

Wedge-tailed Eagle Research Fund 2026 Annual Report



Photo: Dr Adam Cisterne, NRM South

Prepared for Wild Cattle Hill Pty Ltd

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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 seventh Annual Report for the Wedge-tailed Eagle (WTE) Research Fund ('The Fund'). It covers the achievements since the last Annual Report in September 2025.

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.

It is noted that on 17 December 2024, Atmos Renewables acquired 100% of the interests in the Cattle Hill Wind Farm and is therefore now the official owners of the asset.

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.

¹ Must 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.

- 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 DCCEEW.
- 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).

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 (as an observer, Dr Rachael Alderman, Director Threatened Species and Biodiversity).
- a representative from the administering body, NRM South (Dr Adam Cisterne). *
- 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 Tasmanian wedge-tailed eagles). These roles were filled following advertising and a competitive selection process. Both of these independent scientists had completed two terms on the TAC and are now in their third term.

*** Adam Cisterne has replaced Cindy Hull as the Fund Manager at NRM South and as Chair of the TAC**

**** an observer from DCCEEW is invited but not compulsory for the functioning of the TAC**

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.

NRM South has also now established a Project Governance Steering Committee (PGSC) to oversee externally funded projects. The PGSC serves a crucial function in overseeing projects and providing guidance on best practice project management and governance processes, with recognition of the parameters and processes required by some funding entities. It is responsible for reviewing project progress and providing advice and recommendations on:

- Project performance (e.g. delivery against milestones and budget),
- Project risk (e.g. WHS and compliance) and
- Project management processes (including change, quality and stakeholders)

The Committee is an advisory committee to the NRM South Board (does not have delegated authority) and includes Board representation (through the Committee's Chair). The WTE Research Fund is included in the remit of the PGSC.

Achievements during 2025/2026

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

Details of the achievements:

1. The eighth deposit (including the set-up contribution) to The Fund was received from Wild Cattle Hill Pty Ltd in October 2025.
2. The project "Characterising the demographic history and evolutionary trajectory of Tasmanian wedge-tailed eagles using whole genomic sequencing (Ahrens, Miller, Burrige, Weeks) was completed. The final payment was made following approval of the final report. (The findings of this study are briefly presented in this report).
3. The project "Making the surveys count: an innovative approach to convert relative abundance data to a population estimate for the Tasmanian wedge-tailed eagle, through direct measurement of detectability (Pay, Johnson, Zhang, Hawkins, Potts)" is due for completion in March 2027.
4. A student has been recruited the University of Tasmania to do a PHD project funded through The Fund.
5. A grant round was not advertised in 2025/26, as funds from the October 2025 deposit had been committed to support the projects funded in the 24/25 grant round. A grant round is being prepared for advertisement in September of 2026.

Projects supported in 2025/2026

New, Continuing and Completed Grants

1. 2024-25: Characterising the demographic history and evolutionary trajectory of Tasmanian wedge-tailed eagles using whole genomic sequencing (Ahrens, Miller, Burrige, Weeks). This project was completed in January 2026.

Project summary:

Current estimates suggest that the census population size of wedge-tailed eagles in Tasmania is approximately 1000-1500 adults. However, estimates of effective population size (number of reproductive adults; N_e) remain uncertain, but are generally orders of magnitude smaller than census sizes and inherently difficult to quantify using traditional genetic methods. Contemporary estimates of N_e are vitally important for informing conservation, as N_e is the ultimate indicator of overall genetic health and population stability. Rapid historical losses and persistent non-natural deaths are expected to have a measurable impact on N_e by reducing the number of breeding individuals. This can expose affected populations to negative demographic processes that can adversely impact genetic health, population fitness and environmental resilience. Thus, significant reductions in N_e can have long-term consequences for population recovery and persistence.

This project seeks to build on the findings of Stojanovic (2022) to gain a more reliable and robust estimate of contemporary N_e for the TWTE population and understand how N_e and genetic variation changed through time. Our analyses based on whole genome sequencing (WGS) data will determine the impacts of historical and more recent human activities on N_e (i.e., culling practices, landscape modification and wind farm expansion). Outputs from this project are expected to provide a much-needed resource for informing future conservation management of TWTE population by providing reliable estimates of population growth trajectories (positive or negative), and uncovering reasons for differentiation between Tasmania and mainland populations of wedge-tailed eagles.

The project found that the TWTE population was isolated from mainland Australia with the disappearance of the Bassian land bridge ~10,000 to 13,000 years ago. The TWTE population remained demographically stable following its isolation from the Australian mainland. However, the TWTE then experienced a severe decline in genetic diversity, increased inbreeding and mutational load. The observed genetic erosion has been driven by the population's long isolation, rather than any recent human activities. Still, these genetic characteristics leave the population vulnerable to stochastic events (chance), environmental change, and novel sources of mortality.

2. 2024-25: Making the surveys count: an innovative approach to convert relative abundance data to a population estimate for the Tasmanian wedge-tailed eagle, through direct measurement of detectability (Pay, Johnson, Zhang, Hawkins, Potts). To be completed in March 2027.

Project summary:

We will develop an innovative method to estimate Tasmanian wedge-tailed eagle (TWTE) population size from structured annual survey data. Such an estimate is long overdue, and will enable review of its conservation status. An empirical population estimate is necessary, since, even if the trend is stable, strategic conservation decisions will be radically affected by information on whether the population is now close to extinction or is quite large.

Researchers from the University of Tasmania, in collaboration with researchers from the Australian National University and the Bookend Trust, have been pioneering a range of innovative approaches to the population estimate. These integrate multiple novel tools and methods to enhance reliability and accuracy:

1. Territory analysis: using GPS tracking data from adult eagles to estimate how territory size varies across Tasmania and calculate the total number of territories on the island.
2. Genetic techniques: applying advanced genetic methods to determine the effective population size (work previously funded through the WTE Research Fund).
3. Detectability modelling: combining GPS tracking data with human observation records to directly measure detectability for the species and translate survey numbers into a population estimate (this application).

Each offers significant advantages over the previous approaches but also has inherent limitations. By synthesising these diverse, independent methods, we aim to leverage their complementary strengths and mitigate weaknesses, ultimately producing the most robust and comprehensive population estimate, collect and analyse field data on detectability through standardised surveys near GPS-tagged eagles. With sufficient field data, we anticipate that we will be able to accurately model the proportion of surveys which miss a tagged eagle, against its distance from the observers. This will allow us to estimate the population size by combining the resulting detection function with ongoing WWW survey data.

PhD project

A student commenced studies at the University of Tasmania in February 2026

“How is TWTE habitat selection affected by human activities and land-use intensity?”

The project is housed in the School of Natural Sciences at UTas, and supervised by:

- Dr James Pay, University of Tasmania (Supervisor)
- Professor Chris Johnson, University of Tasmania (Supervisor)
- Associate Professor Chris Burridge, University of Tasmania (Supervisor)
- Dr Catherine Young, NRM South (Advisor) – to ensure the project remains focussed on the WTE Research Fund objectives.

The funding covers a 3.5-year stipend, plus top up bursary, mandatory paid leave, relocation allowance and fieldwork costs.

The proposed PhD project will investigate how Tasmanian wedge-tailed eagles (TWTEs) respond to human activities and land-use disturbance, using existing GPS-tracking data from adult and pre-adult eagles, alongside field experiments. The project aims to understand how disturbance affects eagle habitat selection, behaviour, nest attendance, and breeding success.

Key components include:

- **Literature review:** A first-year review of current methods and technologies for monitoring wildlife disturbance.
- **Habitat selection:** Analysis of how human activities such as roads, land-use change and fuel reduction burns influence TWTE movement and spatial ecology.

- Helicopter disturbance: Assessment of whether helicopter flights affect eagle behaviour and nest attendance, using flight path data and GPS-tracking records.
- Vehicle traffic: Investigation of how road and track traffic near nests affects breeding eagle behaviour, including potential field experiments using traffic counters.
- **Nest attendance and breeding success**: Comparison of GPS-derived nest attendance data with field nest surveys to understand how movement data relates to breeding outcomes.

Overall, the project will help identify disturbance levels that may affect TWTE populations and inform conservation management, industry guidelines, and future monitoring approaches.

Next stage in The Fund

The next round of grants will be advertised in September 2026.

Financial statement

A summary of the financial statement is provided below:

Details	July 2025 - June 2026		
	Contribution	Costs	Commitments
Funds received (incl. GST) 2025	\$111,078.95		
Bank interest	\$1626.17		
Ongoing administration		\$8,994.00	
Grant Advertising			
Carried Forward	\$201,139.35		
Contractor costs (TAC)			
Genomic sequencing		\$35,953.00	
Eagle detectability		\$27,720.00	\$18,480.00
PhD stipend		\$70,229.00	\$105,937.00
Total	\$313,844.47	\$142,896.00	\$124,417.00

Given the current financial commitments to projects, including that the 2025 funds were allocated in the 2024 round, the next round of grants will be advertised in September 2026. Residual funds from 2025 will be combined with the 2026 allocation.

Appendix 1

Projects awarded support by the Fund - completed

- 2020: Investigating the spatial ecology and habitat use of the Tasmanian wedge-tailed eagle in unmodified landscapes using high-frequency GPS telemetry (Cameron, Pay, Katzner, Koch, Wiersma).
- 2021: Estimating the population size of the Tasmanian wedge-tailed eagle (*Aquila audax fleayi*) using modern genetic techniques (Stojanovic, Cisterne, Pay, Burridge, Young, Clarke and Butler).
- 2021: Monitoring wedge-tailed eagle population trends (Hawkins and Potts).
- 2022: Investigation the spatial ecology and habitat use of Tasmania wedge-tail eagles in the Tasmanian Midlands using high-frequency GPS telemetry (Pay, Koch, Cameron, Wiersma, Katzner).
- 2023: Comprehensive analysis of the ecotoxin threat to Tasmanian Wedge-Tail Eagles (Stojanovic, Pay, Cisterne).
- 2024-25: Characterising the demographic history and evolutionary trajectory of Tasmanian wedge-tailed eagles using whole genomic sequencing (Ahrrens, Miller, Burridge, Weeks).

Projects awarded support by the Fund – underway

- 2024-25: Making the surveys count: an innovative approach to convert relative abundance data to a population estimate for the Tasmanian wedge-tailed eagle, through direct measurement of detectability (Pay, Johnson, Zhang, Hawkins, Potts). To be completed in March 2027.
- PhD project: How is TWTE habitat selection affected by human activities and land-use intensity? Commenced March 2026.