



22 October 2021

General Manager
 Central Highlands Council
 By email: development@centralhighlands.tas.gov.au

Dear Sir

SUBMISSION - CENTRAL HIGHLANDS DRAFT LOCAL PROVISIONS SCHEDULE LIAWENEE, TODS CORNER, ST PATRICKS PLAINS

I write on behalf of the No Turbine Action Group Inc (Central Highlands) in relation to the draft Central Highlands Local Provisions Schedule regarding the Zone and Code controls proposed for area around the Highland Lakes.

There are 2 documents provided as attachments to this submission which provide details of the significant natural values associated with these areas:

- A desktop assessment of the biodiversity values by Phil Bell of Biodiversity Maintenance Australia; and
- A statement on the importance of the Central Highlands to Tasmanian Wedge-tailed Eagles by Nick Mooney.

The subject land is generally that described in the figure below encompassing areas around Liawenee, Tods Corner and St Patricks Plains:

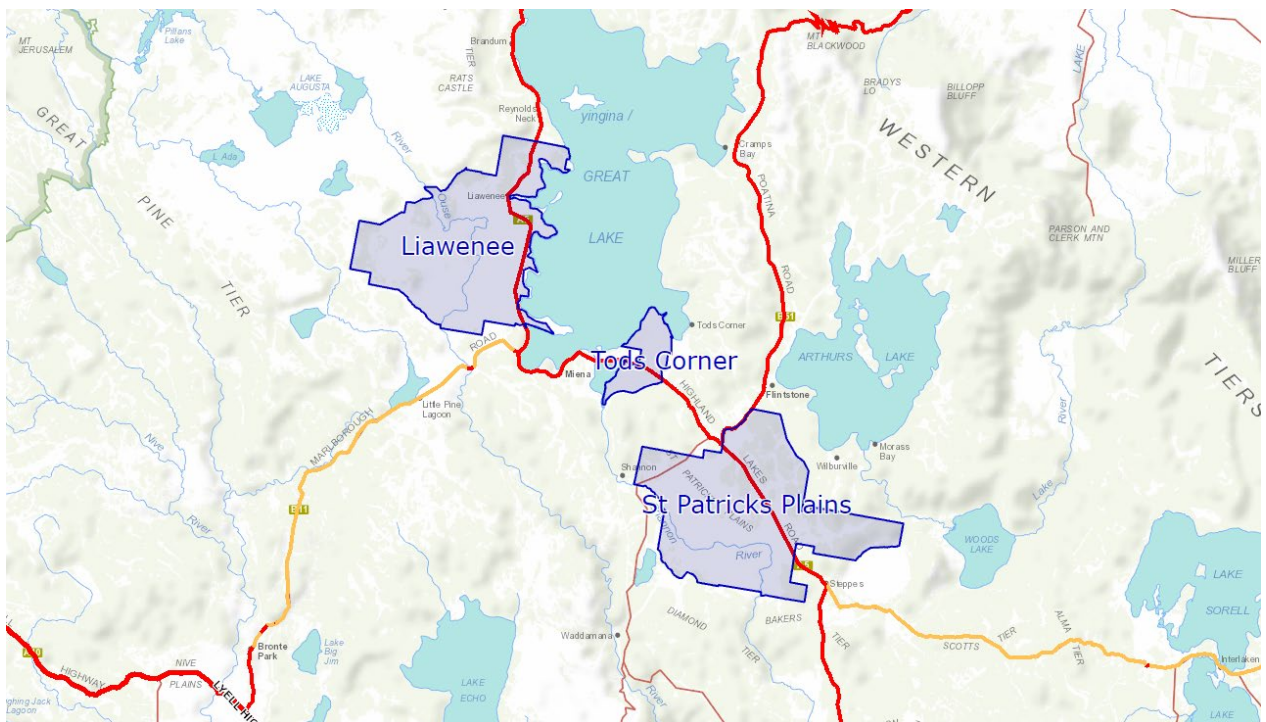


Figure 1: Subject land location with topographic plan and road centrelines from www.thelist.tas.gov.au © The State of Tasmania

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This land through these areas is currently zoned Rural Resource under the *Central Highlands Interim Planning Scheme 2015*.

Under the Draft LPS these areas have been mapped as being in the Agriculture Zone, unlike other areas in the surrounding landscape. When comparing to aerial photos the zone maps seem to be reflective of the areas which have been zoned Agriculture being non-forested grassland areas. This is opposed to forested land areas which have been zoned within either the Rural Zone or Environmental Management Zone.

These Agriculture Zoned lands provide significant areas of grassy threatened native vegetation communities, mainly 'Highland Poa grassland' and 'Highland grassy sedgeland'. As detailed in Appendix 1, both these montane grassy communities are listed as Threatened Native Vegetation Communities by the Tasmanian, *Nature Conservation Act 2002*. They also provide key habitat for Threatened Species listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*, including the Tasmanian wedge-tailed eagle. The important relationship between these areas and the Tasmanian Wedge-tailed Eagles is detailed Appendix 2.

None of these areas and the significant natural values which they contain have been mapped as Priority vegetation areas within the Natural Assets Code, presumably to be consistent with LPS drafting Guideline No. 1¹. However, given the significance that these natural values present, it would be more appropriate for the Code overlay to provide a precedence and therefore the Zone to be amended to better reflect a wholistic planning setting of the area.

Based on Guideline No. 1 the Landscape Conservation Zone would be a more appropriate zone, in combination with application of the Priority vegetation area. This Zoning would also reflect the unique landscape setting that the Highland Lakes provide.

Please feel free to contact us to discuss these matters should you wish further clarification.

Yours faithfully

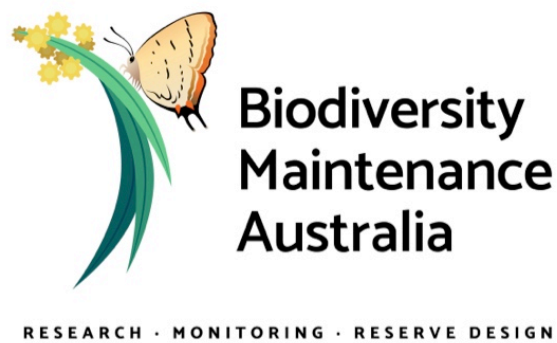


Jacqui Blowfield
Senior Planner
IRENEINC PLANNING & URBAN DESIGN

¹ *Guidelines No. 1 Local Provisions Schedule (LPS) zone and code application*, TPC June 2018

APPENDIX 1 - DESKTOP ASSESSMENT OF BIODIVERSITY VALUES

Desktop assessment of the biodiversity values of areas in the vicinity of Liawenee, Todds Corner and St Patricks Plains proposed for 'Agriculture Zone' on the Central Highlands draft Local Provisions Schedule.



October 2021

Report prepared by Phil Bell for No Turbine Action Group Inc (Central Highlands)

This report was prepared by:
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Biodiversity Maintenance Australia was engaged by No Turbine Action Group Inc (Central Highlands) [Contact: Mr David Ridley, Chair] to undertake a desktop assessment of biodiversity values of three areas (Liawenee, Todds Corner and St Patricks Plains) proposed for 'Agriculture Zone' on the Central Highlands draft Local Provisions Schedule.

The following report is based on a preliminary interrogation of key Tasmanian Government biological databases i.e. TASVEG (DPIPWE 2021) and the NVA (DPIPWE 2021) for records of threatened vegetation communities and threatened species within each of the areas, Liawenee, Todds Corner and St Patricks Plains. Particular note has been made of vegetation communities listed as threatened under the Tasmanian, *Nature Conservation Act 2002* and threatened fauna and flora listed as vulnerable or endangered under the Tasmanian *Threatened Species Protection Act 1995* and/or the Commonwealth, *Environment Protection and Biodiversity Conservation Act 1999*. The data are summarised in a tabular form and supplemented with distribution maps of key threatened vegetation communities and threatened species. Generalisations are made from the readily available data on the importance of identified areas to the long-term conservation of each of the threatened entities, and recommended management for each of the threatened entities on private land within the identified areas.

The key biodiversity values shared by Liawenee, Todds Corner and St Patricks Plains include a high proportion of their area mapped as grassy threatened native vegetation communities, mainly 'Highland *Poa* grassland' and 'Highland grassy sedgeland'. Both these montane grassy communities are listed as Threatened Native Vegetation Communities on the Tasmanian, *Nature Conservation Act 2002*. Montane grassy communities in this area support Ptunarra brown butterfly, which is a nationally endangered butterfly listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*. The distribution of Ptunarra brown butterfly likely reflects the distribution of grassy communities within these areas. Further, Liawenee Moor likely supports the largest population of the butterfly in Tasmania. Populations of Ptunarra brown butterfly on the Central Plateau have a significant role to play in the conservation of the butterfly as they are currently the least impacted by threats such as pasture improvement and predation by European wasps that operate elsewhere within the butterfly's range. A number of significant threatened flora species (listed as vulnerable or endangered under the Tasmanian *Threatened Species Protection Act 1995* and/or the Commonwealth, *Environment Protection and Biodiversity Conservation Act 1999*) are recorded from Liawenee, Todds Corner and St Patricks Plains, and most are associated with native grassy vegetation. These areas are important, variously, for the conservation of Liawenee greenhood, Grassland paperdaisy, Crowded leek-orchid, Grassland cupflower, Lanky buttons, Longhair fireweed and Miena cider gum. Sympathetic land management practices on private land at Liawenee, Todds Corner and St Patricks Plains is recommended for conservation of these threatened flora species, most of which are also nationally threatened.

Biodiversity values of the proposed Agriculture Zone at Liawenee

[The 'proposed Agriculture Zone at Liawenee' refers to the area bounded in red in Figure 1 and 2 (Page 5) and reflects the approximate boundary of the area proposed for zoning as 'Agriculture Zone' on the Central Highlands draft Local Provisions Schedule.]

Threatened species

Threatened fauna	Status (State)	Status (Comm.)	Distribution and abundance at location	General comments
Miena jewel beetle <i>Castiarina insculpta</i>	e		Though a large proportion of potential habitat is within the CPCA it is also on private land.	Localised occurrence in the Great Lake/Lake Augusta/Arthurs Lake area in heathland and sedgeland where its food plant <i>Ozothamnus hookeri</i> occurs.
Ptunarra brown butterfly <i>Oreixenica ptunarra</i>	v	EN	Liawenee Moor supports the largest population of the species known in Tasmania spreading over an extensive area. Long-term population monitoring site at Liawenee Moor.	Ptunarra brown butterfly occurs in highland grassland and grassy habitats from the Eastern Tiers in the east to the North West Plains near Waratah. Most populations have been decimated by clearance and conversion, wasp predation and/or intensive grazing practices. Populations in the Central Plateau have a significant role to play in the conservation of the species as they are currently the least impacted by the threats that operate elsewhere. Sympathetic management of habitat on private land is important for conservation of the species.
Threatened flora	Status (State)	Status (Comm.)	Distribution and abundance at location	General comments
Miena cider gum <i>Eucalyptus gunnii</i> subsp. <i>divaricata</i>	e	EN	Mostly occurs between Miena and Liawenee. Although it occurs within reserves there are important areas that are unreserved on private land.	A range of threats that may interact including drought, browsing (particularly by sheep, deer and rabbits), inappropriate fire regimes, clearance and conversion and climate change. Sympathetic management of habitat on private land important for conservation of the species.
Liawenee greenhood <i>Pterostylis pratensis</i>	v	VU	The largest population is at Liawenee Moor, which is subject to grazing.	Occurs in montane grasslands in the Liawenee/St Patricks Plains area. Significant threats include cultivation and addition of fertilisers. Sympathetic land management practices are recommended that maintain an open grassland habitat (grazing and burning).
Grassland cupflower <i>Colobanthus curtisiae</i>	v	VU	Distribution from Central Plateau to Ben Lomond in the north, to Fingal Tier in the east, to Kempton in the south. A small population in Block Marsh.	Associated with open grassy habitats. Declined through loss of grassland and grassy woodlands, particularly on arable soils due to pasture improvement and cropping. Sympathetic management of grassy habitats on the Central Plateau important for conservation of the species.
Grassland paperdaisy <i>Leucochrysum albicans tricolor</i>	e	EN	A few records around Liawenee.	Species has suffered a substantial decline in range because of loss and degradation of habitat – primarily to agriculture. Occurs in shrubby grasslands in montane areas. Will rely on sympathetic land management practices on private property to ensure its conservation.

Threatened flora	Status (State)	Status (Comm.)	Distribution and abundance at location	General comments
Lanky buttons <i>Leptorhynchus elongatus</i>	e		Occurrences in more protected sites with less grazing pressure. Recent records from adjacent to the Lake Highway near Duck Point Road	Main threats include loss of habitat from clearing for agriculture and grazing pressure. Species known only from a few sites in the Southern and Northern Midlands and at a higher altitude site at Liawenee Moor. Not known from reserves. Will rely on sympathetic land management practices on private property at Liawenee Moor to ensure conservation.

Threatened Native Vegetation Communities

The proposed Agriculture Zone at Liawenee covers approximately 7,711 ha of which 4,658 ha (60%) is mapped by TASVEG as supporting the TNVCs, Highland *Poa* grassland (GPH) and Highland grassy sedgeland (MGH).

Summary of biodiversity values and management recommendations

Just over 60% of the area of the proposed Agriculture Zone at Liawenee is mapped as grassy threatened native vegetation communities, most of which is Highland *Poa* grassland and Highland grassy sedgeland. Both vegetation communities support Ptunarra brown butterfly and their distribution at Liawenee likely reflects the distribution of this butterfly. Liawenee Moor may support the largest population of Ptunarra brown butterfly in Tasmania.

Populations of Ptunarra brown butterfly on the Central Plateau have a significant role to play in the conservation of the species as they are currently the least impacted by threats such as pasture improvement and predation by European wasps that operate elsewhere within the species range. Most significant threatened species at Liawenee are associated with native grassy vegetation communities, particularly Highland *Poa* grassland and Highland grassy sedgeland. This includes Ptunarra brown butterfly, Liawenee greenhood, Grassland paperdaisy, Miena jewel beetle, Grassland cupflower, Lanky buttons and Miena cider gum. Liawenee Moor represents the largest population of Liawenee greenhood in Tasmania. Sympathetic management of grassy habitats at Liawenee is important for conservation of all of these threatened species.

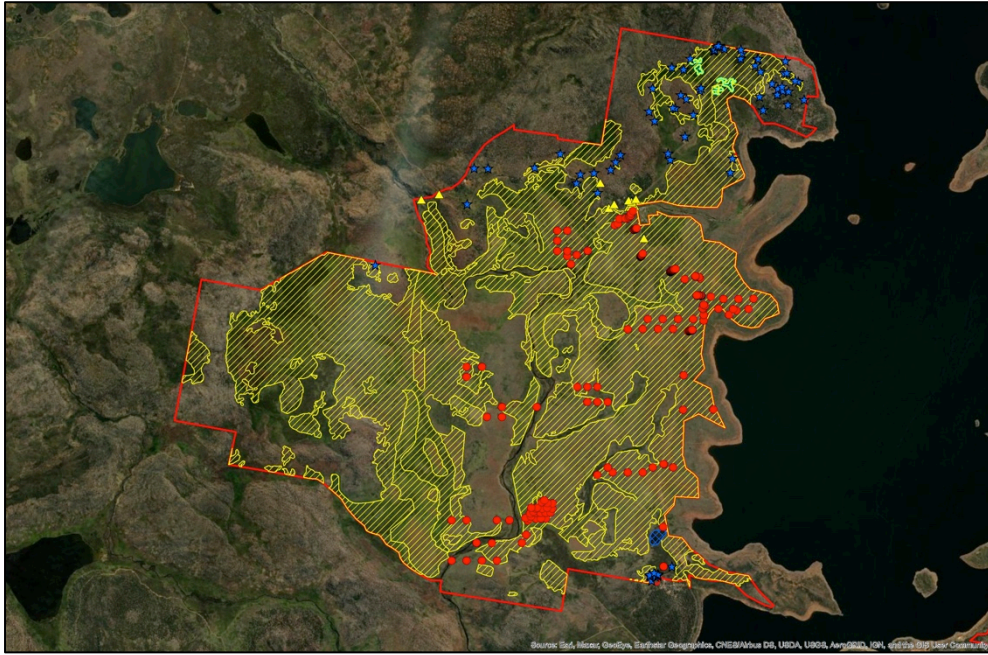


Figure 1. The distribution of threatened native vegetation communities and location records of significant threatened species in the proposed Agriculture Zone at Liawenee (Yellow hatching = Highland *Poa* grassland (GPH) and Highland grassy sedgeland (MGH); Blue cross-hatching = Wetlands; Green hatching = Cushion moorland (HCM); Red circles = Liawenee greenhood *Pterostylis pratensis*; Blue stars = Miena cider gum *Eucalyptus gunnii* subsp. *divaricata*; Yellow triangles = Miena jewel beetle *Castiarina insculpta*)

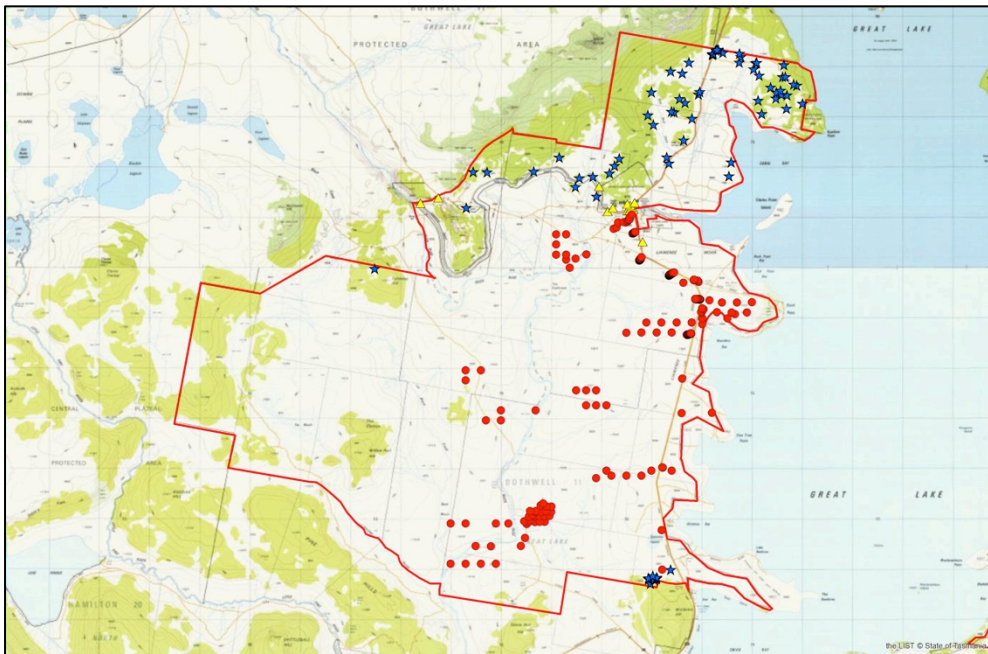


Figure 2. The location records of significant threatened species in the proposed Agriculture Zone at Liawenee (Red circles = Liawenee greenhood *Pterostylis pratensis*; Blue stars = Miena cider gum *Eucalyptus gunnii* subsp. *divaricata*; Yellow triangles = Miena jewel beetle *Castiarina insculpta*)

Biodiversity values of the proposed Agriculture Zone at Todds Corner

[The 'proposed Agriculture Zone at Todds Corner' refers to the area bounded in red in Figure 3 and 4 (Page 8) and reflects the approximate boundary of the area proposed for zoning as 'Agriculture Zone' on the Central Highlands draft Local Provisions Schedule.

Threatened species

Threatened fauna	Status (State)	Status (Comm.)	Distribution and abundance at location	General comments
Ptunarra brown butterfly <i>Oreixenica ptunarra</i>	v	EN	Recorded at Todds Corner	Ptunarra brown butterfly occurs in highland grassland and grassy habitats from the Eastern Tiers in the east to the North West Plains near Waratah. Most populations have been decimated by clearance and conversion, wasp predation and/or intensive grazing practices. Populations in the Central Plateau have a significant role to play in the conservation of the species as they are currently the least impacted by the threats that operate elsewhere. Sympathetic management of habitat on private land is important for conservation of the species.
Threatened flora	Status (State)	Status (Comm.)	Distribution and abundance at location	General comments
Miena cider gum <i>Eucalyptus gunnii</i> subsp. <i>divaricata</i>	e	EN	Mostly occurs between Miena and Liawenee. Although it occurs within reserves there are important areas that are unreserved on private land.	A range of threats that may interact including drought, browsing (particularly by sheep, deer and rabbits), inappropriate fire regimes, clearance and conversion and climate change. Sympathetic management of habitat on private land important for conservation of the species.
Liawenee greenhood <i>Pterostylis pratensis</i>	v	VU	The largest population is at Liawenee Moor which is subject to grazing.	Occurs in montane grasslands in the Liawenee/St Patricks Plains area. Significant threats include cultivation and addition of fertilisers. Sympathetic land management practices are recommended that maintain an open grassland habitat (grazing and burning).
Crowded leek-orchid <i>Prasophyllum crebriflorum</i>	e	EN	Known from only two locations in Tasmania: montane grasslands at Surrey Hills in the northwest plains and grasslands and grassy woodlands in the southern part of the Central Plateau.	Major threats to the species include clearing of montane grasslands and grassy woodlands, inappropriate grazing regimes, 'pasture improvement' activities and fire regimes. Sympathetic land management practices are recommended that maintain the structure and floristics of the grassy habitats.

Threatened Native Vegetation Communities

The proposed Agriculture Zone at Todds Corner covers approximately 1,010 ha of which 887 ha (88%) is mapped by TASVEG as supporting the TNVCs, Highland *Poa* grassland (GPH) and Highland grassy sedgeland (MGH).

Summary of biodiversity values and management recommendations

88% of the area of the proposed Agriculture Zone at Todds Corner is mapped as grassy threatened native vegetation communities, most of which is Highland *Poa* grassland and Highland grassy sedgeland. Both vegetation communities support Ptunarra brown butterfly and their distribution likely reflects the distribution of this butterfly at Todds Corner. Populations of Ptunarra brown butterfly on the Central Plateau have a significant role to play

in the conservation of the species as they are currently the least impacted by threats such as pasture improvement and predation by European wasps that operate elsewhere within the species range. Most significant threatened species at Liawenee are associated with native grassy vegetation communities, particularly Highland *Poa* grassland and Highland grassy sedgeland. This includes Ptunarra brown butterfly, Liawenee greenhood, Crowded Leek-orchid and Miena cider gum. Sympathetic management of grassy habitats at Todds Corner is important for conservation of all of these threatened species.



Figure 3. The distribution of threatened native vegetation communities and location records of significant threatened species in the proposed Agriculture Zone at Todds Corner (Yellow hatching = Highland *Poa* grassland (GPH) and Highland grassy sedgeland (MGH); Blue hatching = Wetlands; Red circles = Liawenee greenhood *Pterostylis pratensis*; Blue stars = Miena cider gum *Eucalyptus gunnii* subsp. *divaricata*; Green squares = Crowded leek-orchid *Prasophyllum crebriflorum*)

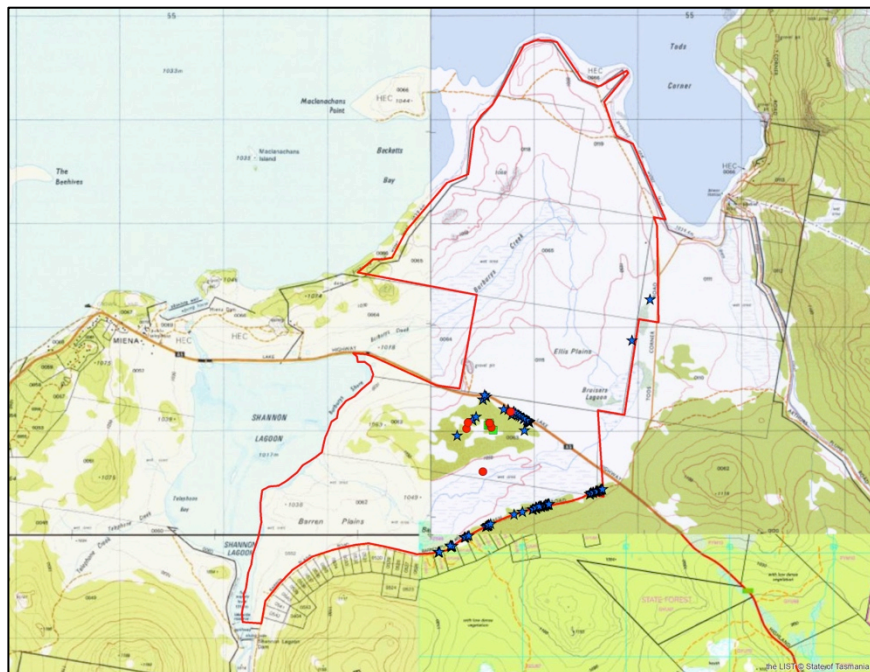


Figure 4. The location records of significant threatened species in the proposed Agriculture Zone at Todds Corner (Red circles = Liawenee greenhood *Pterostylis pratensis*; Blue stars = Miena cider gum *Eucalyptus gunnii* subsp. *divaricata*; Green squares = Crowded leek-orchid *Prasophyllum crebriflorum*).

Biodiversity values of the proposed Agriculture Zone at St Patricks Plains (excluding eagles)

The 'proposed Agriculture Zone at St Patricks Plains' refers to the area bounded in red in Figure 5 and 6 (Page 11) and reflects the approximate boundary of the area proposed for zoning as 'Agriculture Zone' on the Central Highlands draft Local Provisions Schedule.

Threatened species

Threatened fauna	Status (State)	Status (Comm.)	Distribution and abundance at location	General comments
Miena jewel beetle <i>Castiarina insculpta</i>	e		Though a large proportion of potential habitat is within the CPCA it is also on private land. Records in northern section of St Patricks Plains	Localised occurrence in the Great Lake/Lake Augusta/Arthurs Lake area in heathland and sedgeland where its food plant <i>Ozothamnus hookeri</i> occurs.
Ptunarra brown butterfly <i>Oreixenica ptunarra</i>	v	EN	Ptunarra brown butterfly was abundant in suitable habitat in the late 1990s but no recent assessments. Long-term monitoring site established at St Patricks Plains in 1998.	Ptunarra brown butterfly occurs in highland grassland and grassy habitats from the Eastern Tiers in the east to the North West Plains near Waratah. Most populations have been decimated by clearance and conversion, wasp predation and/or by intensive grazing practices. Populations in the Central Plateau have a significant role to play in the conservation of the species as they are currently the least impacted by the threats that operate elsewhere. In late 1990s invasion of grasslands by <i>Hakea microcarpa</i> was noted as a possible threat. Sympathetic management of habitat on private land is important for conservation of the species.
Threatened flora	Status (State)	Status (Comm.)	Distribution and abundance at location	General comments
Miena cider gum <i>Eucalyptus gunnii</i> subsp. <i>divaricata</i>	e	EN	Mostly occurs between Miena and Liawenee. Although it occurs within reserves there are important areas that are unreserved on private land.	A range of threats that may interact including drought, browsing (particularly by sheep, deer and rabbits), inappropriate fire regimes, clearance and conversion and climate change. Sympathetic management of habitat on private land important for conservation of the species.
Liawenee greenhood <i>Pterostylis pratensis</i>	v	VU	The largest population is at Liawenee Moor which is subject to grazing. Species is widespread in native grassy habitats at St Patricks Plains.	Occurs in montane grasslands in the Liawenee/St Patricks Plains area. Significant threats include cultivation and addition of fertilisers. Sympathetic land management practices are recommended that maintain an open grassland habitat (grazing and burning).
Crowded leek-orchid <i>Prasophyllum crebriflorum</i>	e	EN	Known from only two locations in Tasmania: montane grasslands at Surrey Hills in the northwest plains and grasslands and grassy woodlands in the southern part of the Central Plateau. Significant population at St Patricks Plains.	Major threats to the species include clearing of montane grasslands and grassy woodlands, inappropriate grazing regimes, 'pasture improvement' activities and fire regimes. Sympathetic land management practices are recommended that maintain the structure and floristics of the grassy habitats.

Threatened flora	Status (State)	Status (Comm.)	Distribution and abundance at location	General comments
Grassland cupflower <i>Colobanthus curtisiae</i>	v	VU	Distribution from Central Plateau to Ben Lomond in the north, to Fingal Tier in the east, to Kempton in the south.	Associated with open grassy habitats. Declined through loss of grassland and grassy woodlands, particularly on arable soils due to pasture improvement and cropping. Sympathetic management of grassy habitats on the Central Plateau important for conservation of the species.
Grassland paperdaisy <i>Leucochrysum albicans tricolor</i>	e	EN	Population at Ripple Creek (approximately 25 records).	Species has suffered a substantial decline in range because of loss and degradation of habitat – primarily to agriculture. Occurs in shrubby grasslands in montane areas. The occurrence at St Patricks Plains will rely on sympathetic land management practices to ensure its conservation.
Longhair fireweed <i>Senecio longipilus</i>	v pending		Current known occurrence of this species is on private land at St Patricks Plains.	Historic occurrences at Perth, South Esk River and Kingston. Sympathetic management of habitat at St Patricks Plains will be essential for conservation and viability of this species.

Threatened Native Vegetation Communities

The proposed Agriculture Zone at St Patricks Plains covers approximately 8,589 ha of which 3,013 ha (35%) is mapped by TASVEG as supporting the TNVCs, Highland *Poa* grassland (GPH) and Highland grassy sedgeland (MGH).

Summary of biodiversity values and management recommendations

35% of the area of the proposed Agriculture Zone at St Patricks Plains is mapped as grassy threatened native vegetation communities, most of which is Highland *Poa* grassland and Highland grassy sedgeland. Both vegetation communities support Ptunarra brown butterfly and their distribution likely reflects the distribution of this butterfly at St Patricks Plains. Populations of Ptunarra brown butterfly on the Central Plateau have a significant role to play in the conservation of the species as they are currently the least impacted by threats such as pasture improvement and predation by European wasps that operate elsewhere within the species range. Most significant threatened species at St Patricks Plains are associated with native grassy vegetation communities, particularly Highland *Poa* grassland and Highland grassy sedgeland. This includes Ptunarra brown butterfly, Liawenee greenhood, Miena jewel beetle, Crowded Leek-orchid, Grassland cupflower, Grassland paperdaisy, Longhairs fireweed and Miena cider gum. Sympathetic management of grassy habitats at St Patricks Plains is important for conservation of all of these threatened species.

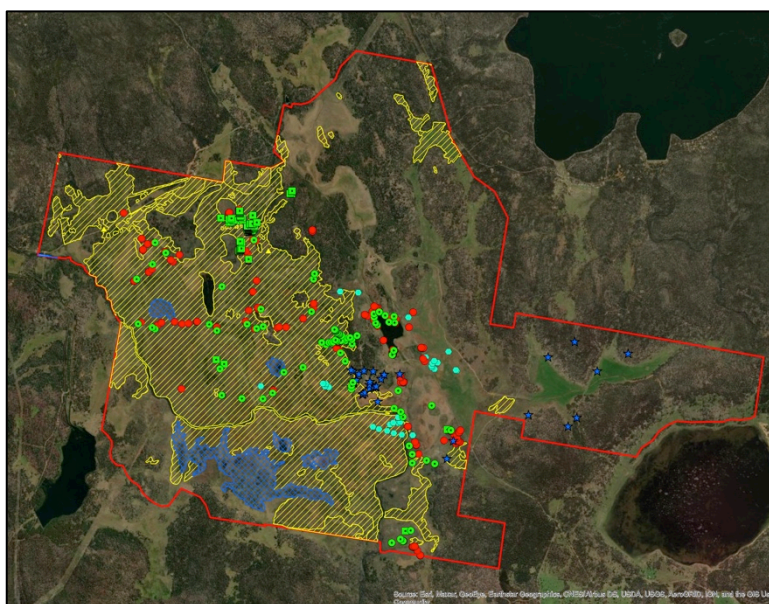


Figure 5. The distribution of threatened native vegetation communities and location records of significant threatened species in the proposed Agriculture Zone at St Patricks Plains (Yellow hatching = Highland *Poa* grassland (GPH) and Highland grassy sedgeland (MGH); Blue cross-hatching = Wetlands; Red circles = Liawenee greenhood *Pterostylis pratensis*; Blue stars = Miena cider gum *Eucalyptus gunnii* subsp. *divaricata*; Yellow triangles = Miena jewel beetle *Castiarina insculpta*; Green circles = *Colobanthus curtisiae* Grassland cupflower; Green squares = Crowded leek-orchid *Prasophyllum crebriflorum*; Green hexagons = Longhair fireweed *Senecio longipilus*)

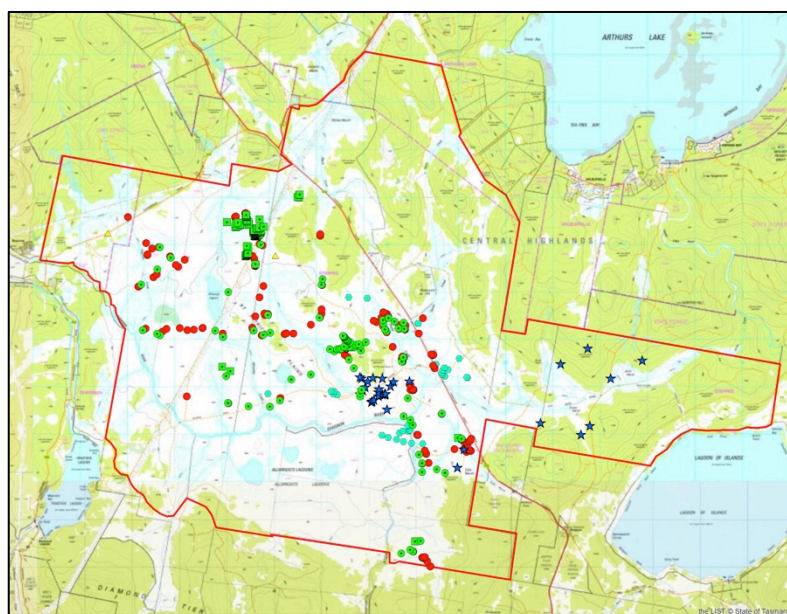


Figure 6. The location records of significant threatened species in the proposed Agriculture Zone at St Patricks Plains (Red circles = Liawenee greenhood *Pterostylis pratensis*; Blue stars = Miena cider gum *Eucalyptus gunnii* subsp. *divaricata*; Yellow triangles = Miena jewel beetle *Castiarina insculpta*; Green squares = Crowded leek-orchid *Prasophyllum crebriflorum*; Green circles = *Colobanthus curtisiae* Grassland cupflower; Green hexagons = Longhair fireweed *Senecio longipilus*)

'Rare' species that have not been assessed as to the contribution each of the areas (Liawenee, Todds Corner, St Patricks Plains) makes to their conservation. Many 'Rare' species in Tasmania remain poorly known, including their threats, conservation ecology and distribution. This table assesses the number of records for 'Rare' species in each of the areas assessed.

Threatened Flora	Status (Tas)	Status (Comm.)	Liawenee	Todds Corner	St Patricks Plains
<i>Acacia siculiformis</i>	r	-			1
<i>Agrostis diemenica</i>	r	-			1
<i>Asperula minima</i>	r	-			<5
<i>Asperula scoparia scoparia</i>	r	-		2	<5
<i>Asperula subsimplex</i>	r	-			<5
<i>Calocephalus lacteus</i>	r	-			<100
<i>Carex capillacea</i>	r	-			1
<i>Epilobium willsii</i>	r	-			1
<i>Hovea montana</i>	r	-	6	10	
<i>Hovea tasmanica</i>	r	-			
<i>Glycine latrobeana</i>	v	VU			
<i>Isoetes drummondii drummondii</i>	r	-	1	1	3
<i>Isoetes humilior</i>	r	-			2
<i>Muehlenbeckia axillaris</i>	r	-	<1000		<50
<i>Myriophyllum integrifolium</i>	r	-			1
<i>Pilularia nove-hollandiae</i>	r	-			
<i>Ranunculus pumilio pumilio</i>	r	-			<50
<i>Rhodanthe anthemoides</i>	r	-	7		<50
<i>Taraxacum aristum</i>	r	-	2		
<i>Trithuria submersa</i>	r	-			1
<i>Uncinia elegans</i>	r	-	3		
<i>Viola cunninghamii</i>	r	-	2		1
<i>Xerochrysum bicolor</i>	r	-	1		

APPENDIX 2 -TASMANIAN WEDGE-TAILED EAGLES

The importance of the Central Highlands to Tasmanian Wedge-tailed Eagles and vice versa.

Tasmanian wedge-tailed eagles (*Aquila audax fleayi*) are one of several animals, notably including the Tasmanian devil (*Sarcophilus harrisii*) and thylacine (*Thylacinus cynocephalus*), that were very much a part of both the ecosystem and culture of the Central Highlands. The Central Highlands describes both a political area and an Interim Biogeographic Regionalisation for Australia (IBRA) region and this dis scission focuses on the latter area (see below).

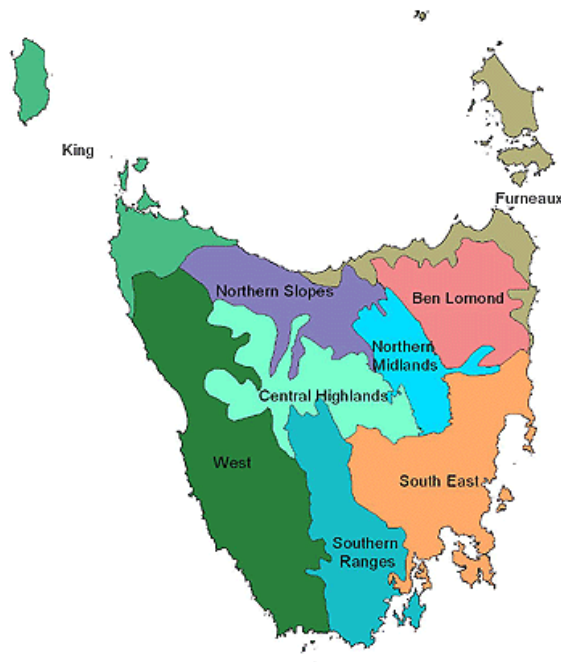


Figure 1. Tasmania's nine IBRA regions.

The Central Highlands has not been as extensively developed as some other IBRA regions and much development has been at the lower end of intensity. Some of its near natural areas are reserved but those areas need buffers, especially for animals such as WTEs with very large home ranges, individuals of which may cross many land use areas encountering a variety of anthropogenic hazards.

The value of wedge-tailed eagles (WTE) is enhanced by the loss of thylacines, for many decades now WTEs being Tasmania's only natural apex predator. WTEs are also scavengers and in that role compete directly with devils. With the demise and continued suppression of devils from Devil Facial Tumour Disease, WTEs have even further enhanced value in providing ecosystem services. Both devils and WTE are endangered under both State and Commonwealth threatened species legislation.

In the absence of devils, many smaller species rely on eagles to open large carcasses to allow further scavenging. Eagles are also one of the few predators of feral cats and kookaburras and serve to somewhat limit their numbers and restrict their behaviour. Much the same applies to wallabies as prey in that without the risk from (diurnal) WTEs, in many places wallabies would be able to feed 24 hrs a day and put further pressure on vegetative communities and crops.

Numbers of known WTE nests/area are relatively low for the Central Highlands (overall, the second lowest density at 78.3km²/recorded nest, Natural Values Atlas) although counts of eagles by road survey (N. Mooney in prep.) are moderately high compared to other IBRA regions. How this reconciles is that most other IBRAS have been more intensely and extensively developed and with that goes searching for or otherwise finding nests; a lower proportion of the Central Highlands nests are recorded. In addition the development pressure in most other IBRAS means abandonment of eagle nests is more common, those breeding birds moving elsewhere in their home ranges to nest. Thus, the Central Highlands has less nests per eagle pair than most IBRAS.

Finally, eagle nests are protected by law so even if abandoned they stay until they naturally degrade. So in most other IBRAS we have both more nests/area and a greater proportion of those are recorded even though there are generally less eagles in those places. This means the Central Highlands is in a more natural condition, closer to an optimum over large areas for wedge-tailed eagles.

Much of the Central Highlands is a mosaic of undulating open forest, grassy woodland, wetlands and pasture with many forest edges, the habitat structure optimal for WTE (Threatened Species Section 2006). Their principal population limiter to date in the Central Highlands would appear to be highly variable soil fertility from place to place, productivity that is reflected in food availability.

Nick Mooney

Wildlife Biologist..

BirdLife Australia Raptor Group (Tas rep)

19/10/22