
austral

research and consulting

Fauna Assessment: 76-156 Canterbury Road East, 705-765 & 785-805 Princes Highway, Lara

- Fauna Assessment
- November 2024

Austral Research and Consulting
ABN 73 007 840 779
23 Buntings Rd
Kirkstall Vic 3283 Australia
Web: www.austral.net.au

Austral Research and Consulting has prepared this document for Lara Farms Pty Ltd for their express use only. The information contained within this document is based on sources that are believed to be reliable but Austral Research and Consulting does not guarantee that this document is definitive or free from error. Austral Research and Consulting does not accept liability for any loss caused, or arising from, reliance upon the information provided.

Document history and status

Revision	Date issued	Reviewed by	Approved by	Date approved	Revision type
Draft	24/10/2024			24/10/2024	Draft
Final	4/11/2024			4/11/2024	Final

Printed:	11 November 2024
Last saved:	11 November 2024 09:19 AM
File name:	
Author:	
Project manager:	
Name of organisation:	Lara Farms Pty Ltd
Name of project:	Fauna Assessment: 76-156 Canterbury Road East, 705-765 & 785-805 Princes Highway, Lara
Name of document:	COSTAPG_LARA_BA_DRAFT
Document version:	Final
Project number:	

Contents

1. Introduction	5
2. Study Area	6
3. Methods	8
3.1. Desktop Assessment	8
3.2. Field Assessment	8
3.3. Limitations	9
4. Results and discussion	10
4.1. Desktop Assessment	10
4.1.1. Protected Matters Search Tool	10
4.1.1.1. Wetland of International Importance (Ramsar Wetland)	10
4.1.1.2. Listed Threatened Ecological Communities	11
4.1.1.3. Listed, Threatened and Migratory Species	11
4.1.2. NatureKit Tool	11
4.1.3. Likelihood of Occurrence	11
4.2. Field Assessment	15
4.2.1. Development site	15
4.2.2. Rennie Street	16
17	
4.2.3. Canterbury Road East	17
4.2.4. Hovells Creek	18
6. Recommendations	23
7. References	24

Abbreviations

The following abbreviations have been used:

Austral	Austral Research & Consulting
CBD	Central Business District
CMA	Catchment Management Authority
CoGG	City of Greater Geelong
DCCEEW	Commonwealth's Department of Climate Change, Energy, the Environment and Water
DEECA	Department of Energy, Environment and Climate Action
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999
FFG Act	Flora and Fauna Guarantee Act 1988
EMP	Environmental Management Plan
Km	Kilometres
LGA	Local government area
LoO	Likelihood of Occurrence
PMST	Protected Matters Search Tool
sp.	Species
TEC	Threatened Ecological Communities
VVP	Victorian Volcanic Plain
µS/cm	Microsiemens per centimetre

1. Introduction

Austral Research and Consulting (hereafter referred to as Austral) were contracted by Lara Farms Pty Ltd to undertake an investigation into the environmental values associated with fauna habitat within an area scheduled for rezoning and development including several small unploughed areas within a large, cropped paddock, two road reserves and a small area of Hovells Creek in Lara, Victoria.

The development area and two road reserves are associated with the rezoning of 76 - 156 Canterbury Road East, 705 - 765 Princes Highway and 785 - 805 Princes Highway, Lara, to General Residential and Industrial Zones and subsequent development of the site, and a small section of Hovells Creek is proposed to be the location of an outfall for discharge of run-off from the proposed development.

A vegetation assessment for the study area has been undertaken by Mark Trengrove Ecological Consulting (Mark Trengrove Ecological Services, 2024).

This report assesses potential fauna habitat only.

Lara Farms Pty Ltd are seeking to determine the likelihood of any fauna listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and/or *Flora and Fauna Guarantee Act 1988* (FFG Act) occurring within the study area and subsequent environmental and legislative implications for the project.

2. Study Area

The development site (Figure 1) is located approximately 13 kilometres (km) north of Geelong central business district (CBD). The study areas include the development site and road reserves parallel to the development site boundaries along Rennie Street (west verge) and Canterbury Road East (south verge), and a small section of the western bank of Hovells Creek (Figure 1) which is the site of an existing concrete outfall.

The study area is intended to be rezoned and developed principally for both employment and residential purposes respectively and there is potential for road widening to occur along Rennie Street and Canterbury Road East which will require the removal of a currently unknown area of vegetation associated with the road reserves on the development side of the road only (Lara Farms Pty Ltd Pers. Comm.). Impacts associated with the outfall are largely unknown at this early stage of planning but will include the removal of an unknown area of weedy, non-native vegetation within the riparian zone of Hovells Creek at the site of an existing outfall, with rock beaching to be installed around the outfall.

The study area falls within the bounds of the Corangamite Catchment Management Authority (CMA), within the Victorian Volcanic Plain (VVP) bioregion and within the bounds of the City of Greater Geelong (CoGG) local government area (LGA) (Visualising Victoria's Biodiversity, 2024)



Figure 1: Study area (Source: Tract).

3. Methods

3.1. Desktop Assessment

A comprehensive review of the NatureKit Tool from Department of Energy, Environment and Climate Action (DEECA) and the Protected Matters Search Tool (PMST) from the Commonwealth department of Climate Change, Energy, the Environment and Water (DCCEEW) was undertaken by Thorin Robertson, a qualified ecologist on 22 November 2022 to assess several small, unploughed areas within the development site and again on 11 October 2024 to reassess the previous area and to include the two road reserves and Hovells Creek. Species listed under the EPBC Act and/or the FFG Act that are known to occur within the study area, are considered likely to occur or have been recorded within five kilometres of the study area were considered as part of the desktop assessment. Given the study was focused on the fauna of terrestrial or inland waterway habitats, all marine fauna were excluded from the results. Mark Trengrove Ecological Services (2024) assesses vegetation within the project footprint so all flora results were excluded from the results also. The ecology of all listed species considered as 'known', 'likely' or 'may' occur within five kilometres of the study area, or recorded within five kilometres of the study area was reviewed and the likelihood of each species occurring within the study area was determined based on the data and expert opinion.

Table 1 shows the definitions for likelihood of occurrence (LoO) of a species occurring in the study area, as determined by an ecologist.

Table 1: Definitions of likelihood of occurrence categories

Likelihood	Definition
Unlikely	Species, population or ecological community is not likely to occur. Lack of previous recent (<25 years) records and suitable potential habitat limited or not available in the study area
Low Likelihood	Species, population or ecological community may occur intermittently. Some limited habitat characteristics present
Likely	Species, population or ecological community could occur and study area that is likely to provide suitable habitat. Previous records in the locality and/or suitable potential habitat in the study area
Known	Species, population or ecological community was recorded during the field investigations.

3.2. Field Assessment

Thorin Robertson, a qualified and experience ecologist attended site on 29 November 2022 to assess the small, unploughed areas within the development site, and again on 14 October 2024 to assess the road reserves on Rennie Street and Canterbury Road East. All areas were walked and inspected by foot.

A water quality reading was collected using a YSI pro plus multi-meter to determine the salinity (electrical conductivity) of Hovells Creek at the potential outfall site and downstream of the Princes Freeway bridge.

3.3. Limitations

This assessment pertains to the assessed areas described above only.

The ecological databases used in this assessment are comprehensive, however they are unlikely to contain all fauna within, and around the study area. It is important to note that a lack of documented records does not indicate that a species is absent but may reflect a lack of survey effort in the region.

These targeted surveys provide a 'snapshot' representation of environmental values within the study area present at that time of year when the surveys were completed. Migratory, cryptic, nocturnal or some seasonal species may not be detected as part of this survey methodology.

Data collected during these targeted surveys and the data reviewed within the databases is considered sufficient to provide an accurate assessment of the ecological values within the study area.

4. Results and discussion

4.1. Desktop Assessment

4.1.1. Protected Matters Search Tool

A review of the Commonwealth DCCEEW's PMST database revealed that one Wetland of International Importance (Ramsar Wetland), five listed Threatened Ecological Communities (TEC) and 83 listed, threatened species are known to or considered likely to occur within five kilometres of the study area. A total of 59 listed migratory species are listed as 'may', 'likely' or 'known' to occur within five kilometres of the study area (Department of Climate Change, Energy, the Environment and Water, 2024).

4.1.1.1. Wetland of International Importance (Ramsar Wetland)

Port Phillip Bay (Western Shoreline) and Bellarine Peninsula (Ramsar site number 18) occurs immediately outside the mouth of Hovells Creek, approximately 1.7 km south of the proposed outfall site.

Lara Farms Pty Ltd commissioned an investigation into the impacts of the proposed development which included an assessment of impacts to Port Phillip Bay (Western Shoreline) and Bellarine Peninsula (Ramsar site number 18) (Venant Solutions, 2024).

The report states the following:

"Our assessment shows that while there are potentially some changes, these are very small in terms of flow volumes or areas affected and are unlikely to invoke the Matters of National Environmental Significance provisions of the EPBC Act (Australian Government 1999) nor any State EES provisions (DSE 2006). These provisions will not be triggered because the development:

- Flow regime changes at the Ramsar Wetland site will not be measurable nor will the development have any effect on ecological character of the Ramsar Site due to the small changes experienced upstream and the fact that no habitat or ecosystem effects on native species will occur due to the insignificant hydrological changes; and,*
- Will not cause invasive species establishing or expanding in Hovells Creek, floodplain wetland downstream of the southern outfall nor within the Limeburners Bay segment of the Port Phillip Bay Ramsar Site." (Venant Solutions, 2024).*

Based on the results of the assessment by Venant Solutions the proposed development will not negatively impact Port Phillip Bay (Western Shoreline) and Bellarine Peninsula (Ramsar site number 18) and the Ramsar site is not considered further in this report.

4.1.1.2. Listed Threatened Ecological Communities

A total of five listed Threatened Ecological Communities (TECs) are ranked as 'may' or 'likely' to occur within five kilometres of the study area. Mark Trengrove Ecological Services (2024) addresses any implications to TECs and TECs are not discussed further in this report.

4.1.1.3. Listed, Threatened and Migratory Species

There are 83 listed, threatened species known to, or considered likely to, occur within five kilometres of the study area and a total of 59 listed migratory species listed as 'may', 'likely' or 'known' to occur within five kilometres of the study area (Department of Climate Change, Energy, the Environment and Water, 2024).

All marine species and flora were excluded from the results leaving 26 listed, threatened species known to, or considered likely to, occur within five kilometres of the study area and a total of three listed migratory species listed as 'may', 'likely' or 'known' to occur within five kilometres of the study area.

4.1.2. NatureKit Tool

A review of DEECA's NatureKit Tool revealed that 84 species listed under the FFG Act, and three species listed under the EPBC Act have been recorded within five kilometres of the study area (Department of Energy, Environment and Climate Action, 2024). All flora, common and marine species were excluded from the results leaving a total of 2206 records from 34 listed species within five kilometres of the study area.

4.1.3. Likelihood of Occurrence

The likelihood of a listed species occurring within the study area was determined taking into account species habitat requirements and known behaviours, habitat within the study area, number of records for each species within five kilometres and the age of the records. The results of the likelihood of occurrence (LoO) are presented below in Table 2.

It should be noted that while some species may be classified as 'likely' to occur due to species behaviour or the study area supporting certain habitat characteristics, it may be considered that species is not regularly utilising the study area or may only pass through the study area *en route* to nearby higher quality habitat. In these cases, the species is not considered further in this report as no impacts are considered likely for that species.

A total of 19 species were considered 'unlikely' to occur within the study area and a total of 15 species were considered to have a 'low likelihood' of occurring within the study area (Table 2). These species are not considered further in this report. Of the 13 species considered 'likely' to occur within the study area, it is considered that nine are unlikely to regularly utilise the study area or will not be impacted by the proposed action and are not considered further in this report.

austral

research and consulting

Of the four remaining species, fat-tailed dunnart (*Sminthopsis crassicaudata*) and tussock skink (*Pseudemoia pagenstecheri*) are listed under the FFG Act only but may be impacted by the road widening along Canterbury Road East.

Australasian bittern (*Botaurus poiciloptilus*) is listed as endangered under the EPBC Act and critically endangered under the FFG Act however impacts to Australasian bittern habitat will likely be limited to the removal of a small area of non-native grass and the installation of a small area of rock beaching. It is expected that Australasian bittern will readily relocate away from the area of impact while minor works are being completed and will then return once works are completed. Should it be determined that impacts beyond the removal beyond the removal of the small area of non-native grass and installation of rock beaching are likely then targeted Australasian bittern surveys *may* be required.

It is recommended that an Environmental Management Plan (EMP) is prepared to ensure impacts to Australasian bittern are avoided. Australasian bittern is not discussed further in this report.

Victorian grassland earless dragon has recently been rediscovered within the Victorian Volcanic Plain bioregion. Zoos Victoria confirmed that all areas of native grassland should be surveyed for Victorian grassland earless dragon (Pers. Comm.). (Mark Trengrove Ecological Services (2024) and this assessment confirm that native grasslands area absent from all assessed areas and it is considered unlikely that Victorian grassland earless dragon occurs within the study area (Figure 2).

Growling grass frog (*Litoria raniformis*) is considered 'likely' to occur within Hovells Creek (Figure 2).

Golden sun moth (*Synemon plana*) is considered 'likely' to occur within the road reserves on both Rennie Street and Canterbury Road East (Figure 2).

Growling grass frog is listed as vulnerable under the EPBC Act and endangered under the FFG Act. Golden sun moth is listed as vulnerable under the EPBC Act and vulnerable under the FFG Act.

Golden sun moth habitat has the potential to be impacted by the road widening on both Rennis Street and Canterbury Road East and growling grass frog habitat has the potential to be impacted by works on the banks of Hovells Creek.

austral

research and consulting

Table 2: Likelihood of occurrence (LoO) as determined by the commonwealth DCCEEW (PMST), number of records as reported on the DEECA's NatureKit Tool and LoO as determined by a qualified ecologist.

Species Name	Common Name	EPBC Act listing	FFG Act Listing	LoO (PMST)	Number of records	Year of last record	LoO (as determined by ecologist)
<i>Accipiter novaehollandiae</i>	Grey goshawk	-	E	-	3	2016	Low Likelihood
<i>Anseranas semipalmata</i>	Magpie goose	-	V	-	906	2019	Likely
<i>Antechinus minimus maritimus</i>	Swamp antechinus (mainland)	V	V	May	-	-	Unlikely
<i>Anthochaera phrygia</i>	Regent honeyeater	CE	CE	Known	-	-	Unlikely
<i>Antigone rubicunda</i>	Brolga	-	E	-	53	2020	Low Likelihood
<i>Aphelocephala leucopsis</i>	Southern whiteface	V	-	Known	-	-	Low Likelihood
<i>Aprasia parapulchella</i>	Pink-tailed worm-lizard	V	E	May	-	-	Low Likelihood
<i>Ardea alba modesta</i>	Eastern great egret	-	V	-	1	2013	Likely
<i>Ardea intermedia plumifera</i>	Plumed egret	-	CE	-	6	2022	Likely
<i>Biziura lobata</i>	Musk duck	-	V	-	138	2019	Likely
<i>Botaurus poiciloptilus</i>	Australasian bittern	E	CE	Known	3	1990	Likely
<i>Callocephalon fimbriatum</i>	Gang-gang cockatoo	E	E	Known	21	2016	Unlikely
<i>Climacteris picumnus victoriae</i>	Brown treecreeper (south-eastern)	V	-	May	-	-	Unlikely
<i>Delma impar</i>	Striped legless lizard	V	E	Known	1	1992	Low Likelihood
<i>Egretta garzetta</i>	Little egret	-	E	-	222	2020	Likely
<i>Falco hypoleucos</i>	Grey falcon	V	V	Likely	-	-	Likely
<i>Falco subniger</i>	Black falcon	-	CE	-	44	2019	Likely
<i>Gallinago hardwickii</i>	Latham's snipe	V/M	-	Likely	93	2019	Low Likelihood
<i>Geopelia cuneata</i>	Diamond dove	-	V	-	1	1977	Unlikely
<i>Grantiella picta</i>	Painted honeyeater	V	V	Likely	-	-	Unlikely
<i>Hesperilla flavescens</i>	Yellow sedge-skipper butterfly	-	E	-	4	1988	Unlikely
<i>Hieraaetus morphnoides</i>	Little eagle	-	V	-	219	2016	Low Likelihood
<i>Hirundapus caudacutus</i>	White-throated needletail	V/M	V	Known	9	1981	Likely
<i>Ixobrychus dubius</i>	Australian little bittern	-	E	-	1	1970	Low likelihood
<i>Lathamus discolor</i>	Swift parrot	CE	CE	Known	11	2019	Unlikely
<i>Lissolepis coventryi</i>	Swamp skink	E	E	May	-	-	Unlikely
<i>Litoria raniformis</i>	Growling grass frog	V	E	Known	1	1989	Likely
<i>Lophochroa leadbeateri</i>	Pink cockatoo	E	-	-	1	1961	Unlikely
<i>Melanodryas cucullata cucullata</i>	South-eastern hooded robin	E	-	Known	2	2016	Unlikely
<i>Motacilla flava</i>	Yellow wagtail	M	-	Likely	-	-	Low Likelihood
<i>Nannoperca obscura</i>	Yarra pygmy perch	E	V	Likely	-	-	Low likelihood
<i>Neophema chrysogaster</i>	Orange-bellied parrot	CE/M	CE	Known	6	2019	Unlikely

austral

research and consulting

Species Name	Common Name	EPBC Act listing	FFG Act Listing	LoO (PMST)	Number of records	Year of last record	LoO (as determined by ecologist)
<i>Neophema chrysostoma</i>	Blue-winged parrot	V	-	Known	26	2016	Low likelihood
<i>Ninox connivens</i>	Barking owl	-	CE	-	1	1969	Unlikely
<i>Ninox strenua</i>	Powerful owl	-	V	-	1	1969	Unlikely
<i>Oxyura australis</i>	Blue-billed duck	-	V	-	100	2019	Low likelihood
<i>Pedionomus torquatus</i>	Plains-wanderer	CE	CE	Likely	-	-	Unlikely
<i>Perameles gunnii</i>	Eastern barred bandicoot	E	E	-	35	1980	Unlikely
<i>Prototroctes maraena</i>	Australian grayling	V	E	Likely	-	-	Low likelihood
<i>Pseudemoia pagenstecheri</i>	Tussock skink	-	E	-	2	2016	Likely
<i>Pteropus poliocephalus</i>	Grey-headed flying-fox	V	V	-	-	-	Low likelihood
<i>Rostratula australis</i>	Australian painted Snipe	E	CE	Known	-	-	Unlikely
<i>Sminthopsis crassicaudata</i>	Fat-tailed dunnart	-	V	-	6	2016	Likely
<i>Stagonopleura guttata</i>	Diamond firetail	V	V	Known	3	1972	Unlikely
<i>Stictonetta naevosa</i>	Freckled duck	-	E	-	88	2019	Low likelihood
<i>Synemon plana</i>	Golden sun moth	V	V	Known	198	2019	Likely
<i>Tympanocryptis pinguicolla</i>	Victorian grassland earless dragon	CE	CE	Likely	-	-	Unlikely

Note: CE: Critically Endangered; E: Endangered; M: Migratory; V: Vulnerable

4.2. Field Assessment

A field assessment was undertaken by a qualified and experienced ecologist, [redacted] on 29 November 2022 to assess several small unploughed areas with the development footprint and again on 11 October 2024 to assess the road reserves and small area of Hovells Creek. All areas were assessed by foot and electrical conductivity (salinity) was tested in Hovells Creek at the outfall to determine whether conditions were suitable for growling grass frog.

4.2.1. Development site

The unploughed areas consisted of patches of non-native vegetation that are isolated and small in size. These areas are comprised primarily of weedy species such as African Boxthorn (*Lycium ferocissimum*) and Galenia (*Galenia pubescens*) with planted non-native trees occurring in the southern patch (Plate 1; Plate 2) and likely support generalist fauna species that are common to highly modified areas of agricultural land use.

Native grasses were absent from the area and a discussion with [redacted] of Zoos Victoria has confirmed that Victorian grassland earless dragon requires habitat in the form of native grasses to persist ([redacted] Pers. Comm.). Some small cracks were present in the dry soil and some small areas of embedded rock however the lack of native grasses or tussock species indicate species such as striped legless lizard, golden sun moth or Victorian grassland earless dragon are absent from the assessed areas (Figure 2).

Fauna species likely to utilise these areas include European Rabbit (*Oryctolagus cuniculus*), Red Fox (*Vulpes vulpes*), common snake species such as Eastern Brown Snake (*Pseudonaja textilis*), common bird species such as Australian Raven (*Corvus coronoides*) and a range of common lizards and rodent species. One small area was inundated however this area is ephemeral and is likely dry in drier seasons.



Plate 1: Unploughed areas within the development site showing a lack of native grasses



Plate 2: Unploughed areas within the development site showing a lack of native grasses

4.2.2. Rennie Street

The road reserve on Rennie Street was walked and assessed for habitat characteristics for a range of species. The road reserve supported a variety of non-native, weedy grass species and was subject to regular disturbance such as slashing of grass and vehicular traffic (Plate 3; Plate 4). The road reserve can be considered isolated as the northern (development) side is bounded by the road on one side and heavy cropping on the other. Habitat characteristics such as native grasses (e.g. wallaby-grass (*Rytidosperma* sp.)) and embedded rock were absent. Chilean needle grass (*Nassella neesiana*) was found to be prevalent within the road reserve. A low-lying depression in the landscape was present within the development footprint along Rennie Street however the area was dry at the time of surveys.

Given the frequent disturbance such as slashing, the lack of embedded rock, limited areas of cracks in the soil, lack of embedded rock and the isolated nature of the road reserve it is considered striped legless lizard is unlikely to occur.

Chilean needle grass is known habitat for golden sun moth and the species may be present within the study area (Figure 2).

There is potential for the low-lying area to form dispersal habitat for growling grass frog when inundated at an appropriate time of year, but the degree and frequency of inundation is unknown. While it is possible that growling grass frog disperse through the area during wet seasons it is considered unlikely the species utilises the study area on a regular basis.



Plate 3: Rennie Street road reserve



Plate 4: Rennie Street road reserve

4.2.3. Canterbury Road East

The road reserve on development side of Canterbury Road East was walked and assessed for habitat characteristics for a range of species. The road reserve supported a variety of non-native, weedy grass species and was subject to regular disturbance such as slashing of grass and vehicular traffic (Plate 5).

Scattered high threat weed Serrated Tussock (*Nassella trichotoma*) was recorded within the road reserve. Some cracks were observed within the soil in addition to some embedded rock. The road reserve on the development side of the road can be considered isolated due to heavy cropping to the west (development) side and the road to the east which likely forms a barrier between the assessed road reserve and potential striped legless lizard habitat which occurs in private property on the eastern side of the road.

Native grasses, such as wallaby-grass, were absent from the area however exotic Chilean needle grass, was prevalent and is strongly associated with golden sun moth which may be present in the area (Figure 2).

A dam was present within the development area adjacent to the road reserve however it was dry at the time of the assessment.

Marginal, low quality habitat characteristics associated with striped legless lizard habitat recorded within the road reserve the area is highly disturbed, isolated from larger areas of higher quality habitat by the road and of poor quality and it is considered of low likelihood that the species occurs within the western road reserve (Figure 2).

The dam may form dispersal habitat for growling grass frog when inundated at an appropriate time of year however the frequency and degree of inundation is unknown. It is considered unlikely that the species utilises the area on a regular basis if present.



Plate 5: The western road reserve on Canterbury Road East.

4.2.4. Hovells Creek

Hovells Creek was assessed at the outfall site (Figure 3), and immediately upstream, and downstream. Water quality was recorded using a YSI probe to check for electrical conductivity (salinity).

The creek was flowing slowly at the time of the assessment. A weir with culverts was located immediately upstream of the outfall and poses a barrier to fish passage. Downstream the waters quickly become saline as they approach the mouth of Hovells Creek, Limeburners Bay and Port Phillip Bay (Western Shoreline) and Bellarine Peninsula (Ramsar site number 18). Specific conductivity at the outfall site was recorded as 4765 $\mu\text{S}/\text{cm}$ which can be considered fresh (Hammer, 1986). The water was visibly turbid at the time of the survey and the creek supported dense stands of common reed (*Phragmites australis*) (Plate 6; Plate 7). The sides of the creek channel appeared quite steep, and the water appeared deep. The riparian zone was absent and the groundcover supported weedy pasture grasses and scattered *Juncus* sp.

The fresh water, slow flowing nature of the waterway and abundant vegetation in the form of common reed suggest that the site may support growling grass frog or provide a dispersal corridor for the species (Figure 2). A large, breeding population of growling grass frog is known to the northeast (Werribee treatment plant) and records occur to the west.



Plate 6: Hovells Creek at the outfall site. Looking upstream.



Plate 7: Hovells Creek at the outfall site. Looking downstream.



Figure 2: Areas of habitat, and areas where habitat is absent (Source: Tract)



Figure 3: Potential growing grass frog habitat (Source: Tract).

5. Conclusions

An assessment of several small unploughed areas with the development area was undertaken by a qualified ecologist on 22 November 2022, and the Rennie Street and Canterbury Road East road reserves on the development side of the road, and Hovells Creek at the outfall site were assessed by a qualified ecologist on 11 October 2024. All areas were assessed by foot. Electrical conductivity (salinity) was tested in Hovells Creek at the outfall to determine whether conditions were suitable for growling grass frog.

Base on the assessment the following conclusions can be made:

1. Habitat for golden sun moth was present within both the Rennie Street and Canterbury Road East road reserves (Figure 2);
2. Habitat suitable for supporting growling grass frog was present within Hovells Creek (Figure 2);
3. Key habitat characteristics associated with other listed species including Victorian grassland earless dragon were absent from the unploughed areas within the development site (Figure 2); and,
4. No other listed species are likely to be impacted by the proposal however an EMP should be prepared to ensure impacts to fauna, including Australasian bittern are minimised and/or avoided.

6. Recommendations

Based on the site visit and desktop assessment there is potential for golden sun moth and growling grass frog to occur within the study area. Specifically, golden sun moth may occur within both road reserves and growling grass frog may be present within Hovells Creek.

It is recommended that targeted surveys for golden sun moth and growling grass frog are undertaken prior to impacting the study area.

Golden sun moth surveys should be undertaken in accordance with the *Significant impact guidelines for the critically endangered golden sun moth (Synemon plana)*. *Nationally threatened species and ecological communities EPBC Act policy statement 3.12* (Department of the Environment, Water, Heritage and Arts, 2009). Whereby,

- A total of four surveys should be undertaken when in appropriate conditions during the flight season for the species (typically November to January) when the species is known to be flying at reference sites; and
- Surveys should be undertaken during the hottest part of the day (typically 1000 to 1400).

Growling grass frog surveys should be undertaken in accordance with the *Survey guidelines for Australia's threatened frogs: Guidelines for detecting frogs listed as threatened under the Environment Protection and Biodiversity Conservation Act 1999* (Department of the Environment, Water, Heritage and the Arts, 2010). Whereby,

- A total of two nights (two nights for two people) of targeted growling grass frog surveys should be undertaken; and,
- Surveys should commence once the temperature warms and frogs are calling at a local reference site (Werribee treatment plant), typically November to March but is weather dependent.

7. References

Department of Climate Change, Energy, the Environment and Water. (2024, October 16). Retrieved from Protected Matters Search Tool:

<https://pmst.awe.gov.au/#/map?lng=131.50634765625003&lat=-28.6905876542507&zoom=5&baseLayers=Imagery>

Department of Energy, Environment and Climate Action. (2024, October 17). *NatureKit Tool*.

Retrieved from <https://www.environment.vic.gov.au/biodiversity/naturekit>

Department of the Environment, Water, Heritage and Arts. (2009). *Significant impact guidelines for the critically endangered golden sun moth (Synemon plana). Nationally threatened species and ecological communities EPBC Act policy statement 3.12.* . Canberra: Department of the Environment, Water, Heritage and Arts.

Hammer, U. T. (1986). *Saline Lake Ecosystems of the World*. Dordrecht: .

Mark Trengrove Ecological Services. (2024). *705-765 Princes Highway, 785-805 Princes Highway, 95 Canterbury Road East, 99 Canterbury Road East and 101-145 Canterbury Road East, Lara - Vegetation Assessment and Native vegetation assessment report*. Unpublished.

QGIS.org. (2024, April). QGIS.org - Lara Maps. Lara, Victoria.

Venant Solutions. (2024). *Lara Farms Development Limeburners Bay Ramsar Wetland Impact Assessment Report*. Unpublished.

Visualising Victoria's Biodiversity. (2024, October 16). *Visualising Victoria's Biodiversity*. Retrieved July 14, 2023, from https://www.vvb.org.au/vvb_map.php