



DELWP is improving the regulation of wind farm impacts on birds and bats.

The aim is to ensure species at potential risk are protected by regulations that are clear, proportionate and effective.

Wind energy in Victoria

The Victorian Government is committed to growing the renewable energy sector, recognising that renewable energy can reduce greenhouse gas emissions, create jobs and provide a sustainable supply of energy.

The Government has recently committed to an increased Victoria's Renewable Energy Target (VRET) of 50 per cent by 2030. This and other factors are driving the continued development of Wind Energy Facilities in Victoria.

Protecting species at potential risk from collision impacts

Birds and bats are known to collide with wind turbines. The Department of Environment, Land, Water and Planning (DELWP's) regulatory objective is to ensure that deaths from wind turbines do not result in any bird and bat species becoming more threatened at the state-wide population level.

Research by DELWP's Arthur Rylah Institute (ARI) has increased our understanding of the species at potential risk from turbine collisions. However, there remains much to learn about the degree to which these collisions impact species' populations. Further research is underway to increase scientific understanding, due to be delivered in mid-2020.

DELWP is developing assessment and mitigation guidelines for bird and bat species that are at potential risk to the impacts of wind turbine collisions at the state-wide population level. Development of guidelines are being prioritised for Brolga, Southern Bent-wing Bat, Red-tailed Black Cockatoo, Black Falcon and White-bellied Sea Eagle. These species were identified as having a high probability of being of 'concern/extreme concern' from the impacts of wind turbine collisions, through an expert elicitation and modelling process led by ARI and are being prioritised because their key distribution overlaps with the location of Wind Energy Facilities throughout Victoria.

Developing risk assessment and mitigation guidelines

DELWP is developing risk assessment and mitigation guidelines for the five species above.

The guidelines will outline how to assess risk to these species as part of a Wind Energy Facility permit application, including desktop assessment and survey standards. The guidelines will also include mitigation measures that must be applied to manage risks and protect each species from wind turbine collision impacts.

A key component of this work is a review of the '*Interim Guidelines for the Assessment, Avoidance and Offsetting of Potential Wind Farm Impact on the Victorian Brolga population*'. The review is being informed by a recently completed Brolga Research PhD project and a Technical Reference Group of experts is also providing scientific advice to DELWP to inform the review. There will be opportunity for the industry and community to provide feedback on the draft guidelines prior to their finalisation.



Releasing wind turbine collision mortality data

Wind Energy Facility operators are currently required to monitor bird and bat mortalities through permit conditions.

The available mortality data has been collated and analysed by ARI, and DELWP is sharing this information with the industry and community.

The data is from 15 Victorian Wind Energy Facilities, collected between 2003 and 2018.

A total of 1011 birds and bats were found dead at a subsample of turbines at Wind Energy Facilities during this period, including 13 bat species and 58 bird species. The report estimates a collision rate of between 0.1 to 6.2 deaths per turbine per year of operation for each species.

The highest number of recorded mortalities was for the White-striped Freetail Bat (296 records), followed by the Australian Magpie (115 records), and Wedge-tailed Eagle (58 records).

The data includes records for threatened species listed under the *Flora and Fauna Guarantee Act 1988* and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*, including:

- Eight Southern Bent-wing Bats (critically endangered under the EPBC Act)
- One Black Falcon (threatened under the FFG Act)
- One White-bellied Sea Eagle (threatened under the FFG Act)
- Five White-throated Needletails (threatened under the FFG Act)

These figures represent a subset of the actual number of mortalities, as not all individuals killed will be present or found during the mortality events. The report found that data collected by Victorian Wind Energy Facilities has not been collected rigorously enough to enable confident estimates of total collision mortalities at most wind farms.

DELWP is currently reviewing the mortality monitoring requirement based on these findings.

Improving scientific understanding about collision impacts

Further research is currently underway by ARI to improve scientific understanding of the impacts of wind turbine collisions on populations of bird and bat species. This research will help to ensure the regulations are based on the best available science.

The research will focus on species that are of potential conservation concern from the impacts of wind turbine collisions, building on the expert elicitation process findings (see above).

Population Viability Analysis (PVA) models are being developed through this research. PVA models combine information on population dynamics to predict population trends of a species over the long-term. The models can be used to estimate the effect of wind turbine collision mortality on the population of a species.

The PVA models will provide better scientific understanding of the population impacts of wind turbine collisions, relative to other threats to the species. The findings of this research will be delivered in mid-2020.

As scientific understanding grows, the regulations will be reviewed to ensure impacts of wind turbine collisions are being regulated in a clear, proportionate and effective way.