

Bodangora Wind Farm

Bird and Bat Adaptive Management Plan: Third annual report

**Prepared for Bodangora
Wind Farm Pty Ltd**

November 2022
Report No. 15124.8 (1.0)



**Nature
Advisory**

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1. Introduction

Nature Advisory Pty Ltd (formerly Brett Lane & Associates Pty Ltd or BL&A) was commissioned by Iberdrola to assist in the compilation of data from bird and bat monitoring activities in the 2021/2022 year for Bodangora Wind Farm (BWF) located in New South Wales (NSW).

This document is an annual report on bird and bat matters for BWF during 2021/2022 and is based on the project Conditions of Consent, and outcomes of consultation with representatives from the NSW Office of Environment and Heritage (OEH) (Central West region) now the Biodiversity, Conservation and Science Directorate (BCS) under the Department of Planning, Industry and Environment (DPIE). BWF is located in central NSW approximately 20 km northeast of Wellington. The wind farm site is within the Dubbo Regional Council (RC).

This annual report includes the following sections:

- Summary of previous reports;
- 2021/2022 monitoring requirements;
- 2021/2022 monitoring results;
- Bird and bat incidental carcass finds;
- Little Red Flying Fox and Grey-Headed Flying Fox observations; and
- Analysis and comparison of results.

1.1. Previous Reports

Annual Reports, and various other reports, on the implementation of bird and bat monitoring activities for BWF were submitted between 2017 and 2021 to the NSW Department of Planning and Environment (DPE) on a regular basis. The reports submitted are outlined below.

Bird and Bat Adaptive Management Program (BBAMP):

- Brett Lane & Associates (2017) 'Bodangora Wind Farm Bird and Bat Adaptive Management Program'. Consultant's report to Bodangora Wind Farm Pty Ltd, Report 15124 (3.6).

Annual Reporting on implementation of the BBAMP, including refinements to the monitoring methods based on progress each year:

- Nature Advisory (2020) 'Annual Report on the Implementation of the Bird and Bat Adaptive Management Plan'. Consultant's report to Bodangora Wind Farm Pty Ltd, Report 15124 (20.0).
- Nature Advisory (2021) 'Bird and Bat Adaptive Management Plan – Second Annual Report'. Consultant's report to Bodangora Wind Farm Pty Ltd, Report 15124 (20.3).

1.2. Monitoring Requirements

The condition for approval C6 for BWF requires annual reporting as outlined below (BL&A 2017):

(f) identify matters to be addressed in periodic reports in relation to the outcomes of monitoring, the application of the decision making framework, the mitigation measures identified, progress with the implementation of such measures, and their success.

The reports referred to under part (f) shall be submitted to the Secretary [of the Department of Planning and Environment (DPE)] and [Office of Environment and Heritage] OEH on an annual basis for the first five years of operation and every two years thereafter (unless otherwise agreed to by the Secretary), and shall be prepared within two months of the end of the reporting period. The Secretary may, at the request of the Proponent at anytime, vary the reporting requirement or period by notice in writing to the Proponent.

Monitoring during 2021/2022 was conducted to meet the BCS's requirements as outlined below:

- All incidental carcasses found shall be recorded on the appropriate record form and shall be removed after being photographed for species identification and stored where required.
- Any carcasses of threatened species (EPBC and BC Act listed) will be reported to BCS as soon as practicable but within two business days of the identification of species.
- Infigen staff will identify the carcasses of impacted species, however, when there is uncertainty, carcass identification must be clarified with an expert prior to reporting.
- Wedge-tailed Eagle (WTE) mortalities to be documented photographically to ensure the age estimate can be recorded, and to be reported to BCS as soon as possible within five business days of species identification.
- Any rabbit warrens, sheep or kangaroo carcasses within close proximity of operating turbines continue to be monitored, controlled and carcasses swiftly removed (within 200 metres) where feasible and in consultation with the landowner.
- No lambing 200 metres of turbines, where feasible, and in consultation with the landowner.
- Targeted Little Red Flying Fox (LRFF) and Grey-Headed Flying Fox (GHFF) surveys including:
 - Weekly daytime inspections of the known camp in Wellington from August-November 2021 to determine LRFF and GHFF presence.
 - Fortnightly daytime inspections of the known camp in Wellington from March-November annually to determine LRFF and GHFF presence.

These surveys are proposed to be conducted by a BWF staff member proven competent in Flying Fox identification. Results must be maintained in a log-book or database for submission as part of annual reporting. Additionally, in the event LRFF are observed to return, the following actions need to be undertaken:

- BCS will be notified within two business days of presence and estimated numbers at the Wellington camp;
- Carry out nocturnal surveys within the wind farm to determine presence, flight paths, and occupation by Flying Foxes;
- Assessment of the floral resources on site and in the surrounding areas; and
- Undertake additional carcass searches to determine high-risk turbines.

- Annual reports must include:
 - Report on outcomes of the above monitoring activities;
 - Summary of any events recorded as a significant impact;
 - Report on status of rabbit warrens, lambing and kangaroo/sheep carcasses in close proximity of the turbines. Details on how many carcasses removed from within 200 metres of turbines;
 - Report on results of the Flying Fox camp monitoring and any related/consequent surveys at BWF
 - Need for mitigation measures;
 - Progress with implementation of mitigation measures;
 - Effectiveness of mitigation measures;
 - Discussion on overall trend in results as the years go by including changes in species seen, or carcasses found; and
 - Reference significant results from previous years.

No rabbit warrens, lambing, or kangaroo/sheep carcasses in closer proximity to the turbines were reported, and hence this matter is not discussed further in the report.

Consultations between BCS, BWF and Nature Advisory since the second annual report have resulted in the decision to implement a third year of carcass monitoring, using a scent detection dog (BCS 2022). A new program of carcass monitoring will be implemented, targeting detection of small (i.e. microbat) carcasses as well as collecting further details on WTE mortalities over time. This will consist of monthly searches out to 60 m to target small carcasses) and searches every 4 months out to 100 m (to detect WTE) using the scent detection dog (Nature Advisory 2022a, BCS 2022). The results of this monitoring will inform the need for further monitoring to understand patterns of bird and bat mortality at BWF over time. This monitoring program will commence later in 2022 and conclude 12 months later in 2023. Therefore, this component of the monitoring program is not discussed further in this report.

2. Bird and bat incidental carcass finds

On-going recording and reporting of bird and bat incidental carcasses were required to be undertaken in 2021/2022 in accordance with annual reporting requirements.

2.1. Operational guidance to staff and procedures

BWF has adopted a standard methodology, based on the BCS protocol, for field staff to collect incidental records. This is illustrated in Figure 1. Elements include:

- Any bird or bat carcass (or scavenged remains i.e., wing, skeleton, leg etc) or featherspot (i.e., 10 or more feathers or 2 or more primaries) encountered incidentally on site should be recorded.
- All site personnel shall follow this guidance, including contractors. It contains the requirements of the BCS's recommended methodology for incidental finds of dead or injured birds and bats or feather spots.
- A copy of the requirements shall also be posted on the site noticeboard.
- All carcasses, featherspots or injured birds or bats encountered within 200m of a turbine outside of formal searches are considered as incidental fatalities.
- All incidental finds of injured and dead bats and birds within the site must be identified, recorded, and reported to BCS.
- Familiarisation training through site induction, toolbox talk or other appropriate forum, shall be provided to all site personnel, including BWF's contractors, to ensure they are equipped with the understanding and knowledge required with respect to the appropriate protocols for reporting injuries and fatalities and handling injured animals and carcasses.

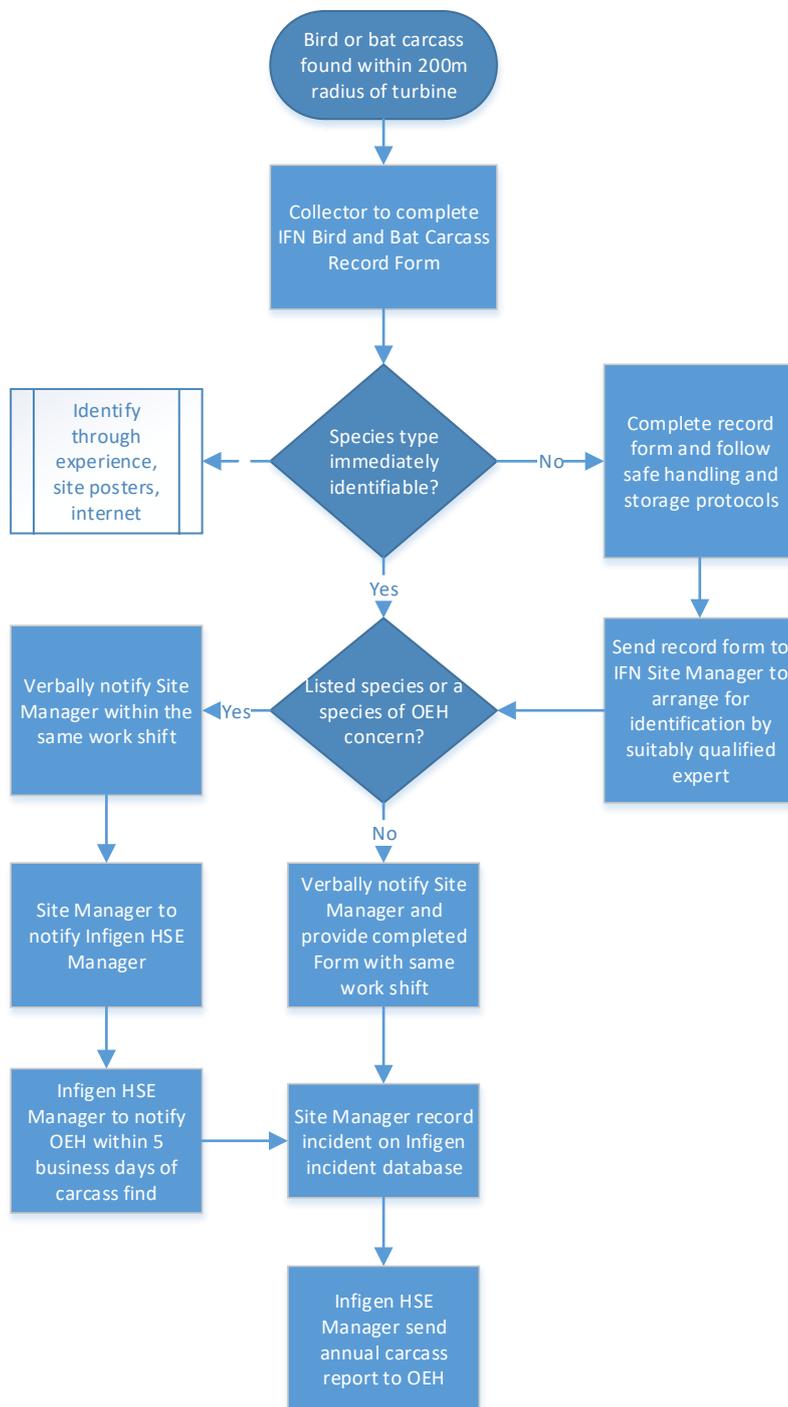
2.2. Methodology

1. Photograph the carcass where it is found and record all details on the Bird and Bat Carcass sheet (Appendix 1).
2. Complete carcass record sheet prior to removing the carcass.
3. Wear protective latex or rubber gloves to remove or mark the carcass once details have been recorded to avoid recounting (if within 200m of a turbine it must be removed). Only dispose of carcass if the species can be readily identified. If the species cannot be readily identified, then the carcass must be placed in a sealed plastic bag or appropriate container and clearly labelled before storing in the on-site dedicated freezer so that it can be preserved until it is identified by a suitably qualified expert. Once identified, it can be appropriately disposed of.
4. Inform the BWF Site Manager and provide a copy of the record sheet before the end of the same working shift.
5. BWF Site Manager to record finding on the incident management system and notify the Iberdrola HSE Manager who shall notify the appropriate authorities as required.
6. All alive, but injured wildlife, must be transported to the nearest veterinary clinic.

Notifiable matters include any carcass, feather-spot or injured bird or bat of a threatened species or WTE. The relevant representative of the NSW BCS is to be notified as soon as practicable by email, within maximum two business days (for threatened species), after species identification. Details must be emailed to the BCS Central West Planning Team.

Figure 1: Collection and Reporting process for incidental carcasses found at both wind farm sites

Infigen Bird and Bat Carcass Find – Collection and Reporting Process



Last updated by A. McCormack 07/01/2016

2.3. Results

In the period 2021/2022, the remains of two bats were identified at BWF. No bird carcasses were identified. No feather spots were found either. No injured fauna were identified in the 2021/2022 period.

Table 1 below presents the results of incidental carcasses found by wind farm staff at BWF during the 2021/2022 monitoring period.

Table 1: Summary of carcasses detected during the 2021/2022 monitoring period

Date	Species	Turbine number	Distance from turbine (approx.)	Notes
01/02/2022	Gould's Wattled Bat	T02	~1.5 metres S	Reasonably fresh. Intact and in the process of decomposition. Very dark-furred all over.
*23/03/2022	Yellow-bellied Sheathtail Bat	T07	6.5 metres NE (46 deg)	Reasonably fresh but heavily scavenged. Posterior and torso missing – only wings, head, and anterior peripheries of the bat remain. Some organs present as well.

*Note: Detailed report with photographs are in Appendix 2.

2.4. Discussion

Key observations are outlined below.

- Two bat carcasses were recorded – a Gould's Wattled Bat and a Yellow-bellied Sheathtail Bat (YBSB).
- One listed threatened species carcass, the YBSB, was recorded under turbines during 2021/2022. The YBSB is listed under the *Biodiversity Conservation Act 2016*. An impact trigger notification has been sent to BCS for them to review. This is further discussed in Section 4.
- Wind farm staff should continue to record and photograph all incidental carcass finds.

3. LRFF and GHFF Observations

In previous years, LRFF and GHFF were found to have collided with turbines and were documented flying through the site to obtain floral resources during nocturnal spotlighting surveys (Nature Advisory 2019, Nature Advisory 2021b). Subsequently, BWF has been monitoring the Flying Fox camp at Wellington on a weekly (August-November 2021) or fortnightly (March-August 2022) basis (Nature Advisory 2021d).

The results of the monitoring efforts specified above are summarised below.

3.1. Methodology

The daytime inspections of the Flying Fox camp at Wellington consisted of the following:

- A visit to the location of the Flying Fox camp at Wellington during the day, on a weekly or fortnightly basis;
- Inspection of the camp location for the presence of Flying Foxes
- If Flying Foxes are present, identification of which species are present, and estimation of numbers present

The presence of Flying Foxes at the Wellington camp would have triggered the following:

- A notification of presence of the Flying Foxes, which species are present, and their estimated numbers to BCS

If the Flying Foxes were found to be LRFF, this would have triggered:

- Nocturnal spotlighting surveys to determine Flying Fox presence, flight paths and occupation at BWF.
- Assessment of floral resources at BWF and the surrounding areas that could potentially attract the Flying Foxes and induce them to fly into or through the site
- Additional carcass searches to identify high-risk turbines

3.2. Summary of surveys to date

Nature Advisory has conducted targeted Flying Fox surveys and investigations at BWF in 2019 and 2021. These consisted of intensive carcass searches to identify high-risk turbines, monitoring of the Flying Fox camp flyout to determine the numbers present and understand the proportion headed towards BWF, nocturnal spotlighting surveys to determine flight paths used and occupancy on site, and assessment of nature, extent, location, and duration of floral resources that could attract them to fly into or through BWF (Nature Advisory 2019, Nature Advisory 2021b). Additionally, in 2021 a trial was held to determine if lights around turbines could reduce collisions (Nature Advisory 2021a).

There were roughly 500 GHFF present at the Wellington camp during the 2019 impact trigger (Nature Advisory 2019), and 2500 present during the 2021 impact trigger (Nature Advisory 2021b). LRFF were only present at the camp during the 2021 impact trigger, when they numbered about 50,000 individuals (Nature Advisory 2021b). GHFF were found to be flying into BWF to access heavily flowering clusters of White Box in 2019 (Nature Advisory 2019), and both LRFF and GHFF were found to be flying through BWF to access heavily flowering clusters of Red Ironbark trees in 2021 (Nature Advisory 2021b). The locations of high-risk turbines were dependent on the locations of these trees within and at the periphery of BWF. Please refer to the following reports for full details:

- Nature Advisory 2019, Bodangora Wind Farm BBAMP Implementation: Grey-headed Flying-Fox Field Investigation – Part II, Report no. 15124 (7.1) prepared for Bodangora Wind Farm Pty Ltd.
- Nature Advisory 2021a, Bodangora Wind Farm - Impact Trigger Lighting Trial Little Red Flying-fox (*Pteropus scapulatus*) (LRFF), June 2022 Nature Advisory Ref 15124.6 (3.0) – Report 15124 (26.0). Letter to Michael Bullock, Bodangora Wind Farm.
- Nature Advisory 2021b, Bodangora Wind Farm: Little red flying-fox Impact Assessment Report, Report no. 15124 (23.1) prepared for Infigen Energy Limited, April 2021

3.3. Discussion of 2021/2022 results

No flying foxes were found at the Wellington camp during the August-November 2021 monitoring period.

During the current monitoring period, which commenced in March 2022, flying foxes were found at the Wellington camp in mid-May, but could not be identified to a species level. The observer has stated he estimated there are roughly 500 individuals present. BCS Dubbo were notified of this on 19th May 2022. The flying foxes have been observed departing from the camp in the evening and flying southeast towards Burrendong Dam, not northeast towards BWF. Monitoring has been continued to note their flight path from the Wellington camp, and it does not appear to have changed.

3.4. Annual results compared with previous years

The annual results for 2021/2022 have been compared with the findings of previous years. This is summarised below.

Currently, the Flying Fox camp at Wellington has been occupied since mid-May 2022 by about 500 individuals of an unidentified species, and they largely appear to be flying southeast towards Burrendong Dam, not northeast towards BWF. This is far smaller than during the Flying Fox impact triggers in 2021, when there was a total of roughly 52,500 individuals (2500 GHFF and 50,000 LRFF), with many (and at certain times, virtually all) individuals flying in the direction of BWF (Nature Advisory 2021b), so it is unlikely any equivalent impacts are currently occurring.

However, the camp size in 2022 is comparable to the camp size in 2019, when the first GHFF impact trigger occurred (although the direction of flight from the camp was not recorded in 2019) (Nature Advisory 2019). During the 2019 impact trigger, there were patches of White Box trees on site that were heavily flowering, attracting GHFF to the site so they could feed on the flowers (Nature Advisory 2019). Therefore, if similar flowering has occurred when the Flying Fox camp has been occupied during the present monitoring period, it is possible small numbers of individuals are flying through or into BWF and have potentially been hit by turbines. According to the site manager, the box-ironbark woodland present at the eastern end of BWF flowered again in spring in 2021, but it was not as abundant as it was earlier in the year during the 2021 Flying Fox impact triggers (Michael Bullock, pers. comm). However, no flying fox mortalities were detected incidentally by BWF staff in spring.

3.5. Recommendation for flying fox monitoring in 2022/23 season

After discussions with BWF, it has been decided that when additional carcass monitoring using scent detection dogs commences later this year, the zoologist conducting the searches would identify the flying foxes at the Wellington camp to a species level and estimate their numbers.

4. SIGNIFICANT IMPACT TRIGGERS

Generally, an impact trigger is where there is evidence of death or injury to birds and/or bats by collision or other interaction with turbines. Under this BBAMP, the circumstances that define an impact trigger and unacceptable impact for threatened birds and/or bats are detailed below.

Impact Trigger for Threatened Species: A threatened bird/bat species (or recognisable parts thereof) listed under the Commonwealth *EPBC Act* or NSW *TSC Act* (now *Biodiversity Conservation Act 2016*), is found dead or injured under or close to a wind turbine during any mortality search or incidentally by wind farm personnel. The fatality shall be able to be attributed to the wind farm operations.

The significance of any threatened species impacts will be determined at a population scale relevant to that species as part of the decision-making framework outlined in Section 5.1.2. of the BBAMP and submitted in a report to BCS for review.

Impact Trigger for Non-threatened Species: In any two successive monthly carcass searches, two or more bird or bat carcasses (or parts thereof) of a non-threatened species, other than ravens, magpies, White Cockatoos, corellas, and introduced species, are found at the same turbine (i.e. a total of four or more carcasses of the same species in two successive searches at the same turbine).

Definition of Unacceptable Impact on Non-threatened Species:

Where population numbers are known and reported by BCS for the period concerned, the definition of an unacceptable impact on non-threatened species is any impact that is likely to:

- lead to a greater than 50% reduction in the immediate population (i.e., local population, where known) that utilises the wind farm over a five year period; AND
- act in an ongoing way to reduce the wider, regional population (where known) by more than 30% over a five-year period; OR
- reduce the total species' population (where known) by more than 10% over a five-year period.

Where population numbers are not known, the definition of an unacceptable impact on non-threatened species is:

- More than four carcasses of one non-threatened species (including raptor species, magpies, ravens, and introduced species) are found during both formal and incidental carcass searches in a two month period.

Note that although the impact trigger does not include ravens, magpies, White Cockatoos, corellas, and introduced species, detected mortalities for these species will still be recorded and reported as part of the annual reporting process.

One impact trigger occurred during the 2021/2022 monitoring periods for bats (none for birds). This is discussed in section 4.2.

4.1. Impact on birds

No bird carcasses were reported during the 2021/2022 monitoring period. Given the findings and analyses in the second annual report (Nature Advisory 2021d), it is unlikely BWF is having a significant impact on bird populations nationally, regionally, or locally. The potential exception to this is the Wedge-tailed Eagle (WTE). Accounting for this, BCS has requested the trigger point for investigation of WTE mortality at BWF be revised down to two carcasses found per year (BCS 2022). Although no WTE

carcasses were found in the 2021/2022 monitoring period, this will be implemented during the next monitoring period (2022/2023).

It is further suggested that continued effort is made to remove prey items of WTE from close proximity of operating turbines. This includes rabbits and their warrens, and any dead sheep or kangaroo carcasses within this distance (discussed further in Section 5).

Wind farm personnel should continue to record any carcasses identified due to incidental finds at BWF as per the incidental carcass finds process.

4.2. Impact on bats

Two bat carcasses were reported during the 2021/2022 monitoring period (one Gould's Wattled Bat, and one Yellow-bellied Sheath-tail Bat). The Yellow-bellied Sheath-tail Bat (YBSB) is a listed threatened species under the NSW *Biodiversity Conservation Act 2016*. Finding one under a turbine (which happened under Turbine 7 on 23/03/2022) was therefore an Impact Trigger for Threatened Species.

Previous investigations centred on the YBSB in response to the impact triggers caused by it in April 2020 and March 2021 used bat recorders at BWF in late summer and early autumn (Nature Advisory 2021c). The findings were that the species has very low activity at BWF, except during March when a spike in activity was recorded (probably due to a northward migratory movement during autumn) (Nature Advisory 2021c). This generally lines up with the timing of mortalities of the species detected at BWF. Furthermore, there are no sufficiently large patches of remnant woodland (>500 ha) on site that would be likely to support a large resident population of the species (Richards 2008, Nature Advisory 2021d). Therefore, BWF was assessed as impacting a small number of YBSB on an annual basis from January-April, which is unlikely to be significant at a population level (Nature Advisory 2021d). The finding of a single YBSB mortality at BWF in March 2022 is therefore within expectations.

BCS has previously found the upper limit of BWF's potential impacts on microbat populations to be undesirable (BCS 2021). Therefore, as previously discussed, BCS has asked BWF to complete an additional 12 months of carcass monitoring using scent detection dogs (BCS 2022), which have a much higher detection rate of microbat carcasses than human searchers (Paula, et. al., 2011, Mathews, et. al., 2013). The use of scent detection dogs will clarify the impact BWF has on bat populations, including for listed species such as the YBSB, and inform the need for further monitoring and mitigation measures (BCS 2022). It was proposed in the YBSB 2022 Impact Trigger that the final report assessing the impacts of BWF on the species should be written after the conclusion of this additional carcass monitoring, so the assessment can be made with the best possible information (Nature Advisory 2022). This assessment would then be included in the annual report after the conclusion of the additional monitoring program and would clarify whether mitigation measures are necessary.

Wind farm personnel should continue to record any bat carcass found at both wind farms sites to monitor activity and possible turbine collision. The YBSB 2022 Impact Trigger was not reported within the BBAMP required timeframes as it was only positively identified by Nature Advisory zoologists when reviewing 2021-22 mortality provided by BWF for this report. Nature Advisory recommends BWF purchases the third edition of *A Field Guide to the Mammals of Australia* by Peter Menkhorst and Frank Knight. This book details the appearances of the following threatened microbat species that have either been recorded on site or are considered to potentially occur (Nature Advisory 2021c) to a level that Nature Advisory deems adequate:

- Yellow-bellied Sheathtail Bat (BC: Vulnerable);
- Inland Forest Bat (BC: Vulnerable);
- Large Bentwing Bat (BC: Vulnerable);
- Greater Broad-nosed Bat (BC: Vulnerable);
- Eastern Falsistrelle (BC: Vulnerable);
- Large-eared Pied Bat (EPBC: Vulnerable, BC: Endangered).

The relevant microbat species profiles in the book should be reviewed by BWF staff (particularly during autumn, when threatened microbat impact triggers have historically occurred) to aid and raise their awareness levels in identifying when microbat-related impact triggers may have occurred.

Additionally, the microbat carcass that was later identified as Gould's Wattled Bat from photos was disposed of by BWF prior to its identification. This meant that the identification could not be confirmed with morphological measurements. BWF should store all carcass finds using the onsite freezer until they have been positively identified to a species level.

All incidental carcass finds should be promptly reported to Nature Advisory for identification, but this applies especially to suspected impact triggers. In future, BCS will be notified within an appropriate timeframe (two business days of identification for threatened species, five business days for non-threatened species impact triggers).

5. MITIGATION MEASURES TO REDUCE RISK

Mitigation involves the prevention, avoidance and/or reduction of the risk of an impact trigger occurring or continuing to occur. An *'impact trigger'* is defined in section 4 as a threshold of impact on birds or bats that triggers an investigation and/or management response. The overall objective of mitigation measures is to ensure that the operation of BWF does not lead to unacceptable impacts on threatened or non-threatened birds and bats.

5.1. Application of mitigation measures during the monitoring period

5.1.1. Removal of Carrion

Carrion is defined as the dead and decaying flesh of an animal that often serves as a food source for animals. Carrion is known to attract WTE enhancing the potential risk has been identified as a risk for BWF. In order to reduce the risk of raptors colliding with turbines, carrion should be removed as soon as possible to reduce the attractiveness of the site to raptors and therefore reduce the chances of fatal collisions by this group of birds. This shall be undertaken in consultation with the landowner.

Any bird or bat carcasses and/or remains found that are within 200 metres of turbines, are recorded (using the record form in Appendix 1), collected and disposed of as soon as possible, in a manner that will avoid attracting raptors close to turbines.

In the 2021/2022 period there were no instances of an animal carcass within 200 metres of a turbine being noticed by Ibedrola personnel. Landholders may have removed carcasses from their properties independently.

5.1.2. Control of Stock

Stock grain feeding within 100m of the turbines could attract parrots and cockatoos that have the potential, albeit small, to collide with turbines. Lambing is encouraged to be limited to areas beyond 200 metres of turbines through consultation with landowners. To the knowledge of the site manager, no stock grain feeding or lambing has occurred near turbines in the last reporting period.

5.1.3. Pest Management

Any feral animal control on the wind farm site should involve the removal and appropriate disposal of carcasses. Any rabbit warrens, sheep or kangaroo carcasses within close proximity of operating turbines continue to be monitored, controlled and swiftly removed (within 200 metres) where feasible and in consultation with the landowner.

If a large number of rabbit or other feral animal carcasses or active rabbit presence are incidentally observed, it may be necessary to conduct an integrated rabbit control program (to reduce site attractiveness to WTEs) within 200 metres of turbines. Methods to control rabbits include burrow destruction, poisoning and shooting.

In the 2021/2022-year, rabbit warrens and activity have been observed around site by wind farm staff but none within 200 metres of turbines that would trigger a pest animal removal response.

In general, if carrion is removed within 200 meters of operating turbines, the risk of raptor collision may be reduced and the wind farm sites becomes less attractive for scavengers.

5.2. Supplementary Mitigation Measures

Supplementary mitigation measures will be implemented in consultation with BCS in the event that an impact trigger occurs. The purpose of supplementary mitigation measures will be to prevent a specific impact from continuing to occur. Specific mitigation measures will be implemented depending on the nature, cause and significance of any impact recorded and in response to the results of investigations of the event and of the species concerned on the wind farm site. The purpose of investigations will be to identify clearly the most relevant and effective mitigation measures.

In the event that turbine shutdown is considered necessary by BCS, a species management strategy will be prepared with BCS that sets out:

- The nature of the ongoing unacceptable impacts, including the level of risk to the species' regional and overall populations, where known;
- The findings of detailed investigations undertaken in response to the impact trigger, focussing on the species' use of the immediate area around affected turbines;
- Clear scope for on-going monitoring to identify triggers for turbine shut-down;
- Agreed triggers for turbine shutdown and restart; and
- Reporting and consultation arrangements.

5.2.1. Flying Fox Supplementary Measures

The additional Flying Fox monitoring measures implemented in the 2021/2022 monitoring period will continue to be implemented in the 2022/2023 monitoring period. This will consist of the following:

Daytime inspections of the Flying Fox camp at Wellington:

- A visit to the location of the Flying Fox camp at Wellington during the day, on a fortnightly basis;
- Inspection of the camp location for the presence of Flying Foxes
- If Flying Foxes are present, identification of which species are present, and estimation of numbers present

The presence of Flying Foxes at the Wellington camp will trigger the following:

- A notification of presence of the Flying Foxes, which species are present, and their estimated numbers to BCS.
- Nocturnal spotlighting surveys to determine Flying Fox presence, flight paths and occupation at BWF.
- Assessment of floral resources at BWF and the surrounding areas that could potentially attract the Flying Foxes and induce them to fly into or through the site.
- Additional carcass searches to identify high-risk turbines if flying-foxes are observed utilising BWF.

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BODANGORA WIND FARM – CARCASS REPORT

Please fill out details in this form for each bird/bat carcass found. Injured wildlife must be transported to the nearest veterinary and or / wildlife rescue and care.

Term	Definition
Recordable Bird / bat carcass	Birds or bats found on the ground within 200m radius of a wind turbine generator.
Feather spots	Cluster of feathers (minimum 10 feathers or two primary feathers).
Intact	Carcass that is completely intact is not badly decomposed and shows little or no sign of being predated or scavenged.
Scavenged	An entire carcass showing signs of being fed upon by a predator or scavenger or a dismembered carcass in one location.
Injured	Bird or bat found to be alive but injured.
Recordable bird or bat carcass details (If you do not know or are unsure of an answer write "unknown")	
Carcass identified by (name)	
Form completed by (name)	
Date & time	
Weather conditions in preceding 24 hours: (including wind speed and direction and any unusual weather conditions in last 48 hours. If a waterbird, note the level of water in surrounding water bodies).	
Turbine number	
Distance (m) and bearing (deg) of carcass from turbine	
Species identification (<i>type of bird / bat</i>)	
Description of carcass: Intact, Feather-spot, Scavenged or injured (and any other observations, including description of the injuries)	
Report number	
How old and what sex is the carcass estimated to be?	
If remains found, indicate type (<i>body, wings, skeleton, feather spots</i>)	
Additional comments	
Photos taken of carcass where it is found (<i>attach photos on page 2</i>)	Yes <input type="checkbox"/> No <input type="checkbox"/>

Take the photograph with the carcass in situ with a ruler (or other item at hand) next to it to allow measurements to be made. Take a photo of:

- Photo of the carcass / feather spot as found in relation to the turbine
- Photo of top and bottom sides of carcass
- Photo of spread wing.



Iberdrola Australia Bird and Bat carcass recording Form

Please fill out details in this form for each bird/bat carcass found as per the BBAMP Supplementary Guideline requirements.

Term	Definition
Recordable Bird / bat carcass	Birds or bats found on the ground within 200m radius of a wind turbine generator.
Feather spots	Cluster of feathers (minimum 10 feathers or two primaries).
Intact	Carcass that is completely intact is not badly decomposed and shows little or no sign of being predated or scavenged.
Scavenged	An entire carcass showing signs of being fed upon by a predator or scavenger or a dismembered carcass in one location.
Injured	Bird or bat found to be alive but injured.

Recordable bird or bat carcass details <i>(If you do not know or are unsure of an answer write "unknown")</i>	
Carcass identified by (name):	Vikas Mahajan
Form completed by (name):	Vikas Mahajan
Wind farm name:	Bodangora
Date & time:	23/03/2022 13:26
Weather conditions in preceding 24 hours: (including wind speed and direction and any unusual weather conditions in last 48 hours).	Wind Speed – 6 to 12 m/s Trending N 23/03/2022, E 24/03/2022 Temperature – 18 to 30 Deg. C
Turbine number:	T7
Distance (m) and bearing (deg) of carcass from turbine	6.5 m 46 Deg. NE of the Turbine
Species identification <i>(type of bird / bat)</i>	Unknown
Description of carcass: Intact, Feather-spot, Scavenged or injured (and any other observations, including description of the injuries)	Intact and decomposing
How old and what sex is the carcass estimated to be?	Unknown
If remains found, indicate type <i>(body, wings, skeleton, feather spots)</i>	Full Carcass
Additional comments	Bat
Photos taken of carcass where it is found <i>(attach photos on page 2)</i>	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>



Iberdrola Australia Bird and Bat carcass recording Form

Photos

Take the photograph with the carcass in situ with a ruler (or other item at hand) next to it to allow measurements to be made.

Take a photo of:

- Photo of the carcass / feather spot as found in relation to the turbine
- Photo of top and bottom sides of carcass
- Photo of spread wing

Post find actions

Verbally notify the Iberdrola Site Manager and provide a copy of this report to them within the same shift as the carcass has been found (or the next business day if a weekend or public holiday).