Prepared for Baldon Wind Farm Pty Ltd

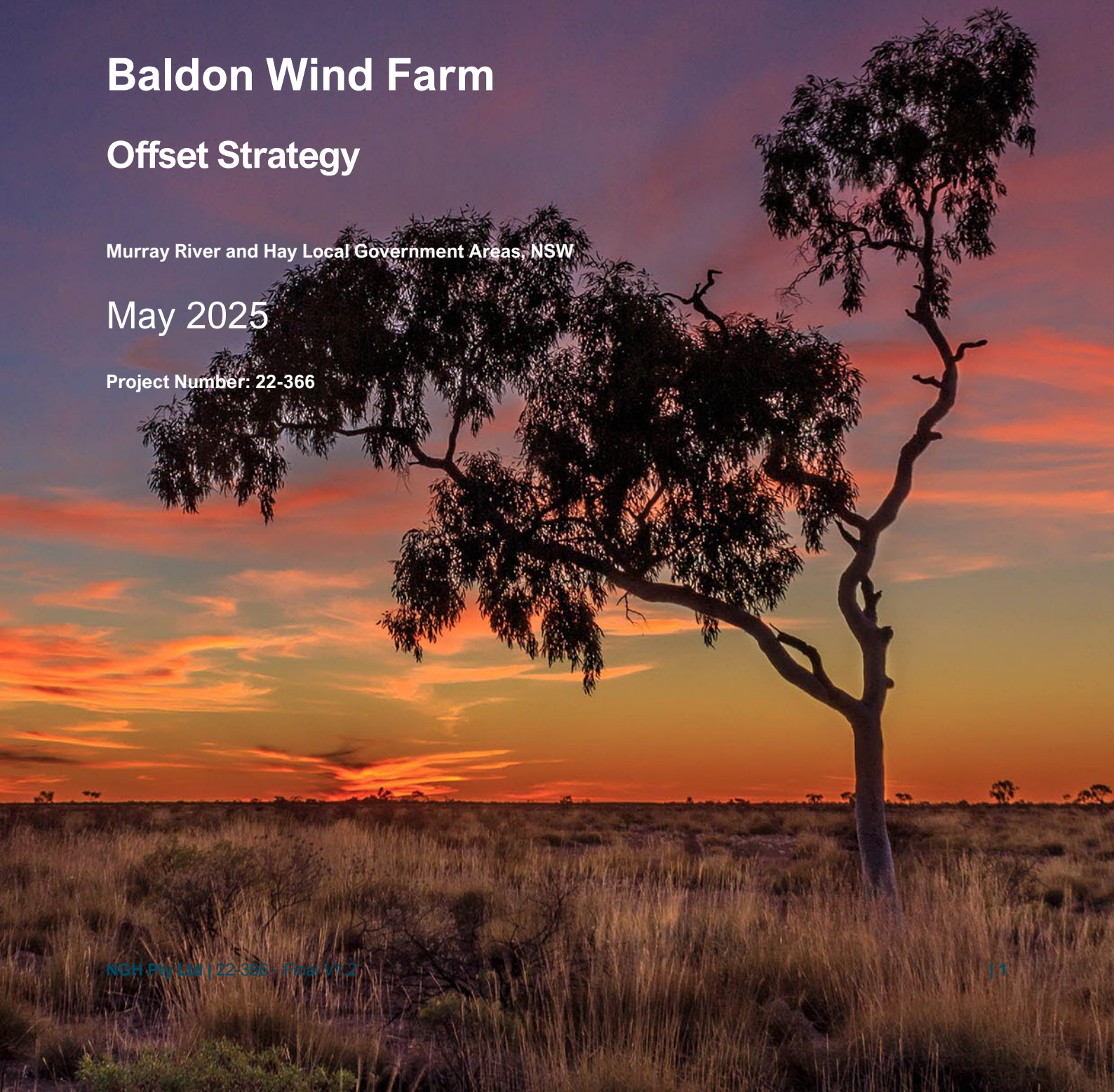
Baldon Wind Farm

Offset Strategy

Murray River and Hay Local Government Areas, NSW

May 2025

Project Number: 22-366



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Acronyms and Abbreviations

BC Act	*Biodiversity Conservation Act 2016* (NSW)
BCS	Biodiversity Conservation and Science (NSW)
BCT	Biodiversity Conservation Trust (NSW)
Cth	Commonwealth
DCCEEW	Department of Climate Change, Energy, Environment and Water (Cth)
EIS	Environmental Impact Statement
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cth)
GIS	Geographic Information System
ha	hectares
km	kilometres
LLS	Local Land Services (NSW)
m	metres
MW	Megawatt
REZ	Renewable Energy Zone

1. Introduction

The Baldon Wind Farm is being assessed in accordance with project-specific Secretary's Environmental Assessment Requirements (SEARs). This includes a requirement to detail:

> *… a strategy to **offset any residual impacts** of the development in accordance with the BC Act*
>
> *… details of the measures proposed to address **the credit obligation***

The aim of this document is to support decision making regarding the Baldon Wind Farm's (the Project's) credit obligation. It sets out a high-level evaluation of offset options. The working draft (March 2024) has been discussed with the key stakeholders involved in the decision making. These stakeholders include:

- The Baldon Wind Farm applicant; Baldon Wind Farm Pty Ltd
- The two host landowners of the wind farm site
- First Nations stakeholders:
    - Local Aboriginal Land Councils (3)
    - Nari Nari Tribal Council
    - Registered Aboriginal Parties for the Baldon Wind Farm
- NSW government agencies including:
    - Biodiversity Conservation and Science (BCS)
    - Nature Markets and Offsets Division (NMOD)
    - Local Land Services (LLS)
- Federal Department of Climate Change, Energy, Environment and Water (DCCEEW)

This document sets out:

- The statutory context for offsets in NSW
- The relevant environmental context, including surrounding land use activities, biodiversity threats and opportunities
- The credit obligation (as of the date of this document)[1]
- Offset options available to the Project and an evaluation of their merits with regard to the Project
- Consideration of opportunities and challenges that will influence the Project's offset approach.

Appendix A summarises consultation outcomes and proposed actions (as of the date of this document).

2. Background

2.1. Statutory context and requirement to offset

The NSW Biodiversity Conservation Act 2016 (BC Act), introduced on 25 August 2017, included the provisions of the Biodiversity Offset Scheme (BOS). The BOS calculates credits from native vegetation clearing that must be balanced by the retirement of credits created in stewardship sites. It is now mandatory for specific clearing activities in NSW, including State Significant Developments (SSD). The proposed Baldon Wind Farm is a SSD to which the BOS applies.

[1] As the Project progresses from indicative layout to more refined iterations and then detailed design, there will be changes to the impact footprint. It may be required or advantageous to the Project to update the credit obligation a number of times prior to the obligation being met.

Where a credit obligation is calculated, it will consist of a number of 'credits' that will represent the extent and the condition of vegetation and / or species habitat being impacted. These are called 'ecosystem' and 'species' credits, respectively. To meet the obligation, this same quantum of credits must be 'retired'. The applicant has the following options under the Scheme to find and retire the credits:

a) Pay out the cost of the credits to the Biodiversity Conservation Fund directly.
b) Purchase credits generated by a Stewardship Site (stewardship site) established under the BOS. This may be:
    i. An existing Stewardship Site, where the credits have been created and can be purchased immediately from the credit market and then 'retired'.
    ii. A partially assessed Stewardship Site, where the Applicant may assist to finalise the credit assessment and then purchase the newly created credits and retire them.
    iii. A new site (or sites) identified by the Applicant to meet their obligation specifically. A full assessment will be required to establish the number of credits available at the site. Once created, the credits can be purchased (or transferred) and retired to meet the credit obligation.

While many development approvals using the BAM have been granted since the Act's introduction, and many applicants have used the direct payment Option to meet credit obligations, the establishment of physical stewardship sites to generate credits (which can then be 'retired', thereby fulfilling the offset requirement) remains the most time consuming and complex Option available under the Act. For this reason, large Biodiversity Stewardship Agreements (BSAs) for renewable energy projects are still relatively few in number, though the NSW Government's Stewardship Support Program is making inroads to increase the supply of BSAs.

2.2. Project context

The anticipated biodiversity impacts of the wind farm are set out below. These are the impacts that are generating the credit obligation.

2.2.1. Construction

The wind farm construction phase will require clearing and excavation activities to install large infrastructure components including:

- Wind turbine access tracks, footings and hardstand areas
- Electricity transmission lines and telecommunications cabling, above and below ground
- Substations
- Operations and maintenance facilities
- Car parking areas
- Temporary construction and accommodation facilities

Assuming the effective implementation of mitigation strategies to manage erosion and sedimentation, weed, pathogen and pest ingress, the key residual impact will be the clearing of native vegetation, including habitat for native plants and animals.

The credit obligation is calculated using the specific quantum of clearing, reflecting the type and condition and total area of clearing proposed. The specific credit obligation will form part of the Project's approval; it will be stipulated as a condition of consent. Refer to Section 3 for the current status of the credit obligation.

2.2.2. Operation

The operational wind farm will also present biodiversity risks, specifically:

- Vehicle strike, caused by low levels of operational access for the operational life of the wind farm
- Bird and bat collisions, barotrauma[2], alienation effects, caused by operating wind turbines

The operational risk to fauna (and specifically to birds and bats) is not included in the credit obligation. As of June 2024, the risks have been considered low and manageable based on:

- Initial Bird and Bat Risk Assessment, prepared by Nature Advisory (August 2022)
- Bird Utilisation Survey -1st Annual Report, prepared by Nature Advisory (January 2024)

The results have concluded low risk to date. Further investigations will continue until such time as at least 2 years of utilisation data have been analysed to inform this risk. A Bird and Bat Adaptive Management Plan (BBAMP) will be implemented during the operational life of the wind farm.

2.2.3. Decommissioning

Rehabilitation of areas disturbed by the Project will be undertaken as part of the Project. The intention will be to progressively stabilize areas of disturbance, making them resilient to erosion and weed infestation, and secondarily to re-establish appropriate vegetation cover where assistance is required. As such, these activities will be concentrated during and immediately following construction as well as during the decommissioning phase, after infrastructure is removed from the site.

These activities are not considered in relation to offset requirements i.e. they do not reduce or influence the Project's offset requirement. They will, however, be a commitment of the Project and will be informed by specific management plans, developed in consultation with agencies and other expert input.

2.3. Site context

The key environmental matters relevant to meeting the credit obligation are summarized briefly below.

2.3.1. The wind farm site

The Project site location is:

- Approximately 40 km north to south and 15 km east to west
- About 46,266 hectares in total.
- Within a low-density rural area and distant from the regional towns as listed below:
    - Moulamein, approximately 13 km to the south of the Project
    - Balranald, approximately 44 km to the west of the Project
    - Hay, approximately 64 km to the northeast of the Project
    - Deniliquin, approximately 100km to the southeast of the Project

Key biophysical features include:

- Vegetation ranges from river red gums along river channels to saltbush on the plains. The Abercrombie Creek (Strahler level order 9) passes through the study area.
- There is a floodplain mapped adjacent to the northern Project boundary. Much of the study area is located within the Lower Renmark Group aquifer, with the very northern portion overlapping into the Murray Trench aquifer.
- The region has very low relief; less than 1% slope at approximately 70m Above Sea Level and less than 4m elevation difference across the site.

The key land use activities are agricultural:

[2] A change in pressure near moving blades which can cause death or injury to micro bats flying in this zone.

- The wind farm site is owned and managed under two landholdings. There are approximately 14 residential dwellings within 10 km of a proposed turbine location, though many have not been lived in for many years.
- It is zoned RU1 Primary production and used for grazing activities. Its Land Soil Capability (LSC[3]) class primarily Class 5 soil with smaller areas of Class 4 occurring through the site, and Class 6 soil located alongside watercourses. It is noted that high impact land use practices require good quality, high capability land, such as LSC classes 1 to 3, while low impact practices can be sustainable on poorer quality, lower capability land, such as LSC classes 5 to 8.
- No Biophysical Strategic Agricultural Land (BSAL) occurs within the study area.
- The climate is dry and semi-arid with hot summers and cool winters with marginally more rain falling during winter months than in warmer months. Given different evaporation regimes over the year, it is anticipated this will result in drier and dusty conditions over summer and wetter conditions in winter.
- Grazing rates are generally 1 sheep per 2 ha on average in this region.
- The site has a history of disturbance and overgrazing. The key strategy used to remediate the site was the planting of saltbush in rows, to stabilize and capture soil. The rows are still apparent and have increased native plant diversity and improved soil conditions. This has been observed by the NGH ecology field team in surveys conducted between 2022 – 2024.

Surrounding land use activities:

- Neighbouring land holdings are all zoned RU1 Primary production and appear to have similar vegetation and land use characteristics (offsite surveys have not ground validated neighbouring landholdings).
- The Project site is within the South West Renewable Energy Zone (REZ). REZs are being located strategically to maximise the benefits of and smooth the transition to greater renewable energy development. They are intended to lead to more renewable energy and storage projects. This is expected to capitalise on economies of scale to deliver cheaper, reliable and clean electricity to NSW homes and businesses. It is likely that these projects will also be SSD and may generate cumulative biodiversity impacts as well as require credit obligations. Some nearby renewable projects are listed below.

[3] More information on the LSC schemed developed by NSW Government can be found at https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Land-and-soil/land-soil-capability-assessment-scheme-120394.pdf

Table 2-1 Large energy projects in the South West REZ

Project	Location	Status
Limondale Solar Farm	60km west	Operational
Sunraysia Solar Farm	60km west	Operational
Keri Keri Renewable Energy Project	Adjacent western boundary	Proposed
Junction Rivers Wind Farm (formerly Burrawong Wind Farm)	60km west	Proposed
Dinawan Energy Hub	150km east	Proposed
Project Energy Connect (transmission line)	Traverses Project site	Under construction
Tchelery Wind Farm	Adjacent eastern boundary	Proposed
Wilan Energy Park	15km northwest of the Project	Proposed
Plains Energy Park	47km west	Proposed
Pottinger Wind Farm	66km east	Proposed
Bullawah Wind Farm	84km east	Proposed
Yanco Delta Wind Farm	150km east	Proposed

While there are no National Parks or Conservation Areas within a 30 km radius of the Project, the following potentially sensitive areas exist in the wider region (Figure 2-3):

- Yanga National Park (50 km west)
- Yanga State Conservation Area (37 km west)
- Yanga Nature Reserve (37 km west)
- Kalyarr National Park (35 km southwest)
- Murrumbidgee Valley National Park (50 km northwest)

Large stewardship sites or conservation areas in the region include:

- Gayini, a 87,816 ha property owned and managed by the Nari Nari Tribal Council.

2.3.2. Stewardship site threats and opportunities; snap shot

Establishing and managing an in perpetuity Stewardship site to retire a credit obligation requires a thorough understanding of the site itself, but also of local issues that may influence the success of actions to improve the biodiversity values of the site. This table compiles factors which may be relevant to securing a local stewardship site. Further, it considers whether these can be viewed as threats or opportunities. Planning for these matters early may influence whether the Applicant or landholders decide to progress establishing a new stewardship site to generate credits. If they do progress a site, these matters may influence how the site is defined, assessed, or managed in the long term.

Table 2-2 Local biodiversity management threats and opportunities

Issue	Threat	Opportunity
Access and management The land holdings are large and the area sparsely populated. Stock densities are also low.	The logistics of access can lead to higher per hectare costs for management actions, especially as many of the local roads and tracks are dry weather use only. This will make monitoring or any restoration actions or planting more expensive.	Combining actions and / or monitoring into spatial zones and temporal windows, in line with existing farm activities or wind farm activities may reduce costs and complexity. All weather wind farm tracks will improve access within the Project area. The use of local contractors will support greater versatility to adjust work plans to suit the weather and ground conditions. Consideration of edge effects; keeping conservation actions near to wind farm actions to assist access and minimise edge effects.
Terrain The terrain is primarily flat, with minor rises where soils have accumulated, and minor incised waterways, spilling out to extensive flood plains.	Flooding affects some areas and limits access to some areas at times.	Impact footprints from activities can be contained and erosion and sedimentation controlled effectively, limiting Project impacts to a greater degree than is possible in steeper landscapes. All weather wind farm tracks will improve access within the Project area. The use of local contractors will support greater versatility to adjust work plans to suit the weather and ground conditions.
Extremes of climate Seasonal temperatures and rainfall patterns are extreme.	Specific ‘seasonal windows’ are most suited to specific onsite actions such as establishing vegetation. Even during these	The REZ aims to bolster industries that will address climate change in the longer term in this area. While local climate effects may not be noticeable, local understanding and

Issue	Threat	Opportunity
	times extreme events may reduce success rates. Climate change predictions for this area are that extreme weather events will increase and lead to hotter drier periods.	support may increase local interest in establishing more stewardship sites locally.
Agricultural land management	Waterways in the area have been used intensively for irrigation, affecting channel morphology, supply and quality. Native vegetation has been modified and in some areas degraded.	Creating strategic new conservation areas in this landscape may benefit habitat connectivity and improve catchment values such as water quality in riparian areas. It may also spread the learnings of successful land rehabilitation actions.
Cumulative impacts	The site is within a Renewable Energy Zone. Increased electricity transmission and renewable energy infrastructure is expected in the coming years. This will lead to changes in land use for some properties as well as cumulative clearing and other potential biodiversity impacts, such as operational bird and bat impacts.	Other large projects will be seeking locally appropriate offset options to meet their consented obligations. Landscape scale improvements are possible, targeting catchment issues such as and providing connectivity and riparian and wildlife corridor projection.

3. The credit obligation

The credit obligation is being refined with the optimisation of the Project's layout and infrastructure construction requirements[4]. While the credits generated may change during this process, the strategies employed to ensure the credit obligation is robust to any required Project changes include:

1. Ensuring the credits reflect a generously buffered infrastructure layout, sufficient for constructability (that is, inclusive of the disturbance areas required for laydown and installation of environmental controls).
2. Assessment of a broad corridor, so that changes in the infrastructure layout can be made without the need for further survey.
3. Calculation of the offset liability in two stage. As Stage 1 infrastructure is likely to be constructed well in advance of Stage 2, this will allow the Project to align its retirement of credits with the timing of impacts better.

The current credit profile at the time of writing this report is set out below, alongside the cost estimate information current as of May 2025.

In terms of cost, the key entities driving the obligation are:

PCT 164	• 'Cotton Bush open shrubland of the semi-arid (warm) zone' (impact area 595.80 ha combined Stage 1 and 2; cost per credit $2500)
*** Flora**	• *Brachyscome papillosa* Mossgiel Daisy (impact area 295.41 ha combined Stage 1 and 2; cost per credit $540) • *Maireana cheelii* Chariot Wheels (impact area 62.66 ha combined Stage 1 and 2; cost per credit $1610)

These two entities account for approximately 75% of the estimated cost of offsets. For PCT 164, this is a factor of the area of impact. For the flora species this cost is driven by large areas of habitat.

[4] As the Project progresses from indicative layout to more refined iterations and then detailed design, there will be changes to the impact footprint. It may be required or advantageous to the Project to update the credit obligation a number of times prior to the obligation being met.

Table 3-1 Current credit obligation and cost estimate as of 06/05/2025 noting species assumed present in their associated PCTs (shown as *).

PCT / Flora / Fauna		Price per credit	Credits Stage 1	Credits Stage 2	Cost Stage 1	Cost Stage 2	Total cost per entity
15	'Black Box open woodland wetland with chenopod understorey mainly on the outer floodplains in south-western NSW (mainly Riverina Bioregion and Murray Darling Depression Bioregion)'	$3,700.00	10	144	$37,000.00	$532,800.00	**$569,800.00**
17	'Lignum shrubland wetland of the semi-arid (warm) plains (mainly Riverina Bioregion and Murray Darling Depression Bioregion)'	$3,700.00	0	15	$0.00	$55,500.00	**$55,500.00**
28	White Cypress Pine open woodland of sand plains, prior streams and dunes mainly of the semi-arid (warm) climate zone'	$3,200.00	3	76	$9,600.00	$243,200.00	**$252,800.00**
46	Curly Windmill Grass - speargrass - wallaby grass grassland on alluvial clay and loam on the Hay Plain, Riverina Bioregion'	$2,600.00	492	497	$1,279,200.00	$1,292,200.00	**$2,571,400.00**
46	Curly Windmill Grass - speargrass - wallaby grass grassland on alluvial clay and loam on the Hay Plain, Riverina Bioregion'	$2,600.00	0	47	$0.00	$122,200.00	**$122,200.00**
57	'Belah/Black Oak - Western Rosewood - Wilga woodland of central NSW including the Cobar Peneplain Bioregion'	$2,600.00	1	3	$2,600.00	$7,800.00	**$10,400.00**
153	Black Bluebush low open shrubland of the alluvial plains and sandplains of the arid and semi-arid zones'	$2,300.00	11	1073	$25,300.00	$2,467,900.00	**$2,493,200.00**
159	'Old Man Saltbush shrubland mainly of the semi-arid (warm) climate zone (south western NSW)'	$5,400.00	25	297	$135,000.00	$1,603,800.00	**$1,738,800.00**
160	'Nitre Goosefoot shrubland wetland on clays of the inland floodplains'	$2,800.00	168	355	$470,400.00	$994,000.00	**$1,464,400.00**
163	'Dillon Bush (Nitre Bush) shrubland of the semi-arid and arid zones'	$2,500.00	111	50	$277,500.00	$125,000.00	**$402,500.00**
164	'Cotton Bush open shrubland of the semi-arid (warm) zone'	$2,500.00	4096	9947	$10,240,000.00	$24,867,500.00	**$35,107,500.00**
Flora	*Brachyscome papillosa* Mossgiel Daisy	$540.00	4292	9240	$2,317,680.00	$4,989,600.00	**$7,307,280.00**
*** Flora**	*Convolvulus tedmoorei* Bindweed	$8,600.00	5	0	$43,000.00	$0.00	**$43,000.00**
***Flora**	*Eleocharis obicis* Spike rush	$4,300	577	1164	$2,481,100.00	$5,005,200.00	**$7,486,300.00**
Flora	*Maireana cheelii* Chariot Wheels	$1,610.00	1273	1608	$2,049,530.00	$2,588,880.00	**$4,638,410.00**
Flora	*Swainsona murrayana* Slender Darling Pea	$1,610.00	8	10	$12,880.00	$16,100.00	**$28,980.00**
Fauna	*Hieraaetus morphnoides* Little Eagle	$1,610.00	0	71	$0.00	$114,310.00	**$114,310.00**
Fauna	*Litoria raniformis* Southern Bell Frog	$2,150.00	262	1347	$563,300.00	$2,896,050.00	**$3,459,350.00**
Fauna	*Myotis macropus* Southern Myotis	$1,040.00	249	1235	$258,960.00	$1,284,400.00	**$1,543,360.00**
	Per stage		**11,583**	**27,179**	**$20,203,050.00**	**$49,206,440.00**	**$69,409,490.00**

4. Offset Option evaluation

4.1. High level evaluation

Where a credit obligation is calculated, the Applicant has the following options under the Biodiversity Offset Scheme:

a) Pay out the cost of the credits to the Biodiversity Conservation Fund directly.
b) Purchase credits generated by a Stewardship Site (stewardship site) established under the BOS. This may be:
    i. An existing Stewardship Site, where the credits have been created and can be purchased immediately from the credit market and then 'retired'.
    ii. A partially assessed Stewardship Site, where the Applicant may assist to finalise the credit assessment and then purchase the newly created credits and retire them.
    iii. A new site (or sites) identified by the Applicant to meet their obligation specifically. A full assessment will be required to establish the number of credits available at the site. Once created, they can be purchased (and transferred) and retired to meet the credit obligation.

A further Option is available for some species credits:

c) Funding a biodiversity action that benefits the threatened entities impacted by the development.

The general merits and drawbacks of these five options for an Applicant are summarised below. It is most likely that a combination of these options will be preferred to meet a wind farm credit profile obligation, rather than selecting one only.

Table 4-1 High level offset Option evaluation

Options 1-4	General merits	General drawbacks	Time / cost estimate
1. **Paying out the cost of the credits to the Biodiversity Conservation Fund directly**	Can be done within a number of weeks at any point after the Project is consented. Provides certainty the obligation is met in full as soon as the funds are transferred.	Much higher cost per credit when compared Options 2 or 3 when large stewardship sites are being established.	The current estimated cost of the credit obligation is ~$69 million. The time to pay out the obligation would amount to around 2 weeks of administration between the Applicant and the Biodiversity Conservation Fund. This Option will be most suited to species credit obligations and small areas of Plant Community Types which cannot be found through Options 2 and 3.
2. **Purchasing and retiring credits from the credit market**	Lower cost per credit when compared Option 1, as the cost can be negotiated.	Can be difficult to find the credit profile required to match a Project's obligation, particularly outside of urban growth areas.	Recent searches show that there are credits available for the required ecosystem offset trading groups. Species credits are limited. .Some listings are expressions of interest and will therefore require surveys and assessment as set out for Option 3 below. This Option should be progressed in tandem with Option 3. It is likely to be similar in cost but with a faster timeline than Option 3.
3. **Purchasing and retiring credits generated by a Stewardship Site established by the Applicant**	Much lower cost per credit when compared to Option 1, when large stewardship sites are being established. A local biodiversity stewardship site can showcase the benefits of conservation and specific management strategies, empowering local landholders, informing other local actions and reflecting well on the wind farm Project.	Complex: for a large project, the credit obligation may take in several ecosystem and species credit species; it is likely some would be more straight forward to pay out directly (or a combination of Options 1, 2 and 3). The process itself is complex, requiring all stakeholders to invest in understanding the process and its risks / impacts on current land use practices.	High level estimates based on NGH's experience are that for every hectare of impact, around 1-8 hectares may be required in a physical stewardship site to retire ecosystem credits. This will vary significantly depending on the condition of the impact area, the offset area and the degree of active management applied / room for improvement. The costs to establish a new Stewardship site relate to the survey, assessment and payment of the Total Fund Deposit (paid once to Biodiversity Conservation Trust (BCT) and metered out in perpetuity for the management actions

Options 1-4	General merits	General drawbacks	Time / cost estimate
		Time consuming: after site selection and land holder interest is confirmed, assessment and agency administration requirements are onerous. The timing requirements can conflict and be incompatible with the consent requirements.	required for the site). Negotiated payments to the landholder are not considered in this evaluation. Although highly site specific, a cost per hectare of $5000 is a ball park from a recent similar sized site. This relates mostly to the complexity of the assessment and size of the site. This Option should be progressed in tandem with Option 2. It is likely to be similar less cost per credit but with a longer timeline than Option 2. It is most practical to progress with existing stakeholders in the Project. New relationships add time and cost.
4. Funding a biodiversity action that benefits the threatened entities impacted by the development.		Can only be used to offset specific entities at the discretion of the regulator.	NA.

4.2. Key issues for the retirement of Baldon Wind Farm credit obligations

A series of meetings has been held with key stakeholders to inform the evaluation of the preferred offset Options for the Baldon Wind Farm Project. Appendix A.1 provides a high-level summary of the consultation.

Key issues raised by stakeholders and which affect the Project's offset Options are outlined below. The discussions have identified:

- Opportunities for local landholders and land councils to host and assist to manage local stewardship sites and to provide local training and skill sharing.
- Barriers to establishing new stewardship sites, which can be addressed by:
    - Finding sites where management actions can align with biodiversity improvement actions
    - Allowing managed grazing within South West Renewable Energy Zone stewardship sites, where appropriate
    - Strategic assistance from government to coordinate the stewardship sites required for South West Renewable Energy Zone projects.
- Opportunities to build local capacity increase the local availability of local providence seed and plants generally, to supply South West Renewable Energy Zone projects, in rehabilitation as well as in active management of stewardship sites.
- Specific rehabilitation requirements for this Project, including:
    - Forward planning
    - Synergies with offset active management (seed collection)

4.2.1. Incentives for Stewardship site establishment

The type of management actions *required* on Biodiversity Stewardship sites can often align well with existing actions being undertaken as part of farming operations. Some management actions however, will require specialist input. *Active* restoration management actions particularly, which can add to the credits generated by the site by more rapidly enhancing improvement in biodiversity values, are more likely to require more specialist input.

Talking to agricultural landholders, the Aboriginal land council representatives and the wind farm developer, there is a shared strong interest in participation in the NSW biodiversity stewardship scheme. For both agricultural landholders and Aboriginal land council holdings, there are clear synergies between routine management practices that will enhance the stewardship site – such as pest animal control and fencing. For Aboriginal land council representatives, there are the additional training opportunities and regular income that can be generated by more specialist management activities – such as seed collection and targeted weed control. Management actions must be costed into the establishment of Biodiversity Stewardship sites and can therefore become a source of local and regular income and training for these key stakeholders. Some actions may be more suited to an independent specialist, such as monitoring the effectiveness of actions and updating management plans. *Required* and *active* management measures are explained in more detail in Appendix C.5.

Table 4-2 Opportunities for management on Biodiversity Stewardship sites identified for the Baldon Wind Farm Project

Action	Required or Active	Could be assigned to:
Preparation of a management plan	Required	Independent specialist
Grazing management	Required	Host landholders
Integrated weed management and control of high threat weeds	Required	Land council; Local Land Services; Contractor
Native vegetation management	Required	Local Land Services
Threatened species habitat management	Required	Land council
Integrated pest animal control	Required	Host landholders; Contractor
Management of human disturbance	Required	Host landholders
Fire management	Required	Land council
Monitoring	Required	Independent specialist
Habitat enhancement	Active	Land council
Native vegetation and habitat management and augmentation	Active	Land council
Integrated weed management and control of high threat exotic vegetation	Active	Land council
Hydrology management	Active	Specialist
Monitoring	Active	Specialist

4.2.2. Barriers and opportunities to Stewardship sites establishment

For the developer, the time and complexity required to identify, survey and register a physical stewardship site to retire credits is a barrier, especially if the project construction commencement is expected in the near term (i.e. within 2 yrs). In NGH's experience, this process of identifying and surveying a suitable site from a number of candidates will reflect landholder enthusiasm, seasonal survey windows and will also require long administration timelines. The process can be expected to take 1-2 years. Furthermore, it is recent standard practice for the project's consent to require credit retirement prior to the commencement of construction. Therefore, this task becomes part of the critical path to construction. Staging (of impacts and credit retirement) has been identified as way to address this.

To enable more stewardship sites to be established to support renewable projects, it would be beneficial for consent conditions to allow credit obligations to be retired within a minimum of 1 year from the commencement of construction, where feasible offset options have been verified for a project.

The inability of a single stewardship site to address more than a few of the required entities on the credit profile is another barrier. Establishing numerous stewardship sites becomes time and cost prohibitive. Hence finding one ideal site to satisfy the largest proportion of the credit obligation is desirable. The most likely candidates are those closest to the wind farm project site, as these areas have the most chance of a like for like offset – meeting the greater proportion of the credit obligation.

A further barrier for agricultural landholders may be restrictions on grazing. Grazing is generally precluded in stewardship sites, even when highly managed for biodiversity improvement. This is discussed in more detail in Section 4.2.4. There is an opportunity to find stewardship sites where routine management aligns with biodiversity improvement to address this issue.

4.2.3. Strategic offsets

A Geographic Information System (GIS) search, a search of the credit register and consultation with government agencies have identified that there is potential for a strategic approach within the South West Renewable Energy Zone (included in Appendices A and B).

In terms of suitable areas, the GIS search shows several large landholdings with similar dominant vegetation communities. Five candidates have been identified that would each be able to retire the dominant vegetation type requiring offset, if ground validation confirms the vegetation types and if landholders are interested in the scheme.

Property 1 (also the land of the Baldon WF host landholder) = 18,918.6ha of PCT164

Property 2 = 15,334.9ha of PCT164

Property 3 = 12,206.1ha of PCT164

Property 4 = 8,832ha of PCT164

Property 5 = 6,435.6ha of PCT164

As they are all located close to the Project site, it is likely that other vegetation and species credits required by the site may also be generated at these sites.

The search of the credit register shows that there are currently credits available for several entities required by the Project. A current net surplus occurs for PCT 15, 17, 46, 57, 153, and 160. For all other entities, additional credits would need to be sourced from either a new stewardship site or credit costs paid out directly to the BCT.

Table 4-3 Credit register search and evaluation by trading group (not individual PCT)[5]

Ecosystem credits by PCT	PCT trading group	Credits available	Credits required	Net
153	Aeolian Chenopod Shrublands >50%	4377	1084	+3293
17	Inland Floodplain Shrublands >50% and <70%	973	15	+958
160	Inland Floodplain Shrublands <50%	1382	523	+859*
15	Inland Floodplain Woodlands >50% and <70%	398	154	+244
159	Riverine Chenopod Shrublands >90%	16	322	-306
163, 164	Riverine Chenopod Shrublands <50%	6765	27575	-20808
46	Riverine Plain Grasslands>70% and <90%	9995	1036	+8959
57	Semi-arid Sand Plain Woodlands >50% and <70%	695	4	+691
28	Riverine sandhill woodlands >70% and <90%	0	79	-79
Species Credits	**Species name**	**Credits available**	**Credits required**	**Net**
Little Eagle	*Hieraaetus morphnoides*	52	71	-22
Southern Bell Frog	*Litoria raniformis*	708	1609	-1088
Southern Myotis	*Myotis macropus*	3569	1484	+2085
Chariot Wheels	*Maireana cheelii*	201	2881	-2873
Slender Darling Pea	*Swainsona murrayana*	1920	18	+1902

*credits available from a higher trading group

Consultation with BCS experts suggests that much of the region will be suitable Plains Wanderer habitat. Core habitat mapping has not extended into this region and is not an accurate representation of habitat in this area. This is a species listed at both the NSW and Commonwealth level and coordinated efforts to connect and enhance habitat were agreed at all levels to have merit, even if they do not require specific credits to be retired under the scheme.

In terms of timing and coordination, agencies appear to be at the early stage of discussing a more coordinated approach to regional offsets. The NSW Credit Supply Branch run the Supply Fund, established

[5] As many PCTs are 'tradable' with other PCTs, providing some flexibility in sourcing credits, the required and available credits have been aggregated by trading group.

in October 2022 to accelerate the supply of in-demand credits and make the buying and selling of credits easier. They engage with applicants to understand their short to long term credit demand and use this information to prioritise the landholders we need to work with to build supply. Reverse auctions are held to facilitate the trade between credit buyers and sellers and a Credits Catalogue is used to help buyers and sellers find each other.

The Supply Fund can assist the Baldon Wind Farm Project, and others like it, to source credits either by:

1) The Stewardship Support Program – used to target landholders who have the potential to create these credits
2) Reverse auctions – used to seek bids from existing and prospective credit holders.

It is recommended that the Applicant lodge an EOI supported by their initial BDAR. From here, the Supply Fund checks in with Demand EOI Applicants on a regular basis, and ahead of each auction (3 per year) to find out if they would like to buy credits through the Supply Fund.

4.2.4. Maximising threatened species benefits

Grazing to enhance Plains Wanderer habitat

Restricted grazing of large landholdings was identified as a barrier to private landholders participating in the NSW biodiversity stewardship scheme. While grazing is generally not accepted within NSW Stewardship sites, expert advice indicates that for key species such as the Plains Wanderer, managed grazing can be used to retain the preferential habitat of this species. Examples to support managed grazing within Stewardship sites include:

- Good grassland diversity and structure maintained on natural grasslands at Boco Rock Wind Farm through managed grazing.
- Singorimbah Stewardship site, managed by TransGrid, is managing grassland structure specifically for Plains Wanderer habitat requirements.

The Baldon Project site itself is an example of a high diversity shrubland / grassland mosaic being maintained under an appropriate grazing regime.

These sites set a precedent for this type of management measure to be adopted that will encourage local agricultural land holders to participate in the stewardship scheme. Managed grazing would require clear management for biodiversity outcomes and be adaptable to restrict stock numbers in dry periods. Fencing may not be required / necessary, in these large land holdings and may even have adverse impacts.

Threatened flora seed collection

The Baldon Wind Farm Project proposes to clear around 800 ha of native vegetation if the full Project is constructed. While a credit obligation will be generated specific to threatened flora, an additional opportunity to salvage seed (from soil or directly from plants) and even translocate plants, exists as part of the construction stage.

The Project specific-driver for this activity is likely to be the large areas that will be targeted by rehabilitation actions required to stabilise and restore temporary areas of disturbance, estimated to be 200 ha for Stage 1 and 600 ha for Stage 2. However, in theory this resource could also be used for other local benefits, such as to:

- Provide resources to assist complete rehabilitation on other projects in the locality
- Provide resources to local contractors such as Murray Native Seed Services to increase the local availability of local providence seed and plants generally.

A key point raised in consultation with stakeholders was the potential for the scale of the South West Renewable Energy Zone projects to dwarf the local staffing, materials and stock required to promptly and effectively and rehabilitate disturbed areas. While decommissioning is far off, at 30-40 years and subject to recommissioning decisions, the same issue will recur and forward planning for both scenarios is required on a project by project basis.

4.2.5. Restoration and rehabilitation activities

Restoration and rehabilitation activities was a key issue raised by Local Land Services representatives.

The Baldon Wind Farm Project commits to strong rehabilitation measures that take into account the logistical forward planning required to source staff and materials for such large areas. The commitment is outlined below and include as part of the EIS's Project commitments.

Post construction Project commitment

Aim: To rehabilitate areas disturbed during construction, that are not required in operation i.e. surplus roads / road widths, trenches, compound and laydown areas.

These areas total approximately 800 ha if the entire Project is constructed.

- These areas will be progressively rehabilitated with construction activities to minimise time that bare ground is exposed to erosion. Where multiple construction fronts are progressed, rehabilitation would be similarly tailored to the timing and location of these activities, to minimise the time bare soil is exposed.
- While in some areas, stabilisation will be sufficient, other areas will be managed more intensively to restore native species assemblages. In most cases, it is expected that the preservation and reapplication of top soil from the construction activities will be sufficient for rehabilitation. In some cases, reseeding will be undertaken to reflect mapped vegetation types and local providence.
- Preclearing surveys could collect seed in areas consented to be cleared to assist rehabilitation. This may require forward planning to meet specific seasonal windows / rain fall / seeding events.
- The rehabilitation plan will be detailed by activity type, to reflect different Options appropriate to these impacts i.e.:
    - Trenching
        - Spoil heap next to trench
        - Top soil separated from sub soil
        - Sections with seed bank noted – specifically *Brachyscome papillosa* where appropriate
    - Stock pile areas
        - Actions to address compaction
    - Bulk earth works for roads, surrounding substations, concrete batching
        - Topsoil saved and reused for rehabilitation

Post operation (ie decommissioning) Project commitment

- The Project would be expected to operate for a period of around 30 years.
- The lessons learned during the construction rehabilitation would be applied to this much larger undertaking.
- Forward planning seed / soil requirements will be undertaken to ensure the effectiveness of this program.

5. Summary

The Baldon Wind Farm Project, if approved, will have a substantive credit obligation. While low as a proportion of the total site, the areas of impact required by the Project are expected to require a stewardship site likely to be between one and three times as large as the impact areas required by the Project. Based on recent consents, it is expected that the credit obligation will be required prior to the impacts occurring, although benefits to delaying this timeframe have been noted to have merit, where feasible offset options have been verified.

Establishment of a physical stewardship site to retire credits is preferred by the Applicant but will be the most time-consuming process. The five best candidate sites have been identified from desktop assessment and further investigation of these or other suitable sites will be progressed in tandem with the Project's assessment and approval pathway.

It is highly likely that additional credits would need to be sourced from the market and then from BCT, to meet the full credit obligation.

Staging the Project will allow offsets to be staged as well and will assist meeting the identified time constraints. Participation in reverse auctions will maximise the ability of the Credit Supply Branch to match the Project with suitable credits being generated at other Stewardship sites.

Several opportunities and challenges have been identified in consultation with stakeholders that will influence the Project's approach to meeting the credit obligation.

- Baldon Wind Farm will look to maximise opportunities for local landholders, land councils and First Nations organisations to participate in management actions with the stewardship site and to provide local training and skill sharing.
- Baldon Wind Farm will work with Nature Markets and Offsets Division to ensure managed grazing is allowable within the stewardship site, where appropriate.
- Baldon Wind Farm will work with Nature Markets and Offsets Division to coordinate the stewardship site with other South West Renewable Energy Zone projects, where appropriate.
- Baldon Wind Farm will look to maximise opportunities to build local capacity within local contractors to supply seed and plants that may assist to supply South West Renewable Energy Zone projects, in rehabilitation as well as in active management of stewardship sites.
- Baldon Wind Farm will commit to specific rehabilitation requirements for this Project, including detailed forward planning and consideration of synergies with offset active management (seed collection during preclearing surveys, where appropriate).

A number of actions have been identified to progress consultation and coordination with the key stakeholders who have contributed to this strategy. These are shown in Appendix A and include actions such as further assessment of potential stewardship sites and consultation with landholders, dissemination of information, maintenance of a local skills register to maximise local labour and continued collaboration with NSW and Commonwealth government agencies.

As the energy transition progresses and more renewable energy projects are developed within the South West Renewable Energy Zone, the Baldon Wind Farm aims to maximise the social and environmental benefits that can be gained in securing the biodiversity offsets required for this Project

Table 5-1 Snap shot of offset Options in order of preference[6]

Stewardship site			
Impact area	**Stewardship area**	**Credits required**	**Estimated cost to establish (assessment, management plans and TFD)**
Approximately 800 ha	Approximately 2,000 ha[7]	28162 Ecosystem credits Species credits not considered	In the order of $10,000,000
Purchase from credit market	NA	As above	Around 2000 'issued' credits are available in the region for purchase now. Several relevant expressions of interest identified.
Purchase directly from BCT			
Total	NA	As above	$129,000,000

[6] High level estimates of offset : impact hectares and costs of assessment/TFD are provided by NGH's experience on other projects. BCT purchase price costs are derived from October 2023 credit prices and April 2024 Draft BDAR for credits generated.
[7] On a PCT by PCT basis ie not inconsideration of including adjoining areas to delineate a practical stewardship site.

Appendix A Consultation actions and outcomes

A.1 Consultation summary table

Stakeholder	Participants	Issues raised	Outcomes
Host landholders: Shippen	Host landholders Applicant	Ongoing consultation including to gauge interest in the offset scheme.	In early discussions with the applicant, the land holders were interested in continued grazing practices on the residual areas of the site and were concerned the setting aside areas for conservation would limit the agricultural activities. Large areas are needed to be maintained to manage stock due to the low stocking rate in the locality and the potential to degrade vegetation if the site is over grazed. Landowners are nonetheless willing to consider the potential for offsets being established on their land, either within the Project area or on nearby land they also own in the locality; two additional site as being investigated further. Key factors will be the cost to establish and maintain the offset areas and whether any grazing would be allowed. Actions: 1. Stewardship scheme resources provided to consider the mechanics of establishing in perpetuity offsets on private land. 2. Seek to confirm whether grazing would be permissible as part of stewardship site management
Host landholders: Glenn	Host landholders Applicant	Ongoing consultation including to gauge interest in the offset scheme.	The landholders are interested in the offset scheme and are seeking opportunities to get involved. Actions: 1. Stewardship scheme resources provided to consider the mechanics of establishing in perpetuity offsets on private land. 2. Offset liability estimate provided so that the type of vegetation and species of interest can be considered in any future land purchase.
Nari Nari Tribal Council	Nari Nari Tribal Council Applicant	Ongoing consultation including to gauge interest in the offset scheme.	The Council already manages large swathes of land to the north of the Project site, under agreements with the NSW Government (e.g. Gayini station amongst others).

Stakeholder	Participants	Issues raised	Outcomes
			They are interested to participate and have indicated they have existing suitable land and are also in the process of acquiring more. Even if a BSA wasn't established on their land for the Project, the Council would be well placed to undertake part of the management activities required on stewardship sites, as they have skilled rangers appropriate to many of the maintenance activities that may be required. They have staff already doing this work and are currently training more. Actions: 1. Offset liability estimate provided so that the type of vegetation and species of interest can be considered for existing landholdings. 2. Retain register of skills for consideration in future wind farm site maintenance as well as stewardship site maintenance.
Pappin Family Aboriginal Corporation (PCAF)	PCAF Applicant	Ongoing consultation including to gauge interest in the offset scheme.	The Pappin Family Aboriginal Corporation (PCAF) traditional owners are highly interested in offset schemes but don't own any land nor have access to it. They would be interested in having access to land, ideally owning it and would be interested in participating in the land management of sites. They have members with professional weed spraying experience. Actions: 1. Retain register of skills for consideration in future wind farm site maintenance as well as stewardship site maintenance.
Wakool Indigenous Corporation	WIC Applicant	Ongoing consultation including to gauge interest in the offset scheme.	The Wakool Indigenous Corporation are interested in offset schemes and one of the elders owns land that would be available to use for offsets (110ha). The site is vegetated river frontage not necessarily suited to the Project's credit. They may be interested in future management activities and using this to start up a ranger program. Actions: 1. Offset liability estimate provided so that the type of vegetation and species of interest can be considered for existing landholdings. 2. Carry out desk top assessment of likely compatibility of holdings with the offset liability estimate.

Stakeholder	Participants	Issues raised	Outcomes
			3. Retain register of skills for consideration in future wind farm site maintenance as well as stewardship site maintenance.
Regional landholders	NGH; identified via GIS analysis	GIS analysis was undertaken to filter properties within 50km of the Project site by lot size, dominant vegetation type and tenure.	A shortlist of the best candidate sites identified five landholdings worthy of further investigation. Actions: 1. Contact the best candidate site property owners to gauge interest in the offset scheme 2. Stewardship scheme resources provided to consider the mechanics of establishing in perpetuity offsets on private land. 3. Ground validate vegetation and habitat resources on site and discuss implications for land use with property owners.
Local Land Services Agency Riverina	LLS NGH	March 2024: • Historical degradation and rehabilitation actions on the wind farm site • Local rehabilitation strategies that may be useful to both remediated Project impacts and improved stewardship site conditions	Contacts were provided for local restoration contractors and local conduits to advertise for landholders interested in participating in the offsets scheme (Murray Native Seed Services, The Riverine Grazier). It was noted a coordinated LLS response is in progress for all local wind farm proposals. Actions: 1. Follow up regarding local knowledge. 2. Ensure rehabilitation commitments are strong and take into account the logistical forward planning required to source staff and materials for such large areas.
David Parker, Plains wander specialist, South West BCS	David Parker, BCS NGH Applicant	April 2024 As well as discussing potential for impacts, this meeting also discussed the implications of including management actions for Plains Wanderer in stewardship sites.	The meeting identified there are benefits for Plains Wanderer habitat from grazing. Singorimbah BSA TransGrid site sets a precedent for this type of management measure to be adopted. Any grazing would require strict management and consideration of less stock in dry periods. Fencing may not be required / necessary, in these large land holdings. Fencing may have adverse impacts. Strategic offsets, in collaboration with other regional projects in consideration of Plains Wanderer habitat could have good strategic outcomes. Actions:

Stakeholder	Participants	Issues raised	Outcomes
			1. Seek management advice from BCS specialists with regard to managing impacts and enhancing and protecting habitat for Plains Wanderer on stewardship sites.
South West BCS	South West BCS NGH Applicant	April 2024 As well as update on the biodiversity impact assessment and underpinning assumptions, this meeting also discussed offsets.	The meeting discussed stewardship site matters including: • Appropriate buffers between development sites and stewardship sites • Grazing of native grasslands within a Stewardship site. • Offsets regarding 'Serious and Irreversible Impacts' • Strategic offsets – coordinating SSD project offsets Actions: 1. NGH requested a contact to discuss buffer distances to local offsets, to discuss Strategic Biodiversity Offsets for South West REZ and to discuss grazing within stewardship sites - this has large advantages for Plains Wanderer in this region but has been difficult to include in BSAs previously.
Herron, Natasha Southern NSW Assessments Cth Department of Climate Change, Energy, the Environment and Water	DCCEEW NGH Applicant	May 2024 As well as update on the biodiversity impact assessment, this meeting also discussed offsets.	• NSW BOS is endorsed for assessment, calculation and retirement of offsets. • Specific to CW entities: Plains Wanderer will generate ecosystem credits only and so will not have specific habitat offsets under the BOS. • Strategic stewardship sites are being discussed between Cth / NSW Nature Markets and Offsets Division but are very early discussions to date • Without this, piecemeal offsets expected in the REZs without coordination (hence the approach to this offset strategy)
BCS Credit supply register	NGH; identified via desktop search	May 2024 Search of suitable entries.	Searches of the register (https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity-offsets-scheme/buying-selling-credits-market-information/biodiversity-offsets-scheme-public-registers/credit-supply-register) with respect to the Projects 'credit drivers' identified there are credits available for several ecosystem offset trading groups. Some listings are expressions of interest and will therefore require surveys and assessment. The search of the credit register shows that there are currently credits available for PCT 153, 15, 46 and 57. For all other entities, additional credits would need to be sourced from either a new

Stakeholder	Participants	Issues raised	Outcomes
			stewardship site or credit costs paid out directly to the BCT to meet the Project' requirement.
Nature Markets and Offset Division	CSB NGH	May 2024 Discuss local stewardship site activity	NGH provided the Project's credit profile and a desktop assessment of land holdings with key credit drivers, to seek interested landholders from NMOD directly, and discuss local stewardship projects of relevance. Demand expressions of interest and reverse auctions were discussed. It was noted there is activity in this area now – around 800 – 2000 credits may be available right now to retire and that landowners in the SW REZ are becoming very aware of the coming demand but also the competition (meaning not all projects will progress through to purchase credits). Strategic coordination of REZ offsets is being discussed departmentally at a high level Actions: 1. Lodge a demand side expression of interest supported by the Project's BDAR 2. Participate in future reverse auctions, when the Project is within 6 months of being ready to purchase credits.

Appendix B Desktop evaluation of suitable sites

B.1 Methods

To begin searching for potential stewardship sites, a study area (overleaf) was defined by drawing a 50km buffer surrounding the wind farm site.

The following GIS mapping filters were used to refine land suitable for Stewardship Sites;

1. The State Vegetation Type Map (data access here NSW State Vegetation Type Map | NSW Environment and Heritage) was overlaid onto the study area, then
2. PCT153 and PCT164 were overlaid onto the study area. All areas not containing these PCTs were clipped and excluded from the study area.
3. An additional filter of specific land tenures (freehold land and public land) was applied to further clip out unsuitable land tenures (such as State Forest and National Park).

To evaluate the results:

4. As the private landholdings in the area are large but the lots sizes are relatively small, the list was ranked by landholder (using the Property layer accessed from SIX maps: SIX Maps - Clip & Ship (nsw.gov.au)) to identify large land holdings with the largest areas of PCT164 on them
5. The proximity of the sites to 'connecting features' (National Parks, waterways and wetlands, existing conservation agreements) was considered, as locating additional conservation areas near to these may assist habitat connectivity and reduce edge effects at a landscape scale
6. The proximity to other wind farm proposals in the area was also considered. Note: Locating new offset areas too close to wind farms may increase operational risks to some bird and bat species. As such this landholdings were avoided in the search for PCT164 offsets.

The minimum amount of PCT164 that was searched for was 1200ha per property.

B.2 Results

As stated above the minimum amount of PCT164 that was searched for was 1200ha per property. Following the analysis there were 20 notable freehold properties with more than 1200ha of mapped PCT164. These properties are shown in overleaf.

The best rating five properties have well over the target 1200ha on their site. In order they are:

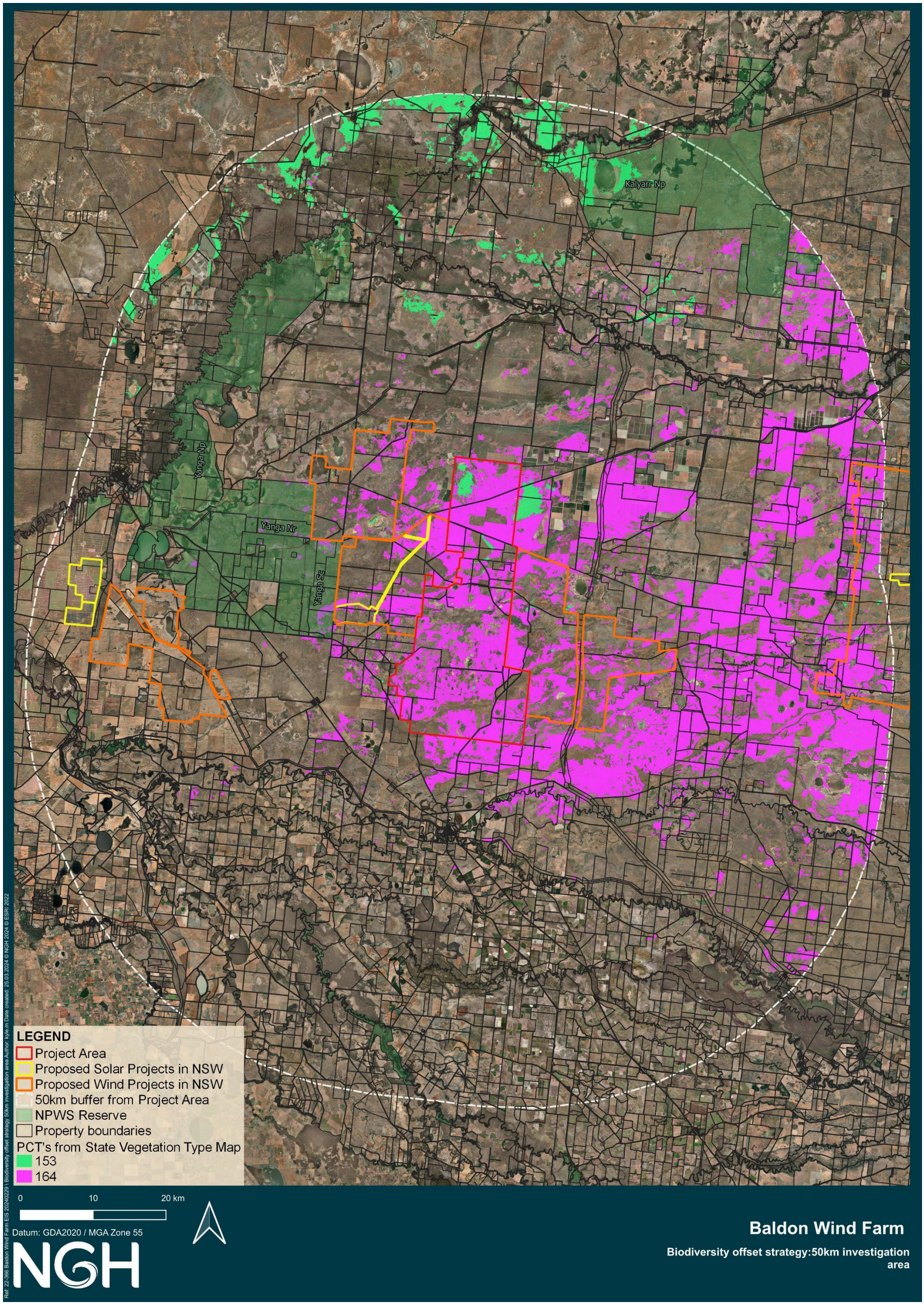
Property 1 (also the land of the Baldon WF host landholder) = 18,918.6ha of PCT164

Property 2 = 15,334.9ha of PCT164

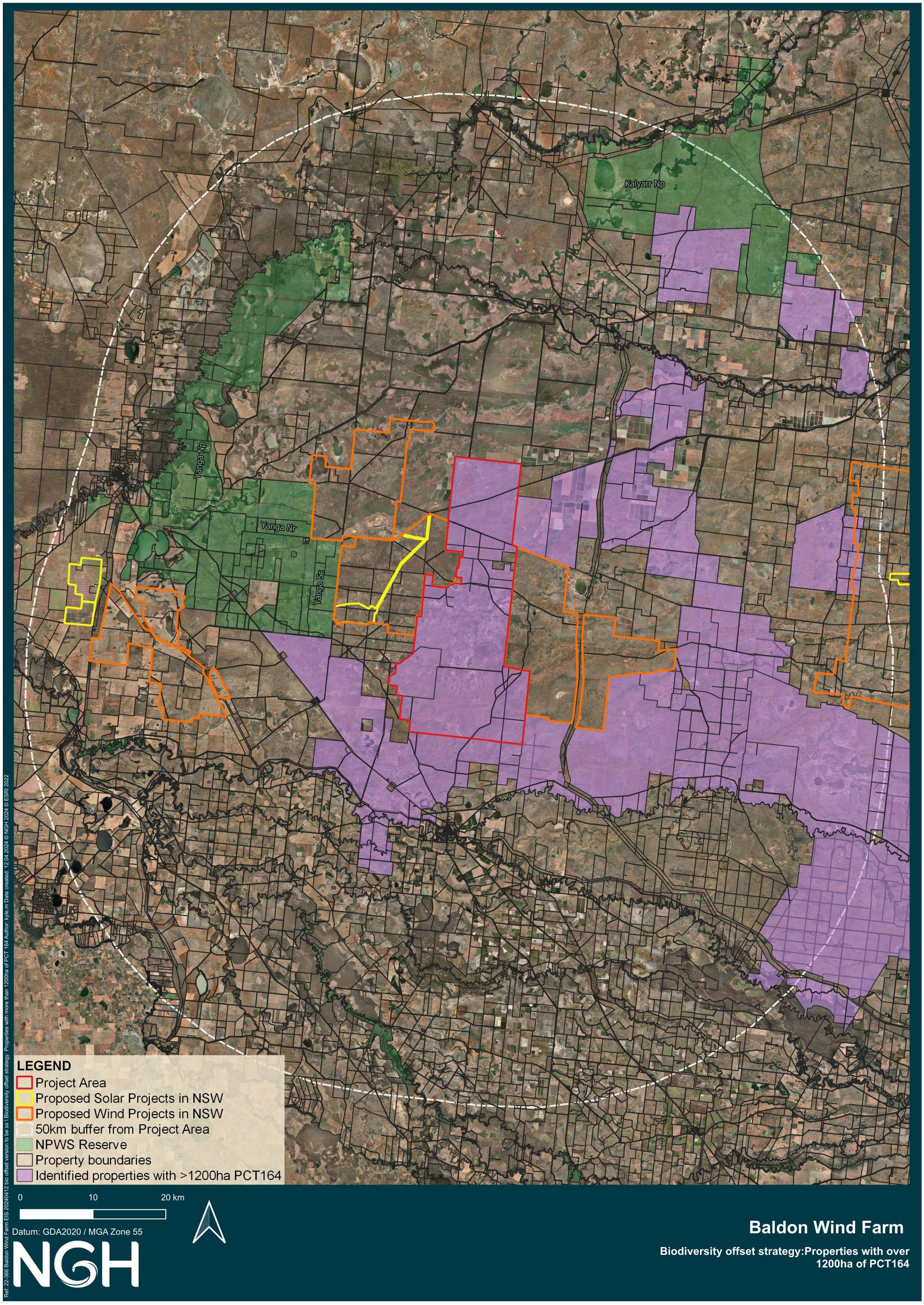
Property 3 = 12,206.1ha of PCT164

Property 4 = 8,832ha of PCT164

Property 5 = 6,435.6ha of PCT164


Kalyarr Np
Yanga Np
Yanga Nr
Yanga Sc
LEGEND
Project Area
Proposed Solar Projects in NSW
Proposed Wind Projects in NSW
50km buffer from Project Area
NPWS Reserve
Property boundaries
PCT's from State Vegetation Type Map
153
164
0
10
20 km
Datum: GDA2020 / MGA Zone 55
NGH
Baldon Wind Farm
Biodiversity offset strategy:50km investigation area
Ref. 22-366 Baldon Wind Farm EIS 20240229 \ Biodiversity offset strategy 50km investigation area Author: kyle.m Date created: 25.03.2024 © NGH 2024 © ESRI 2022

Properties with over 1200ha of PCT164



Appendix C Resources

C.1 Information for Developers

https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity-offsets-scheme/developers

C.2 Information for Landholders

https://cms.environment.nsw.gov.au/topics/animals-and-plants/biodiversity-offsets-scheme/generate-credits-biodiversity-stewardship-agreement/generating-and-selling-biodiversity-credits

C.3 Information for Local Aboriginal Land Councils

BCS factsheet:

https://cms.environment.nsw.gov.au//-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Biodiversity/local-aboriginal-land-council-facsheet-220188.pdf

C.4 Management actions on stewardship sites

A Biodiversity Stewardship Agreement is an in-perpetuity agreement. It runs with the land title. Its aim is to improve biodiversity values within the site through secure management commitments. The management commitments are fully funded.

Management commitments are either required or 'active'. Table 1 illustrates 'required management actions' that must be undertaken at all stewardship sites set up under the BC Act. Table 2 illustrates the additional 'active restoration management actions' which can be undertaken on top of 'required management actions' to increase credits at a site. Using active management will increase the projected site scores. This is because the condition and function of the vegetation is expected to improve more rapidly under more intensive management. More credits are generated per hectare under active management. It is noted that active management actions need to be approved by the BCS before they can be used on an stewardship site.

Table 1. Required management actions (Source: Table 6 of the BAM, NSW Office of Environment and Heritage, August 2017)

Required management actions	Types of management activities that may be undertaken as part of the required management action for ecosystem credits and species credits
Preparation of a management plan	Preparation of a management plan is mandatory during the application process for the biodiversity stewardship agreement for the site. The Management Plan is tailored to address the specific requirements of the site.
Grazing management	Fencing to exclude stock Strategic grazing of stock

Required management actions	Types of management activities that may be undertaken as part of the required management action for ecosystem credits and species credits
Integrated weed management and control of high threat weeds	Undertake weed management and activities to control high threat exotic and other exotic vegetation Fine-scale intensive removal of high threat exotic and other exotic vegetation.
Native vegetation management	Restore/rehabilitate native vegetation Retain and manage regrowth Undertake nutrient control Threatened species habitat management activities related to native vegetation.
Threatened species habitat management	Protection of breeding habitat features or sites Undertake any other required management action identified in the Threatened Biodiversity Data Collection to create species credits or ecosystem credits required for that species.
Integrated pest animal control	Undertake feral pest management including control of foxes, cats, pigs, goats, avian pests, horses and any other miscellaneous species as required.
Management of human disturbance	Exclude development and clearing activities except those listed as permissible in the biodiversity stewardship agreement. Identify sensitive locations and protect from disturbance Undertake rubbish removal Implement measures to restrict access to the site where necessary (vehicles, etc)
Fire management	Undertake ecological burning activities Prevention of fire
Monitoring	Monitor for evidence of disease Assessment of the management plan and activities against the performance measures Establishment of permanent plots to provide a baseline for assessing biodiversity outcomes Establishment of 360o photo points Review of the management plan and management activities

Table 2. Active restoration management actions (Source: Table 7 of the BAM)

Types of active restoration management actions	Types of management activities that may be undertaken as part of the active restoration management actions for ecosystem credits and species credits
Habitat enhancement	Inclusion of artificial nesting boxes and the management plan specifies ongoing management, replacement and maintenance Relocation of fallen logs onto biodiversity stewardship site from appropriate sources Addition of rock from appropriate sources Relocation and securing of dead hollow bearing stag trees from appropriate sources
Native vegetation and habitat management and augmentation	Undertake targeted supplementary planting to: • Increase native plant richness and cover above the level determined for management gain • Restore or enhance the condition and species composition of recognisable PCTs • Improve habitat suitability for species threatened species Restoration of PCTs through hanged hydrological flows
Integrated weed management and control of high threat exotic vegetation	Removal of high threat exotic vegetation through appropriate methods (e.g. scalping) and replacement with native vegetation Other approved methods to reduce cover of high threat exotic vegetation
Hydrology management	Create artificial frog ponds or wetlands Manage drainage Install sediment trap(s) Manage debris Undertake nutrient control
Monitoring	Assessment of performance measures of outcomes related to the active restoration components such as: • Evidence of occupation of and condition of artificial hollows or relocated logs and stags • Persistence and abundance of species targeted by supplementary plantings or sowings

NGH Pty Ltd

NSW • ACT • QLD • VIC

ABN 31 124 444 622 ACN 124 444 622

E: ngh@nghconsulting.com.au

GOLD COAST

2B 34 Tallebudgera Creek Road
Burleigh Heads QLD 4220

T. (07) 3129 7633

SYDNEY REGION

Unit 17, 21 Mary Street
Surry Hills NSW 2010

T. (02) 8202 8333

BEGA

Suite 11, 89-91 Auckland Street
(PO Box 470)
Bega NSW 2550

T. (02) 6492 8333

MELBOURNE

Level 14, 10-16 Queen Street
Melbourne VIC 3000

T: (03) 7031 9123

TOWNSVILLE

Level 4, 67-75 Denham Street
Townsville QLD 4810

T. (07) 4410 9000

BRISBANE

T3, Level 7, 348 Edward Street
Brisbane QLD 4000

T. (07) 3129 7633

NEWCASTLE - HUNTER & NORTH COAST

Level 1, 31-33 Beaumont Street
Hamilton NSW 2303

T. (02) 4929 2301

WAGGA WAGGA - RIVERINA & WESTERN NSW

35 Kincaid Street (PO Box 5464)
Wagga Wagga NSW 2650

T. (02) 6971 9696

CANBERRA

Unit 8, 27 Yallourn Street
(PO Box 62)
Fyshwick ACT 2609

T. (02) 6280 5053

SUNSHINE COAST

Building 1, 30 Chancellor Village Boulevard
Sippy Downs QLD 4556

T: 13 54 93

WODONGA

Unit 2, 83 Hume Street
(PO Box 506)
Wodonga VIC 3690

T. (02) 6067 2533