

Biodiversity – Bird & Bat Fact Sheet



Why was the assessment undertaken?

Site selection, rotor swept area (RSA), ground clearance to the lower blade tip, maximum blade tip height and turbine layout have the potential to impact the level of risk of blade strike for birds and bats.

A Bird and Bat Strike Risk Assessment (Risk Assessment) was prepared by Umwelt Pty Ltd to assess the potential bird and bat strike impact risks associated with the following key changes to the approved wind farm layout and design proposed by the Modified Project:



Increase in maximum blade tip height to 250 metres (m) above ground level (AGL) (increase of 85 m)



Decrease in maximum number of turbines to 223 (removal of 44 wind turbines)



Increase in the rotor swept area (RSA) to 34,636 m² based on an assumed rotor diameter of 210 m (increase of 21,363 m², based on an assumed rotor diameter of 130 m)



Revised turbine layout



What was the approach?

The Bird and Bat Strike Risk Assessment was prepared for the Modified Project and considered the relevant conditions of Development Consent SSD 6696 that was granted for the Approved Project, as well as the following relevant guidelines, legislation, and documentation:

- Biodiversity Assessment Method (NSW Office of Environment and Heritage, 2017)
- Biodiversity Conservation Act 2016 (BC Act)
- Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act)
- Various peer-reviewed research published in recognised academic journals and from respected research centres such as the Arthur Rylah Institute, Victoria

Birds and bats are at most risk of collision with a wind turbine if they fly within the path of a moving blade, which is also known as the rotor swept area (RSA).

To assess a conservative worst-case impact scenario for the Modified Project, the Risk Assessment assumed a rotor diameter of 210 m and maximum blade tip height of 250 m, resulting in a ground to lower tip height clearance of 40 m. The original risk assessment undertaken by NGH Pty Ltd in 2014/2017 for the Approved Project assessed potential impacts to those bird and bat species that were either recorded or known to fly between 40 m and 165 m above the ground.

The Risk Assessment prepared for the Modified Project was informed by bird and bat utilisation surveys that were undertaken between 2012 and 2020 to understand which bird and bat species forage and/or breed in and around the Project site and to record their flight behaviour, such as observed flying heights and use of preferred habitat.

The Risk Assessment focused on a total of 12 species, comprising the following:

- 11 threatened species (nine bird and two bat species)
- one (1) non-threatened bird species (wedge-tailed eagle)

A total of 12 species were assessed as part of the Risk Assessment which were selected based on them being recorded at the Project site, knowledge of them occurring in the region but not necessarily recorded at the Project site, or occurrence of highly suitable habitat for the species.

For each of the 12 species considered, the Risk Assessment produced an overall **blade strike impact risk rating** of Low, Moderate, or High based on a detailed consideration of the following:

- the **likelihood** of blade strike impact considering the frequency of flights within RSA heights as well as the species' conservation status and frequency of occurrence at the Project site; and
- the **consequence** of blade strike impact using a range of measures associated with population ecology, abundance and conservation status.



Photo: a Powerful owl

What did we find and how does it compare to the approved project?

The Risk Assessment identified an overall impact rating of High for six (6) of the 12 bird/bat species assessed, and Moderate for the remaining six (6) species (see table below). The overall risk rating for each of the 12 species is primarily based on their relative abundance in/around the Project site, their predicted or observed flight behaviour in the Project Area and/or their known susceptibility to blade strike at wind farms in south-east Australia.

Common Name	Project Record	Latin Name	Conservation Status (BC Act and EPBC Act) *
Barking owl	Not recorded	<i>Ninox connivens</i>	V – BC Act
Large bent-winged bat	Recorded	<i>Miniopterus orianae oceanensis</i>	V – BC Act
Powerful owl	Recorded	<i>Ninox stenua</i>	V – BC Act
Regent honeyeater	Not recorded	<i>Anthochaera phrygia</i>	CE – EPBC Act CE – BC Act
Swift Parrot	Not recorded	<i>Lathamus discolor</i>	CE – EPBC Act E – BC Act
White-throated needletail	Not recorded	<i>Hirundapus caudacutus</i>	V and M – EPBC Act
Black-chinned honeyeater	Recorded	<i>Melithreptus gularis</i>	V – BC Act
Corben's long-eared bat	Recorded	<i>Nyctophilus corbeni</i>	V – EPBC Act V – BC Act
Dusky woodswallow	Recorded	<i>Artamus cyanopterus</i>	V – BC Act
Painted honeyeater	Recorded	<i>Grantiella picta</i>	V – EPBC Act V – BC Act
Superb parrot	Not recorded	<i>Polytelis swainsonii</i>	V – EPBC Act V – BC Act
Wedge-tailed eagle	Recorded	<i>Aquila audax</i>	Not listed

* Note: V= Vulnerable / M= Migratory / E=Endangered / CE=Critically Endangered

Due to the increase in RSA and maximum blade tip height proposed by the Modified Project several high-flying bird and bat species are likely to be placed at greater risk of blade strike than the risk associated with the Approved Project.

The risk rating for powerful owl, barking owl and large bent-wing bat reflect the likelihood of those species occurring in the Modified Project, their population sizes and potential to fly within the RSA. The overall risk rating of High for swift parrot and regent honeyeater reflect the very small remaining population sizes, coupled with each species' migratory nature and habitat fragmentation. The overall risk rating of High for white-throated needletail largely reflects the High likelihood of collision of birds in the Project Area given their known susceptibility to blade strike at other wind farms in Australia.

The Risk Assessment found that the Modified Project has the potential to increase the risk of blade strike or have adverse impact on species listed under the BC Act or EPBC Act.

What are the proposed mitigation strategies?

To manage the potential impacts to relevant bird and bat species, Tilt Renewables will prepare a Bird and Bat Adaptive Management Plan (BBAMP) in accordance with the Development Consent which will ensure that:

- Regular monitoring occurs throughout the operational phase of the Project
- All bird/bat blade strikes are recorded and appropriately investigated
- Relevant authorities are notified wherever required
- Trigger levels are specified for adaptive management measures to be implemented to reduce the risk of bird/bat strike. Adaptive management measures may include a range of strategies such as increasing the turbine cut-in speed or curtailing turbine movement at particular times of the year when bird/bat activity is highest.

The BBAMP will be updated periodically to ensure that the latest knowledge of bird/bat populations, flight and avoidance behaviour, and the relevant species' conservation status is incorporated, and the most effective adaptive management measures and compensation measures are implemented throughout the operational life of the Project.

Assessment against Development Consent

The Modified Project can comply with the existing conditions of the Development Consent relating to bird and bat blade strike risk, in particular:

- Preparation of a BBAMP prior to commissioning of turbines for approval by the Secretary of the DPIE.

GOODS AND SERVICES REGISTER

To register interest in providing goods or services for the Project, please visit www.liverpoolrangewindfarm.com.au and complete the linked form under the Employment section.



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For more information, please visit the website below

or call us anytime to ask questions using: **1800 WE TILT (938 458)**

Email: liverpoolrangewindfarm@tiltrenewables.com | Web: www.liverpoolrangewindfarm.com.au

Postal Address: PO Box 16080 Collins St West, Melbourne Vic 8007