frogs (all species) in and adjacent to wetlands;
- The advertisement call was broadcast to elicit a response from any adult males present;
- Experienced personnel used "Olight" LED hand-held spotlights (up to 1020 lumens/8.4 volts) to locate any calling males on floating vegetation in the waterbody and around the perimeter of wetlands; and,
- Surveyors actively searched ground-level habitat including surface rocks, underneath hard litter, and at the base of vegetation for frogs.

There is no suitable breeding habitat for the species along the shallow and ephemeral drainage lines across the study area, with the majority of the areas intersected for the proposed development either dry or containing water not suitable for Growling Grass Frog to breed (e.g. primarily flanked and shaded by an overstorey or tall trees and shrubs) (Plates 1-4). Small numbers of frogs may traverse the study area on occasions within 200-500 metres of open waterbodies (dams) where the species was detected during the targeted surveys.

Surveys were undertaken across the study area (Figure 4):

- Site 1: Located along Buckleys Track. Outside of the study area. Potentially suitable habitat in the form of artificial waterbodies (farm dams). Call playback and quiet listening was undertaken at this location given the presence of potentially suitable wetland habitat to the north, north east and north west.
- Site 2: Internal forestry track outside of the study area. Call playback, quiet listening and active searching was undertaken at this location given the presence of potentially suitable wetland habitat along the drainage line.
- Site 3: Located along Sayers Track. No suitable habitat present (forest habitat). Call playback and quiet listening was undertaken at this location given the presence of potentially suitable wetland habitat to the north.
- Site 4: Internal forestry track. Call playback, quiet listening and active searching was undertaken at this location given the presence of potentially suitable wetland habitat along the drainage line.
- Site 5 and 6: Located along McDonalds Track. No suitable habitat present (plantation habitat to the south). Call playback and quiet listening was undertaken at this location given the presence of potentially suitable wetland habitat to the north west of the survey location.
- Site 7. Internal forestry track. No suitable habitat present (forest habitat). Call playback and quiet listening was undertaken at this location given the presence of potentially suitable wetland habitat to the north west of the survey location.
- Site 8: Located along Golden Gully Road. Call playback and quiet listening was undertaken at this location given the presence of potentially suitable wetland habitat to the south of this location (i.e. along Wilderness Creek).
- Site 9: Located along a drainage line that runs off the Morwell River, located outside of the study area. Call playback, quiet listening and active searching was undertaken at this location given the presence of potentially suitable wetland habitat to the east and west. There is moderate quality habitat for Growling Grass Frog in the form or large dams along the drainage line at this location.
- Site 10: Morwell River located outside of the study area. Call playback, quiet listening and active searching was undertaken at this location given the presence of potentially suitable wetland habitat along the River. There is moderate to high quality habitat for Growling Grass Frog along sections of the River.
- Site 11: Internal forestry track directly outside of the study area, north of Birds Gully Road. Call playback, quiet listening and active searching was undertaken at this location given the presence of potentially suitable wetland habitat along Wilderness Creek. There is moderate quality habitat for Growling Grass Frog in the form or large dams along the drainage line at this location.



- Site 12: Ten Mile Creek Road. No suitable habitat present (plantation and forest habitat to the north and south). Call playback and quiet listening was undertaken at this location given the presence of potentially suitable wetland habitat to the east, north east and west of the survey location.
- Site 13: Creek section that crosses under Clarks Road, slow flowing high quality water, high percentage of floating and aquatic vegetation. Growling Grass Frog recorded at this location.
- Site 14: Drainage line that crosses under Clarks Road. Suitable habitat present at this location in the form of a small waterbody (moderate to high percentage cover of emergent macrophytes). Call playback and active searching was undertaken at this location where Growling Grass Frog was detected.
- Site 15: Nursery Track where the track crosses the drainage line. Luxford Pond located directly to the south of this location. Luxford Pond is a large open permanent waterbody, with high percentage cover of aquatic vegetation (reeds), and good water quality. A large number of Growling Grass Frogs were heard calling at this location and the species has previously been recorded at the site.
- Sites 16 and 17: Located along the Strzelecki Highway. Although there is no suitable habitat at these locations call playback and quiet listening was undertaken given the presence of potentially suitable habitat to the north and west of Site 16 and potential habitat to the south east of Site 17.
- Sites 18, 19 and 20: along Stony Creek within the study area. Growling Grass Frog detected at a small waterbody to along the drainage line to the west of the internal forestry track. Sites 18 and 19 are along a low-lying drainage line that may be inundated periodically. Overgrown with riparian vegetation. Although there is no suitable breeding habitat at Sites 18 and 19, call playback and quiet listening was undertaken at these locations.
- Site 21: Off Ten Mile Creek Road, located on the edge of the study area. Call playback and quiet listening was undertaken at this location given the presence of potentially suitable wetland to the north and north west of the survey location.
- Site 22, 23 and 24: Low-lying areas along Stony Creek. No large open water suitable for breeding. Call playback and quiet listening was undertaken at these locations given.
- Site 25: Darlimurla Road where the track crosses the drainage line. A small wetland is present to the south of the access track. Call playback and quiet listening was undertaken at this location given the presence of potentially suitable wetland habitat to the south of the track.
- Site 26: Internal forestry track. A small wetland is present to the south of the access track. Call playback and quiet listening was undertaken at this location given the presence of potentially suitable wetland habitat to the south.



**Plate 1:** The area mapped as wetland on the southern side of Ten Mile Creek Road.



**Plate 2:** Areas mapped as waterways crossing Ten Mile Creek Road.



**Plate 3:** Mapped drainage lines in pine plantation in the central area of the project site.





**Plate 4:** Mapped drainage lines in the north of the project area (near Golden Gully Road).

## 5.2 Potential Impacts and Mitigation Measures

Principle threats to the Growling Grass Frog include habitat loss, degradation and modification, fragmentation and isolation of populations, and introduced predators and disease. Given that the species is known to disperse widely and their populations are structured according to source-sink (and probably metapopulation) dynamics, populations are particularly vulnerable to changes in the landscape. Occupied waterbodies are generally distributed into clusters, within 200 metres of another occupied waterbody, and most movement occurred between adjacent waterbodies. However, given that Growling Grass Frog is confined to a small number of discrete areas, potential impacts can be avoided and mitigated against during construction and operational phases of the project.

Consideration will be given to the potential threats, both direct and indirect, impact thresholds and potential mitigation measures to ensure that the project does not significantly impact Growling Grass Frog populations. Careful selection of siting for the watercourse crossings required has been conducted to occur away from both known/surveyed populations of Growling Grass Frog on site to minimise the potential for direct impacts, except for the road widening at Nursery Track where there is proposed to be localised disturbance that will be managed. The infrastructure layout avoids all known and potential Growling Grass Frog breeding habitat. This has been achieved by altering the development footprint to avoid road crossings that are in close proximity to Growling Grass Frog habitat.

Although Nursery Track crosses the creek and the northern reaches of the Luxford Pond wetland, the expansion of the existing gravel forestry road is not likely to impact (either directly or indirectly) the resident population of Growling Grass Frogs present to the south of the crossing location (see Plates 5-9). Strict protocols will be adhered to during construction as outlines in the CEMP Framework (Appendix 1) to ensure that the road widening does not impact Growling Grass Frog. The development footprint also includes the widening of the dirt road to the east of wetland Site E, however, the proposed road widening will not directly or indirectly impact the wetland. Where the proposed wind farm will involve the upgrade of existing forestry tracks, no-go zones and exclusion fencing will be installed at required locations. After the wind farm access roads are constructed,

individual Growling Grass Frogs will continue to move across roads between sites (i.e. maintenance of habitat permeability / no barriers to dispersal), where there is expected to be a low mortality risk to the species associated with roadkill (i.e. there will be minimum vehicular activity at night).

The following protection measures, to reduce further potential impacts on Growling Grass Frog, will be adopted where relevant:

- No permanent loss or degradation of terrestrial or riparian vegetation outside the proposed disturbance footprint as a result of creek crossing. Sediment transportation to creeks will be prevented or reduced through the construction of swales, silt-fences, and/or sediment ponds.
- Access tracks have been located along ridges where possible and follow existing forestry tracks to reduce the need for any new side cuts and reduce erosion.
- Adequate drainage will be provided along access tracks to prevent water runoff into waterbodies (i.e. either in dams, creeks and drainage lines).
- Temporary earthworks will be situated away from flow paths and gullies.
- Best practice sedimentation and pollution control will be implemented at all times.
- Where appropriate, vehicle and machine access, wash down and set down, and excavation material stockpiling will be limited to the areas specifically designated for these activities. These areas will be appropriated bunded and fenced off to avoid any runoff, sediment, pollutants etc. entering adjacent vegetation and habitats.
- There will be continued connectivity of habitat on either side of the creek crossings (via the provision of culverts to allow for safe movement under the road surface), thus maintaining connection between breeding sites. Frogs may also cross the road during suitable weather conditions.

Declines in amphibian populations throughout the world have been attributed to the water borne fungal pathogen *Batrachochytrium* (Chytrid fungus) causing the disease Chytridiomycosis. The incidence of Chytrid fungus in a population of Growling Grass Frog may limit the ability for the species to persist at a given site in the future given that disease is likely to cause some mortality of individual frogs. In the vicinity of known and likely sites where the species has been recorded (see Figure 4), strict hygiene measures will be implemented in accordance with the Construction Environmental Management Plan, including preventing the introduction and spread of Chytrid (see Section of the CEMP Framework provided in Appendix 1).

The proposed development has the potential to result in uncontrolled runoff into drainage lines and other waterbodies that are known to or that may provide suitable habitat for the species, which may potentially result in high water turbidity and water pollution. However, as outlined above measures to protect aquatic habitats will be undertaken during the construction and operation of the project.





**Plate 5:** Nursery Creek track proposed widening at creek crossing, looking east.



**Plate 6:** Nursery Creek road widening location, looking west.



**Plate 7:** Nursery Creek roadside verge, northern side.



**Plate 8:** Nursery Creek, roadside verge, southern side.



**Plate 9:** Indicative riparian vegetation and waterway at proposed Nursery Creek crossing site.

### 5.3 Indicative CEMP sections addressing Matters of National Environmental Significance

Except for the road widening at Nursery Track (Figure 2l in Ecology and Heritage Partners Pty Ltd 2019) where there is proposed to be localised disturbance that will be managed, the infrastructure layout (Layout v2.2) avoids all known and potential Growling Grass Frog habitat. This has been achieved by altering the development footprint to avoid road crossings that are in close proximity to Growling Grass Frog habitat. The development footprint sought to widen an existing dirt road intersecting the northern reaches of Luxford Pond at one of three potential locations; Clarks Road, Nursery Track or the unnamed existing road in between these two roads (Figure 2l). Nursery Track was selected as the preferred crossing, as it completely avoids all Strzelecki Gum. Although Nursery Track crosses the creek at the northern reaches of the Luxford Pond wetland, the expansion of the existing dirt road is not likely to impact the resident population of Growling Grass Frogs. The development footprint also includes the widening of the dirt road to the east of wetland Site E (Figure 2o), although the proposed road widening will not directly impact the wetland.

In relation to areas where the impact area intersects with a waterway, the following management actions apply:

#### Pre-construction

##### Environmental Site Induction:

- All construction staff on site (i.e. the area of construction) will be made aware of the CEMP and their responsibilities regarding environmental management. As such, all staff will attend an environmental site induction, which will inform contractors of the requirements of the CEMP. All main contractors undertaking construction works will be provided with a copy of the CEMP prior to commencement of works. The main contractors must issue sub-contractors with a copy of the document prior to commencement of works to allow time to become familiar with the document and guidelines/procedures.
- Following the induction, all persons working on site are required to sign the induction form and a log will be kept of all staff that have completed the environmental site induction. All construction personnel will hold appropriate competencies/ qualifications for their intended role. A summary of actions and timings of the induction will be provided.

The induction will include the following:

- Information about the environmental values present within and surrounding the Site;
- A site plan will be provided for viewing in order to become informed on environmental values;
- The legislative context of the development;
- The key objectives and measures outlined in the CEMP;
- The duty of care of all persons to: protect the environmental values within and surrounding the Site; ensure that their actions are in accordance with the relevant environmental legislations and policies, and the CEMP; and report any faults, issues or actions with the potential (even if remote) to impact upon the environment;
- The hierarchy of environmental responsibility and the lines of reporting;
- The reprimand and penalties of non-compliance;

- The requirement for all persons inducted to sign a log book of induction.
- A log is to be kept of all staff that have completed the environmental site induction.
- All site changes that affect environmental protection, whether they are a directly or indirectly as a result of development will be logged at each toolbox meeting.

#### Remnant Native Vegetation Protection:

The implementation of all measures to protect native vegetation, as well as any incident impacting on flora must be logged in a Logbook by the Head Contractor's Project Manager. The logbook must be made available for inspection by the Responsible Authority at all times.

Vegetation to be retained will be clearly marked (including all Strzelecki Gum adjacent to the development footprint) and identifiable on site in order to reduce the likelihood of areas scheduled for retention being disturbed. Vegetation to be retained onsite will be protected with vegetation protection fencing and clearly identified as No-Go Zones. These areas will be appropriately bunded and fenced off to avoid any runoff, sediment, pollutants etc. entering adjacent vegetation and habitats. Bunding and fencing will be in accordance with all relevant guidelines (AS 4970-2009, Australian Standard: Protection of trees on development sites) and will be undertaken by the relevant the sub-contractor prior to the commencement of works.

Vegetation protection fencing will be installed at the interface of the development and the corridor of retained vegetation. Weatherproof signs will be installed along the fences, stating "No go zone – area of environmental significance.

The following measures relating to fencing and No-Go Zones will be implemented in areas of ecological value / sensitivity (e.g. known locations of Strzelecki Gum, Growling Grass Frog):

- No works are to take place within No-Go Zone and fences are not to be moved during the entire construction period and will not be removed until all works have been completed to the satisfaction of Responsible Authority;
- No machinery or construction equipment, waste, storage materials or unauthorised personnel are permitted within established No-Go Zones;
- Specific areas designated for vehicle re-fuelling and maintenance, dumping of waste and storage of materials and equipment will be located outside the No-Go Zones. In addition, no entry or exit pits for underground services are permitted within the No-Go Zones;
- Measures and protocols for protecting remnant vegetation will be covered during the environmental site inductions;
- Temporary signage will be installed along the perimeters of the No-Go Zone. All signage will be maintained until construction works are complete or until replaced by permanent fencing. Signage will be installed in order to:
  - Highlight the area as an ecologically sensitive area;
  - Prevent accidental entry by construction personnel; and,



- Prevent vegetation trampling, rock disturbance and rubbish ingress by construction workers during the construction phase.

#### During Construction

The project Head Contractor's Project Manager will undertake monthly routine inspections of the temporary fencing and signage and will organise any required maintenance ensuring that it is carried out in a timely manner and to a satisfactory standard.

Any accidental damage to the fencing or to the retained vegetation during construction will be reported to the Head Contractor's Project Manager immediately, who will assess the extent of damage and effect the required corrective actions and reporting (including, informing the Responsible Authority if any vegetation is damaged). All incidents will be recorded in a logbook, with the logbook available for inspection at all times by the Responsible Authority.

Vehicle and machine access, wash down and set down, and excavation material stockpiling will be limited to the areas specifically designated for these activities. These areas will be appropriated bunded and fenced off to avoid any runoff, sediment, pollutants etc. entering adjacent vegetation and habitats.

#### Monitoring and reporting

The implementation of all measures to protect native vegetation, as well as any incident impacting on flora must be logged in a Logbook by the Head Contractor's Project Manager. The logbook must be made available for inspection by the Responsible Authority at all times.

## **6 Location of Underground Cabling**

All cabling is proposed to be located within the infrastructure layout (refer to attached DWF\_OVR\_018\_02.2 Site Plan\_Revised Design) (Figure 5) and the project impacts have been assessed to take into consideration the location of underground cabling. It should be noted that underground cabling routes have been modified throughout the design revisions to avoid any impacts on Strzelecki Gum. The proposed cable crossing at Nursery Track will be removed from the project design and alternative routes will be selected in final design to avoid any Growling Grass Frog habitat.

The current project impact assessments assume that underground cabling is installed by open trenching or direct bury construction methods, which is conservative with respect to impacts on flora and fauna. Installation of cabling by direct drilling, particularly when crossing sensitive waterways and other habitat, and major roadways, may further avoid or minimise impacts on sensitive habitats.

## **7 Decommissioning Plan**

At the end of the operational life of the Project, the wind farm and the battery storage facility will either be decommissioned or upgraded with new turbines and/or ancillary infrastructure. Upgrading (or repowering) the Project will extend the operational period of the Project. At the end of any element of infrastructure's useful operating life, key decommissioning activities will include:

- Removal of all above ground non-operational equipment;
- Removal and clean up any residual contamination; and



- Rehabilitation of all storage areas, construction areas, access tracks and other areas affected by the decommissioning of the turbines (if those areas are not otherwise useful to the ongoing use of the land or decommissioning of the wind farm).

The Project will comply with any relevant requirements for decommissioning as prescribed under any planning approval or subsequent permit or licence.

The proponent has agreed with the landowner in the site Lease that a decommissioning bond is to be provided at least 4 years before the end of the useful operating life of the Project to ensure that any costs of decommissioning any of the assets are financially covered and the decommissioning activities can be completed.

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