

Cattle Hill Wind Farm

EPBC 2009/4839

13 August 2021 to 13 August 2022

Annual Compliance Report 2022



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Goldwind Australia (GWA)

For:

Wild Cattle Hill Pty Ltd



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ABBREVIATIONS

Cattle Hill Wind Farm	Comprising 48 wind turbines and up to 150 MW capacity
CEMP 10105/1)	Construction Environmental Management Plan (approved by EPA under Condition CN2 of EPN 10105/1)
Central Highlands Region	Area north of Bothwell, East of Bronte Park and surrounds, South of Liawenee, West of the Great Western Tiers
CHC	Central Highlands Council
CHWF	Cattle Hill Wind Farm
Commission(ed/ing) (EPBC)	the date the wind farm commences the generation of electricity for sale
Commissioning (EPN)	EPN 10105/1 defines commissioning as the testing of turbines and is taken to be completed when 90% of the turbines are being operated in the course of normal commercial operations.
Department	Department of Climate Change, Energy, the Environment and Water (CCEEW) (formerly Agriculture, Water and Environment)
Director	Director, Tasmanian Environment Protection Authority, holding office under Section 18 of EMPCA. Includes a person authorised in writing by the Director to exercise a power or function on the Director's behalf.
DPEMP	Development Proposal and Environmental Management Plan
DPIPWE	Tasmanian Department of Primary Industry, Parks, Water and Environment
EMOP	Eagle Mortality Offset Plan
EMPCA	Environmental Management and Pollution Control Act 1994
EPA	Tasmanian Environment Protection Authority
EPBC	Commonwealth Environment Protection and Biodiversity Conservation Act 1999
EPBC 2009/4839	EPBC Approval No. 2009/4839
EPC	Engineer, Procure and Construct
EPN	Environment Protection Notice 10105/1 (issued by Tasmanian EPA on 13 March 2019)
ERP	Emergency Response Plan
First Full Operations	First time when all turbines allowed to simultaneously operate and generate up to maximum output
FOMP	Flora Offset Management Plan
HB	Hazell Brothers
GWA	Goldwind Australia Pty Ltd (ACN 140 108 390)
Ha	Hectare
IDF	IdentiFlight System
kV	Kilovolt
MW	Megawatt
NVA	Natural Values Atlas
O&M	Operations and Maintenance (Phase of Development)
OEMP	Operations Environmental Management Plan (approved by EPA under Condition G11 of EPN 10105/1)
PCR	Powerchina Australia Development Pty Ltd
SCADA	Supervisory Control and Data Acquisition
TasNetworks	Own, operate and maintain the electricity transmission and distribution network in Tasmania.
TFS	Tasmanian Fire Services
The Land	Project land, Central Tasmania, east of Lake Echo and off Bashan Rd, approximately 3km southwest of Waddamana, including part or all of titles 135246/1; 29897/1; 29897/3; 29897/5; 248810/1; 135247/1; 135247/2; 29888/4; and 29897/6
The Proponent	Wild Cattle Hill Pty Ltd (WCHPL) ACN 610 777 369
VDC	Van Diemen Consulting
WTE	Tasmanian Wedge-tailed Eagle (<i>Aquila audax fleayi</i>)
WBSE	White-bellied Sea-eagle (<i>Haliaeetus leucogaster</i>)
WCHPL	Wild Cattle Hill Pty Ltd ACN 610 777 369, L25, 100 Barangaroo Avenue, Barangaroo NSW 2000

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Declaration of Accuracy

This Annual Compliance Report relates to the Cattle Hill Wind Farm located in Central Highlands of Tasmania.

The Annual Compliance Report has been prepared in accordance with the requirements of Condition 27 of the Approval issued under the Environment Protection Biodiversity and Conservation Act 1999,

Cattle Hill Wind Farm, Tasmania - EPBC 2009/4839

This Report:

- *has been prepared for submission to the Department of Agriculture, Water and Environment in accordance with the submission date specified in the Department's email of 17 May 2019.*
- *addresses each of the Conditions of the Approval and management plans to describe the status of compliance with the respective requirements*
- *provides an accurate account of the respective matters for the Approval and does not intentionally misrepresent circumstances*
- *Is made publicly available through publication on the Cattle Hill Wind Farm website (www.cattlehillwindfarm.com).*

Jeff Bembrick

Development Compliance Manager, Goldwind Australia, on behalf of Wild Cattle Hill Pty Ltd.

10 November 2022

1 INTRODUCTION

1.1 Purpose of this document

This Annual Compliance Report describes the activities undertaken and relevant performance in respect of:

- **Project:** Cattle Hill Wind Farm
- **Proponent:** Wild Cattle Hill Pty Ltd (ACN 610 777 369)
- **EPBC Approval:** EPBC 2009/4839
- **Condition no. 27:** – Fourth report under requirements of Condition 27
- **Report period:** 12 months from 13 August 2021 to 13 August 2022
- **Project phase:** Operations phase for all of reporting period (2nd report for a full year of operations)

The report has been prepared by Goldwind Australia on behalf of Wild Cattle Hill Pty Ltd (WCHPL). The report has also been subject to review by PowerChina Australia Development Pty Ltd as the majority shareholder in WCHPL.

The report has been prepared in accordance with Condition 27 of EPBC Approval, EPBC 2009/4839, to fulfil the requirements of Condition 27. Table 1.1 lists the requirements of Condition 27 and the sections of this report where each requirement is addressed.

Table 1.1: EPBC Condition 27 - Annual Compliance Reporting Requirements

EPBC Approval Condition 27 Reporting Requirements	Response details
Within 90 days of each anniversary of the commencement of the action, the person taking the action must:	Submission due by 11 November
<ul style="list-style-type: none"> • publish a report on its website addressing: <ul style="list-style-type: none"> ○ compliance with each of the conditions of this approval, including ○ implementation of any management plans as specified in the conditions. 	This report with details as described in Section 4 and Appendix A
<ul style="list-style-type: none"> • Documentary evidence providing proof of the date of publication and non-compliance with any of the conditions of this approval must be provided to the Department at the same time as the compliance report is published. 	Submission of this report to CCEEW and accessibility on CHWF Website
<ul style="list-style-type: none"> • Unless otherwise directed in writing by the Minister the report must include a chapter that outlines how each injured or sick wedge-tailed eagle was rehabilitated in accordance with the requirements of condition 19. This must include: <ul style="list-style-type: none"> a. how the injured or sick wedge-tailed eagle was identified for rehabilitation b. the nature of injuries and/or sickness at the commencement of rehabilitation c. the actions taken to rehabilitate the wedge-tailed eagle including the location and costs of rehabilitation and qualification and experience of persons involved in rehabilitation; and d. potential survival in the wild. 	<p>Not required this report period.</p> <p>No sick or injured WTE during the report period.</p>

A summary of compliance status for the Approval Conditions is shown in Table 1.2.

Table 1.2 – Summary of Compliance for Conditions of Approval

Condition	Compliance Status	Management Plan	Date Approved	Comment
1	Complies	Layout complies	Report Period	Complete
2	Complies	Construction works complied	Report Period	Complete
3	Complies	Records are maintained	Addressed	Ongoing
4	Complies	Operational full period	Report Period	Complies
5	Complies	Operational full period	Report Period	Complies
6	<i>Revoked</i>			
6A	Complies	CAD Plan approved	28 May 2018	Approved
6B	Complies	Commissioning from 19/11/19	Achieved	Complete
6C	Complies	18-month CADP-IDF Trial Assessment Report	Submitted March 2022	Complete
7	<i>Revoked</i>			
8	<i>Revoked</i>			
9	<i>Revoked</i>			
10	Complies	Two WTE mortalities	Annual review	Ongoing
11	Complies	Revised CADP submitted 3/8/22	Submission due by 5 Aug 2022	Under Dept. Review
12	Complies	Physical search records kept	Records kept	Ongoing
13	Complies	Roads signposted for 40 kmph	Signs installed	Ongoing
14	Complies	Site staff conduct reviews	Addressed	Ongoing
15	Complies	Searches done since 19/11/19	Addressed	Ongoing
16	Complies	Dept. approved plans 8/01/19	8 Jan 2019	Ongoing
17	Complies	First payment 24 October 2019	4 th payment	Annual
18	Not due yet	Due after 5 years, i.e. 8/01/24	NA	Future
19	Complies	>2 WTE mortality or injury – Applicable at end of 2022.	Not Triggered report period	Ongoing
20	Not due yet	After ten years, i.e. 5 Aug 2030	NA	Future
21	<i>Revoked</i>			
22	Complies	Weed Management Plan	14 Dec 2017	Construction
23	Complies, FOMP approval	Flora Offset Strategy Flora Offset Management Plan	15 Mar 2018 10 Aug 2019	Approved Approved
	FOMP implementation	Implementation in progress	Ongoing	Ongoing
24	Complies	No new threatened species	Report Period	Ongoing
25	Complies	Notifications complete	Report Period	Complete
26	Complies	All required records are kept	Report Period	Ongoing
27	Complies	4 th Annual Compliance Report	By 11 Nov 2022	Complies
28	Not applicable	No direction from Minister	Report Period	Ongoing
29	Not applicable	No revisions	Report Period	Ongoing
30	Not applicable	No requests from Minister	Report Period	Ongoing
31	Not applicable	Action commenced within 5yrs	Closed	Complete
32	Complies	Website is maintained	Report period	Ongoing
33	Not applicable	No public requests	Report Period	Ongoing

2 SUMMARY DETAILS OF CHWF PROJECT, LOCATION AND CONTEXT

2.1 Project Context

Cattle Hill Wind Farm (CHWF) has been developed in the Central Highlands of Tasmania to the east of Lake Echo and to the southwest of the Village of Waddamana. Construction commenced in 2018 and is now complete, with all wind turbines installed, commissioning of turbines occurring from November 2019 to end of April 2020 and, the wind farm's first full operations was achieved by 05 August 2020.

The wind farm comprises 48 Goldwind wind turbines that can collectively produce 148.5 MW of electricity sourced from the wind energy resources available at the site (144 MW maximum allowed output to Grid).

CHWF can power approximately 63,500 Tasmanian homes, which increases Tasmania's renewable energy generation capacity by approximately 5% and, provides a significant contribution to Tasmania's target of becoming fully self-sufficient with renewable energy by 2022.

2.2 Project Locality and Setting

CHWF is located in Tasmania's Central Highlands, approximately 93 kilometres north-west of Hobart and 110 kilometres from Launceston (Figure 2.1). The site is within a sparsely populated and relatively isolated part of the Central Highlands Council municipal area, on land which ranges in height of the wind turbine sites from approximately 764 to 915 metres above sea level (Figure 2.1).

The site is approximately 35 kilometres south of the township of Miena and is bordered geographically by Lake Echo to the West, and the Ouse River Valley to the east, where the former Waddamana Power Station remains as a heritage site and museum. Waddamana village is about 3km to the northeast and contains a collection of vacant residences that in the past provided accommodation for the Waddamana power station workforce. The Waddamana Power Station and associated infrastructure, penstocks, canals, pipelines and access network are part of the local area heritage and receive low level of visitation by tourists to the region.

The CHWF site is accessible by unsealed roads from the northeast, east and south, normally associated with very low traffic levels.

The wind farm occupies an area of approximately 4,121 hectares of privately-owned land (Section 2.4).

Lake Echo to the west of the project area, is a Hydro Tasmania asset and together with Ouse River to east of CHWF, also provides recreational fishing opportunities for the community and sporting groups.

Grazing and forestry land are located to the north, east and south and are associated with scattered rural housing. The project area itself comprises ten lots, owned by two landowners, and has been historically used for cattle grazing, forestry and hunting.

Parts of the biodiversity values for the project area are protected under an existing Tasmanian Conservation Covenant. Additional parts of the project area are also being set aside for conservation purposes (as part of biodiversity offset provisions of the Commonwealth and State Approvals) arising from the project's unavoidable impacts on biodiversity.

An existing TasNetworks high voltage electricity transmission easement crosses the site and allows the wind farm to connect to the transmission network with the addition of only minor new overhead line infrastructure between the wind farm substation and the existing 220 kV line easement. Operation and maintenance of the TasNetworks transmission lines requires occasional visitation by TasNetworks and its contractors to the project locality.

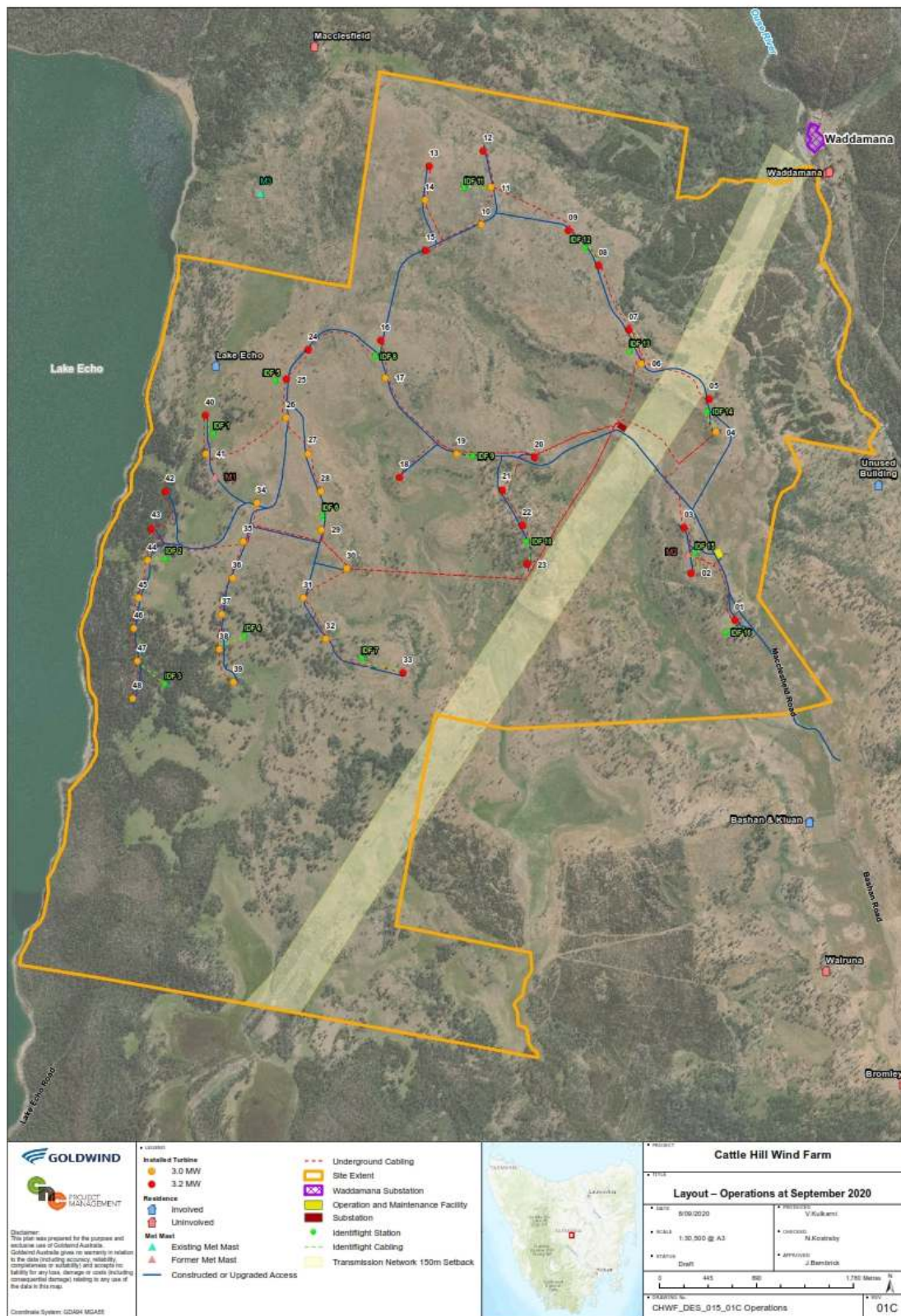


Figure 2.1 – Cattle Hill Wind Farm Project Layout of Operating Wind Farm at September 2020

2.3 Associated Planning Approvals

In addition to the EPBC approval for the CHWF Project, the development has required approvals from Tasmanian State and Local regulators as shown in Table 2.1.

Table 2.1 – Details of planning and environmental approvals for CHWF

Jurisdiction	Regulator	Approval No.	Infrastructure
Commonwealth	Department of Agriculture, Water and Environment	EPB 2009/4839	CHWF
State	Environment Protection Authority	EPN 10105/1	CHWF
Local	Central Highlands Council - Permit	DA 2010/19, as amended	CHWF
Local	Central Highlands Council - Permit	DA 2017/56	Identiflight System
Local	Central Highlands Council - Permit	DA 2017/57	Met Masts
Local	Central Highlands Council - Permit	DA 2018/09	Roadworks permit
Local	Central Highlands Council - Permit	DA 2018/31	Off Site Road Upgrades
State	DPIPWE – Covenant Authorisations for construction works within Covenant	By letter from DPIPWE	Allows specified impacts within Covenant area
State	DPIPWE – Permits to Take (PTT) in relation to Threatened Species or Products of Wildlife.	Various	Allows specific impacts under the Terms and Conditions of the PTT.

The planning permit for CHWF, DA 2010/19, was obtained from Central Highlands Council (CHC) under the Tasmanian *Land Use and Planning Approvals Act 1993* and as amended by the Resource Management and Planning Appeal Tribunal (RMPAT). The Permit comprised two parts, that issued by CHC, and Part B issued by EPA. Current form of Part B is EPN 10105/1.

Environment Protection Notice (EPN) 10105/1 was issued by the Environment Protection Authority (EPA) on 13 March 2019 under the Tasmanian *Environmental Management and Pollution Control Act 1994 (EMPCA)*. The EPN varies the environmental conditions of Permit No. DA 2010/19.

2.4 CHWF Project Land

The land on which the CHWF is located is situated immediately to the east of Lake Echo and accessed from Bashan Rd, approximately 3km southwest of Waddamana, and includes part or all of the following land titles (defined in approvals DA2010/19, EPN 10105/1, and EPBC 2009/4839). These titles are held by two landowners (Landowner 1 and Landowner 2), as follows:

- Landowner 1 - 135246/1; 29897/1; 29897/3; 29897/5; 135247/1; 135247/2; 29888/4, 29897/6.
- Landowner 2 - 248810/1

3 DETAILS OF CHWF PROJECT AND DEVELOPMENT STATUS

3.1 Approved Action

The EPBC Approval allows the following Approved Action:

To develop a wind farm consisting of up to 100 wind turbine generators and associated infrastructure east of Lake Echo in Tasmania's Central Highlands as described in the referral received on 7 April 2009 and request for variation to proposal received 30 August 2010.

Appendix A of the EPBC Approval (EPBC 2009/4839) shows, the project layout based on the Design Report Layout December 2017 and, exclusion zones from Eagle Nests known at that time.

Appendix B of the EPBC Approval (EPBC 2009/4839) shows the extent of the CHWF project area.

The installed CHWF layout is consistent with the Tasmanian planning approvals and the Design Report December 2017 approved by EPA 01 March 2018 and the EPBC Approval. The layout for the Design Report addressed all the relevant Commonwealth, State and Local planning matters.

The CHWF project comprises a lesser number of wind turbines, 48 instead of the 100 originally considered by the EPBC referral. The CHWF project has a reduced footprint, but the installed turbines are larger than originally proposed enabling the project to take advantage of advances in technology that give greater wind turbine efficiency to deliver an improved wind farm performance but with reduced environmental impact.

The details of the CHWF project as implemented are outlined below. The proponent has kept the Department aware of the EPA approved Final Design for the project and subsequent minor variations required for the project that have been approved by the EPA. Changes to the project have simplified underground cabling arrangements, removing some parts of the cable routes and micro-siting other infrastructure to reduce impacts and, to improve practicality of implementation.

3.2 Details of Wind Turbines

The project comprises 48 wind turbines. These are Goldwind's Permanent Magnet Direct Drive design with either 3 MW or 3.2 MW rating (26 by GW140/3000 and 22 by GW140/3200) with a total wind farm generating capacity of 148.4 MW (maximum output to Grid is capped at 144 MW).

The wind turbines (Plates 3.1, 3.2 and 3.4) have approximate dimensions as follows:

- a maximum height (to highest point of rotor swept area) of 170 meters above ground level,
- a hub height of approximately 100 metres.
- The three bladed rotors are approximately 140 metres in diameter.

Near the base of each wind turbine tower are:

- an external kiosk-style 33kV transformer and switch gear;
- two banks of cooling fans. Cooling fluid circulates between the cooling fan units and the internal areas of the tower and turbine; and
- A compacted hardstand area has been formed during construction at each wind turbine site, for use by large cranes and for component laydown. These hardstands are retained for the operations phase in case large cranes are required for maintenance activities.

No aviation safety lighting is required on the wind turbines. Lighting is provided at the entry to each wind turbine tower. The wind turbines are off-white/grey with non-reflective finish as approved by CHC. The cover photo shows eight turbines on the eastern shore of Lake Echo.

3.3 Substation details

A substation is located near to the TasNetworks transmission easement (Plate 3.2) that crosses the project area. The Substation (Plate 3.3) includes:

- a 33-kV switch room receives 33 kV cables from each of the wind farm's five collector groups
- a 33kV/220 kV transformer in concrete bund
- landing gantry for conductors from substation to cut-in poles for the 220-kV transmission line.
- Various electrical protection and power quality equipment
- Security fencing around the substation and surrounding site drainage
- Earthing grid below gravel cover for substation compound

3.4 Other permanent infrastructure

The wind farm design also includes:

- Access track network from the site entry to all turbine sites and the substation site (Figure 2.1)
- Five 33kV collections circuits comprising 33kV underground cables between groups of turbines and the substation. Communications and control cables are co-located with the 33kV cables.
- An Operations and Maintenance facility near the site entry and adjacent Macclesfield Road comprising:
 - a compound surrounded by security fencing
 - a building providing office desks, computer and communications facilities and amenities
 - a workshop and storeroom
- 16 Identiflight units (IDF11, Plate 4.1) located throughout the wind turbine layout in locations that provide optical coverage of all turbine sites and their surrounding areas.

Minor variations were made to the locations of access tracks and routes of 33kV cables and approved by EPA as minor modifications to the Design Report layout.

3.5 Temporary construction infrastructure

The wind farm design also allowed for temporary construction infrastructure including:

- Construction compound – now removed, after construction activities completed
- Two batch plant sites (eastern and western sites) – Now removed from site.
- Water Supply point for extraction from Lake Echo. No longer required, equipment removed.

3.6 Status of CHWF Works

Preparatory investigations and works occurred in March 2018 to prepare for construction that commenced on 13 August 2018. The project layout is shown in Figure 2.1. The full access network has been established and the civil works contractor returns intermittently to address aspects of rehabilitation of disturbed areas including weed control, drainage work and revegetation. All turbines were installed by February 2020 and commissioning had commenced from 19 November 2019. First Full Operations was achieved from 4 August 2020.

For the full reporting period, the project has been in the second year of operations phase.



Plate 3.1 – View east to T20 (foreground), substation and Turbines 4 to 6 in distance

6 Feb 2022



Plate 3.2 – View to northwest, to Substation and Cut-in poles, Central Turbines on ridgeline

6 Feb 2022



Plate 3.3 – View of installed CHWF 33kV/220kV substation

6 February 2022



Plate 3.4 – View west to T16, T24, T25 and T40 with Lake Echo in background

6 February 2022



Plate 3.5 – View south to Turbines 45 to 48. Significant woodland vegetation around these sites



Plate 3.6 – View north to Turbines 45 to 40. Woodland between Turbines and Lake Echo 7 Feb 2022

4 EPBC APPROVAL CONDITIONS AND PROPONENT RESPONSES

4.1 Overview of the EPBC Approval requirements

Since issue of EPBC Approval 2009/4839, the conditions of approval have been subject to a number of variations including:

- the revocation of Conditions 6 to 9 and 21.
- In the case of Condition 6, three Conditions 6A, 6B and 6C were added in place of the revoked Condition 6.
- Further variations occurred on 3 July 2020 to define first full operations in relation to commencement of the IDF trial under Condition 6C and requiring associated minor variation of Conditions 11 and 25.
- A further variation was advised by the Department on 12 October 2020 to vary requirement for publishing of Incident Reports required by Condition 10 on the Website to either reporting details required by Condition 10 for the incidents, on the CHWF Website or, by including these details within the Annual Compliance Reports that are required to be placed on the CHWF Website.

The following sections provide further details of the proponent's response to requirements of conditions that are applicable for this reporting period and describe the status of compliance requirements. Where relevant, implementation of management plans is also described. Details of the Compliance Status for each condition is also summarised in Appendix A.

4.2 Condition 1 – Wind Turbines no closer than 1,000m to a known eagle nest

Condition 1 requires that wind turbine generators are not constructed closer than 1,000 metres of an eagle nest. All 48 wind turbines have now been installed in compliance with Condition 1.

The CHWF Final Design is described in the CHWF Design Report, dated December 2017 and approved by Tasmanian EPA on 01 March 2018. The design incorporated setbacks of more than 1,000 metres from eagle nests '*Known Nests*' that were known at the time the Design Report was finalized. The setbacks satisfied the requirement of Condition 1 of the EPBC Approval (see Figure 4.1).

During 2018 and, after significant contractual commitments were made for the CHWF project implementation, it became evident that new eagle nests had been established. The presence of the new nests was discussed with both the Department and Tasmanian EPA and it was acknowledged that the occurrence of the new nests, or any subsequent new nests in respect of the original form of the conditions, could have made the project unviable.

Subsequently, both the EPBC Approval and EPN were varied to distinguish '*existing (Known) nests*' that were considered by the final design in 2017. New nests identified after the Final Design was established and significant project commitments were locked in, have been subject to further consideration by regulators, separately from the Condition requirements for '*Known Nests*'.

4.3 Condition 2 – Construction activities within 500m or 1,000m of an active nest

Condition 2 requires that construction activities do not occur within 500 metres of an active eagle nest during the breeding season or within 1,000 metres line of site of an active eagle nest during the breeding season. It is noted that the full 2021 review period applies only to operations.

Due to the Final design taking into account known nests, no construction activities were required within 1,000 metres of an active known eagle nest, whether in the breeding season or at other times. As indicated above, all construction works were completed by February 2020, well before the current 2022 Review Period.



Figure 4.1 – Wind Farm Layout, Design Report December 2017 and Exclusion Zones - Known Nests

There were two new nests within 1,000m of a turbine location (RND 2467 and Additional Nest 3 – See Figure 4.2) that were identified after the Final Design was confirmed). Condition FF2 of EPN 10105/1, was amended to require that an Active Nest Construction Environmental Management Plan and Eagle Nest Utilisation Monitoring Plan (ANCEMP and ENUMP) be prepared and submitted to EPA by 1 May 2019. The ANCEMP and ENUMP was submitted to EPA within the required timeframe and approved by EPA on 24 May 2019. Construction activities in relation to the two new nests RND 2467 and Additional Nest 3 were conducted in accordance with the Plan and are now complete.

The requirements of the ANCEMP and ENUMP were first applied from July 2019 including monthly reporting to the EPA on construction activities and nest monitoring results. All requirements of the ANCEMP and ENUMP were addressed by construction activities for the 2019/2020 Eagle Breeding Season from August 2019 to early February 2020. The project complied with EPBC Condition 2, EPN Condition FF2 and the EPA approved management plan, ANCEMP and ENUMP.

As construction has been completed, Condition 2 is no longer applicable for operations.

4.4 Condition 3 – Removal of carcasses from hunting and culling

Condition 3 requires, immediate removal of all animal carcasses from hunting and culling activities from within 500 metres of wind turbine generator locations from 12 months prior to commissioning and for the life of the wind farm.

Hunting and Culling has been occurring on the two properties where CHWF is located from well before the development commenced and is continuing in similar form, but with arrangements to ensure safe conduct in the vicinity of the development activities and with defined processes for record keeping in respect of numbers and types of carcasses together with details of their removal or disposal onsite.

Records of animals shot are prepared by shooters (species and number shot, location shot, location disposed and person removing the animal or carcass). The records are periodically forwarded to WCHPL, records are available since 2 June 2017, more than two years before commissioning. These records are available for analysis and are reviewed during preparation of this report.

Separate from the EPBC requirements, EPN 10105/1 Condition FF7, requires the preparation and approval of a Hunting and Culling Management Plan. The Plan was prepared by Joule Logic (5 November 2018), on behalf of WCHPL and, in consultation with landowners, shooting groups and the construction contractors. The Final Plan was approved by EPA on 20 November 2018. It designates certain exclusion zones for shooting including the Lake Echo Conservation Covenant and within 200m of wind turbines.

Lake Echo property recorded 8023 carcasses from culling for the report period, across a range of species on Lake Echo property through activities of hunters engaged by the property owner. Bashan Property recorded 591 carcasses that were all removed from site, none disposed on site.

Of the total 8,614 records, 1,649 (19.1%) were removed from site and 80.9% were disposed on site.

Four Carcass Disposal Areas (Figure 4.3, listed below) were approved by the Federal Minister that administers the EPBC Act and are required to be used, where activities are relevant to EPBC Conditions 3, 4 and 5. Only landowner 1 (Section 2.4), disposes carcasses at site. For those carcasses that are subject to Conditions 3 to 5 and disposed on site, they were disposed at the Pits as shown below.

- Top Ridge – No use for report period
- Mushroom – Inspected by CCEEW representatives in March 2021 (approx. 40.1% disposal)
- Five Mile – Carcass material placed on ground at this location (approx. 46.7% disposal)
- Bashan – Not used as hunters on that property have historically removed the whole animals.

The Disposal areas were originally open pits, located more than 500 metres from turbines. However, current pit locations have been transformed to covered pit disposal facilities to comply with the Tasmanian Animal Health Act. As indicated above, the form of covering has been seen by EPA and CCEEW.

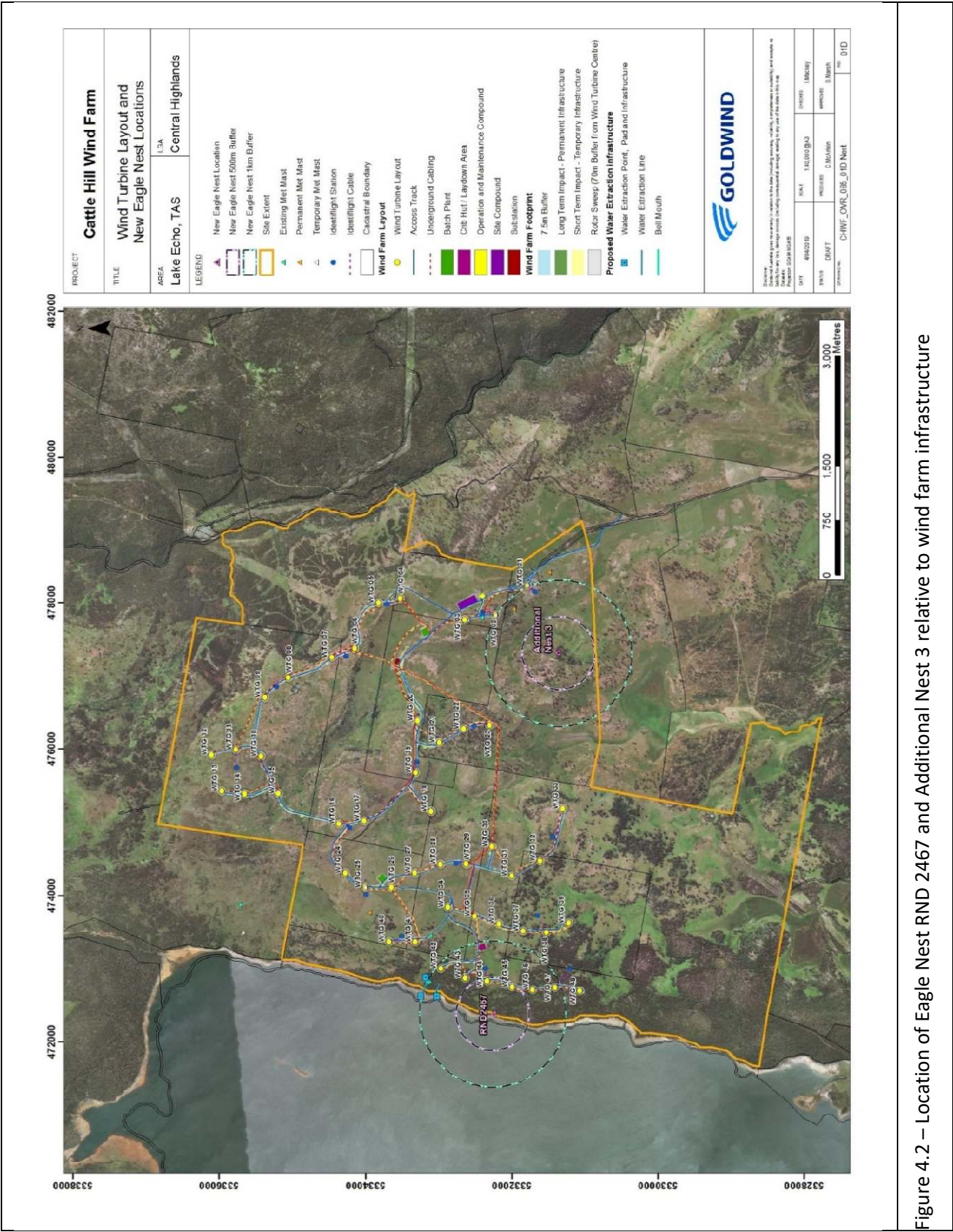


Figure 4.2 – Location of Eagle Nest RND 2467 and Additional Nest 3 relative to wind farm infrastructure

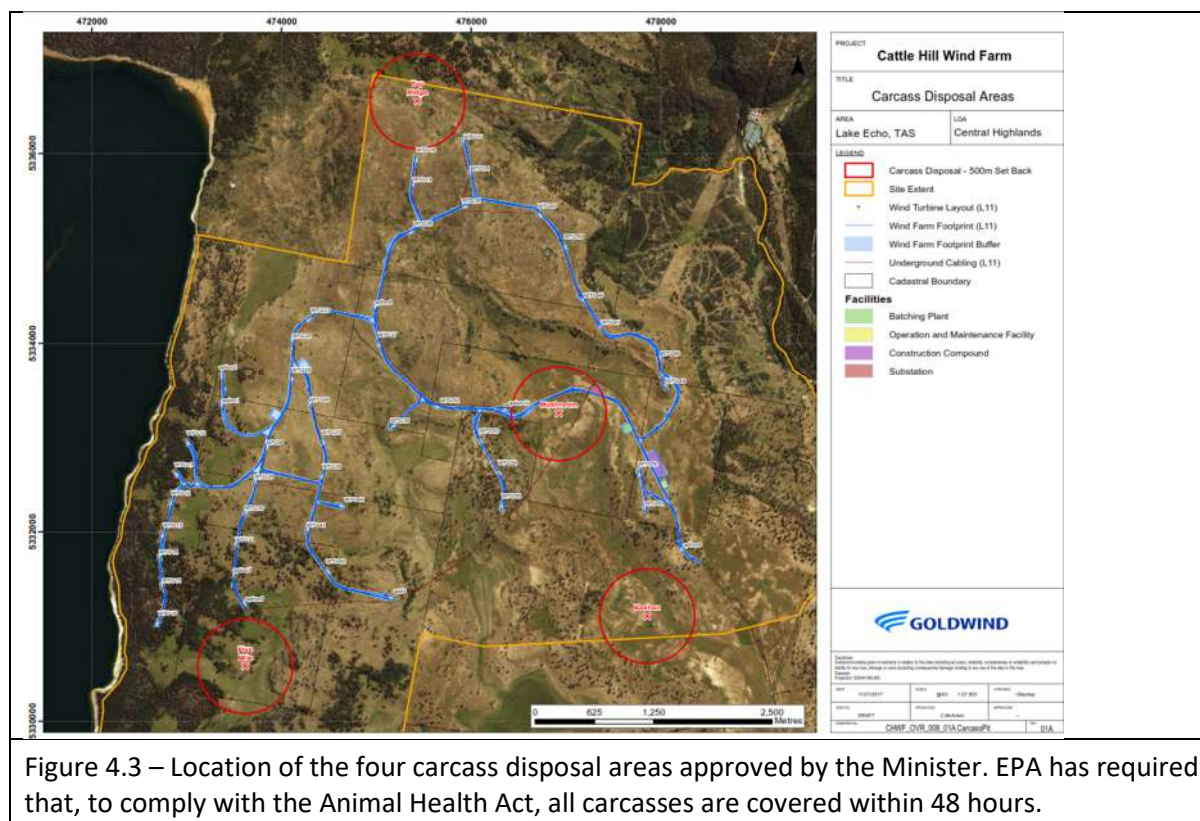


Figure 4.3 – Location of the four carcass disposal areas approved by the Minister. EPA has required that, to comply with the Animal Health Act, all carcasses are covered within 48 hours.

4.5 Condition 4 – Operations – Removal of carcasses from collisions with wind turbines

Condition 4 requires that during wind farm operations, animal carcasses resulting from collisions with wind turbines generators, vehicles and/or other regular farming activities within the wind farm site are removed on the day they are discovered and are placed in locations, approved in writing by the Minister, no closer than 500 metres from the wind turbine generator locations.

The wind farm commenced commissioning of the first turbine on 19 November 2019 and progressively increased the number of turbines operating until reaching first full operation of the wind farm from 4 August 2020 and has now been operating for over two years, including the full 2022 reporting period. Hunters have continued to undertake Hunting and Culling and maintained established disposal procedures and record-keeping, including use of approved carcass pits (See Section 4.4). Deceased stock may be found by landowners or carcass monitoring personnel, but none recorded to date.

The majority of carcasses are related to hunting and culling by organised hunting groups. Road kills on site are rare, due to reduced vehicle speeds on-site. There has also been a low number of avian collisions with turbines. Some of the carcasses from avian collisions are collected and stored for identification by ecologists and, in some cases, are placed in a freezer and retained for use in future scavenger trials associated with the intensive bird and bat mortality monitoring program under EPN 10105/1. Two Wedge-tailed mortalities occurred during the review period, and both were removed from site for necropsy to obtain relevant information on the Eagle, after which the Eagle specimens were left in the custody of Tasmanian Museum and Art Gallery (TMAG) for research purposes.

4.6 Condition 5 – Operations - Searches for Dead Calves during September each year

Condition 5 requires that daily searches are conducted for dead calves during September each year and any carcasses are removed from within 500 m of any wind turbines. Additionally, unless otherwise agreed to in writing by the Department, wind turbine generators must not operate during day light hours within 1,000 metres of paddocks where lambing is occurring. In the Department's letter of 14 February 2018, the Director

agreed to operation of turbines no closer than 500 metres from any lambing activities but that does not yet appear to have been changed in wording of Condition 5.

The wind farm operated during September 2021, within the report period, and no lambing occurred in the vicinity of the wind turbines that are being operated and therefore turbines continued to operate during daylight hours where wind conditions were suitable. The landowners undertake regular inspections of their properties and will respond to any stock carcasses on-site. Ongoing carcass monitoring has been arranged by WCHPL for the areas around wind turbines and any carcasses found are collected and disposed at on-site pits or, stored in a freezer on-site if required for the BBMMP purposes. No dead calves were recorded within 500 metres of any turbines and there were no requirements for WCHPL to arrange removal of dead calves.

4.7 Conditions 6A, 6B and 6C – Collision Avoidance and Detection Plan (CADP)

4.7.1 Compliance with Conditions 6A, 6B, 6C

Condition 6 has been revoked and replaced with Conditions 6A, 6B and 6C.

Condition 6A requires the preparation and submission of a Collision Avoidance and Detection Plan (CADP) to the Minister for approval. The CADP has been submitted to the Department and approval obtained on 29 May 2018. Requirements for Condition 6A have been completed. The CADP describes use of the Identiflight system on a trial basis. One of the 16 Identiflight units installed on site is shown in Plate 4.1 with two of the turbines in the background that are within its monitoring field.

Condition 6B requires that the wind farm not be commissioned until the CADP has been approved by the Minister. The CADP was approved on 29 May 2018, prior to the wind farm commissioning that commenced from 19 November 2019. Requirements are complete.

Condition 6C requires a detailed assessment of the effectiveness of the CAD system to be submitted to the Minister within 18 months of the earlier of first full operation or 1 September 2020. First full operation was notified on 5 August 2020 and this requirement applies from that time. The trial period is now complete and the CADP assessment report submitted initially in February 2022 and a revised final version in March 2022. The project is compliant with all requirements of Conditions 6A, 6B and 6C.

4.7.2 Overview of Identiflight system and performance

The Identiflight (IDF) system was trialled in accordance with the CADP. Identiflight commenced initial operation on 19 November 2019 and the 16 identiFlight stations were progressively implemented with all 16 Identiflight units available for full operations. The extensive amount of initial data gathered from November 2019 to July 2020 was comprehensively reviewed and analysed to assist the fine tuning of the system responses. The 18-month trial period from 5 August 2020 to 5 February 2022 is now complete all data including early information (from the commissioning period) was considered by reporting for the 18-month trial during operations. This report of the trial has been submitted to the Department.

Figure 4.4 shows the curtailment zones applicable for the IDF system's management of turbine operations. The cylindrical inner and outer radius zones set up three zones that when an eagle is detected, the system will respond differently as indicated in the diagram. Each of the cylinders has upper and lower thresholds that affect curtailments, similar to the lateral inner and outer radius.

The report of the 18 month trial indicated that the IDF system performance has been effective in limiting the number of Eagle collisions with the wind turbines but is not likely to prevent all collisions, although further improvements are being made to increase its effectiveness. Two Wedge-tailed Eagle Mortalities occurred during the 12 month review period and both were probable collisions at Turbine 46. Turbine 46 is at the western extent of CHWF within woodland and the surrounding tall trees and terrain combine to limit the IDF visibility of WTE protection zones and require further investigation of suitable mitigation and implementation at this location. Details of the two incidents for the report period are provided in relation to Condition 10 in Section 4.8.

The performance of the IDF system at CHWF (the first implementation of this innovative technology in Australia) has required:

- substantial attention to aligning IDF performance to the CHWF setting and Eagle species and behaviour requiring compilation of extensive data gained from the 16 IDF units,
- extensive involvement of engineers and technicians to align the IDF signals and logic and wind turbine communications and control systems to optimise wind farm performance while ensuring effective protection to Eagles at the locality. Some tree clearing to improve IDF visibility.



Plate 4.1 – View of one of the 16 Identiflight units installed at CHWF site and turbines in its viewfield

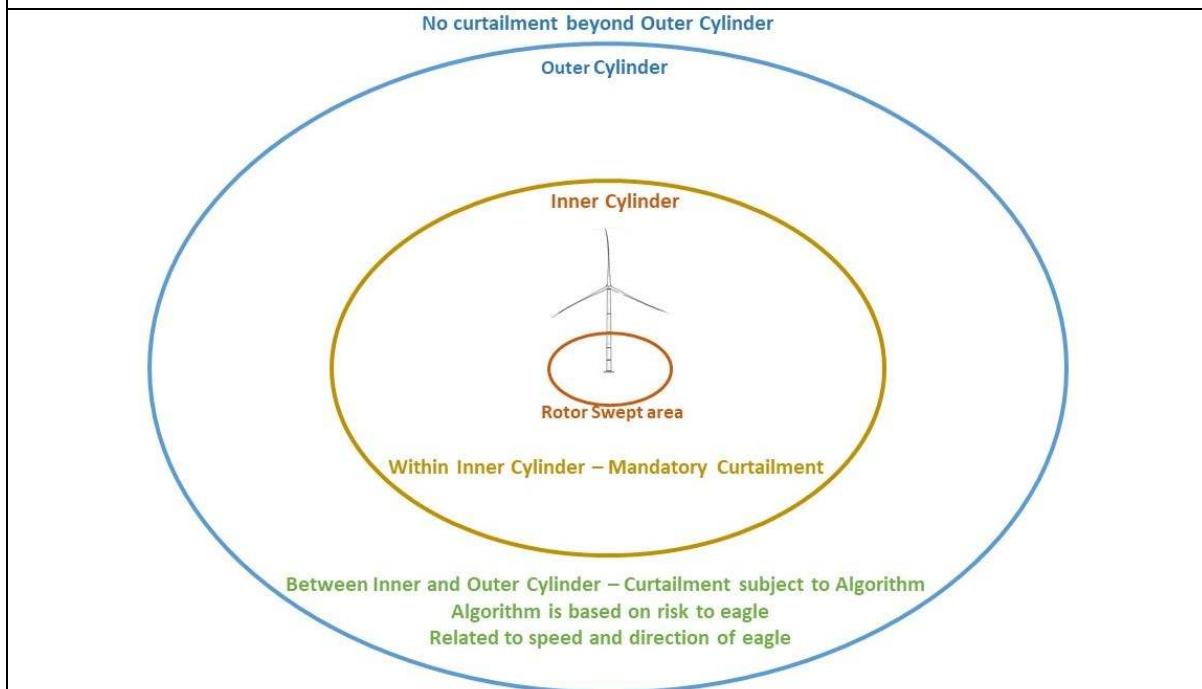


Figure 4.4 – Identiflight Curtailment Zones based on inner and outer cylinders around turbines. Each of the cylinders have similar upper and lower zones that are used by the system for curtailments.

4.7.3 Avian Mortality Monitoring Overview

Mortality monitoring required by the project approvals commenced from November 2019 (Phase 1 Surveys) and scaled up with commencement of full operations from 4 August 2020 (Both Phase 1 and Phase 2 Surveys). For this reporting period, mortality monitoring has included Phase 1 (weekly) surveys and Phase 2 (monthly) surveys described in the Bird and Bat Mortality Monitoring Plan (BBMMP) and summarised below:

Phase 1 surveys commenced before commissioning and have been ongoing around every turbine on a weekly basis, except any turbines that were not operating and/or access was restricted due to maintenance activities. This involves surveying around the turbine at distances of 40 and 80 metres from the base of the tower. The Phase 1 surveys were undertaken for 11 months of this reporting period, however, were discontinued from 12 July 2022. Cessation of Phase 1 surveys occurred approximately 5 months after completion of the IDF 18-month CADP trial and, after consultation with EPA and the Department.

Phase 2 surveys commenced in August 2020 (in conjunction with commencement of the start of full operations) and involves intensive monitoring for half of the turbines (24) being surveyed every second month and the other 24 surveyed on alternate months. The Phase 2 surveys involve two teams (one human, one with a detection dog) walking 6m transects out to 60m from the centre of the turbine, and 12m transects out to 120 metres (main surveys). Within three days of each main survey a separate “pulse” survey is undertaken with a detection dog out to 60 metres from the tower.

Phase 1 and 2 mortality monitoring has been undertaken in accordance with the Bird and Bat Mortality Monitoring Plan (BBMMP) approved under EPN 10105/1 Condition FF10. Results of the monitoring for the report period are shown in Table 4.1. As indicated above, Phase 1 ceased from 12 July 2022.

Table 4-1 - Results of Phase 1 & 2 Monitoring 13 Aug 2021 to 13 Aug 2022, under Tasmanian BBMMP

Avian Species mortality monitoring species recorded	Phase 1 and 2 Records - Mortalities by avian group and month												
	2021					2022							
Month	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
Wedge-Tailed Eagle *	0	1	0	0	0	0	0	0	0	0	0	1#	0
White-Bellied Sea Eagle	0	0	0	0	0	0	0	0	0	0	0	0	0
EPBC listed White Throated Needle-tail	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Native Birds **	3	7	5	8	15	11	9	6	7	18	3	2	4
All Native Bats	2	0	4	7	8	3	5	7	4	2	0	0	2
Note: * EPBC Listed include WTE, White throated Needle-tail ** - Other Birds, include those either not listed or, listed under Tasmanian TSP Act # - The WTE found in July 2022 was from an incidental find (IF001), rather than during Phase 1 or Phase 2.													

The above records (144 records, one WTE an incidental find) indicate an overall low level of avian collisions with turbines for the reporting period with the majority (142 or 98.6 %) being non-EPBC Listed species.

Two Wedge-tailed mortalities were recorded during the reporting period and are assessed as likely to have been due to eagle collisions with a wind turbine. No actual collisions were observed or detected by Identiflight, but the locations they were found give high probability to them being collision related.

While there have been two WTE mortalities, it is likely that IDF has significantly reduced the risk of eagle collisions with the wind turbines, particularly as the local population of eagles appears to have increased based on the analysis of the data available. Observations in the field by the site team, visiting regulators and ecologists conducting surveys have witnessed turbines shutting down as Eagles approach.

Table 4.2 – Species found for Phase 1 and 2 Mortality Monitoring for Report Period

Species (Bird or Bat)	EPBC	Phase 1	Phase 2	Total
Australian Magpie		6	4	10
Australian Pipet		0	3	3
Black-faced cuckoo shrike		0	1	1
Blue-Winged Parrot		1	1	2
Brown Falcon		7	5	12
Chestnut Teal		0	1	1
Chocolate Wattled Bat		1	3	4
Common Starling		2	10	12
Crescent Honeyeater		0	1	1
Eastern Rosella		0	4	4
Eurasian skylark		0	15	15
Fan-tailed cuckoo		0	1	1
Flame Robin		0	2	2
Forest Raven		2	0	2
Goulds Wattled Bat		2	8	10
Green Rosella		0	2	2
Grey Currawong		1	13	14
Grey Fantail		1	0	1
Grey Teal		1	0	1
Horsfield's Bronze-cuckoo		1	0	1
Large Forest Bat		4	15	19
Little Forest Bat		0	2	2
Noisy Miner		0	2	2
Pacific Black Duck		1	0	1
Silvereye		5	9	14
Shining bronze cuckoo		0	1	1
Southern Forest Bat		3	2	5
Spotted Pardalote		1	2	3
Striated Pardalote		5	3	8
Tasmanian pipistrelle		0	1	1
Tree Martin		2	1	3
Unidentifiable Bat		4	1	5
Unidentifiable Bird		8	10	18
Wedge Tailed Eagle	Yes	1	1	2
Welcome Swallow		1	0	1
White Faced Heron		0	1	1
Yellow Throated Honeyeater		0	1	1
Yellow Tipped Pardalote		1	0	1

EPBC Approval, Conditions 7, 8 and 9 have been revoked.

4.8 Condition 10 – Notification and Reporting of an Eagle collision with a Turbine

Condition 10 requires notification to: *“the Department by email within 24 hours of any collision between a wedge-tailed eagle or white bellied sea eagle and a wind turbine. Within one week of the initial notification, the person taking the action must submit to the Department a detailed collision report, that as a minimum includes:” (items (a) to (e) of Condition10).*

WCHPL has complied with all aspects of Condition 10 for notifications and Incident Reporting as described below.

All 48 wind turbines were operational during the reporting period. Avian mortality monitoring (Phase 1), around wind turbines, commenced from the commissioning of the first turbine and was scaled up (Phase 2 included) from commencement of operations from 04 August 2020. Both Phase 1 and 2 continued until 12 July 2022, when Phase 1 ceased, and Phase 2 continued to the end of the reporting period and beyond.

4.8.1 Eagle Mortality Incidents during the report period

Two Wedge-tailed Eagle mortality incidents (WTE Incidents 3 and 4), were recorded during the reporting period and attributed to collision of an eagle with a wind turbine. No incidents involving White Bellied Sea Eagles have occurred, despite recent high activity and regular occurrence within the site.

Two Wedge-tailed Eagle mortalities is less than the annual average of pre-construction mortality estimates (Biosis Collision Risk Modelling). The cumulative mortalities of 4 (for the operations phase) is also half of the Biosis estimates for the first two years, which is a positive indicator of IDF effectiveness.

WCHPL is confident that the reason for the reduced impact is due to the successful installation and application of the IDF system that curtails specific turbines when an eagle’s flight behaviour triggers Identiflight criteria, indicating the Eagle may be at risk of collision.

The 18-month Trial Report (March 2022) concluded that the Identiflight System provides very effective mitigation of the risk to eagles, however there are some limitations due to vegetation and topographical screening which means it may not be possible to prevent all eagle collisions with turbines. However as additional measures have been implemented following each mortality to date, risk is being progressively reduced and risk mitigation effectiveness is expected to improve over time.

For each of the two Eagle mortality Incidents (WTE Incidents 3 and 4), the Department and EPA were notified within 24 hours of the deceased Eagle being found, as is required by the respective approvals. Incident reporting followed within the required timeframe. In the case of Incident 3 (September 2021), a supplementary report was submitted after necropsy reports and thorough review of IDF records was available. The Condition 10 required details of Incidents 3 and 4 are summarised in Section 4.8.2 and 4.8.3.

4.8.2 Incident 3 - Wedge-tailed Eagle Mortality T46 – Found 22 September 2021

A Wedge-tailed Eagle (BB0066) was found approximately 90m the east of Turbine 46 on 22 September 2021. The Eagle was collected by the Site team and sent to Bonorong for X-Ray and subsequently transferred to Tasmanian Museum and Art Gallery (TMAG) for Necropsy.

A detailed incident investigation followed the finding of the Eagle and was reported to CCEEW and EPA, initially with preliminary findings on 24 September 2021 and in an updated report on 19 October 2021, after the Necropsy and IDF investigations were completed. A summary of details is provided in Table 4.3.

On 11 October 2021, approximately 7 trees were removed to the southwest of IDF2 to improve IDF’s coverage of areas to the southwest, including in relation to Turbines 45 and 46. Ongoing investigations in relation to Turbine 46 indicate a need for extensive tree removal or installation of an additional IDF unit near T46 with possibly some targeted tree removal. The latter option is subject to planning in 2022.

Table 4.3 WTE Mortality Incident 3 at Turbine 46 - Condition 10, Notification and Reporting

	EPBC Condition 10 Requirement	WCHPL Response to Condition 10 requirement
	Notification within 24 hours of collision	The Eagle was found at approx. 10:25am on 22 September 2021 (Incident BB0066). The incident was notified to regulators within approximately 24 hours of discovery, by email at 10:31am on 23 September 2021.
	Submit Incident (detailed collision) Report within 1 week of notification	An Incident Report was submitted to CCEEW and EPA on 24 September 2021 (1 day after notification). An updated incident report was submitted on 19 October 2021, after receipt of Necropsy and additional review of Identiflight records and mitigation options, information that was not available at time of the initial incident report.
a	The species of eagle, the sex and estimated age	The species was confirmed by a vet as: <ul style="list-style-type: none"> • a Tasmanian Wedge-tailed Eagle (<i>Aquila audax</i>). • Male • Adult
b	The nature of injuries or mortality and cause as reported by a veterinarian.	The specimen was assessed by a vet including x-rays (23/9/2021) and reported in a Necropsy Report, (13/10/2021) and was found to have: <i>“Multiple fractures and internal trauma, likely due to collision with hard object. Injuries are consistent with collision with a wind turbine.”</i> The Eagle had total length 938mm, wingspan 1906mm and weight of 3.95kg.
c	The nearest turbine to where the injured eagle or carcass was found	Found 90m east of the tower of Turbine 46, and approximately 20m further than extent of the blade tip when blade horizontal and oriented east-west.
d	Details of how the injury or mortality was caused and proposed response to prevent further mortalities occurring	The most likely cause of the mortality is a collision with Turbine 46, however, a collision was not observed and other causes such as Eagle conflict are not ruled out. The IDF system is designed to shut down turbines when an eagle is at risk of collision and the system appears to be very effective for much of the CHWF site. However, for western sites within the woodland areas east of Lake Echo, IDF visibility is constrained. Turbine 46 is primarily covered by IDF2 and 3 and the viewfield for each of these IDF units is limited by trees between the units and T46. Investigation of mitigation measures is continuing and due to two further mortalities at Turbine 46, the turbine has been temporarily shut down, prior to this report.
e	If the eagle was injured, information about its condition, including if and how the eagle will be rehabilitated and re-released.	Not applicable.

4.8.3 Incident 4 - Wedge-tailed Eagle Mortality at T46 – Found 18 July 2022

A deceased Wedge-tailed Eagle (IF 001), was found approximately 80 metres to the northeast of Turbine 46 on 18 July 2022. It was found in relatively fresh condition and the mortality may have occurred a day or two before it was found. The Turbine blades for Turbine 46 were inspected for any damage (none found) and Identiflight and SCADA records were reviewed for a short time before the Eagle was found on 18 July 2022, however no evidence of an eagle collision was identified.

The Department and EPA were notified of the WTE mortality and, an incident report followed within the required timeframes. Information such as Necropsy Report and IDF and SCADA records analysis take longer to obtain and the incident report was provided at the end of the allowable period providing comprehensive incident review for benefit of the project team, CCEEW and EPA.

Table 4.4 WTE Mortality Incident 4 at Turbine 46 - Condition 10, Notification and Reporting

	EPBC Condition 10 Requirement	WCHPL Response to Condition 10 requirement
	Notification within 24 hours of collision	The WTE specimen was found at 1:15pm on 19 July 2022 (IF001). Notification occurred at 1:58pm on 20 July 2022, within 25 hours of detection of the deceased eagle. The exact time of collision was not able to be confirmed.
	Submit Incident (detailed collision) Report within 1 week of initial notification	An Incident Report was submitted to the Department and EPA on 27 July 2022 (within 7 days of notification). including a Necropsy Report and analysis by the US IDF team and GWA.
a	The species of eagle, the sex and estimated age	The eagle was confirmed as: <ul style="list-style-type: none"> • a Wedge-tailed Eagle • female • adult
b	The nature of injuries or mortality and cause as reported by a veterinarian	The specimen was assessed by a vet including x-rays (20/7/2022) and reported in a Necropsy Report, (20/07/2022) and was found to have: <p><i>“Severe internal trauma and fractures to left tibia and right tarsus, due to collision with hard object. Injuries are consistent with collision with wind turbine and/or heavy landing on the ground. Lacerations to neck and foot most likely inflicted by another bird”.</i></p> <p>The Eagle had total length 986mm, wingspan 2065mm and weight of 4.75kg.</p>
c	The nearest turbine to where the injured eagle or carcass was found	The Eagle was found approximately 80 metres northeast of Turbine 46 Tower.
d	Details of how the injury or mortality was caused and proposed response to prevent further mortalities occurring	Despite an incident not being detected, the veterinarian and avifauna expert opinions indicated the trauma was due to a collision with a hard object, and that injuries were consistent with collision with a wind turbine, but also indicated injuries inflicted by another bird. The injuries by another bird could indicate an avian conflict which could have contributed to risk of collision with the turbine.

		<p>The IDF system is designed to shut down turbines when an eagle is at risk of collision and the system appears to be very effective for much of the CHWF site. However, for western sites within the woodland areas east of Lake Echo, IDF visibility is constrained. Turbine 46 is within woodland and primarily covered by IDF2 and 3. The viewfield for each of these IDF units is limited by trees between the IDF2 and Turbine 46.</p> <p>Investigation of mitigation measures at the T46 is continuing and due to two further mortalities at Turbine 46, the turbine has been temporarily shut down, prior to this report.</p>
e	If the eagle was injured, information about its condition, including if and how the eagle will be rehabilitated and re-released.	Not applicable.

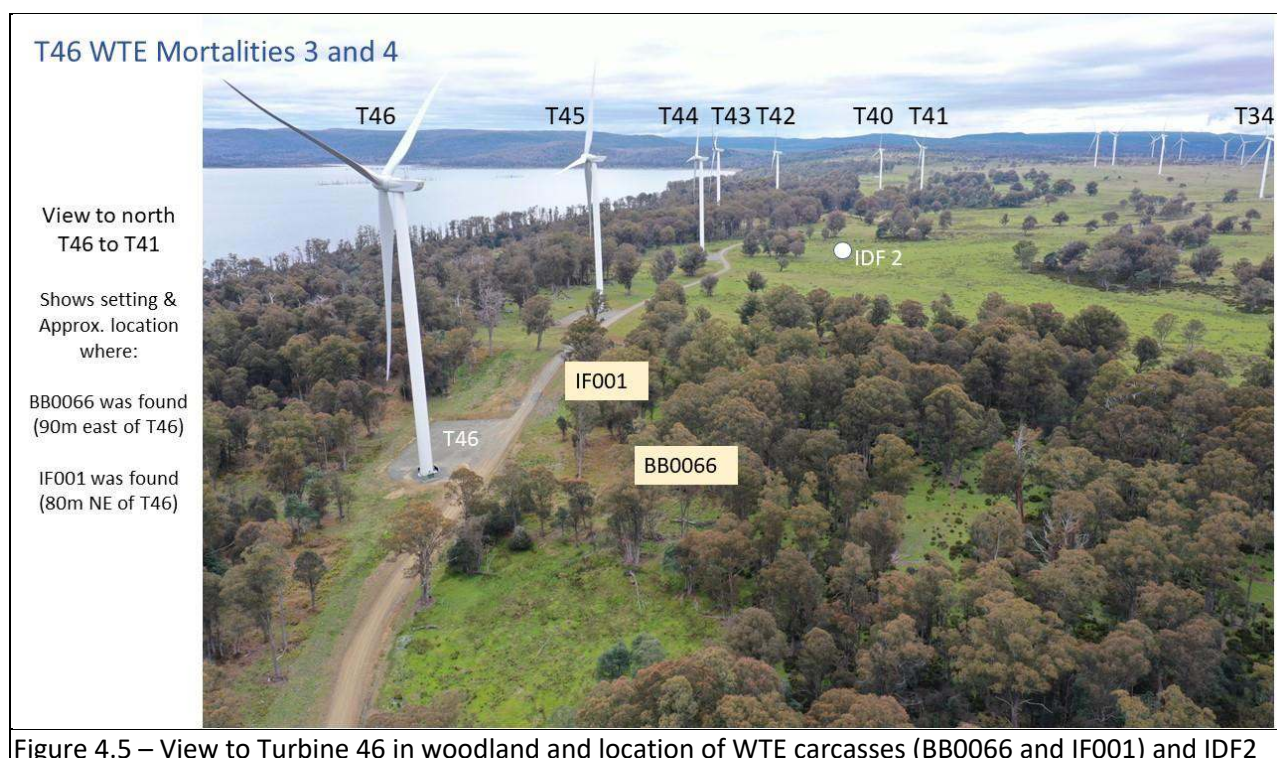


Figure 4.5 – View to Turbine 46 in woodland and location of WTE carcasses (BB0066 and IF001) and IDF2

Eagle activity at the CHWF site appears to have increased in 2022 and further WTE mortalities occurred beyond the reporting period that will be reported in the next Annual Compliance Report. It is noted that action is continuing to strengthen mitigation measures for the project and the Department and EPA are being consulted in regards to any further incidents and further proposals for mitigation.

4.9 Condition 11 – Revised CADP within two years following commissioning

Condition 11 requires that: *“Within 2 years following the earlier of first full operation or 1 September 2020, submit for the Minister’s written approval a revised CADP containing details of the collision avoidance and detection system proposed to be subsequently implemented (including technologies installed and practices undertaken) for monitoring WTE movements, preventing WTE collisions with turbines and recording collisions.”*

Notification that the wind farm had reached first full operation was provided to the Department on 5 August 2020, approximately 2 years and one week, prior to this reporting period. Based on the timing of the commencement of operations, Condition 11 required submission of a revised CADP by 5 August 2022. A revised CADP was submitted to the Department by 03 August 2022.

The report is understood to be under review by the Department and WCHPL awaits the Department response and, once accepted, the Minister's written approval.

4.10 Condition 12 – Maintain records of searches required by Condition 11

Condition 12 requires: *“Keep and maintain accurate records of each physical search conducted as required by Condition 11, including date, time, turbine number and research findings”* and that: *“These records must be provided to the Department on request.”*

Condition 11 is not definitive on the specific monitoring requirements, but requires a revised CADP that *“must include a collision monitoring programme for eagles based on a statistically valid sampling regime which applies current best practice and satisfies the requirements of EPA permit condition FF10.”*

Elements of monitoring (physical searches) that are considered relevant are:

- Mortality Monitoring under EPN 10105/1 Condition FF10 and applicable to the EPBC Approval as outlined in Section 4.7.3, has occurred for Phase 1 (weekly) and Phase 2 (monthly) monitoring. Summaries of results, for the report period, are shown in Tables 4.1 and 4.2, that are derived from the more detailed records of the mortality monitoring undertaken under Phase 1 and Phase 2 and going forward, Phase 2 only.
- Identiflight Eagle Tracking Records and Curtailment Details. A substantial amount of detail has been accumulated on WTE movements and other birds present with the vicinity of the CHWF wind turbines. This includes tracks of Eagle movements and behaviour. The system has the advantage of being designed to trigger turbine shut-downs where Eagles are at risk.
- Nest checking within 2km of CHWF and 2km to 10km outside CHWF site and associated records.

The 2022 reporting period aligns approximately with the second year of CHWF operations, for which extensive Phase 1 and 2 mortality monitoring has been undertaken. The monitoring has been in accordance with the Bird and Bat Mortality Monitoring Plan (BBMMP) approved by Tasmanian EPA under EPN 10105/1 Condition FF10. Records of all monitoring are kept and stored in a dedicated database and can be readily retrieved and analysed as required. Summaries are provided in Tables 4.1 and 4.2.

Additionally, the substantial monitoring by Identiflight's 16 Stations, each with multiple cameras provides a comprehensive record of avian activity, particularly the movements and behaviours of the two eagle species present on site, but also in relation to other raptors, waterbirds, migratory species, and to a lesser extent bats. Identiflight's visual capability is utilised during daytime hours and oriented to Eagle protection and not applicable to nocturnal species. From the data gathered by the Identiflight system, GWA has developed a species matrix which is now stable (no new species being added) which shows all species detected on site, and the seasonal patterns of their activity. This includes the EPBC listed White-Throated Needletail.

The previous reporting periods have accumulated information on species present within the site, the training of the CHWF Identiflight Neural Network and, supported adjustment of the systems turbine curtailment criteria to optimise WTE protection and CHWF renewable energy generation.

At the end of the 2022 reporting period, the IDF system has generated approximately 10 months of data prior to first full operations and a further 24 months of data gained during operations. The 18-month trial period that commenced with the start of operations is now complete and has been reported upon.

Despite two eagle mortalities having occurred in the second year of operations, cumulative collisions are significantly less than pre-construction mortality estimates predicted by the Collision Risk Modelling (CRM)

undertaken by Biosis and the cumulative mortalities are expected to be significantly lower than would have occurred without Identiflight operation. This is a pleasing result and is strengthened by further ongoing efforts to improve IDF/CHWF system performance for protection of Eagles.

4.11 Condition 13 – All wind farm roads signposted with max 40kph speed limit

Condition 13 requires:

“Ensure that all roads within the wind farm site are clearly signposted requiring all vehicles to travel at no more than 40 kph and ensure that this is a requirement for all drivers within the site except in an emergency.”

The Site Service Team (Operations) has responded to the Condition 13 requirement by:

- Including the requirement for 40 kph speed limit in site induction material that all site personnel are required to undertake so that they are aware of requirements
- Placing signage around the site clearly showing the 40kph speed limit (Plate 4.2 and 4.3)
- Reminders for speed restrictions is regularly provided as part of pre-start meetings,
- Requiring 30km per hour limit from Dusk to Dawn with signage as per Plate 4.4.



Plate 4.2 – 40 kmph site speed limit sign at entry



Plate 4.3– 40kmph speed limit signage T25-T26

The Site Service Team has advised that a check has been done on the maintenance of site speed signs and advised that an adequate level of signage is maintained from the site entry across the site.

As well as the requirement for 40km signage, additional signage has also been established on-site requiring a speed limit of 30kph from dusk to dawn for the protection of native animals that are active at night-time (Plate 4.4).

The resultant low incidence of on-site road-kills is likely to be largely attributed to control of vehicle speeds.

Plate 4.4 – 30kmph Signage Dusk to Dawn



4.12 Condition 14 – Daily checks on all wind farm roads for road-kills

Condition 14 requires that: *“Prior to construction commencing each day, ensure all roads proposed to be used that day are free of road-kill and any animal carcasses are placed in locations approved in writing by the Minister no closer than 500 metres from wind turbine generator locations.”*

The construction phase of the CHWF development is complete and was associated with a very low incidence of road-kills. That was likely due to the reduced speed limit for on-site roads. In contrast, off-site roads that have higher speed limits appeared to have regular occurrences of road-kills.

The construction phase was completed in 2020, the last turbine was installed in February 2020 and the construction staff progressively demobilised in the period leading to commencement of operations in August 2020.

The 2022 review period relates to operations phase only. Overall, there have been very few instances of on-site road-kills. The disposal of the few carcasses arising from on-site road-kills have sometimes required investigation, particularly if the carcass was for a threatened species. For example, a quoll that was found deceased on an access track near the construction compound for a previous review period, was forwarded to Bonorong Wildlife Centre for autopsy to determine the cause of death. There were no similar occurrences for the 2021 or 2022 review periods.

While Condition 14 is not applicable for operations, records of any incidental carcasses are kept. Only the small Service Team is regularly at the site, and they report any occurrences of road-kills or incidental finds (separate to the scheduled mortality monitoring). For any such finds, they initiate collection and appropriate disposal of the carcasses or, if relevant, investigation of causes of mortality or injury.

4.13 Condition 15 – WTE monitoring as required by Permit Conditions FF4 and FF 5

EPBC Approval 2009/4839 Condition 15 requires the completion of:

“The Wedge-tailed Eagle monitoring arrangements required by the amended Tasmanian planning permit DA 2019/19, Conditions FF4 and FF5 (EPN 10105/1).”

4.13.1 Tasmanian EPN, Condition FF4 – Requirements are complete

Condition FF4 requires that:

“Prior to commissioning the wind farm an eagle nest search of the Central Highlands Region must be conducted by a suitably qualified and experienced person and the results submitted for inclusion in the Natural Values Atlas.”

SFM was engaged to undertake the required WTE monitoring for the Central Highlands and completed the survey and report in February/March 2018. The report was submitted to EPA on 9 April 2018 and was subsequently approved by EPA on 8 June 2018. Requirements of Condition FF 4 are complete.

4.13.2 Tasmanian EPN, Condition FF5 – Monitoring in Progress

Condition FF5(1) required that:

“Unless otherwise approved in writing by the Director, an Eagle Nest Productivity (in and around the wind farm site) Monitoring Plan must be submitted to the Director for approval 6 weeks prior to construction.”

The CHWF Eagle Nest Productivity Plan (under Condition FF5) was submitted to the EPA on 2 October 2017, and approved by the EPA on 30 October 2017.

Surveys under the Condition FF5 Eagle Nest Productivity Plan, out to 10km from CHWF, commenced in the first Breeding Season (2020/2021) after commencement of operations and continued in the 2022 reporting year. In implementing the Plan, separate monitoring has been arranged as follows:

- for **CHWF site and near site observations** were undertaken from the ground by **VDC** that has previously undertaken all on-site Eagle Nest checks at site. They surveys were conducted in November 2020 and, for the reporting period, in mid-November 2021.
- separately **surveys of areas beyond CHWF out to 10 km** were undertaken by **Nick Mooney (NM)** using a small plane to cover the extensive survey area. Nick Mooney suggested two phases of survey, not just second week of November as per the Plan, as the two phases were more effective.
 - October for identifying initial nest activity, and
 - December survey indicating success of breeding by the presence of fledglings, i.e. productivity of the nest.
- The timing and methodology for the **offsite nest** activity and productivity checks were agreed by EPA and have occurred as follows over the 2021 and 2022 reporting periods:
 - October 2020 and December 2020 (2021 reporting period)
 - October 2021 and December 2021 (2022 reporting period)

Details of surveys undertaken in the 2021/2022 breeding season, within the reporting period, are shown in Table 4.5. Further nest checks will occur in latter part of 2022 and results will be included in the 2023 ACR.

Table 4.5 – Monitoring of Eagle Nest Productivity (EPN Condition FF5)

Date	Location	Scope	Coverage	Results
21/10/2021 (NM)	Beyond CHWF	Nest Activity Check	49 known Nest sites (NVA data) checked. 11 confirmed as active.	Of the 49 nests checked, 21 nests were not seen and 1 was derelict. These nests are likely to have been destroyed by bushfire and may have been re-established in alternative locations which are unknown. Of the remaining nests, 22 were viable, and of those, 11 were confirmed as active.
29/12/2021 (NM)	Beyond CHWF	Nest Productivity Check	Two additional nests were identified as active in December 2021. All 13 Active Nests were checked including the 11	Of the 13 Active nests checked, 8 had successfully produced fledglings, two were inactive, and three failed.

			identified as active in October 2021.	
November 2021 (VDC)	At CHWF or within 4km of CHWF	Nest Productivity check	<p>14 Nests reviewed by VDC. These nests included RND 1703, 1918, 1318, 1829, 1723, 2467, 1812, 2570, 1724, 1751, 2569, 2469, 2470 and Additional Nest.</p> <p>Nests not checked within 4km were RND 872 (western bank of Lake Echo), 490 (does not exist) and 1320 (north of 1829).</p>	<p>Of the 14 nests checked, three (RND 1829, 1318 and 2469) were confirmed as active, and the remaining nests either inactive or uncertain.</p> <p>VDC noted nest activity in the southern part of the wind farm was uncertain and nesting may have been delayed by colder than usual weather, with potential for some eagles to not nest at all this season, and/or be nesting in locations which are now unknown.</p>

The results indicate three active nests within proximity to CHWF (Figure 4.6), but not within the site (refer Figure 4.6) and eleven active nests more distant, eight of which were successful. Surveys are required for up to 3 years, after which a review will be made to determine whether the surveys have achieved the objective of the Plan.

Requirements of EPBC Condition 15 in relation to Condition FF4 are complete. The requirements in relation to Condition FF5 are being addressed and are ongoing.

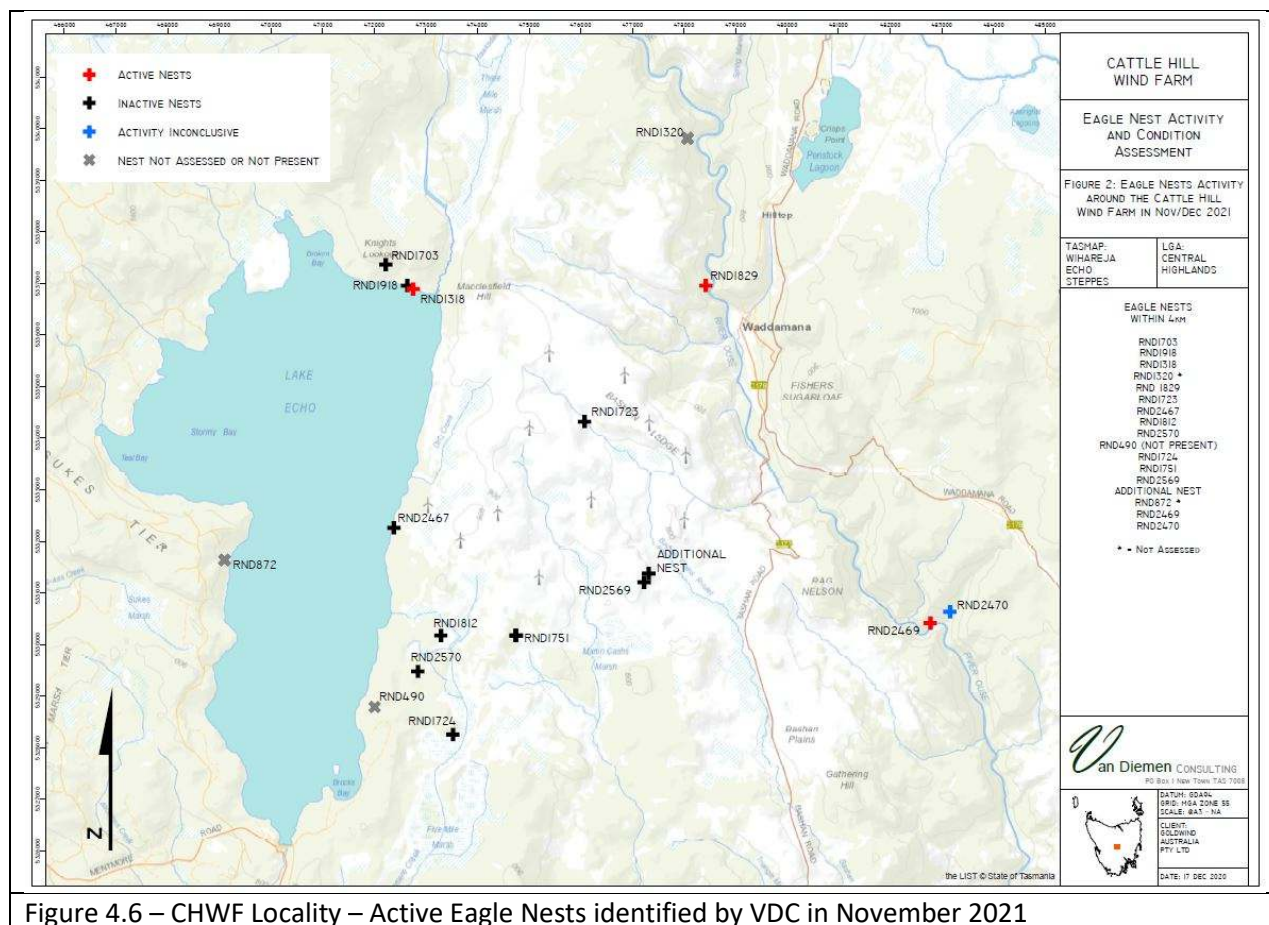


Figure 4.6 – CHWF Locality – Active Eagle Nests identified by VDC in November 2021

4.14 Conditions 16 and 17 – Funding of Research for long term conservation of WTE

Conditions 16 and 17 relate to arrangements for funding a research plan to inform the long-term conservation of WTE and commencement of funding for the research plan. Condition 16 requires the submission of the plan to the Minister for approval and the wind farm must not be commissioned until the plan is approved and implemented. Condition 17 requires commencement of implementation of the approved research plan.

Note 1 appended to Condition 16 states that:

“The Minister may determine that a plan, strategy or program approved by the Tasmanian Government in accordance with EPA conditions FF5, FF6, FF13, FF14 and FF15 satisfies the requirements for the Plan required under conditions 16 and 17.”

EPN Condition FF15 and the EPA approved Eagle Mortality Offset Plan (EMOP) included provision for Eagle Research funding and was accepted by the Department, as satisfying requirements of EPBC Conditions 16 and 17. Email advice was received from the Department on 29 October 2019, stating that; based on the information provided to the Department that requirements of Condition 17 have been met. As Condition 17 relates to the implementation of the Research Plan required by Condition 16, this indicates that requirements of both Condition 16 and 17 have been met. Accordingly, WCHPL has implemented the EMOP provisions, satisfying EPN Condition FF15 and EPBC Conditions 16 and 17.

WCHPL appointed NRM South to implement and manage a Wedge-tailed Eagle Research Fund to offset the impact of mortalities due to collisions with wind turbines at Cattle Hill Wind Farm. The Fund aims to support critical studies into the Tasmanian sub-species and is designed to allow other proponents or organisations to contribute to it.

Annual payments (first in 2019) have been made to NRM South, that administers the Fund. Payments comprise CPI adjustments to the annual payment amount and, will be made on an ongoing basis for at least 10 years, or longer subject to EPBC Condition 20 review. Table 4.6 lists WCHPL payment amounts to the Eagle Research Fund, with contributions of \$376,092.79 over the first four years of the NRM South Wedge-tailed Eagle Fund.

Table 4.6 – CHWF – WCHPL Payments for Eagle Research Funding

Date	CHWF - Project Phase	Amount paid to NRM South (incl. GST)	Cumulative amount (incl. GST)
2019	Pre-commissioning, 1 st payment	\$ 90,078.95	\$ 90,078.95
2020	Operations (1 st year)	\$ 90,703.40	\$ 180,782.35
2021	Operations (2 nd year)	\$ 94,578.94	\$ 275,360.29
2022	Operations (3 rd year)	\$ 100,732.50	\$ 376,092.79

WCHPL continues to comply with the requirements of Conditions 16 and 17 in respect of Eagle Research Funding, through the funding arrangements described in the EPA approved EMOP. Condition 18 has provision for assessing the effectiveness and relevance of the Research Plan (see Section 4.15).

It is noted that in addition to the Eagle Research Funding described in this Section, WCHPL has contributed very significant expenditure for installation of the innovative Eagle Protection System, Identiflight (described in Section 4.7) and, is committed to further expenditure for its ongoing operations and maintenance as well substantial commitment for analysis of results and efforts to optimise its performance in protecting Eagles at the CHWF Site. Huge amounts of data are being compiled from the IDF data collection processes (since November 2019) that can better inform research on Eagle behaviour. Together with monitoring under EPN Conditions FF5 and FF6, WCHPL has significantly aided ongoing Eagle Research.

Appendix B provides a copy of the September 2022 NRM South Report on Eagle Research Fund activities.

4.15 Condition 18 – Review effectiveness of Research Plan five years after its approval

Condition 18 requires that:

“On each fifth anniversary of the approval of the research plan, or at the direction of the Minister, the person taking the action must engage a suitably qualified expert to review the effectiveness and relevance of the research plan required by condition 16. Within 90 days of each five year anniversary, the person taking the action must provide a report to the Minister outlining any recommendations and alternative measures to offset impacts to the wedge-tailed eagle. The Minister may require the person taking the action to implement the recommendations and alternative offsetting arrangements.”

This is a future requirement and not applicable for this reporting period. It is noted that the provisions for the payments to the WTE Research Fund are described in the CHWF Eagle Mortality Offset Plan approved by EPA on 21 December 2018, under EPN 10105/1 Condition FF15.

A five-year time frame from the Research Plan approval (under EPN 10105/1 FF15, the EMOP) would be 21 December 2023. However, if based on commencement of Research funding, which may be more relevant, the timing would be 29 October 2024.

A link to the NRM South website, which provides further details about the fund, is provided below:

<https://www.nrmsouth.org.au/wedge-tailed-eagle-research-fund/>

At the time of writing, the NRM South Eagle Research fund is entering its fourth year since it was commenced (see Section 4.14 and Appendix B).

4.16 Condition 19 – Further funding in relation to WTE mortality or injury

Condition 19 requires that

“For each actual wedge-tailed eagle mortality or injured wedge-tailed eagle that cannot be released into the wild, occurring above 2 actual mortalities or injured wedge-tailed eagles that cannot be released in to the wild in any calendar year, fund a raptor or wildlife centre to rehabilitate an injured or sick wedge-tailed eagle and release that wedge-tailed eagle into the wild at an ecologically suitable location to the satisfaction of a suitably qualified expert”

Two wedge-tailed eagle mortalities occurred during the 2021 reporting period (one in each calendar year) in relation to the wind farm operation which has not exceeded the requirement of Condition 19 during the reporting period. Condition 27 also requires that the Annual Compliance Report requires a Chapter relating to Eagle rehabilitation in response to Condition 19. As the requirement of Condition 19 was not triggered, this report does not have a chapter addressing that issue.

Note 2 included with EPBC Approval Condition 19 states that: *“The Minister may determine that satisfaction of Tasmanian EPA condition FF15 – 3.3 satisfies the requirements of the condition.”*

The Eagle Mortality Offset Plan prepared in response to Condition FF15 and approved by EPA on 21 December 2019, does include relevant provisions that address the requirements of the EPBC Condition 19. However, no determination has been received from the Minister as to whether the EMOP satisfies the EPBC Condition 19 requirements. This needs to be discussed further with the Department, potentially in relation to WTE mortality incidents for 2022 that have exceeded 2, beyond the current reporting period.

4.17 Condition 20 – Review of requirements after 10 years of operations (August 2030)

Condition 20 allows for the person taking the action, after 10 years of operation, if it can be demonstrated that the wind farm is not impacting the Wedge-tailed Eagle, *“to request approval from the Minister to cease implementing conditions 11 (if required) and 17.”*

This is a future requirement and based on first full operations having been notified on 5 August 2020, will not be applicable until 5 August 2030.

Condition 21 has been revoked.

4.18 Condition 22 – Weed Management Strategy

Condition 22 requires that three months prior to commencement of construction, the approval holder must submit a Weed Management Strategy to the Minister for Approval and once approved, the Weed Management Strategy must be implemented.

As per EPBC Approval Condition 22(a), the Strategy must include details on how construction activities will be managed. The focus on construction phase is appropriate given the significant earthworks and site disturbance that occurs during construction. The operational phase has lower risk for weed introduction and dispersal.

The CHWF Weed Management Plan was approved by the Minister's delegate on 14 December 2017 as satisfying the requirements of Condition 22 of the EPBC approval. In respect of implementation, the following elements have been applied for the project:

- Weed mapping and identification of relevant weeds for the site. Ecological mapping and reporting have noted and recorded weed presence.
- Employee site inductions include requirements for weed management
- Training in Weed identification and management was provided by VDC in Oct/Nov 2018
- Vehicle and Plant Inductions including weed free/cleanliness checks
- Weed identification posters on Construction site notice boards
- Periodic Weed Control Treatments by Balance of Plant contractor (Hazell Brothers)
- Wash Down Trailer (Tank, Pump and Hose) at O&M Compound Plate 4.5.
- Rehabilitation works following construction and extending into operations has included weed control either by the BOP Contractor or, for formed operating areas is managed by the Service Team.
- With the transition to Operations, the Service Team has taken on the requirement to monitor for weeds and control them. Service Team inductions have included information on weeds and this aspect is reinforced as part of ongoing site environmental management activities.
- Periodic weed control treatment is implemented, as required.

Overall, most weeds have been effectively controlled, and follow-up weed treatments form part of the ongoing site monitoring and maintenance regime. There is limited vehicle movement off formed tracks and hardstand areas and less potential for weeds to be spread by CHWF activities. Other forms of dispersal of weeds are the normal pastoral activities, stock movements, the activities of the hunting groups that undertake culling across the two properties and of course natural dispersal sources from wind and water, movements of birds, insects and native fauna.

WCHPL is committed to controlling emergent weeds on areas disturbed during installation but does not accept responsibility for the wider weed control issues that are part of normal pastoral land management and addressed by landowners.



Plate 4.5

Wash Down equipment on trailer maintained at O&M Compound

4.19 Condition 23 –Flora Offset Strategy and Flora Offset Management Plan

Condition 23 requires that, prior to construction, the approval holder must submit a Flora Offset Strategy to the Department for Approval. The Flora Offset Strategy was approved on 15 March 2018 prior to construction commencing. The Flora Offset is to compensate for unavoidable impacts to the Liawenee Greenhood and Crowded Leek Orchids.

Condition 23(c) further requires the approval holder to submit a Flora Offset Management Plan (FOMP) to the Department within 10 months of the Department having approved the Flora Offset Strategy. While the best endeavours were made to achieve the required timeframe, some details required for the FOMP needed an extension of the time frame for completion of the FOMP. An extension was agreed to by the Department and the FOMP was submitted to the Department and was approved by the Department on 10 August 2019. Implementation of the FOMP must follow.

The FOMP comprises three areas to offset the project's unavoidable impacts on orchid species at the CHWF Site. The three areas are shown in Figure 4.7 and comprise:

- one offset area on the CHWF site, referred to as '*Bashan Ledge*', and
- two offset areas external to the CHWF site, referred to as '*Wihareja*' and '*Stone Hut*'.

No specific timeframe for establishment of the covenants was prescribed in the approval, but significant effort has been directed to securing covenants for the three areas described in the FOMP.

The **Wihareja covenant** has now been secured on title.

The other two covenant areas for **Stone Hut** and **Bashan Ledge**, are being secured under covenant transactions through DPIPWE. Despite being separated and some distance apart, both covenants have the same landowner. Negotiations between WCHPL and the landowner have mostly been completed and the process is at an advanced stage that requires the final execution of the respective covenant documents and Nature Conservation Plans with the landowner and registration on the property title. WCHPL has worked with DPIPWE to progress the finalisation of the covenant process but due to landowner delays the process is not yet complete. The completion of the last two covenants was extended due to handling with another covenant transaction that became more protracted. WCHPL is continuing with independent processing for registration of the two covenants (required by the FOMP) so that the Condition 23 requirement to secure the three covenants can be completed as soon as practicable.

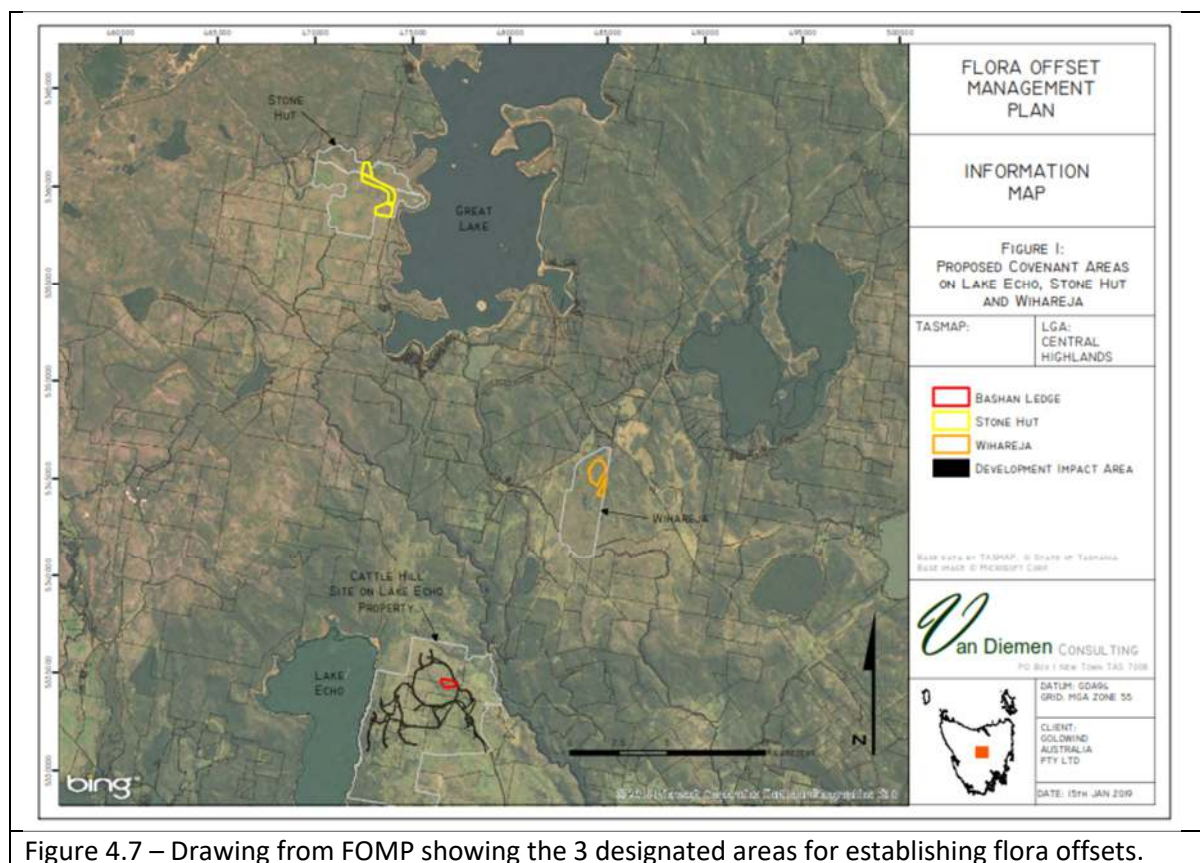


Figure 4.7 – Drawing from FOMP showing the 3 designated areas for establishing flora offsets.

4.20 Condition 24 – Requirement if previously unrecorded species is found

Condition 24 requires that if, during pre-construction or construction activities, a previously unrecorded threatened species is encountered, the person taking the action must immediately cease activities at the affected area. No previously unrecorded species were found during pre-construction or construction activities despite substantial additional survey work and hence there were no requirements for cessation of works and reporting in relation to Condition 24.

The requirements of Condition 24 were not triggered for the reporting period.

4.21 Condition 25 – Notifications required to be submitted to CCEEW – All complete

Condition 25 requires that: *“The person taking the action must advise the Department in writing of the actual date of:*

- *commencement within three business days of commencement of the action;*
- *commissioning within 24 hours of commissioning, and*
- *first full operation within three business days of first full operation.”*

The latter two items were applicable for the reporting period to 13 August 2020 and are now complete and no longer applicable for the subsequent report periods.

The Department has been periodically kept aware of the project activities at key stages of the development including updates on the project’s progress and Department representatives visited the site during the review period. Incident reports have been submitted to the Department as required and a range of other communications have occurred such that WCHPL believes that the Department is well aware of CHWF site activities and their status. All requirements of Condition 25 have been met in full for the 2020 review period. No further requirements of Condition 25 are applicable for any further annual compliance reports.

4.22 Condition 26 – Records for activities in relation to EPBC Approval Conditions

Condition 26 requires that the person taking the action must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement all management plans, report and strategies required by this approval, and make them available upon request to the Department.

Records are maintained for all required activities and status is subject to periodic review.

4.23 Condition 27 – Annual Compliance Report

Condition 27 requires that within 90 days of the anniversary of commencement of the action the approval holder must:

- Publish a report on website as per link here: <https://cattlehillwindfarm.com/>
- Provide evidence to the Department of proof of publication (email direct to Department).

Advice obtained from the Department in email 17 May 2019 was “that the first annual compliance report required under condition 27 should be on or before 11 November 2019.

Reporting under Condition 27 includes:

- The first annual compliance report (2019) required by Condition 27 was submitted to the Department on 11 November 2019 and was placed on the CHWF website.
- The second report (2020) was submitted on 9 November 2020 and placed on the CHWF website.
- The third report (2021) was submitted on 10th November 2021 and is on the CHWF website
- This report represents the CHWF Annual Compliance Report 2022 and is the fourth in the series of reports. A request to post the report on the CHWF website is made at the same time that the report is finalised and submitted to the Department.

Condition 27 requires that the Annual Compliance Report requires a Chapter relating to Eagle rehabilitation in response to Condition 19. As the requirement of Condition 19 was not triggered, this report does not have a chapter addressing that issue.

4.24 Condition 28 – Independent audit of compliance with EPBC Approval Conditions

Condition 28 requires that, the person taking the action must ensure that an independent audit of compliance with the conditions of the approval is conducted and a report submitted to the Minister, if that is required by the Minister.

No such request has been received from the Minister and requirements of Condition 28 are not applicable for the current reporting period.

4.25 Condition 29 – Activities other than in accordance with EPBC Approval Conditions

Condition 29 requires that, if the person taking the action wishes to carry out the activity otherwise than in accordance with the management plans, reports and strategies required by this approval, as specified in the conditions, the person taking the action must submit to the Department for the Minister’s written approval a revised version of that management plan, report or strategy required by the approval. The varied activity must not commence until the Minister has given written approval for the varied management plan, report or strategy.

There has been no such instance for the reporting period and Condition 29 is not applicable for the 2022 report period.

4.26 Condition 30 – Request by Minister for revised Plan, Report or strategy

Condition 30 requires that the person taking the action must comply with any request by the Minister to make specified revisions to the management plan, report or strategy specified in the conditions (if the Minister believes it necessary or convenient for the better protection of listed threatened species) and that revised document(s) are submitted for the Minister's approval.

No such requests have been received and Condition 30 is not applicable for the 2022 reporting period.

4.27 Condition 31 – Commencement of Action within 5 years of approval (Complete)

Condition 31 requires that, if the person taking the action has not substantially commenced the action within 5 years of the date of the EPBC approval, then the person must not substantially commence the action without the written agreement of the Minister.

The project commencement occurred within 5 years of the EPBC Approval and there are no further requirements of Condition 31 that are applicable to the project.

4.28 Condition 32 – Publish Records of approved Plans for the EPBC Approval Conditions

Condition 32 requires that, unless agreed to in writing by the Minister, the person taking the action must publish all management plans, reports and strategies referred to in these conditions of approval on its website, except as otherwise specified in Condition 32. An exception relates to Collision Reports required by Condition 10 (that are supplied to the Department). In the case of Collision Reports, the Department has provided advice in Letter of 12 October 2020, to the effect that the information required by Condition 10 can form part of the applicable Annual Compliance Report (for the period within which the collision occurred), and that is required to be published on the project website. Section 4.8 provides the relevant Condition 10 information for the report period.

In response to Condition 32, the person taking the action has published the following documents on the project website (<https://cattlehillwindfarm.com/>).

- Condition 6A – Collision Avoidance and Detection Plan
- Condition 6C - Assessment of effectiveness of the IdentiFlight® avian detection system
- Condition 10 – Collision Report Details (a) to (e) within this ACR, as per CCEEW letter 12/10/20
- Condition 11 – The Revised CADP has been submitted to the Department, and will be added to CHWF Website once approved by the Minister
- Condition 22 – Weed Management Plan
- Condition 23 - Flora Offset Strategy and Flora Offset Management Plan
- Conditions 16 and 17 (Plans approved by Tasmanian EPA and accepted by the Department as satisfying requirements of Conditions 16 and 17)
 - FF 5 - Eagle Nest Productivity Plan
 - FF 6 - Post Commissioning Eagle Utilisation Monitoring Plan
 - FF15 - Eagle Mortality Offset Plan
- Condition 27 – CHWF Annual Compliance Reports, including:
 - Annual Compliance Report, 2019
 - Annual Compliance Report, 2020
 - Annual Compliance Report, 2021
 - Annual Compliance Report, 2022 (Published at approx. same time as submitted)

4.29 Condition 33 –Availability of Plans, Reports and Strategies

Condition 33 requires that, the person taking the action, unless otherwise agreed in writing by the Minister, must provide a copy of each approved management plan, report or strategy referred to in the conditions of approval, to members of the public on request, except as for the exceptions described in Condition 33.

Copies of each approved management plan, report or strategy, including Annual Reports, as referred to in the conditions of approval are available on the website.

No requests were received during the reporting period and the requirements of Condition 33 were not applicable for the reporting period.

5 CONCLUSIONS

This report provides the relevant details required for satisfying requirements of Condition 27 of the EPBC Approval 2009/4839 for the period 13 August 2021 to 13 August 2022.

The report shows the details of compliance with the relevant condition of EPBC Approval 2009/4839 for the annual reporting period to 13 August 2022. Compliance for each of the Conditions is summarised in Table 1.2, further described in Section 4 and also shown in Table form in Appendix A that shows the Condition of Approval, Compliance Status and summarises evidence.

The management measures implemented have addressed objectives for environmental protection. However, it is regrettable to report that two Wedge-tailed Eagle mortalities occurred for the report period, one in September 2021 and one in July 2022. Despite the two mortalities, WCHPL believes that application of Identiflight for CHWF wind turbine operations has significantly reduced the risk to Eagles at the site, but nevertheless recognises that IDF coverage needs improvements to further reduce risk to Eagles.

Both WTE mortalities during the report period occurred at Turbine 46 that is within thick woodland vegetation that has tree heights of up to 30m and more, and which can obstruct IDF visibility.

The WTE mortality incidents at Turbine 46 indicate that despite IDF coverage by IDF units 2 and 3, their coverage is limited due to obstruction by tall trees in the vicinity of Turbine 46 that limit the effectiveness of the intended mitigation by IDF.

Removal of the obstructing vegetation (7 trees) in October 2021 has improved IDF 2 ability to provide timely curtailment of Turbine 45 and to a lesser extent, improvement for the more distant Turbine 46. The vegetation clearing has also improved Identiflight coverage for Turbine 44 to the west of IDF2 and assists WTE collision risk reduction. Further vegetation removal would improve coverage for Turbine 46, but an alternative measure being assessed is to install an additional IDF unit near Turbine 46, to provide more surety for improved WTE collision risk reduction at Turbine 46. Planning for implementation is in progress.

While further Eagle mortalities are expected, they are expected to be at numbers less than estimated by pre-construction assessments and following incident investigations and corrective actions, the number of future Eagle mortalities is expected to progressively decrease and the cumulative number of mortalities to be much less than predicted by pre-construction WTE mortality estimates for the operational phase.

WCHPL looks forward to further demonstration of its effective environmental management measures mitigating environmental impacts, offsetting the unavoidable impacts and progressively extending research for conservation of Wedge-tailed Eagles.

6 REFERENCES

CHC Permit DA 2010/19 as amended 25 October 2017

CCEEW EPBC Approval 2009/4839 as varied on 12 October 2020.

EPA Environment Protection Notice - EPN 10105/1, Issued on 13 March 2019

Other references are referred to in the text in relation to specific aspects addressed by this report.

7 APPENDIX A - COMPLIANCE TABLE - CONDITIONS OF EPBC APPROVAL

Appendix A – Table setting out compliance status for each of the Conditions of EPBC Approval for the period 13 August 2021 to 13 August 2022.

Appendix A – Table setting out compliance status for each of the Conditions of EPBC Approval for the period 13 August 2021 to 13 August 2022

Cond No.	Condition Description	Compliance with condition	Evidence / Comments
	For the protection of the wedge-tailed eagle, the person taking the action must (:		
1	Ensure wind turbine generators are not constructed closer than 1000 metres of an eagle nest. <i>Note: The Approval definitions refer to a nest, constructed or used by a WTE or WBSE, known at the time of submission of the final layout (CHWF Design Report, December 2017) as shown at Appendix A (of the Approval).</i>	Compliant (complete)	Design complies - see Figure 3.1, Design Report Drawing CHWF_DES_003_02B Exclusion Zone - Nests. No infrastructure is located within 1,000m of a (Known) Nest. New nests found post Design Report and within 1,000m of turbine sites are not relevant to this Condition. (Section 4.2)
2	Ensure construction activities do not occur within 500 metres of an active eagle nest during the breeding season or within 1000 metres line of sight of an active eagle nest during the breeding season. <i>(As indicated above, definition of Nest refers to those known at time of final layout December 2017.)</i>	Compliant (Complete)	Design complies - see Figure 3.1, Design Report Drawing CHWF_DES_003_02B Exclusion Zone - Nests. No infrastructure within 1,000m of (Known) Nest. New nests found post Design Report within 1,000m of turbine sites are not relevant to this Condition. Construction was undertaken in accordance with ANCEMP and ENUMP and completed prior to the current report period which involved operations from 04 August 2020 (Section 4.3 of this report)
3	Commencing twelve months prior to the commissioning of wind turbine generators at the wind farm site and for the life of wind farm operations, immediately remove all animal carcasses resulting from hunting or culling activities from within 500 metres of wind turbine generator locations and ensure they are placed in locations approved in writing by the Minister.	Compliant (ongoing)	The two landowners for the CHWF project area arrange for shooters to undertake hunting and culling on their properties. A system was established for the shooters to keep records of the animals shot and disposal locations. These records are periodically forwarded to WCHPL. Disposal locations were also identified and approved by the Minister. These are now covered (Section 4.4).
4	During wind farm operations ensure animal carcasses resulting from collisions with wind turbine generators, vehicles and/or other regular farming activities within the wind farm site are removed on the day they are discovered and are placed in locations approved in writing by the	Compliant (ongoing)	Operations commenced 5 August 2020. Animal carcasses found on access tracks or hardstands are removed promptly and as relevant recorded in project recording forms. If involving a threatened species, then investigation and reporting undertaken. Phase 1 weekly monitoring commenced around operating turbines from 19 November 2019 and was discontinued on 12 July 2022.

Cond No.	Condition Description	Compliance with condition	Evidence / Comments
	Minister no closer than 500 metres from wind turbine generator locations.		Phase 2 intensive monitoring including pulse surveys has been undertaken monthly from the start of operations. Both phases involve collection of carcasses. Carcasses collected are sometimes stored for identification or use in future scavenger trials. Those not retained are disposed in the established pits (Section 4.5).
5	Conduct daily searches for dead calves during September each year and remove any carcasses from within 500 m of any wind turbine generator and ensure they are placed in locations approved in writing by the Minister. Unless otherwise agreed to in writing by the Department wind turbine generators may operate during day light hours within 1,000 metres of paddocks where lambing is occurring.	Compliant (ongoing)	All Turbines have been able to operate since early August 2020 except when out for maintenance or repair. The landowners are regularly active on the land managing stock. In addition, CHWF operators are regularly active around the site and are aware of the requirements for removal of carcasses. Additional regular surveys are undertaken for avifauna carcasses around turbines and collectively these activities provide a regular review of the site for identifying and removing any carcasses. (Section 4.6)
6A	Within three months following the commencement of construction, submit to the Minister for approval a Collision Avoidance and Detection Plan (CADP) containing details of the collision avoidance and detection system to be implemented (including technologies installed and practices undertaken) for monitoring WTE movements, preventing WTE collisions with turbines and recording collisions. The CADP must conform with Guidelines for its preparation which the Department must confirm at least three months prior to the commencement of construction. The CADP must include information about and comparison of relevant available technologies and practices.	Compliant (complete)	The CADP was first submitted to the Department on 01 February 2018 and approved by the Department on 29 May 2018. It has been placed on the project website. Identiflight was set up July-August 2019 and has been operational since 19 November 2019. Identiflight is subject to an 18-month Trial that commenced with operations from 5 August 2020. The report on effectiveness of the Identiflight system was submitted to the Department in February 2022. (Section 4.7)
6B	Not commission until the CADP has been approved by the Minister. The Minister will not unreasonably withhold or delay approval of the CADP.	Compliant (complete)	CADP Approval on 29 May 2018 well before commissioning. The proponent has ensured that operation of individual turbines was preceded by initiation of Identiflight operations described in CADP.

Cond No.	Condition Description	Compliance with condition	Evidence / Comments
6C	Within 18 months of the earlier of first full operation or 1 September 2020, submit to the Minister a detailed assessment of the effectiveness of the collision avoidance and detection system, including complete records of detected Wedge-tailed Eagle collisions at the wind farm site and information about and comparison of relevant technologies and practices available at the time of preparing the report.	Complied Submitted 4 Feb 2022 (Complete)	First full operations commenced from 05 August 2020 and represented the commencement of the 18 months period for trial and reporting of the effectiveness of the Identiflight System. Reporting for the CADP Trial was submitted on 4 February 2022 (Section 4.7). Section 4.7.2 provides an overview of the Identiflight system and performance. A revised version of the report was submitted to the Department on 8 March 2022. The report is posted on the CHWF website titled ' <i>Assessment of effectiveness of the Identiflight avian detection system</i> '
7	Revoked on 10 May 2017	Not applicable	
8	Revoked on 10 May 2017	Not applicable	
9	Revoked on 10 May 2017	Not applicable	
10	Notify the Department by email within 24 hours of any collision between a wedge-tailed eagle or white-bellied sea eagle and a wind turbine. Within one week of the initial notification, the person taking the action must submit to the Department a detailed collision report, that at a minimum includes: a. the species of eagle, the sex and estimated age; b. the nature of injuries or mortality and cause as reported by a veterinarian; c. the nearest turbine to where the injured eagle or carcass was found (if detected by physical search); d. details of how the injury or mortality was caused and proposed response to prevent further mortalities occurring; and e. if the eagle was injured, information about its condition, including if and how the eagle will be rehabilitated and re-released.	Complied Two Eagle mortalities, likely due to collision with a wind turbine (Ongoing)	Two Wedge-tailed Eagle Mortalities were recorded during the reporting period, both near Turbine 46. The two deceased Eagles were found (10 months apart) on: <ul style="list-style-type: none"> • 22 September 2021, and • 19 July 2022. Notifications and comprehensive incident reporting (including assessment by a veterinarian and review of further mitigation options), was undertaken in accordance with the Condition 10 requirements, for both incidents. Requirements for eagle collision notification and reporting have been completed for the report period. (Section 4.8)

Cond No.	Condition Description	Compliance with condition	Evidence / Comments
11	Within 2 years following the earlier of first full operation or 1 September 2020, submit for the Minister's written approval a revised CADP containing details of the collision avoidance and detection system proposed to be subsequently implemented (including technologies installed and practices undertaken) for monitoring WTE movements, preventing WTE collisions with turbines and recording collisions. The CADP must include the results of scavenger trials required under Commitment 70 of the Tasmanian EPA Permit and information about and comparison of relevant available technologies and practices. The revised CADP must include a collision monitoring programme for eagles based on a statistically valid sampling regime which applies current best practice and satisfies the requirements of EPA permit condition FF10. The Minister will not unreasonably withhold or delay approval of the revised CADP. The person taking the action must implement the approved revised CADP.	Complied Report submitted and subject to Department review (pending approval)	First Full Operation on 05 August 2020 and a revised CADP was due by 05 August 2022. The revised CADP was submitted on 03 August 2022. The report is currently under review by the Department and requires the Minister's written approval. (Section 4.9)
12	Keep and maintain accurate records of each physical search conducted as required by condition 11, including date, time, turbine number and search findings. These records must be provided to the Department on request.	Compliant (Ongoing)	Reporting of scavenger trials has occurred previously as part of monitoring management plan development. Phase 1 Mortality monitoring surveys, around operating turbines, are undertaken on a weekly basis and records kept. Additional Phase 2 monitoring has been integrated since the first operations was achieved on 05 August 2020 and similar to Phase 1, records are maintained. (Section 4.10)
13	Ensure that all roads within the wind farm site are clearly signposted requiring all vehicles to travel at no more than 40 kph and ensure that this is a requirement for all drivers within the site except in an emergency.	Compliant (ongoing)	Site rules require max 40 kph speed limit and signs are placed accordingly. Separate signage also requires a max 30 kph speed limit from dusk to dawn to minimise risks to nocturnal species. (Section 4.11)
14	Prior to <u>construction</u> activities commencing each day, ensure that all roads proposed to be used that day are free of roadkill and any animal carcasses are placed in locations	Compliant (Complete)	Construction complete. Operations for full report period. Very few instances of on-site roadkill or carcasses on access tracks (Section 4.12)

Cond No.	Condition Description	Compliance with condition	Evidence / Comments
	approved in writing by the Minister no closer than 500 metres from wind turbine generator locations.		
15	Complete the wedge-tailed eagle monitoring arrangements required by the amended Tasmanian planning permit DA 2010/19 conditions FF 4 and FF 5.	Compliant (FF4 Complete FF5 Ongoing)	FF4 and FF5 are conditions under Tasmanian EPN 10105/1 FF4 requirements are complete and have been reported to EPA - EPA approval letter dated 8 June 2018. FF5 monitoring commenced in November 2020, based on a schedule and methodology agreed with Tasmanian EPA and is ongoing for up to 3yrs. FF5 Plan provided to the Department for information on 23 Nov 2017. (Refer Section 4.13)
16	No less than 6 months prior to the expected commissioning of the wind farm, provide to the Minister for approval, a plan to conduct or fund research to inform the long-term conservation of the wedge-tailed eagle for example, funding research, nest productivity monitoring and mortality rates. The wind farm must not be commissioned until the plan is approved and implemented. The research plan must include but not be limited to: a. a detailed outline of proposed research activities to be undertaken or funded including, aims, methods, effort, milestones, key deliverables, reporting style, publication format and location and public accessibility of completed research; b. a demonstration that proposed research is consistent with published recovery objectives and will inform the long term management and conservation of the species; c. an outline of how research will be conducted in a manner which compliments or is collaborative with other research being undertaken by species experts, government, research and educational bodies; d. a breakdown of research components to be funded in	Compliant (Complete)	The Department has advised that Condition 17 is satisfied (and by implication Condition 16) by Management Plans approved by EPA under the EPN 10105/1 specifically the Eagle Mortality Offset Plan (EMOP) under EPN Condition FF15 that includes provision for Eagle research funding. Letter from the DEpartment on 8 Jan 2019 (greater than 6 months prior to commissioning) advises that Condition 17 is satisfied. Funding (Condition 17) has established through NRM South (under EPN FF15 EMOP). Payments have been made for 2019, 2020, 2021 and 2022 (Total payments by WCHPL over four years is approximately \$376K, Payments are CPI adjusted annually. (Section 4.14 and Appendix B – NRM 2021 Research Report)

Cond No.	Condition Description	Compliance with condition	Evidence / Comments
	<p>annual \$75 000 equivalent increments;</p> <p>e. funding arrangements and responsibilities;</p> <p>f. the qualifications and experience of persons undertaking the research or minimum qualifications and experiences required of persons proposed to undertake research;</p> <p>g. how research will be published and made publicly available within the life of the plan; and</p> <p>h. a peer review conducted by a suitably qualified expert demonstrating that the proposed research plan is consistent with the objectives at condition 16(b) and (c) and is achievable within identified timeframes and resources.</p> <p>Note 1: The Minister may determine that a plan, strategy or program approved by the Tasmanian Government in accordance with EPA conditions FF5, FF6, FF13, FF14 and FF15 satisfies the requirements for the Plan required under conditions 16 and 17.</p>		
17	Commence the implementation of the approved research plan prior to the commissioning of the wind farm. The person taking the action must ensure that no less than \$75 000 equivalent in funding is expended annually on implementing the research plan, with the first \$75 000 equivalent committed prior to commissioning of the wind farm.	<p>Compliant</p> <p>(Ongoing, annual payments)</p>	<p>EMOP prepared under EPN Condition FF15 addresses this requirement as agreed with the Department. EMOP was endorsed by EPA.</p> <p>Letter dated 8 Jan 2019 from the Department advises that Condition 17 satisfied, Funding arrangements have commenced. Total payments by WCHPL over four years is approximately \$376K Appendix B, NRM South Research Report September 2021 describes Research projects to date (Section 4.14)</p>
18	On each fifth anniversary of the approval of the research plan, or at the direction of the Minister, the person taking the action must engage a suitably qualified expert to review the effectiveness and relevance of the research plan required by condition 16. Within 90 days of each five-year anniversary, the person taking the action must provide a report to the	Not due yet	Review not required yet, due after 5 years (approx. 2023) (Section 4.15)

Cond No.	Condition Description	Compliance with condition	Evidence / Comments
	Minister outlining any recommendations and alternative measures to offset impacts to the wedge-tailed eagle. The Minister may require the person taking the action to implement the recommendations and alternative offsetting arrangements.		
19	For each actual wedge-tailed eagle mortality or injured wedge-tailed eagle that cannot be re-released into the wild, occurring above 2 actual mortalities or injured wedge-tailed eagles that cannot be re-released in to the wild in any calendar year, fund a raptor or wildlife centre to rehabilitate an injured or sick wedge-tailed eagle and re-release that wedge-tailed eagle into the wild at an ecologically suitable location to the satisfaction of a suitably qualified expert. If no wedge-tailed eagle can be rehabilitated for re-release into the wild, an extra \$25 000 equivalent per mortality or injury must be expended towards the implementation of the research required by conditions 16 and 17 in that calendar year. <i>Note 2: The Minister may determine that satisfaction of Tasmanian EPA condition FF15 – 3.3 satisfies the requirements of this condition.</i>	Not triggered yet (Will need to be addressed at end of 2022)	Condition not yet triggered as there has not been <u>more than 2 Eagle mortalities in one calendar year</u> . To date there has been one in 2020 and a further one found on 30 June 2021. One further in September 2021 is outside this reporting period but results as two that have occurred in 2021 as at end of September 2021. Arrangements included in EMOP that has been approved by EPA under requirements of the EPN Condition FF15. (Section 4.16)
20	The person taking the Action: May, if it can be demonstrated that after 10 years of operation, that the wind farm is not impacting the wedge-tailed eagle, request approval from the Minister to cease implementing conditions 11 (if required) and 17.	Not due yet	Not due until August 2030 (10 years after 4 August 2020) (Section 4.17)
21	Revoked on 10 May 2017		

Cond No.	Condition Description	Compliance with condition	Evidence / Comments
22	For the protection of other nationally protected matters, specifically the Liawenee Greenhood, Crowded Leek Orchid and Clover Glycine the person taking the action must:	See below	
22	Three months prior to the commencement of construction, submit a weed management strategy to the Minister for approval. The strategy must include but not be limited to: a. details on how construction activities will be managed to minimise and prevent the establishment of new or spread of existing weed species, specifically where construction is to occur within or near habitat for the Liawenee Greenhood, Crowded Leek Orchid and Clover Glycine; b. weed management activities to be undertaken with reference to weed species that are known from and likely to occur at the wind farm site; c. vehicle and machine wash down protocols for all vehicles entering the site; d. weed identification programs and staff inductions; and e. measures to monitor, control and eradicate weed outbreaks that may occur on site. The approved weed management strategy must be implemented.	Compliant (Focussed on construction)	Weed Management Strategy - dated 4 December 2017. Department's approval letter dated 14 December 2017 Training by VDC in weed management issues for site staff was arranged in Nov 2018 A range of measures were applied through construction including employee awareness of key invasive weed species, vehicle induction checks and on-site wash down facility. These measures appear to have generally been effective, but ongoing treatments are necessary. Weed controls are being continued as part of site rehabilitation that has progressed to an operations phase monitoring and maintenance regime. (Section 4.18)
23	The approved flora offset strategy must be implemented. If offsets additional to those in the approved flora offset strategy are required as a result of previously unrecorded threatened species encountered during construction and/or pre• construction activities (as required by condition 24), a revised version of the flora offset strategy must be submitted for the written approval of the Minister within 3 months of the completion of all ground-breaking construction activities.	Compliant Complete	Progressed beyond Flora Offset Strategy (FOS) – No additional impacts identified and no need for revised FOS. (Section 4.19)

Cond No.	Condition Description	Compliance with condition	Evidence / Comments
23	The approval holder must submit the offset management plan to the Department within ten (10) months of the Department having approved the flora offset strategy. The offset management plan must include: i. details of short, and long term, management measures to maintain and improve the condition of the offset(s), including timeframes, proposed for each offset site; and ii. the short, and longer term, arrangements and responsibilities of parties involved in the management of each offset site.	Compliant FOMP approved Implementation ongoing	FOMP approved by the Department on 10 August 2019. Implementation arrangements for the Offset areas has required an extended timeframe with finalization of covenants on titles being near to completion. (Section 4.19)
24	If during construction and /or pre-construction activities a previously unrecorded threatened species is encountered, the person taking the action must immediately cease activities at the affected area . A report must be submitted to the Department that includes population characteristics, proposed avoidance and mitigation measures and, where applicable, proposed offsets to compensate for unavoidable impacts. Activities in that area can only recommence when directed to in writing by the Department.	Not applicable (Construction complete)	No new species found - No reporting required (Section 4.20)
Administrative Conditions			
25	The person taking the action must advise the Department in writing of the actual date of: <ul style="list-style-type: none"> commencement within three business days of the commencement of the action; commissioning within 24 hours of commissioning, and first full operation within three business days of first full operation. 	Compliant (Complete)	The required notifications have been provided to the Department. Letters to the Department advised status of: <ul style="list-style-type: none"> - Commencement of construction and updates on progress. - Notification of commissioning and progress updates - Notification of First Full Operations from 05 August 2020. All requirements of Condition 25 have now been completed (Section 4.21)

Cond No.	Condition Description	Compliance with condition	Evidence / Comments
26	<p>The person taking the action must maintain accurate records substantiating all activities associated with or relevant to the conditions of approval, including measures taken to implement all management plans, reports and strategies required by this approval, and make them available upon request to the Department.</p> <p>Such records may be subject to audit by the Department or an independent auditor in accordance with section 458 of the EPBC Act, or used to verify compliance with the conditions of approval.</p> <p>Summaries of audits will be posted on the Department's website. The results of audits may also be publicised through the general media.</p>	<p>Compliant</p> <p>(Ongoing)</p>	<p>WCHPL has established a comprehensive record keeping system for the project compliance matters. (Section 4.22)</p> <p>No audits required to date. Representatives of the Department have visited and inspected the site.</p>
27	<p>Within 90 days of each anniversary of the commencement of the action, the person taking the action must publish a report on its website addressing compliance with each of the conditions of this approval, including implementation of any management plans as specified in the conditions.</p> <p>Documentary evidence providing proof of the date of publication and non-compliance with any of the conditions of this approval must be provided to the Department at the same time as the compliance report is published. Unless otherwise directed in writing by the Minister the report must include a chapter that outlines how each injured or sick wedge-tailed eagle was rehabilitated in accordance with the requirements of condition 19. This must include</p> <ol style="list-style-type: none"> how the injured or sick wedge-tailed eagle was identified for rehabilitation the nature of injuries and/or sickness at the commencement of rehabilitation the actions taken to rehabilitate the wedge-tailed eagle 	<p>Compliant</p> <p>(Ongoing)</p>	<p>This report provides the fourth of the annual compliance reports required by Condition 27 for anniversary date of 13 August.</p> <p>A request to place the report on the project website will be submitted to the website coordinator, on the same day that the report is submitted to the Department.</p> <p>(Section 4.23)</p>

Cond No.	Condition Description	Compliance with condition	Evidence / Comments
	including the location and costs of rehabilitation and qualification and experience of persons involved in rehabilitation; and d. potential survival in the wild.		
28	Upon the direction of the Minister, the person taking the action must ensure that an independent audit of compliance with the conditions of approval is conducted and a report submitted to the Minister. The independent auditor must be approved by the Minister prior to the commencement of the audit. Audit criteria must be agreed to by the Minister and the audit report must address the criteria to the satisfaction of the Minister.	Not triggered	Audit as required by Minister - None required as yet (Section 4.24)
29	If the person taking the action wishes to carry out any activity otherwise than in accordance with any management plans, reports and strategies required by this approval as specified in the conditions, the person taking the action must submit to the Department for the Minister's written approval a revised version of that management plan, report or strategy required by this approval. The varied activity shall not commence until the Minister has approved the varied management plan, report or strategy required by this approval in writing. The Minister will not approve a varied management plan, report or strategy, unless the revised management plan, report or strategy, would result in an equivalent or improved environmental outcome over time. If the Minister approves the revised management plan, report or strategy, that management plan, report or strategy must be implemented in place of the management plan, report or strategy originally approved.	Not applicable No revision of the approved management plans	The project is being implemented in accordance with the requirements of the conditions and the management plans, reports and strategies required by the conditions of approval. The Conditions of Approval have been varied on several occasions and the project complies with the most recent issue of the Project Approval. (Section 4.25)

Cond No.	Condition Description	Compliance with condition	Evidence / Comments
30	If the Minister believes that it is necessary or convenient for the better protection of listed threatened species to do so, the Minister may request that the person taking the action make specified revisions to the management plan, report or strategy specified in the conditions and submit the revised management plan, report or strategy, for the Minister's written approval. The person taking the action must comply with any such request. The revised approved management plan, report or strategy must be implemented. Unless the Minister has approved the revised management plan, report or strategy, then the person taking the action must continue to implement the management plan, report or strategy originally approved, as specified in the conditions.	Not triggered	Minister has not required revisions to plans or strategies (Section 4.26)
31	If, at any time after 5 years from the date of this approval, the person taking the action has not substantially commenced the action, then the person taking the action must not substantially commence the action without the written agreement of the Minister.	Compliant (Complete)	Approved 15 December 2014 - Commencement from 23 March 2018 - complies - no further requirement. (Section 4.27)
32	Unless otherwise agreed to in writing by the Minister, the person taking the action must publish all management plans, reports and strategies referred to in these conditions of approval on its website, except, for the period that the Minister agrees, those parts of these documents that the Minister agrees should not be published for commercial-in-confidence reasons. Each management plan or strategy must be published on the website within 1 month of being approved. Each report must be published on the website within 1 month of being submitted to the Minister. <i>(Exception - Department Letter of 12 Oct 2020 – Eagle Collision Reports required under Condition 10 <u>do not need to be published</u> as otherwise required under Condition 32.</i>	Compliant (Ongoing)	The following plans have been published on the project website <ul style="list-style-type: none"> • Cond 6A – Collision Avoidance and Detection Plan • Condition 6C – CADP Trial Report – “<i>Assessment of the Identiflight Avian Detection System</i>” • Condition 11 - Revised CADP (posting pending approval) • Cond 22 – Weed Management Plan • Condition 23 - Flora Offset Strategy and Flora Offset Management Plan • Conditions 16, 17 and 19 <ul style="list-style-type: none"> ○ FF 5 - Eagle Nest Productivity Plan

Cond No.	Condition Description	Compliance with condition	Evidence / Comments
	<i>Information required under Condition does need to form part of the Annual Compliance Report (ACR) (under Condition 27) for the 12 month period during which the collision was detected. The ACR needs to be published on the project Website (as per Condition 27).</i>		<ul style="list-style-type: none"> ○ FF 6 - Post Commissioning Eagle Utilisation Monitoring Plan ○ FF15 - Eagle Mortality Offset Plan • Annual Compliance Report, 2019 • Annual Compliance Report, 2020 • Annual Compliance Report, 2021 • Annual Compliance Report, 2022 - (at same time as this report is submitted to the Department) <p>(Section 4.28)</p>
33	Unless otherwise agreed to in writing by the Minister, the person taking the action must provide a copy of each approved management plan, report or strategy referred to in these conditions of approval to members of the public upon request, except, for the period that the Minister agrees, those parts of these documents that the Minister agrees should not be published for commercial-in-confidence reasons. Copies must be provided within a reasonable time of the request.	Not triggered (Ongoing)	<p>No requests received as yet.</p> <p>As per Condition 32, specific reports have been made available on the project website.</p> <p>(Section 4.29)</p>

8 APPENDIX B - WEDGE-TAILED EAGLE RESEARCH FUND 2022 REPORT

Prepared by NRM South

September 2022



Image credit: James Pay

WEDGE-TAILED EAGLE RESEARCH FUND

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2022 ANNUAL REPORT

Prepared for Wild Cattle Hill Pty Ltd.

SEPTEMBER 2022

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GLOSSARY

ANU	Australian National University
DCCEEW	Commonwealth Department of Climate Change, Energy, the Environment and Water
EMOP	Eagle Mortality Offset Plan
FPA	Forest Practices Authority
NRET	State Department of Natural Resources and Environment Tasmania
TAC	Technical Advisory Committee
UTas	University of Tasmania
WTE	Wedge-tailed Eagle, <i>Aquila audax fleayi</i>

INTRODUCTION

This is the third Annual Report for the Wedge-tailed Eagle (WTE) Research Fund ('The Fund'). The Fund has been operating in accordance with requirements and is enabling the support of high-quality research on Tasmanian Wedge-tailed Eagles. It is unlikely this research would have been supported without The Fund. The projects being supported will provide valuable advances in the understanding of the WTE population in Tasmania, which will assist with achieving the conservation outcomes for the subspecies.

BACKGROUND

The Cattle Hill Wind Farm was approved by Tasmanian State Regulator in 2012 and by the Commonwealth Department of Environment and Energy (now the Department of Climate Change, Energy, the Environment and Water, DCCEEW) in December 2014. A requirement of the approval of the Cattle Hill Wind Farm (as described in the relevant permit conditions) was to develop an offset plan for wedge-tailed eagles (*Aquila audax fleayi*, WTE).

An Eagle Mortality Offset Management Plan (EMOP) was developed and subsequently approved to satisfy these requirements. The EMOP comprises two components, with the second component describing the Tasmanian WTE Research Fund. The EMOP required that The Fund needed to be established and administered by an independent organisation. NRM South was selected as the administering body for The Fund and a Services Agreement was signed between NRM South and Wild Cattle Hill Pty Ltd on 23rd August 2019.

OBJECTIVE OF THE FUND

The Fund is designed to offset the impact of WTE mortalities (or injured WTE that cannot be released into the wild) due to collisions with wind turbines at the Cattle Hill Wind Farm. The Fund will only support research relating to the Tasmanian sub-species of WTE and projects based in Tasmania.

The primary purpose of The Fund is to support high quality ecological or other relevant scientific research on Tasmanian WTE, the results of which will assist with the management and protection of the sub-species. The intention is that The Fund continues for the medium term (at least 10 years), hence not all funds will be expended each year. Research will be supported that is scientifically rigorous, conducted by high quality scientists, and which is in accordance with the objectives of the Threatened Tasmanian Eagles Recovery Plan 2006-2010 or any subsequent eagle Recovery Plan.

PRIORITIES FOR THE FUND

Research supported by The Fund will be consistent with the published recovery objectives of the "Threatened Tasmanian Eagles Recovery Plan 2006-2010" or a subsequently approved version of the Recovery Plan. The EMOP notes that DoEE (now DCCEEW) have indicated they require The Fund to support key scientific research on the sub-species and not other activities, although the State component of The Fund may support education activities.

Suitably qualified researchers¹ will be eligible to apply for funds to support relevant research on WTE consistent with the below priorities. Critical research that can demonstrate a sound experimental design and statistical rigour will be viewed most favourably.

The initial priorities for funding support are:

- Demography of the WTE. This could include studies into the size of the state population (such as an evidence-based population census), fecundity, survival of different age classes, and immigration and emigration intra- and inter-state. Such ecological data could be used to update a Population Viability Analysis.
- The collection of data that will allow an evaluation of the sub-species conservation status against IUCN criteria.
- Quantification of anthropogenic impacts to WTE, such as collisions with vehicles, powerlines, shooting or poisoning, and the development of mitigation measures to reduce these impacts.
- Disturbance to nesting WTE. This includes studies into determining the anthropogenic factors that impact on breeding, and quantification of these such as the distance, duration and types of factors that result in impacts to breeding success.
- Strategies to monitor nesting behaviour of WTE. Nests are currently very difficult to monitor due to the need to limit disturbance to breeding birds, hence automated strategies to monitor nests without disturbing eagles will be supported.
- Studies into why WTE collide with wind turbines and strategies to reduce collision rates. Published studies indicate WTE actively respond to and avoid wind turbines, but occasionally collide. Any insights into why they occasionally collide may assist with strategies to minimise collisions.
- Other scientific studies where it can be demonstrated that the research will provide a demonstrable benefit to the sub-species.
- The priorities for funding support may be revised by the panel following any reviews of the EMOP.
- Studies on WTEs required for commercial developments (i.e. conditions of a permit, outside offsets) or studies that are the responsibility of Local, State (including Government Business Enterprises) or Commonwealth Government will not be supported.

ADMINISTRATION OF THE FUND

NRM South's role is ensure that The Fund is established and administered as described in the Eagle Mortality Offset Plan (EMOP).

Specifically, NRM South's role is to:

- Be responsible for receipt, management and audit of WTE Research Fund.
- Assist with the identification and selection of panel members. The Panel members selected will be agreed by the Tasmanian EPA and delegate of the Commonwealth DCCEE.
- Host, recruit and administer/support a panel, as prescribed by the EMOP, to prioritise, assess and distribute research funds – approximately two meetings per year.
- Administer reimbursement of panel members reasonable travel costs and hourly payment for attendance at annual meetings.
- Advertise, administer and coordinate research applications, and in conjunction with the panel develop and maintain the assessment process.
- Contract and administer the research funds on behalf of the research panel, including coordination of progress and final reports.
- Provide panel advice and reports to Wild Cattle Hill Pty Ltd and any other contributors to The Fund for preparation and submission to the Regulator (if required).

¹Must hold a postgraduate degree in science and evidence of the successful publication of relevant, high quality research in peer-reviewed scientific journals or experience and qualifications deemed by the panel to be evidence of equivalent merit. However, proposals to support high quality Honours research will also be considered.

GOVERNANCE OF THE FUND

The Fund is overseen by an independent Technical Advisory Committee (TAC, referred to in the EMOP as a “Panel”).

As described in the EMOP, the TAC comprises:

- A representative of the Department of NRET (currently Dr Rachael Alderman, Threatened Species and Conservation Programs Environment).
- A representative from the administering body, NRM South (Dr Cindy Hull).
- A representative of the DCCEEW (as an observer, Dr Ivan Lawler), and
- At least two scientists experienced in wildlife ecology, with a strong background in research and publishing (Dr Phil Bell and Dr Sarah Munks, both independent consultants with extensive experience working on eagles). These roles were filled following advertising and a competitive selection process.

The role of the Technical Advisory Committee (TAC) is to:

- Review funding applications and select those to be supported.
- Monitor the progress of grant recipients, and
- Determine whether to accept research reports (i.e. whether they fulfill the requirements of support).

Individual members of the Technical Advisory Committee are expected to:

- Actively participate in the review, monitoring and reporting of the Research Fund.
- Attend, either in person or by teleconference, twice annual meetings, and additional meetings, if required.
- Provide reliable, relevant, technical and contemporary advice.
- Comply with relevant NRM South Policies and Procedures, including the Code of Conduct, and any specific requirements of The Fund including Confidentiality; and
- Be an advocate for the research Fund's outcomes.

ACHIEVEMENTS DURING 2022

The third year of The Fund built on the achievements of previous years.

Details of the achievements:

1. The third deposit to The Fund was received from Wild Cattle Hill Pty Ltd.
2. NRM South reviewed and updated the application process and guidelines for The Fund, which were sent to the TAC for their comment. Some changes were made to the guidelines, clarifying the GST component in grants (as there had been some confusion with one grant recipient during the year).
3. NRM South also reviewed the process and selection criteria for assessing the applications to The Fund, which the TAC reviewed prior to their finalisation. The assessment criteria were simplified by reducing the number of questions around the applicants' qualifications and experience because all applications being received are from high quality applicants, so some of these criteria were not assisting in selecting applications.
4. The third round of grants was advertised in June 2022. Three applications were received and the Fund was once again significantly over-subscribed.
5. Two online meetings were held and out of session work conducted by the TAC. During the meetings, the application details, assessment criteria and the grant applications received were discussed. (Each member of the TAC independently reviewed all applications prior to the discussion of them). Successful recipients were selected.
6. All applicants to The Fund were notified of the outcome of their application. The TAC selected one project for immediate funding and provided the other two applicants the opportunity to rescope and resubmit their applications, to allow them to better align them with the objectives of the Fund.
7. The Funding Agreement contract was reviewed and updated, including with input from an external legal representative.
8. A Funding Agreement has been prepared and provided to the successful grant recipient.

PROJECTS SUPPORTED IN 2022

Three applications were received in response to the 2022 grant round, with The Fund being oversubscribed by 2.5 times.

The TAC unanimously supported the project “Investigation the spatial ecology and habitat use of Tasmania wedge-tail eagles in the Tasmanian Midlands using high-frequency GPS telemetry” for full funding from:

- Dr James Pay (UTas) Project Lead.
- Dr Amelia Koch (FPA)
- Prof Elissa Cameron (University of Canterbury)
- Jason Wiersma (FPA) and
- Dr Todd Katzner (USGS).

This project will provide information on the spatial ecology and resource use of adult Tasmanian wedge-tailed eagles in the agricultural area of the Tasmanian Midlands. Furthermore, the data from this project will be combined with data from other GPS-tracked eagles across Tasmania to provide a state-wide understanding of how the species uses different landscapes. The insight into the importance of different habitats and the spatial modelling of this information will address two research priorities identified in the Tasmanian wedge-tailed eagle recovery plan (Threatened Species Section, 2006) and by the Technical Advisory Committee.

The TAC agreed that there was merit in the two other applications to the Fund, but both required finessing before they could be supported.

The first was “Engagement that works: building up science and reducing threats for the Tasmanian wedge-tailed eagle” from:

- Dr Clare Hawkins (Bookend Trust, Pennicott Foundation) Project Lead.
- Dr. Angela Dean, University of Queensland.

The TAC saw merit in this project but had some concerns that it did not sufficiently make the case for alignment with the objectives of the Fund, which are quite prescriptive (and relate to the original permit condition on the Cattle Hill Wind Farm). They sought more evidence of how the project would generate tangible benefits to WTEs at its completion. The TAC offered the applicants the opportunity to refocus the project and provide a stronger indication of its alignment with the Fund's objectives, particularly how it will create tangible benefits to the management of WTEs. They allowed six weeks for a resubmission of the application for consideration for funding. In addition, given that the Where, Where Wedgie project which received support from the WTE Research Fund in 2021 had not been completed (it was due for completion in April 2022), it was a requirement for the 2021 project to be completed before additional support could be provided.

And

“Comprehensive analysis of the ecotoxin threat to Tasmanian Wedge-Tail Eagles” from:

- Dr De Stojanovic (ANU)
- Dr James Pay (UTas)
- Dr Catherine Young (ANU), and
- Adam Cistern (ANU).

The TAC also saw merit in this project, particularly the random sampling to understand background levels of ecotoxins but had some reservations about aspects of the project, including:

- The threat to WTE needed to be articulated more clearly. While lead is the implied ecotoxin of concern, the project needed to more clearly identify the ecotoxin the project was focussing on.

- The management implications that would result from quantifying the ecotoxin levels needed to be described. That is, how would this study translate into direct benefits to WTE?
- How would the study manage for seasonal changes in WTE diet and environmental conditions on the presence of ecotoxins in samples?
- The salary allocated to Dr Young required more clarity (\$50,100 GST exclusive) particularly given that \$27,806 was allocated for in-kind contribution from other researchers. The TAC would like this to be reconsidered as it did not appear to provide good value for money.

The TAC also offered the applicant the opportunity to rescope the project as a pilot to demonstrate validity of the method and address the above concerns. Six weeks was provided to rescope and resubmit the project (including reassessing the budget) for consideration by the TAC.

STATUS OF FUNDED PROJECTS

» 2020

The project selected for funding in 2020 ("Investigating the spatial ecology and habitat use of the Tasmanian wedge-tailed eagle in unmodified landscapes using high-frequency GPS telemetry" from Professor Cameron and Dr James Pay (UTas), Dr Amelia Koch and Jason Wiersma (FPA), Dr Todd Katzner (US Geological Society)) was completed and the final report received. All payments have been made to the recipients.

FINAL REPORT ON THE PROJECT

As indicated previously, the project has experienced delays, which have been outside the control of the investigators. The GPS units were ordered but issues were encountered as detailed in the 2021 Annual Report. The investigators sought an extension from the WTE Fund, which the TAC reviewed and then granted.

The following is a summary from the project team of what has been achieved on the project:

Sites were selected based on the following criteria (see Figure 1) –

1. Large areas of reserved land – We selected areas >30 km² to maximise the area of the home-range of each GPS-tracked eagle that is over reserved land.
2. Known eagle nests or adult eagle activity - The behaviour of adult wedge-tailed eagles is strongly associated with nesting locations (including outside of the breeding season). We therefore selected study areas based on known wedge-tailed eagle nests, with evidence of activity within the last five years (DPIPWE, 2021).
3. GSM data coverage - The GPS transmitters used for this project require mobile phone data signal to transmit the data back to the research team. We therefore targeted areas with reasonable coverage as adult eagles are unlikely to travel large distances from the place of capture.
4. Accessibility - The field work for this research is equipment intensive and requires vehicle access to areas where trapping is attempted.

Five GPS transmitters were deployed. All analyses and data summaries provided were based on data collected from the date the GPS-transmitters were attached until May 25th, 2022. During this period, we collected 246,563 location fixes from the five GPS-tracked eagles.

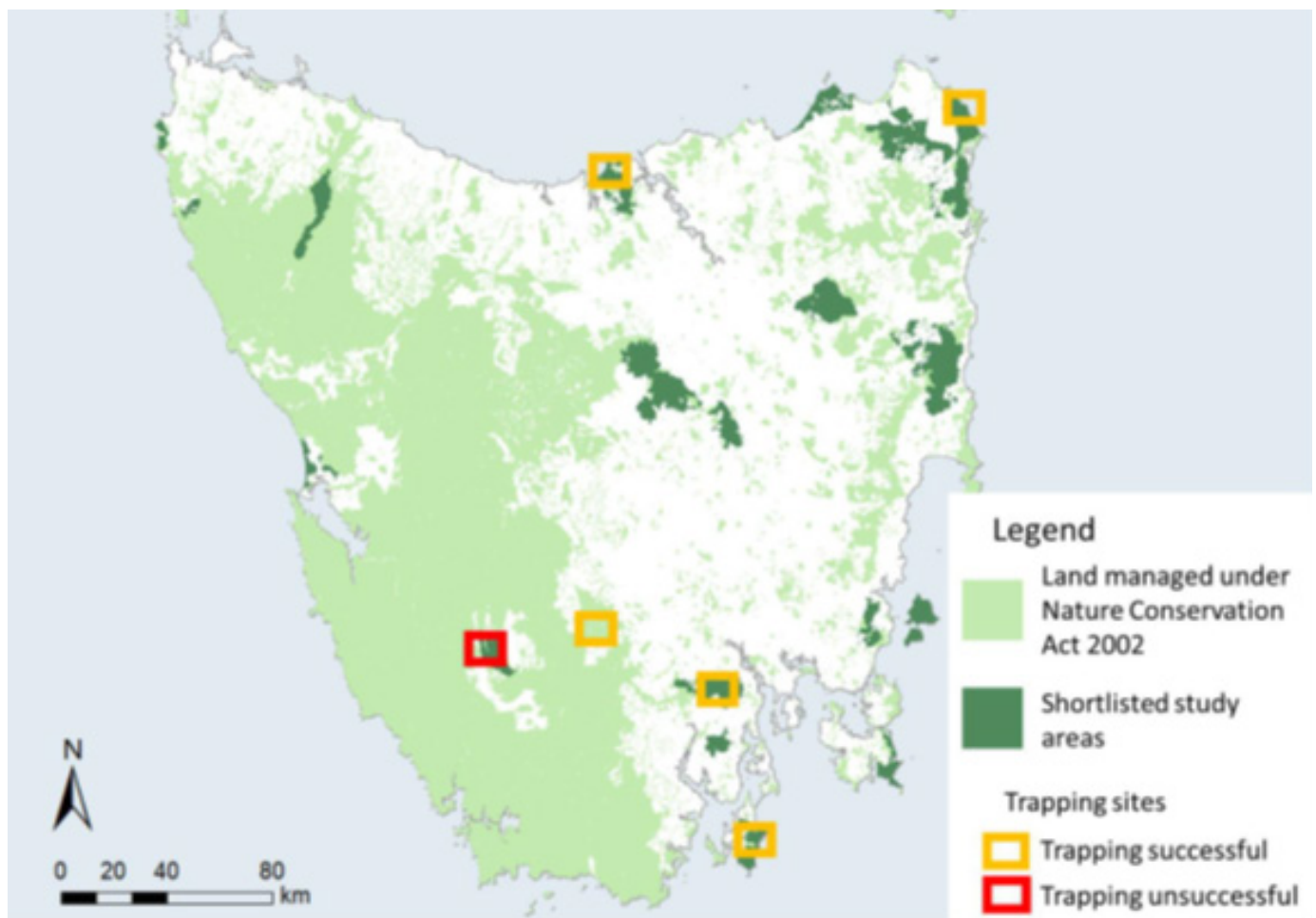


Figure 1: Map of Tasmania highlighting areas managed under the Nature Conservation Act 2002 and areas short-listed as study sites for this project. Squares indicate the locations that we trapped during the project field work. We carried out trapping at six locations, with one location being unsuccessful.

Some of the key results were:

The 50% UD (core home range) size was similar for William (5.2 km²), Floki, (5.0 km²) and Bruny (3.9 km²), whereas Blodwyn (9.5 km²) and Giolla (10.7 km²) had much larger 50% UD (which were also larger than any of the other adult wedge-tailed eagles we are tracking). The mean 50% UD was 6.9 km², which is slightly larger than the 5.1 km² mean for resident birds we are tracking in other areas of Tasmania. The 95% UD followed a similar pattern, with William (19.8 km²), Floki (16.9 km²), and Bruny (19.8 km²) having smaller 95% UD than Blodwyn (39.2 km²) and Giolla (33.7 km²). The mean 95% UD for the five eagles in this project was 25.9 km², which is also slightly higher than the 21.8 km² mean for resident birds we are tracking in other areas of Tasmania. However, UD are sensitive to the number of fixes and time period used to calculate them (Girard et al., 2002). A full year of GPS data for each individual will allow us to make more defensible conclusions on the UD of the birds tracked for this project, as well as comparisons with the other birds we are tracking in more anthropogenically modified landscapes. Once we have the larger dataset, we will also be able to assess the landscape and landcover characteristics of the 95% and 50% UD, and assess how these influence UD size and if the amount of reserved land within the UD influences UD size and shape.

The eagles showed a strong avoidance for landcover classifications of non-native vegetation, residential, and other natural, which were also habitat types that contributed very small areas within the available habitat areas of the eagles. Eagles with any plantation forest within their available habitat area (Blodwyn, Giolla, and Floki) also avoided this landcover type. Dry eucalypt and wet eucalypt forests were generally used by the eagles proportional to their availability, whereas Blodwyn and Giolla selected for areas of non-eucalypt forest. There was a lot of individual variation in how the eagles used other landcover categories. Selection ratios for agricultural areas were particularly varied between individuals, with the selection ratio values strongly driven by the availability of agricultural areas within the available habitat area.

In the respect of the Fund, this project is completed, but the GPS units are continuing to track the eagles and obtain valuable data. Dr Pay has committed to providing the WTE Research Fund the final analysis of the data when it is in (anticipated to be in second half of 2023).

» 2021

Two projects were supported in 2021, one ("Estimating the population size of the Tasmanian wedge-tailed eagle (*Aquila audax fleayi*) using modern genetic techniques") was fully funded and is due to be completed at the end of September 2022, and the second ("Monitoring wedge-tailed eagle population trends") was partially supported. The latter project was due for completion in April 2022, but has been delayed due to illness and other issues. The final payment for both projects will be made when final reports are received.

NEXT STAGE IN THE FUND

The funding agreement for the new project (Pay et al. Midlands GPS tracking) will be finalised in the next few weeks. If rescope projects are received from the two other applicants, they will be reviewed by the TAC and determined if they will be supported.

It is anticipated that the next round of grants will be advertised in the first half of 2023. The documents relevant to this next round will be reviewed prior to the next funding round.

Each year the learnings from the previous round of grants are evaluated and then used to inform the approaches for the upcoming year. Some of the key learnings from the 2022 include:

- The number of applications to the Fund is declining each year. This was discussed at a TAC meeting. It was agreed that it may be necessary to be more proactive in driving research in key areas by actively supporting Honours or Postgraduate studies studying specific topics.
- Some applicants were confused about how to manage GST in their applications. The guidelines and application form were made clearer about how to document GST, but it was also decided to provide additional funds for the GST component to all successful grant recipients as some had not adequately budgeted for it. This had a small impact on the amount of funds available in the 2022 round.
- There were further minor refinements to the assessment criteria to assist with selecting projects.

FINANCIAL STATEMENT

Details	2021	
	Contribution	Costs
Funds received (incl. GST)	\$94,578.94	
Bank interest	\$7.12	
Set up administration cost (15%)		\$0
Ongoing administration (8%)		\$6,878.47
Advertising for grants		\$95
Graphics design for application and advertisements		\$250
Milestone payments to grant recipients		\$52,036.36
GST paid		\$5,263.14
Total	\$94,586.06	\$64,522.97
Carried forward		\$118,248.14*

*majority allocated to grant recipients. Remaining funds will be allocated to future grant rounds