rdEnvironment Protection and Biodiversity Conservation Act 1999

Referral Form

Important Note:

Please read the Referral Guide and associated Fact Sheets (available at http://www.deh.gov.au/epbc) carefully. The guide and Fact Sheets will help you to complete the form correctly and ensure that your referral is in a form that can be processed. The completed form, together with the required maps and any other information you may wish to submit, should be sent to the EPBC Act Referrals Section, Approvals and Wildlife Division, Department of the Environment and Heritage, GPO Box 787, Canberra, ACT, 2601 and/or by email to epbc.referrals@deh.gov.au (see Referral Guide for allowable electronic formats).

1. Contacts and proponent

1.1 Person making the referral

(Note: The term "person" can refer to an individual or a corporation)

The person making the referral can be either the person proposing to take the action, an agent acting on their behalf (eg, a consultant), or a government agency making the referral in relation to an action to be taken by another person. *(Include name, postal address, telephone, fax, email.)*

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1.2 Person(s) proposing to take the action

This is the person who proposes to carry out the action, or who is otherwise responsible for the action. If approval is necessary, this is the person to whom the approval will be granted, and they will be responsible for meeting any conditions of approval. *(Include name postal address, telephone, fax, email – if same as person making the referral, write "as above".)*

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Contact: Anthony Micallef

If a corporation is proposing to take the action, please ensure you provide the name of a contact officer for this matter.

1.3 Person(s) who will be the proponent for the action

The proponent is responsible for preparing all documentation for the assessment process, if the action requires approval. If the proponent is the same as the person proposing to take the action, write 'as above'. If the proponent is different from the person proposing to take the action, the signature of both is required (at Section 7.3). *(Include name(s), postal address, telephone, fax, email)*

As above

If a corporation is the proponent for the action, please also provide the name of a contact officer for this matter.

2. Description of the proposal

2.1 Provide a *summary description* of the action (two or three sentences)

Construction and operation of a 60 - 100 MW wind farm (30 - 50 wind turbine generators), on a site approximately 70 kilometres south of Oberon in order to generate and export electricity onto the existing transmission system assets located close to the site.

2.2 Details of the *location* of the project area

Where the project is of less than 1 km^2 in size, provide the location as a single pair of latitude and longitude references. Latitude and longitude references should be used instead of AMG and/or digital coordinates.

Locality:

	Latitude	Longitude
North west corner	-34.11	149.69
North east corner	- 34.11	149.81
South east corner	- 34.19	149.81
South west corner	- 34.19	149.69

Where the project area is greater than 1 km^2, or any dimension is greater than 1 km, provide additional coordinates to enable accurate identification of the location of the project area.

Please provide a brief physical description of the project area, including the size of the development footprint or work area in hectares (a more detailed description is required at Part 3 of this form).

The project area is located 70 kilometres south of Oberon and 30 kilometres north of Taralga, bordering the Abercrombie River National Park and near the Blue Mountains National Parks in the Central Tablelands region of New South Wales. The site has a length of approximately 18 kilometres in a north-south direction and covers an area of approximately 5,700 hectares across four private properties that are accessed via the Oberon-Goulburn (Abercrombie) Road. The area is within Oberon local government area (LGA) and borders the northern boundary of the Upper Lachlan LGA within the Sydney Basin Bioregion (Thackway and Creswell, 1995).

Attach an A4/A3 size map(s) showing the location and approximate boundaries of the area in which the project is to occur (this map, or a second attached map, should also show features mentioned in responses to questions in Part 3 of this referral, for example, conservation reserves, areas of remnant native vegetation, streams and roads).

2.3 Provide the *timeframe* in which the action is proposed to occur. Include start and finish dates where applicable.

The following timetable is proposed:

EIS (NSW EP&A Act) completion expected	June 2005
Development consent	December 2005
Offer to connect to power grid	October 2005
Commencement of construction	February 2006
Commissioning	February 2007

2.4 Provide a *description* of the action, including *all activities* proposed to be carried out as part of the proposed action.

The proposed development would comprise 30-50 wind turbine generators with an individual power output of two megawatts and a collective capacity to produce 60 - 100 megawatts of renewable energy. The type of wind turbine generator proposed has a rotor radius of up to 45 metres and a hub height of 67-78 metres, depending on the tower used. The combined height of the tower and the rotor in a vertical position is up to 125 metres. The base of the tower would have a diameter of four metres (*Figure 1*). The concrete foundation for the turbine is constructed below ground level.

The exact location of the turbines is yet to be determined, but would be decided based on prevailing wind conditions, environmental considerations such as noise and visual and taking into consideration local planning requirements. A general indication of the turbine locations is shown in the attached location map.

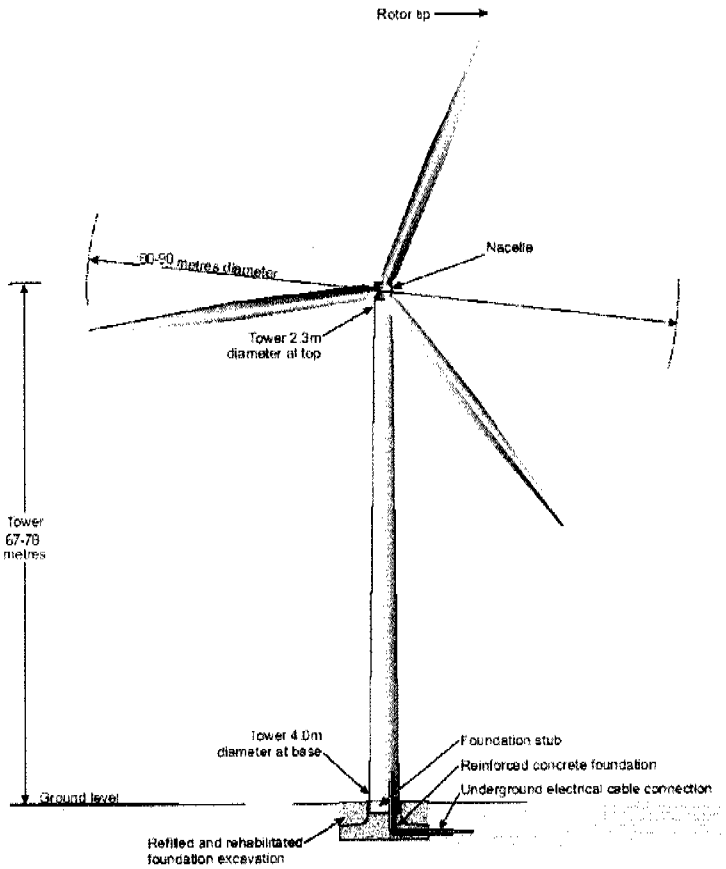

Figure 1: Turbine design

The wind farm would also include all transmission assets required to connect the substation to the main power line, including a substation and transmission lines. Each turbine would be linked to a centralised substation, which will step up the voltage of the electricity generated from the wind turbines. The footprint of the substation is expected to be approximately 210 metres by 100 metres and will comprise of two buildings (10 metres by 10 metres).

It is envisaged that the wind farm would be connected to the TransGrid 330kV network via transmission line No 35/36 that runs through the extreme north eastern part of the site. A preliminary Connection Enquiry has been lodged with TransGrid. The exact location of the connection to the transmission line has as yet not been discussed with TransGrid.

Access to site is via Abercrombie Road which is the main road between Oberon and Taralga. At this stage it is envisaged that Port Kembla would be the preferred destination for delivery of the turbine equipment into Australia as it has the necessary port infrastructure for unloading oversize containers. However the route from the port (and the suitability of the port) is yet to be confirmed. A major issue to be considered regarding the route is the road alignment to provide transport of the 45 metre long blades. Weight limits on roads and bridges may also be a constraint for the transformer (approximately 100 to 120 tonnes).

2.5 Provide an *explanation of the context* in which the action is proposed to take place, including any relevant planning framework (for example, relevant management plans or State or Local Government approvals). Indicate whether, and in what way, the action is *related to other actions or proposals* that may have already occurred, are occurring, or are likely to occur, at a future date. You should also provide the name(s) of the Local Council and/or Local Government Area the action will take place in, if relevant.

Development approval is required for a wind farm development under Part 4 of the New South Wales *Environmental Planning and Assessment Act 1979*. In accordance with Schedule 3 of the *Environmental Planning and Assessment Regulations 2000*, electricity generating stations that "supply or are capable of supplying more than 30 megawatts of electrical power from other energy sources (including coal, gas, wind, bio-material or solar powered generators, hydroelectric stations on existing dams or co-generation)" are deemed to be designated development.

As the development is designated, an Environmental Impact Statement must be prepared and lodged with a development application. Landowner's consent must also be provided.

The development application and EIS will include construction of wind turbines and interconnection to a substation. Any substation and connection (including erection of transmission lines) to the grid will be assessed as part of the proposal.

The wind farm proposal is classified as a state significant development in accordance with 76A(7)(b) of the NSW *Environmental Planning and Assessment Act 1979*, being an electricity generation facility involving wind energy which:

- includes more than 30 towers; and

- has an installed generating capacity of more than 60 MW.

Therefore, the NSW Minister for Infrastructure and Planning is the consent authority.

The proposed wind farm lies entirely within the Oberon Local Government Area. The site is zone 1(A) rural. Oberon Shire Council has a draft Development Control Plan relating to Wind Farm Developments restricting wind farm development to the Rural 1(A) zone.

The proposal is an integrated development that may require further licensing under various NSW Acts including:

- Rivers and Foreshores Improvement Act 1948 (Part 3A repealed);
- Protection of the Environment Operations Act 1997;
- National Parks and Wildlife Act 1974;
- Roads Act.

2.6 If you are considering making a referral of a stage or component of a larger action, you must provide information about the larger action and details of any interdependency between the stages/components and the larger action. If appropriate, you may also provide justification as to why you believe it is reasonable for the proposed action, that is the subject of this referral, to be considered separately from the larger proposal (see the Referral Guide).

This referral is not part of a larger referral.

Section 74A of the EPBC Act provides that the Environment Minister may not accept a referred action that is a component of a larger action. If the Environment Minister does not accept the referral, he or she is not permitted to make a decision on whether the action is a controlled action. The Environment Minister may request the person proposing to take the action to refer the larger action for consideration under the EPBC Act (see also Fact Sheet).

3. Description of the project area and the affected area

Note: You must include a *map(s)* clearly showing the location of the action, and any relevant features referred to in 3.1. (A general location map (eg, 1:250 000 scale) and a more detailed map showing the elements of the proposal may be appropriate. If available, an aerial photograph or other photograph of the site can be included.)

3.1 Describe the affected area, referring, as appropriate, to attached maps. In particular, indicate on the map the location of any of the following features: World Heritage properties, Ramsar wetlands, listed threatened species or communities and/or known habitat for these species or communities, listed migratory species and/or known habitat for these species, Commonwealth marine areas and Commonwealth land, conservation reserves/parks, and areas of remnant native vegetation.

The proposed location is presented in *Figure 1* and is described below.

The site is located within the Oberon Shire local government area and borders the northern boundary of the Upper Lachlan local government area. The main Goulburn-Oberon (Abercrombie) Road bisects the site from north to south. The site is located approximately 70 kilometres to the south of the town of Oberon in the Central Tablelands region of New South Wales and approximately 60 kilometres north of the town of Goulburn. The site consists of four adjoining private properties covering an area of approximately 5,700 hectares.

The area surrounding the site consists predominantly of large rural properties and National Park. All of the four private properties that form the site are presently used for agricultural purposes, predominantly sheep and cattle grazing.

The proposed site borders the Abercrombie River National Park in the west and is near the Blue Mountains National Parks in the east. The Abercrombie River forms the southern boundary of the site. The Blue Mountains National Park is part of the Blue Mountains World Heritage Area.

A search of the Department of Environment and Heritage protected Matters Search Tool for an area within 10 kilometres of the site indicated the following details related to the local area (*Table 1*).

Table 1: Matters of National Environmental Significance

Matters of National Environmental Significance	Numbers	Description relative to the site
World Heritage Properties	1	The greater Blue Mountains Area NSW is located to the east of the site, approximately 1.8 kilometres away at its closest point.
National Heritage Areas	None	-
Wetlands of International Significance (Ramsar Sites)	None	-
Commonwealth Marine Areas	None	-
Threatened Ecological Communities	1	Natural Temperate Grasslands of the Southern Tablelands of NSW and the Australian Capital Territory is listed as Endangered under the *Environment Protection and Biodiversity Conservation Act 1999*. This community is not found within the site.
Threatened Species	13	The following threatened species have potential habitat or have been recorded within 10 kilometres of the site: • Swift Parrot *Lathamus discolor* (endangered) • Superb Parrot *Polytelis swainsonii* (vulnerable) • Australian Painted Snipe *Rostratula australis* (vulnerable) • Regent Honeyeater *Xanthomyza phrygia* (endangered) • Murray Cod *Maccullochella peelii* (vulnerable) • Macquarie Perch *Macquaria australasica* (endangered) • Large-eared Pied Bat *Chalinolobus dwyeri* (vulnerable) • Spotted-tail Quoll *Dasyurus maculatus* (endangered) • Eastern Long-eared bat *Nyctophilus timoriensis* (vulnerable) • Brush-tailed Rock Wallaby *Petrogale penicillata* (vulnerable) • Broad-headed Snake *Hoplocephalus bungaroides* (vulnerable) • *Kunzea cambagei* (vulnerable) • *Thesium australe* (vulnerable) However it is unlikely that these species would use the site on a regular basis.
Migratory Species	7	The following migratory species have potential habitat or have been recorded within 10 kilometres of the site: • White-bellied Sea-Eagle *Haliaeetus leucogaster* • White-throated Needletail *Hirundapus caudacutus* • Satin Flycatcher *Myiagra cyanoleuca* • Rufous Fantail *Rhipidura rufifrons* • Regent Honeyeater *Xanthomyza phrygia* • Latham's Snipe *Gallinago hardwickii* • Painted Snipe *Rostratula benghalensis* However it is unlikely that these species would use the site on a regular basis.

The site does contain small patches of native vegetation in areas that are unlikely to be impacted by the proposed development.

3.2 Provide a *description of important features* of the project area and the affected area and show these on the attached map, including (if relevant to the project area or affected area) information about:

(a) soil and vegetation characteristics;

The proposed wind farm site runs in a north-east to south-west oriented ridge that branches off the Great Dividing Range and the topography of the site is steeply undulating with elevations on the ridgeline of approximately 1000 metres above sea level. Oberon Shire lies within the geological structure known as the Lachlan Fold Belt. The geology is mainly sedimentary consisting of sandstone and shale, although on the site and surrounds basalt caps exist on higher areas such as the ridges proposed for the wind farm development. The soils of the site are dominated by the Taralga Soil landscape, which consist predominately of

chocolate soils formed in situ from alluvial-colluvial material derived from tertiary laval flows of basalt and dolerite.

The site and surrounding area has been largely cleared in the past and is primarily used for sheep and cattle grazing and consists predominantly of improved pasture.

The majority of native vegetation on the plateau has been cleared in the past and only a few small remnants of native woodland remain within the site. Adjacent slopes and valleys contain more extensive vegetation.

Three vegetation communities occur within the study area. These communities are described below. None of these communities represent an Endangered Ecological Community.

Cleared pasture with scattered trees

Cleared pasture with scattered trees covers the majority of the study site. It consists of common pasture grasses such as the native *Chionochloa pallida, Microlaena stipoides, Stipa verticillata, Poa sieberiana* and introduced species such as *Hordeum leporinum Lolium rigidum, Phalaris minor* and *Panicum maximum.* Herbaceous pasture weeds are common and include *Carthamus lanatus, Carduus nutans* ssp. *nutans, Rubus* spp, *Galium aparine, Chondrilla juncea, Rumex acetosella* and *Malva parvifolia.* Remnant trees are scattered within this community including *Eucalyptus goniocalyx, E. macrorhyncha, E. dives,* and E. dalrympleana.

This community is subject to ongoing grazing, is generally dominated by weeds and is considered to be in poor condition.

Eucalyptus. rossii- E. macrorhyncha - E. goniocalyx Forest

Eucalyptus rossii- E. macrorhyncha - E. goniocalyx Forest is an open sclerophyll woodland occurring on ridges and slopes on gravel and coarse sand. A small area of this community occurs within the site in the wind development area 5c (*Figure 1*). This community is dominated by *E. rossii, E. macrorhyncha* and *E. goniocalyx.* Within the study area this community has a very sparse understorey and the shrub layer is virtually absent. The ground cover is very sparse (less than five precent) and has a low species diversity, consisting mainly of grasses such as *Chionochloa pallida* and *Hordeum leporinum.*

Although this community has low species diversity it is dominated by native species. It is in good condition.

Eucalyptus macrorhyncha- E. goniocalyx Woodland

Eucalyptus macrorhyncha- E. goniocalyx Woodland is an open woodland typically occurring on gravel and coarse sandy ridges. Within the study area this community has been largely cleared but occurs in small patches within wind development areas 2b, 5b and 5c (*Figure 1*). It also occurs in the study area adjacent to Abercrombie River National Park. This community is dominated by *Eucalyptus goniocalyx* and *E. macrorhyncha* with other eucalypts sometimes present including *E. dives.* This community generally lacks a shrub layer and the ground cover consists largely of introduced pasture species such as *Hordeum leporinum, Lolium rigidum, Phalaris minor* and *Panicum maximum.*

This community occurs as small isolated patches and is subject to ongoing disturbance through grazing. It has low species diversity, a moderate level of weed invasion and the understorey is generally dominated by introduced pasture species. This community is considered to be in moderate condition.

A total of 68 species of plant were recorded within the site (*Table 2*) of which 38 (56%) are native. No threatened species of plant were recorded.

Table 2: Species of plant recorded on site

Class Name	Scientific name	Common name	Native
Adiantaceae	*Cheilanthes austrotenuifolia*	Rock Fern	Y
Apiaceae	*Hydrocotyle laxiflora*	Stinking Pennywort	Y
Asteraceae	*Carduus nutans ssp. Nutans*	Nodding Thistle	N
	Carthamus lanatus	Saffron Thistle	N
	Chondrilla juncea	Skeleton Weed	N
	Gnaphalium sphaericum		Y
	Hypochaeris radicata	Catsear	N
	Ozothamnus rosmarinifolius		Y
	Taraxacum officinale	Dandelion	N
Boraginaceae	*Echium plantagineum*	Patterson's Curse	N
	Echium vulgare	Viper's Bugloss	N
Brassicaceae	*Cardamine paucijuga*		Y
Campanulaceae	*Wahlenbergia gracilis*	Sprawling or Australian Bluebell	Y
	Wahlenbergia stricta	Tall Bluebell	Y
Caryophyllaceae	*Cerastium glomeratum*	Mouse-ear Chickweed	N
	Petrorhagia nanteuilii		N
Clusiaceae	*Hypericum gramineum*	Small St John's Wort	Y
Dennstaedtiaceae	*Pteridium esculentum*	Bracken	Y
Dilleniaceae	*Hibbertia obtusifolia*		Y
Euphorbiaceae	*Chamaesyce prostrata*	Red Caustic Weed	N
	Poranthera microphylla		Y
Fabaceae (Faboideae)	*Glycine tabacina*		Y
	Hardenbergia violacea	False Sarsaparilla	Y
	Platylobium formosum		Y
	Trifolium arvense	Haresfoot Clover	N
	Trifolium dubium	Yellow Suckling Clover	N
	Trifolium repens	White Clover	N
Fabaceae (Mimosoideae)	*Acacia falciformis*	Broad-leaved Hickory	Y
	Acacia genistifolia	Early Wattle	Y
Gentianaceae	*Centaurium erythraea*	Common Centaury	N
Geraniaceae	*Geranium solanderi*	Native Geranium	Y
	Pelargonium inodorum		Y
Goodeniaceae	*Goodenia bellidifolia*		Y
Haloragaceae	*Gonocarpus tetragynus*		Y
Lamiaceae	*Marrubium vulgare*	Horehound	N
Lindsaeaceae	*Lindsaea linearis*	Screw Fern	Y

Class Name	Scientific name	Common name	Native
Lomandraceae	*Lomandra glauca*	Pale Mat-rush	Y
	Lomandra longifolia	Spiny-headed Mat-rush	Y
Malvaceae	*Malva parviflora*	Small-flowered Mallow	N
Myrtaceae	*Eucalyptus dalrympleana*	Mountain Gum	Y
	Eucalyptus dalrympleana ssp. dalrympleana		Y
	Eucalyptus dives	Broad-leaved Peppermint	Y
	Eucalyptus goniocalyx	Bundy	Y
	Eucalyptus macrorhyncha		Y
	Eucalyptus radiata	Narrow-leaved Peppermint	Y
	Eucalyptus rossii	Inland Scribbly Gum	
Plantaginaceae	*Plantago major*	Large Plantain	N
Poaceae	*Chionochloa pallida*	Silvertop Wallaby Grass	Y
	Dactylis glomerata	Cocksfoot	N
	Hordeum leporinum	Barley Grass	N
	Microlaena stipoides		Y
	Panicum maximum	Guinea Grass	N
	Phalaris minor	Lesser Canary Grass	N
	Poa sieberiana		Y
	Stipa verticillata		Y
Polygonaceae	*Rumex acetosella*		N
	Rumex brownii	Swamp Dock	Y
Rosaceae	*Acaena novae-zelandiae*		Y
	Rosa rubiginosa	Sweet Briar	N
	Rubus sp.		Y
Rubiaceae	*Galium aparine*	Goosegrass	N
Santalaceae	*Exocarpos cupressiformis*	Native Cherry	Y
Scrophulariaceae	*Verbascum thapsus*	Blanket Weed	N
Solanaceae	*Lycium ferocissimum*	African Boxthorn	N
	Solanum nigrum	Black-berry Nightshade	N
Urticaceae	*Urtica incisa*	Stinging Nettle	Y
	Urtica urens	Small Nettle	N

(b)water flows, including rivers, creeks and impoundments;

The Abercrombie River forms the southern boundary of the site (*Map 1*), while small ephemeral creeks and drainage lines (including Middle Station Creek) run from the upper ridges to the gullies. The Abercrombie River forms part of the Lachlan River Catchment.

There are various small farm dams on the properties.

(c) the presence of outstanding natural features, including caves;

The site contains steeply undulating pastures characteristic of the Oberon Shire, but does not contain any outstanding natural features.

(d) gradient;

The site consists of a ridge line at approximately 1000 metres ADH with the gullies at heights of 800 metres. The area of the proposed wind farm is relatively flat, being along the ridge line, but the land slopes steeply away on either side.

(e) any buildings or other infrastructure;

Abercrombie Road (Oberon- Goulburn) runs through the centre of the site (Map 1). There are seven buildings/houses within the project properties. There are two houses within 500 metres of the study area, adjoining the north-western border of the site. A further two houses are located approximately 1.5 kilometres east of the eastern boundary, and one other house 2 kilometres west of the site.

(f) any marine areas;

There are no marine areas within the project plan.

(g) kinds of fauna in the area; and

The fauna habitats present on site generally correspond to the vegetation communities described above.

Cleared pasture with scattered trees

The improved pastureland lacks general microhabitat features associated with undisturbed habitats such as structurally intact vegetation layers, tree hollows and down timber. However, the scattered remnant trees found within the pasture may provide roosting and foraging resources for generalist species and can be important in agricultural landscapes for the conservation of fauna by helping to maintain connectivity between larger patches of vegetation, thus contributing to the viability of fauna populations (Gibbons and Boak 2000).

The taller introduced grasses in temporarily ungrazed paddocks provide habitat for grassland species of bird (such as Richard's Pipit) with small areas of rock outcrops near the base of isolated trees are providing habitat for common species of reptile. Small-sized farm dams are scattered throughout the pasture, which generally lack emergent vegetation and provide habitat for waterbirds such as the Australian Wood Duck.

The community generally lacks significant microhabitat characteristics due to previous clearing and grazing practices. Fauna habitats in the pasture community are in poor condition.

Eucalyptus woodlands

The woodlands located on the slopes and the margins of the ridge tops contain moderate canopy cover from Eucalypt trees that are generally young and lacking in tree hollows. Limited understorey vegetation is present and there is generally only a thin layer of leaf litter and fallen bark. The woodlands contain small numbers of rock outcrops and there is a moderate amount of dead wood.

The woodland areas contain foraging and roosting resources for woodland and generalist species of bird including the Eastern Rosella, Grey Fantail and Australian Magpie. Woodland areas that are located on the margins of the property boundaries near larger tracts of remnant bushland outside the site boundary provide habitat for arboreal mammals including the Common Brushtail Possum. The woodlands also provide foraging habitat for microchiropteran bats.

The condition of fauna habitats in the Eucalypt woodland communities are in moderate condition.

A total of 40 species of animal were recorded on site during a four day survey, comprising two amphibians, thirty one birds and nine mammals (*Table 3*). A total of four introduced species of animals were recorded. No threatened and nine migratory species were recorded on site.

Table 3: Species of animal recorded on site

Latin Name	Common Name	Observation Type[1]	TSC Act[2]	EPBC Act[3]
Native Birds				
Aquila audax	Wedge-tailed Eagle	O		M
Haliastur sphenurus	Whistling Kite	O		M
Chenonetta jubata	Australian Wood Duck	O		M
Anas gracilis	Grey Teal	O		M
Anas superciliosa	Pacific Black Duck	O		M
Egretta novaehollandiae	White-faced Heron	O		
Gymnorhina tibicen	Australian Magpie	O		
Cacatua roseicapilla	Galah	O		
Cacatua galerita	Sulphur-crested Cockatoo	O		
Calyptorhynchus funereus	Yellow-tailed Black-Cockatoo	O		
Coracina novaehollandiae	Black-faced Cuckoo-shrike	O		
Dromaius novaehollandiae	Emu	O		
Vanellus miles	Masked Lapwing	O		M
Phaps chalcoptera	Common Bronzewing	O		
Dacelo novaeguineae	Laughing Kookaburra	O		
Todiramphus sanctus	Sacred Kingfisher	O		
Corcorax melanorhamphos	White-winged Chough	O		
Corvus coronoides	Australian Raven	O		
Grallina cyanoleuca	Magpie-lark	O		
Falco longipennis	Australian Hobby	O		M
Falco berigora	Brown Falcon	O		M
Falco cenchroides	Nankeen Kestrel	O		M
Hirundo ariel	Fairy Martin	O		
Hirundo neoxena	Welcome Swallow	O		
Manorina melanocephala	Noisy Miner	O		
Anthochaera carunculata	Red Wattlebird	O		
Anthus novaeseelandiae	Richard's Pipit	O		
Platycercus eximius	Eastern Rosella	O		
Gallinula tenebrosa	Dusky Moorhen	O		
Introduced Birds				
Acridotheres tristis	Common Myna	O	U	
Sturnus vulgaris	Common Starling	O	U	
Amphibians				
Uperoleia laevigata	Smooth Toadlet	W		
Limnodynastes tasmaniensis	Spotted Marsh Frog	W		
Native Mammals				
Macropus giganteus	Eastern Grey Kangaroo	O		
Pseudocheirus peregrinus	Common Ringtail Possum	O		
Trichosurus sp.	Brushtail possum	O		
Chalinolobus morio	Chocolate Wattled Bat	O		
Nyctophilus geoffroyi	Lesser Long-eared Bat	O		

Latin Name	Common Name	Observation Type[1]	TSC Act[2]	EPBC Act[3]
Vulpes vulpes	Fox	O	U	
Oryctolagus cuniculus	Rabbit	O	U	

Notes:
1. O = Observed, W= Heard call.
2. V= Vulnerable, E1 = Endangered, U= Unprotected (*Threatened Species Conservation Act 1995*)
3. V = Vulnerable, E = Endangered, M = Migratory, C = Conservation Dependent (*Environment Protection and Biodiversity Conservation Act 1999*).

(h) the current state of the environment in the area, including information about the extent of erosion, whether the area is infested with weeds or feral animals and whether the area is covered by native vegetation or crops.

The specific sites for the wind turbine generators are predominantly located on the ridge lines of the properties where wind resources are best. These areas have been extensively disturbed through past land management practices (*Photograph 1 and 2*) and consist mainly of cleared pastures as described above. The condition of this vegetation is generally poor with high levels of weed invasion. Evidence of erosion on these sites is minimal.

Photograph 1: Open pasture at the site

Photograph 2: Ridge line with isolated trees on the site

3.3 What is the *tenure* of the project area (for example is it freehold, leasehold or some other tenure)? If practicable, show on the attached map.

The project area consists of four freehold properties. The proponent will enter into lease agreements with the owners allowing wind turbine generators and infrastructure to be placed on site.

3.4 What are the current and/or proposed *land uses* for the project area?

The properties comprising the site are used for agricultural purposes including sheep and cattle grazing. This use will continue following construction of the wind farm. An additional use of the site would be energy production.

4. Nature and extent of the likely impacts of the action

4.1 Describe, as relevant to your project, the nature and extent of *likely impacts* on the following matters protected by the EPBC Act:

- the world heritage values of a declared World Heritage property; or
- the ecological character of a declared Ramsar wetland; or
- the members of a listed threatened species (except a conservation-dependent species) or any threatened ecological community, or their habitat, or
- the members of a listed migratory species or their habitat; or
- the environment in part of the Commonwealth marine area; or
- the environment on Commonwealth land.

World Heritage Properties

The Greater Blue Mountains World Heritage area lies approximately 1.8 kilometres to the east of the proposed wind farm site. The Greater Blue Mountains Area consists of 1.03 million hectares of mostly forested landscape on a sandstone plateau 60 to 180 kilometres inland from central Sydney, New South Wales.

The Greater Blue Mountains Area was inscribed on the World Heritage List against the natural criteria listed below (taken from http://www.deh.gov.au/heritage/worldheritage/sites/blue/index.html)

Natural criterion (ii) outstanding examples representing significant on-going ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals.

The combination of fine-scale spatial variation, high environmental complexity and exceptional stability over evolutionary time has allowed some environments and the biota that persist in them to remain largely unchanged over geological time. Even recently, a species of extraordinary global significance, a relict dinosaur of the plant world, the Wollemi pine (*Wollemia nobilis*) has been discovered in the property.

The steep terrain and sharp environmental gradients have wrought major evolutionary change on some taxa, including the eucalypts, resulting in an exceptional biodiversity within the eucalypt communities that dominate the place. Importantly, the evolutionary processes underpinning this diversity are believed to be ongoing, resulting in an evolutionary 'laboratory' that is exceptional in the World both in its treasures from the past, and its species that are evolving into the future.

Natural criterion (iv) contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation.

The Greater Blue Mountains Area affords representation of a major component of global biodiversity not previously represented on the World Heritage List. A substantial proportion of Australia's biodiversity associated with the range of ecosystems that dominate large parts of the continent and lie between rainforest and arid ecosystems occur within the Greater Blue Mountains Area.

The Greater Blue Mountains Area represents the highest biodiversity in temperate forest environments with integrity, in Australia and globally, both within and across taxonomic levels. The property includes almost ten percent of the Australian vascular plant flora and is outstanding on a global scale for its biodiversity. Australia, with approximately ten percent of the global total of known vascular plants is a major centre of biodiversity. The Greater Blue Mountains Area also contains a significant number of rare and threatened species, many endemic to the area.

Under the EPBC Administrative Guidelines of Significance, an action has, will have, or is likely to have a significant impact on the World Heritage values of a declared World Heritage property if it does, will, or is likely to result in:

- one or more of the World Heritage values being lost, or
- one or more of the World Heritage values being degraded or damaged.

The proposed wind farm will not impact either directly or indirectly on either of the listed values for the Greater Blue Mountains World Heritage Areas. It is unlikely to impact on the ecology or the area given the distance of the site from the World Heritage Area and the general topography of the site draining away from the World Heritage Area.

The ecological character of a declared Ramsar wetland

There are no Ramsar wetlands in the local area and none are likely to be impacted by the proposed development.

Members of a listed threatened species (except a conservation-dependent species) or any threatened ecological community, or their habitat

The site does not contain any Endangered Ecological Community as listed under the *Environment Protection and Biodiversity Conservation Act 1999* and none is likely to be impacted by the proposed action.

There are two threatened species of plant pursuant to the *Environment Protection and Biodiversity Conservation Act 1999* that have potential habitat within 10 kilometres of the site (*Table 4*).

Table 4: Threatened species of plant with potential habitat within 10 kilometres of the site

Latin Name	TSC Act[1]	EPBC Act[2]	ROTAP[3]	Habitat	Potential habitat
Kunzea cambagei	V	V	2Va	Occurs mainly near Mt Werong and Berrima where it grows in heath (Harden 2002] K. in damp, sandy soils in wet heath or mallee open scrub at higher altitudes (NSW National Parks and Wildlife Service, 2000 #101). On the tablelands it occurs with *Eucalyptus pauciflora, E. dalrympleana or E. viminalis* (DLWC, 2001).	No
Thesium australe	V	V	3Vi	Grows in grassland or woodland often in damp sites. It is a semi-parasitic herb and hosts are likely to be *Themeda australis* and *Poa* spp. (Harden 1992).	No

Notes: 1: V= Vulnerable, E1 = Endangered (Threatened Species Conservation Act 1995)
2: V = Vulnerable, E = Endangered (Environment Protection and Biodiversity Conservation Act 1999)
3: ROTAP (Rare or Threatened Australian Plants, Briggs and Leigh 1996) is a conservation rating for Australian plants. Codes are:

1	Species only known from one collection
2	Species with a geographic range of less than 100km in Australia
3	Species with a geographic range of more than 100km in Australia
X	Species presumed extinct; no new collections for at least 50 years
E	Endangered species at risk of disappearing from the wild state if present land use and other causal factors continue to operate
V	Vulnerable species at risk of long-term disappearance through continued depletion.
R	Rare, but not currently considered to be endangered.
K	Poorly known species that are suspected to be threatened.
C	Known to be represented within a conserved area.
a	At least 1,000 plants are known to occur within a conservation reserve(s).
i	Less than 1,000 plants are known to occur within a conservation reserve(s).
-	The reserved population size is unknown.
t	The total known population is reserved.
+	The species has a natural occurrence overseas

Neither of these two species were recorded on site during surveys and neither have potential habitat on site. As such the proposal is unlikely to impact the species.

There are eleven threatened species of animal pursuant to the *Environment Protection and Biodiversity Conservation Act 1999* that have potential habitat within 10 kilometres of the site (Table 4). It is, however, highly unlikely that all these species occur at or near the proposed development sites on a regular basis, and even fewer species would be affected by the proposed wind energy development (*Table 5*).

Table 5: Threatened species of animal predicted to occur within 10 kilometres of the site

Latin Name	Common Name	TSC Act[1]	EPBC Act[2]	Habitat	Potential habitat
Birds					
Lathamus discolor	Swift Parrot	E1	EM	Occur in eucalypt forests and woodlands, particularly in box-ironbark forests. Prefer sites with flowering Acacia pycnantha or highly fertile soils where large trees have high nectar production (including drainage lines and isolated trees in rural or urban landscapes). Breeding occurs in Tasmania (Garnett and Crowley 2000).	No
Polytelis swainsonii	Superb Parrot	V	V	Mainly found in the Riverina where they nest in loose colonies in riparian woodland on River Red Gum. On the inland slopes, Superb Parrots both forage and feed within box woodland, mostly nesting in dead trees (Garnett and Crowley 2000).	No
Rostratula benghalensis	Painted Snipe	E1	VM	Occurs in shallow, vegetated, temporary or infrequently filled wetlands. Sometimes found where there are Eucalyptus camaldulensis (River Red Gum), E. populnea (Poplar Box) or Muehlenbeckia florulenta (Lignum). Feeds at the water's edge and on mudflats on seeds and invertebrates such as insects, worms, molluscs and crustaceans. Males incubate eggs in a shallow scrape nest (Garnett and Crowley 2000).	No
Xanthomyza phrygia	Regent Honeyeater	E1	EM	Occur mostly in box-ironbark forests and woodland and prefer the wet, fertile sites such as along creek flats, broad river valleys and foothills. Riparian forests with Casuarina cunninghamiana and Amyema cambagei are important for feeding and breeding. Important food trees include Eucalyptus sideroxylon (Mugga Ironbark), E. albens (White Box), E. melliodora (Yellow Box) and E. leucoxylon (Yellow Gum). This species usually lays 2-3 eggs in cup nests (Garnett and Crowley 2000).	No
Mammals					
Chalinolobus dwyeri	Large-eared Pied Bat	V	V	Occurs in moderately wooded habitats and roosts in caves, mine tunnels and the abandoned, bottle-shaped mud nests of Fairy Martins. Thought to forage below the forest canopy for small flying insects (Churchill 1998).	Unlikely- marginal foraging area. Impact assessment conducted.

Latin Name	Common Name	TSC Act[1]	EPBC Act[2]	Habitat	Potential habitat
Dasyurus maculatus	Spotted-tailed Quoll	V	E	Occurs in sclerophyll forests and rainforests. Nests in rock caves and hollow logs or trees. Feeds on a variety of prey including birds, terrestrial and arboreal mammals, small macropods, reptiles and arthropods (NSW National Parks and Wildlife Service 1999).	No
Nyctophilus timoriensis	Greater Long-eared Bat	V	V	Roosts in tree hollows and under loose bark in arid and semi-arid Australia (Strahan 1995).	Unlikely- marginal foraging area. Impact assessment conducted
Petrogale penicillata	Brush-tailed Rock-wallaby	E1	V	Occurs in inland and sub-coastal south eastern Australia where it inhabits rock slopes. It has a preference for rocks which receive sunlight for a considerable part of the day. Windblown caves, rock cracks or tumbled boulders are used for shelter. Occur in small groups or 'colonies' each usually separated by hundreds of metres (NSW National Parks and Wildlife Service 2003).	No
Phascogale tapoatafa	Brush-tailed Phascogale	V		Largely arboreal it occurs in a range of habitats which have reliable rainfall (500-2000mm), but has preference for open dry sclerophyll forest on ridges (up to 600 m alt) with little/sparse ground cover. It nests in tree hollows and feeds at dusk on arthropods and small vertebrates (Strahan 1995).	No
Pteropus poliocephalus	Grey-headed Flying-fox	V	V	Occurs in subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps. Urban gardens and cultivated fruit crops also provide habitat for this species. Feeds on the flowers and nectar of eucalypts and native fruits including lilly pillies. It roosts in the branches of large trees in forests or mangroves (Churchill 1998, NSW National Parks and Wildlife Service 2001).	No
Reptiles					
Hoplocephalus bungaroides	Broad-headed Snake	E1	V	A nocturnal species that occurs in association with communities occurring on Triassic sandstone within the Sydney Basin. Typically found among exposed sandstone outcrops with vegetation types ranging from woodland to heath. Within these habitats they generally use rock crevices and exfoliating rock during the cooler months and tree hollows during summer (Webb and Shine 1994, Webb and Shine 1998).	No

Notes: 1: V= Vulnerable, E1 = Endangered (*Threatened Species Conservation Act 1995*), 2: V = Vulnerable, E = Endangered, M = Migratory, C = Conservation Dependent (*Environment Protection and Biodiversity Conservation Act 1999*).

The Large-eared Pied Bat *Chalinobus dwyeri* and Greater Long-eared Bat *Nyctophilus timoriensis* are listed as Vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999* and have potential habitat on site, although likely to be only marginal foraging habitat. Neither species was recorded on site. The following assessment has been undertaken under the DEH administrative guidelines of significance.

Important populations are:

- likely to be key source populations either for breeding or dispersal;
- likely to be necessary for maintaining genetic diversity; and/or ,
- at or near the limit of the species range.

If using the site, it is likely that the two species would be using it for only marginal foraging and as such would not be considered an important population as defined above.

Is the action likely to lead to a long-term decrease in the size of an important population of a species?

The microchiropteran bats at the Paling Yards site are not considered to be part of an important population. The major disturbance to both species is likely to occur through disturbance to roost sites, particularly maternity roosts where large numbers can congregate. *Chalinolobus dwyeri* roosts in caves, none of which will be disturbed by the proposal. *Nyctophilus timoriensis* roosts in tree hollows of large mature trees. The proposal will not remove significant amounts of vegetation. It is unlikely that the proposal will results in a decrease in the size of the populations.

Is the action likely to reduce the area of occupancy of an important population?

The microchiropteran bats at the Paling Yards site are not considered to be part of an important population.
The proposed wind farm will not remove significant areas of native vegetation and therefore will not reduce the area of occupancy.

Is the action likely to fragment an existing important population into two or more populations?

The microchiropteran bats at the Paling Yards site are not considered to be part of an important population.
The proposed wind farm will not fragment existing habitat for either of the two species. Both are mobile species that should be able to move through the wind farm site.

Is the action likely to adversely affect habitat critical to the survival of a species?

The mobile nature of the two species of microchiropteran bat allows them to occupy foraging and roosting resources outside of the development site that are adequate for the species survival. No specialised habitat resources such as maternity and /or roosting caves for Chalinolobus dwyeri have been recorded on site or nearby, hence the area to be affected cannot be considered critical to the survival of the species.
It is unlikely that the action will adversely affect habitat critical to the survival of the species.

Is the action likely to disrupt the breeding cycle of an important population?

The microchiropteran bats at the Paling Yards site are not considered to be part of an important population.
No significant breeding habitat for either species will be removed or disturbed by the proposed action. Foraging resources are available in similar habitat that is adequately represented in areas off site. There may be some mortalities of individuals caused from blade strike which in turn could temporarily disrupt the dynamics of the local population, however, mortalities are likely to be low and would not cause a significant disruption to important breeding cycle components for the species.

Is the action likely to modify, destroy, remove or isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline?

The availability of roosting resources is one of the critical factors influencing the likelihood of decline for the two species (Hoye and Dwyer 1998). The habitat to be removed contains a relatively small number of tree hollows that may be potentially used as roosting resources; however the availability and quality of onsite habitat resources are not critical to the survival of local populations of either species. The nature of habitat clearing will not result in the isolation of quality habitat.

Is the action likely to result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat?

The area of the proposed action has already been disturbed from previous land management practices. It is unlikely that invasive species would become established and cause harm to either species of bat as a result of the proposed wind farm.

Is the action likely to interfere substantially with the recovery of the species?

There is no recovery plan for either species of bat. However, the Action Plan for Australian Bats addresses the need for further ecological research and the conservation and protection of roosting and maternity sites (Duncan et al. 1999). While there is moderate abundance of potential roosting sites in the form of tree hollows, maternity sites are not present in the area of the proposed action. It is likely that similar on-site resources exist in adjacent undisturbed bushland within the species' wide foraging range. It is unlikely that the proposed development action will interfere with the overall recovery of the species.
While marginal foraging habitat exists on site for two threatened species of bat, it is unlikely that the proposal would have a significant impact on these species.

4.2 Indicate if your action is:

(a) a nuclear action; or
(b) will be taken by the Commonwealth or by a Commonwealth agency; or
(c) will be taken in a Commonwealth marine area; or
(d) will be taken on Commonwealth land.

If your action falls into one of these categories, provide details about the impact of your action on the environment generally (ie, in addition to the specific matters addressed above in 4.1).

The proposed action does not fall into any of the above categories.

5. Measures aimed at avoiding or reducing significant impacts on matters protected under the EPBC Act

5.1 Describe any specific measures proposed as part of the action to avoid or lessen significant impacts on matters protected under the EPBC Act. Include a timeframe or workplan for implementation of any relevant measures.

Examples of relevant measures may include the timing of works to avoid critical periods for listed species, avoidance of habitat important for listed species from direct and indirect impacts, application of specific design measures to avoid or reduce impacts, or adoption of specific work practices to reduce or avoid impacts (see Referral Guide, Fact Sheet and 'Particular Manner' Guideline at http://www.deh.gov.au/epbc).

A general principle of environmental management is to, in order of preference;

- **Avoid** environmental impacts;
- **Minimise** impacts; and
- **Mitigate** the impacts.

Turbines will be located so as to avoid clearing of significant vegetation where possible. If clearing of trees is to take place then a pre-clearing survey will be undertaken and clearing protocols will be implemented.

A monitoring program will be put in place for the wind farm once constructed to determine rates of collision (bird and bat strike).

A full range of mitigation measures will be developed and implemented for the proposed wind farm as part of the Environmental Impact Assessment process.

6. Information sources

6.1 List relevant references

You should also attach a copy of any relevant reports or documents that support the arguments and conclusions made in this referral. For example, any flora and fauna surveys or desktop investigations should be provided.

Churchill, S. 1998. Australian Bats. Reed New Holland, Sydney.

Duncan, A., B. G. Baker, and N. Montgomery. 1999. The Action Plan for Australian Bats. Canberra.

Garnett, S., and G. M. Crowley. 2000. The Action Plan for Australian Birds. Environment Australia, Canberra.

Gibbons, P., and M. Boak. 2000. The importance of paddock trees for regional conservation in agricultural landscapes. NSW National Parks and Wildlife Service.

Harden, G. 1992. Flora of New South Wales Volume 3. University of New South Wales Press Ltd., Kensington.

Harden, G. 2002. Flora of New South Wales Volume 2 (Revised Edition), 2nd edition. University of New South Wales Press Ltd., Kensington.

Hoye, G. A., and P. D. Dwyer. 1998. Large-eared Pied Bat. *in* R. Strahan, editor. The Mammals of Australia. New Holland Publishers., Sydney.

Hunter Development Brokerage. 2004. Local Environmental Study and Land Use Strategy. Oberon Shire Local Government Area. Report prepared for Oberon Shire Council.

NSW National Parks and Wildlife Service. 1999. Spotted-tailed Quoll threatened species information. NSW National Parks and Wildlife Service, Hurstville.

NSW National Parks and Wildlife Service. 2001. Grey-headed Flying Fox threatened species information. NSW National Parks and Wildlife Service, Hurstville.

NSW National Parks and Wildlife Service. 2003. Brush-tailed Rock Wallaby Warrumbungles endangered population threatened species information. NSW National Parks and Wildlife Service, Hurstville.

Strahan, R. 1995. The Mammals of Australia. Reed New Holland, Sydney.

Webb, J. K., and R. Shine. 1994. Habitat use by the broad-headed snake, *Hoplocephalus bungaroides*. Environment Australia, Canberra.

Webb, J. K., and R. Shine. 1998. Ecological characteristic of an endangered snake species *Hoplocephalus bungaroides* (Serpentes: Elapidae). Animal Conservation 1:185-193.

6.2 For information given in sections 3 and 4 of this referral, please indicate:

(a) the source of the information; and

(b) how recent the information is; and

(c) how the reliability of the information was tested; and

(d) any uncertainties in the information.

The information given in section 3 and 4 comes predominantly from the references shown above and from field assessment carried out on site. Relevant dates are shown with the references. The above information is generally from peer reviewed materials and as such can be considered reliable.

7. Signatures and Declarations

Section 489 of the EPBC Act states that the provision of false or misleading information is an offence punishable on conviction by imprisonment and fine.

7.1. Signature of person making the referral

I, ...*(full name)*, declare that the information contained in this form is, to my knowledge, true and not misleading.

Signature

Date

7.2. Signature of person proposing to take the action

I, ...*(full name)*, declare that the information contained in this form is, to my knowledge, true and not misleading.

Signature

Date

7.3. Declaration of person nominated as proponent in Section 1.3, if different from person proposing to take the action

I, ...*(full name)*, being (or agent acting on behalf of) the person nominated in Section 1.3 of this referral form as the nominated proponent agree to be designated as the proponent for the action described above if it is decided that the action requires approval under Part 9 of the EPBC Act.

Signature

Date

Signature of person proposing to take the action

Date

Fill in Section 7.4 if you believe that the proposal is not likely to have a significant impact on matters protected by the EPBC Act and that the proposal is therefore not a controlled action. Fill in Section 7.5 if you believe that the proposal is likely to have a significant impact on a protected matter and that the proposal is therefore a controlled action. (Note: This Section must be completed in *all cases* except where the referral is made by a State or Territory or a Commonwealth agency in relation to an action to be taken by another person.)

7.4. ***If you think your proposed action is not likely to have a significant impact on any of the matters listed in the table below, then you should select and complete the following statement and you should not mark any of the boxes in the table below.***

I .....*(full name)*, being the person making this referral and the person proposing to take the action (or agent acting on behalf of the person) believe that the action described in this referral **is not a controlled action.**

Briefly provide reasons why you believe your proposed action is not a controlled action:
(Note: For an explanation of the term "controlled action", see the Referral Guide.)

Based on significance assessments as outlined in the administrative guidelines of significance, the proposed wind farm would not have a significant impact on any matter of national environmental significance.

If the person making this referral is, or is representing, a *small business* (a business having fewer than 20 employees), please provide an estimate of the time taken to complete this form.

Please Include

- The time spent reading the instructions, working on the questions and obtaining the information; and
- The time spent by all employees in collecting and providing this information.

hours minutes

END OF FORM