



69 Brighton Road Subdivision

Matters of National Environmental Significance

SIGNIFICANT IMPACT ASSESSMENT AND REFERRAL DECISION CONTEXT

For Dourias Group Holdings

9 December 2022

DGH001



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SUMMARY

Dourias Group Holdings (DGH) plan to rezone and subdivide a 24-hectare private property parcel at 69 Brighton Road (PID 9783275) for the development of residential lots immediately south of the township of Brighton. Stage 1 of the development includes 10.1 ha for subdivision with an additional 1.64 ha area retained as an environmental offset. The rezoning of the land is intended to be captured as part of a wider exercise undertaken by the Brighton Council in developing a masterplan for what will be known as the South Brighton Development Precinct.

As part of planning for this development, DGH commissioned environmental investigations throughout the 69 Brighton Road property. In relation to values protected under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBCA), the investigations identified the presence of a listed ecological community, one listed threatened flora species as well as potential habitat for several threatened fauna. The natural values assessment concluded there was unlikely a risk of significant impacts to any Matters of National Environmental Significance (MNES).

This report extends upon the natural values assessment with further consideration of the potential for significant impacts to all potential MNES values including vegetation communities and threatened flora/fauna species and their habitats.

Our assessment has covered all the MNES with the potential to occur within and around the proposal area and with the potential to suffer direct or indirect impacts. Based on the extent of impacts proposed at 69 Brighton Road it is seen as very unlikely that the proposal will breach any EPBCA significant impact criteria in relation to any of these values. Broadly speaking this is primarily because of the modified nature of the existing environment, the general absence or very low density of MNES, the negligible loss of potential habitats expected from the development and the retention and management of an environmental offset.

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INTRODUCTION

Project Background

A subdivision and associated development of land are proposed for the property at 69 Brighton Road, Brighton. The study area is located immediately south of the township of Brighton (Figure 1).

The study area of the entire property is approximately 24 ha in extent. The proposed footprint on the immediate first stage of the subdivision covers approximately 10.1 ha with an additional environmental offset area of approximately 1.64 ha (Figure 2). The property falls within the Tasmanian Southeast Bioregion¹ and is entirely within the municipality of the Brighton Council (Tasmanian Planning Scheme - Brighton) and is currently classified as Rural land according to the Brighton Local Provisions Schedule. Planning scheme overlays which are relevant to the property include the Natural Assets Code (Priority Vegetation Area), Bushfire-prone Areas Code, Landslip Hazard Code and the Attenuation Area (Bridgewater Quarry).

The site supports sloping hills of remnant native vegetation and agricultural land on soils derived exclusively from Jurassic Dolerite. No distinct drainage features or defined streams exist within the property. Altitude ranges from approximately 50 m a.s.l on the lower eastern parts of the property near Brighton Road and reach as high as approximately 120 m a.s.l along the property's western boundary.

Much of the study area supports previously cleared land which historically is likely to have supported dry forest, grassy woodland, and native grassland vegetation. Some farmland/paddocks display evidence of conversion to improved pasture whilst others exist as native grassland communities including derived grasslands. The property supports very few large/mature eucalypt habitat trees.

Report Aims

The current report extends upon the natural values assessment with further consideration of the potential for significant impacts to terrestrial flora and fauna specific MNES, as well as advice to the proponent on how a decision not to refer the proposal may be influenced by the recent review of the EPBCA¹.

This report is intended to provide detailed interpretive advice to the Dourias Group Holdings (DGH) on the likelihood of any potential significant impacts to MNES and whether or not a referral under the EPBCA is required, yet it does not constitute formal legal advice. Should such legal surety be required, NBES recommend seeking alternative advice.

CONSIDERATION OF NEED FOR REFERRAL

The EPBC Act is structured for self-assessment², so the proponent must determine whether the project will require referral to the federal Department of Climate Change, Energy, the Environment and Water (DCCEEW), for consideration as to whether it constitutes a controlled action, which, if confirmed, would require assessment through the Department (or an approved bilateral process with a State authority) and approval from the Commonwealth Minister.

Whether a project requires referral is contingent upon the likelihood that the project will have significant impacts on MNES, with a significant impact being an impact that is important, notable, or of consequence, having regard to its context or intensity. Whether or not an action is 'likely' to have a significant impact depends upon the sensitivity, value, and quality of the environment that will be impacted, and upon the intensity, duration, magnitude and geographic extent of the impacts. To be likely, it is not necessary for a significant impact to have a greater than 50 % chance of happening; it is

¹ Samuels (2020)

² Statements in this section referring to self-assessment guidelines and impact criteria have been taken verbatim, or paraphrased from the Matters of National Environmental Significance: Significant Impact Guidelines 1.1, Commonwealth of Australia (2013)

sufficient if a significant impact on the environment is a real or not remote chance or possibility. If there is scientific uncertainty about the impacts of an action and potential impacts are serious or irreversible, the precautionary principle is applicable. Accordingly, a lack of scientific certainty about the potential impacts of an action will not itself justify a decision that the action is not likely to have a significant impact on the environment.

Subsequently, to decide whether or not to refer an action, a proponent must consider the following:

1. Are there any matters of national environmental significance located in the area of the proposed action (noting that 'the area of the proposed action' is broader than the immediate location where the action is undertaken; consider also whether there are any matters of national environmental significance adjacent to or downstream from the immediate location that may potentially be impacted)?
2. Considering the proposed action at its broadest scope (that is, considering all stages and components of the action, and all related activities and infrastructure), is there potential for impacts, including indirect impacts, on matters of national environmental significance?
3. Are there any proposed measures to avoid or reduce impacts on matters of national environmental significance (and if so, is the effectiveness of these measures certain enough to reduce the level of impact below the 'significant impact' threshold)?
4. Are any impacts of the proposed action on matters of national environmental significance likely to be significant impacts (important, notable, or of consequence, having regard to their context or intensity)?

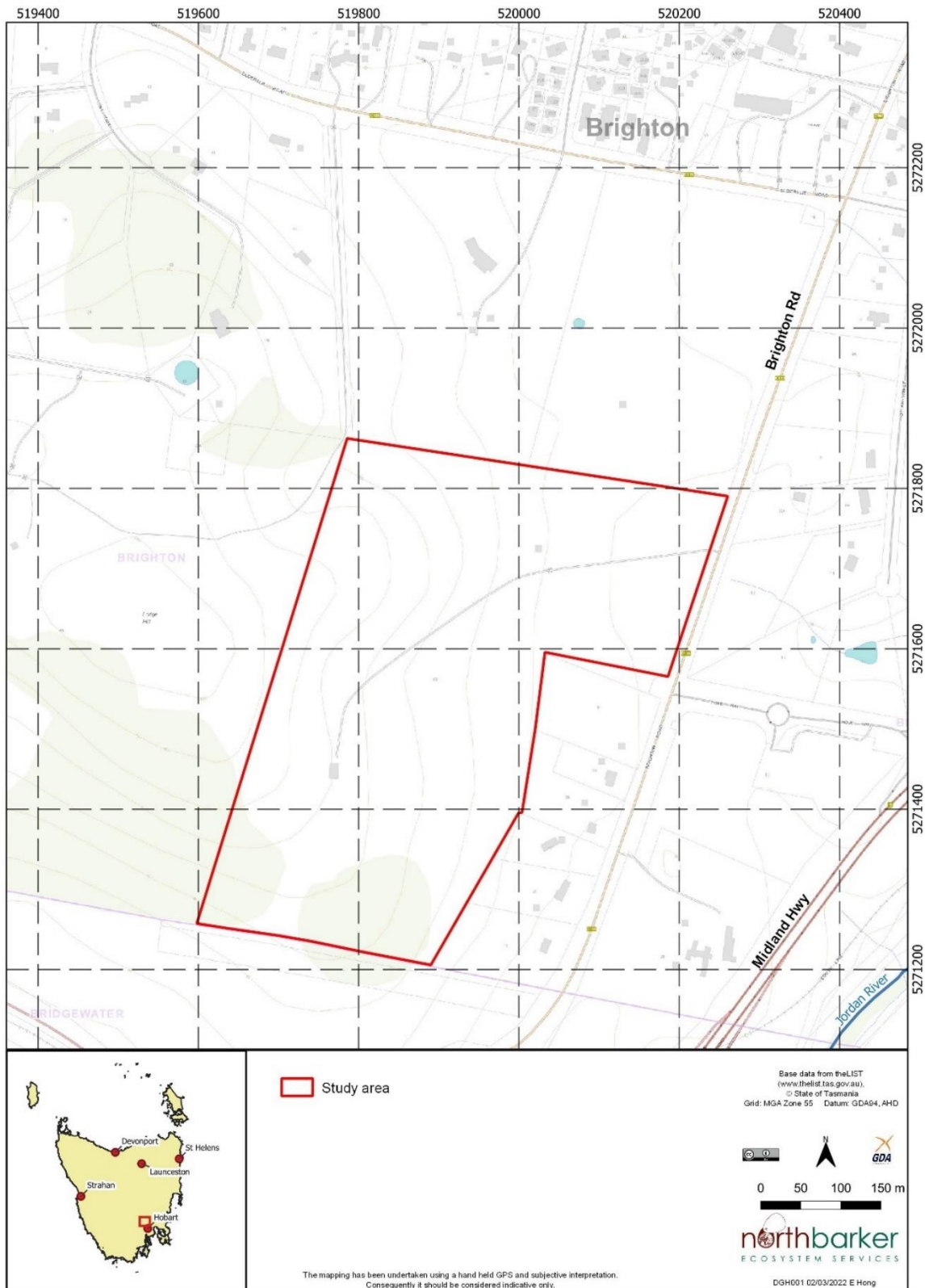


Figure 1: Location of study area (PID 9783275 - 69 Brighton Road)

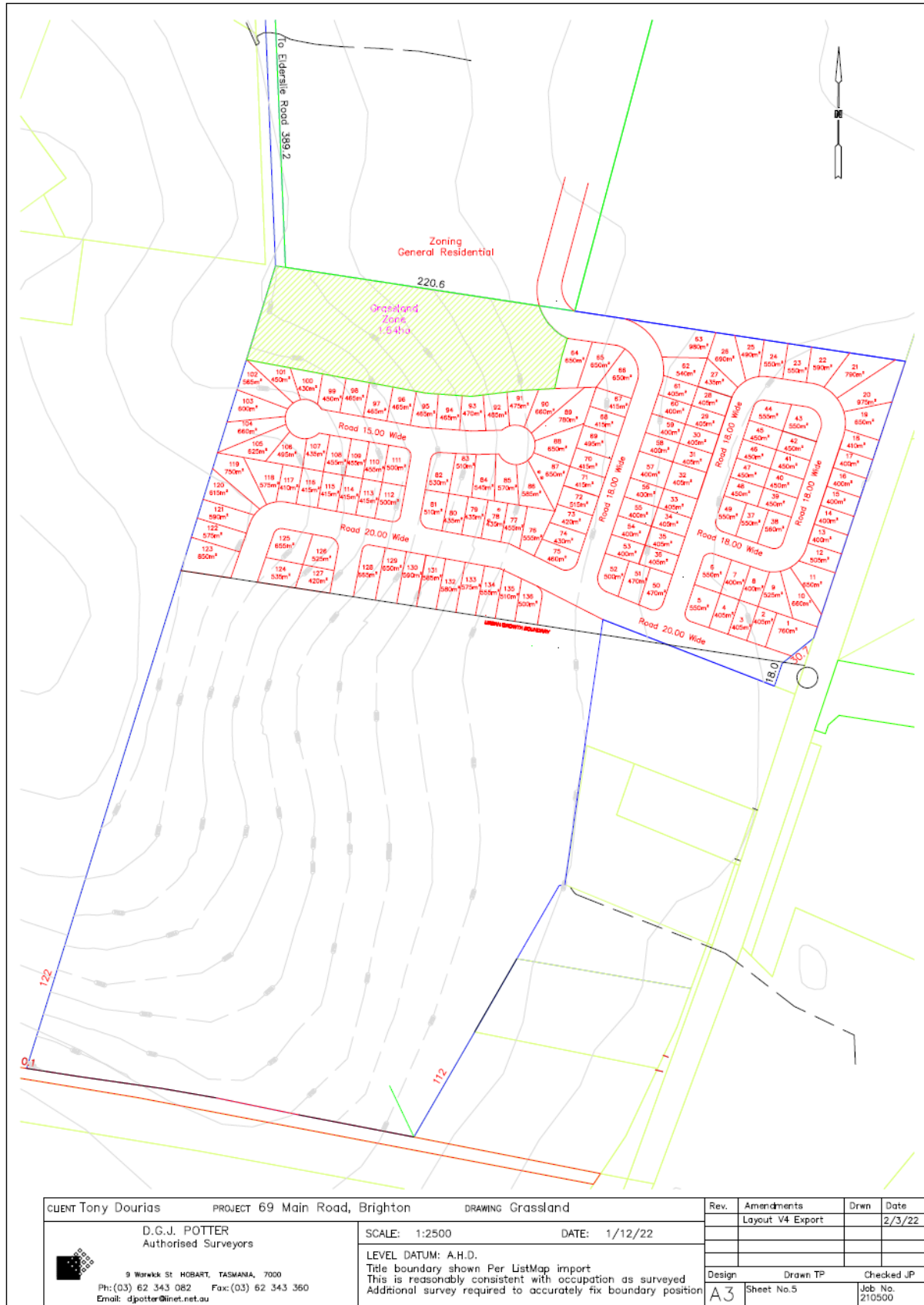


Figure 2: Proposed Stage 1 subdivision layout at 69 Brighton Road.

MNES IN RELATION TO THE PROJECT AREA

Consideration of MNES within and around the project area is based on search results from the Protected Matters Search Tool (PMST)³ (Appendix A) and the results of the natural values assessment⁴, which provides field verification of the PMST results. Each of the natural values listed within the PMST are addressed within Appendix B with respect to the potential for significant impacts, however values considered to have greater likelihood of occurring within the project area (and thus greater likelihood of interacting with the proposal) are considered in more detail in the body of the text.

Listed Threatened Ecological Communities

The PMST report identifies three listed threatened ecological communities as likely to occur within the area (Appendix A):

- Lowland native grasslands of Tasmania
- Tasmanian forests and woodlands dominated by black gum or Brookers gum (*Eucalyptus ovata*/*E. brookeriana*)
- Tasmanian white gum (*Eucalyptus viminalis*) wet forest

Lowland native grasslands is the only community identified as being present based on field surveys.

Listed Threatened and Migratory Fauna

The PMST tool (Appendix A) predicts the potential occurrence of 37 fauna listed as threatened and/or migratory, with 29 specifically listed as migratory; 16 fauna species are also listed in the PMST under marine listing, within 5km of the project area. The predicted types of presence for listed fauna include 'species or species habitat likely to occur within area', 'foraging, feeding or related behaviour likely to occur within area', 'breeding known to occur within area', 'species or species habitat may occur within area', and 'species or species habitat likely to occur within area'.

Each of the predicted fauna species are addressed in Appendix B, with distribution maps for context in appendices C-F. The three fauna nonetheless presented for more detailed analysis are:

- *Dasyurus viverrinus*, eastern quoll (Endangered)
- *Perameles gunnii gunnii*, eastern barred bandicoot (Vulnerable)
- *Sarcophilus harrisii*, Tasmanian devil (Endangered)

Listed Threatened Flora

The PMST report identifies 16 listed threatened flora species as likely to occur within the area (Appendix A).

Dianella amoena (matted flax-lily) is the only MNES flora species that was identified during field assessments.

Assessment of Potential for Significant Impacts – Selected Fauna

Direct impacts considered in the current assessment includes approximately 10.1 ha of the 69 Brighton Road property (which is 24 hectares in total). This impact area defines the maximum possible extent of impacts from this stage of the project, with the knowledge that actual impacts may be less than that. Indirect impacts can vary with the species and the environment and are thus considered on a case-by-case basis.

³ Department of Agriculture, Water and the Environment (2021). Protected Matters Search Tool Report (9 Nov 2022)

⁴ North Barker Ecosystem Services (2021)

Some definitions and terminology used in significant impact assessments are presented in Appendix G.

Threatened Ecological Communities

Lowland Native Grasslands of Tasmania (Critically Endangered)

Community background

Lowland Native Grasslands of Tasmania (LNGT) is a type of temperate grassland that is listed as critically endangered under the EPBCA. Native grassland communities are those characterised by a dominance of native grasses with very few emergent woody species. In the case of LNGT the dominant grass species include either kangaroo grass (*Themeda triandra*) or silver tussock grass (*Poa sp.*) and typically support an extremely high diversity of other plant species including herbs, lilies, daisies and orchids.

LNGT occurs at elevations up to 600 m above sea level and is found mostly in the Tasmanian Midlands, Derwent Valley, east coast and southeast Tasmania where grows in low rainfall areas on deep fertile soils. Typical substrates known to support this vegetation community include basalt, dolerite, deep sands and alluvial deposits.

LNGT is considered as one of Tasmania's most threatened and fragmented ecosystems and the most depleted vegetation community within in excess of 80% of the community in Tasmania having been lost since European settlement through agricultural land clearing and other development.

Site occurrence

Lowland Native Grasslands at 69 Brighton Road exist as remnants of a vegetation community which may have previously been more extensive. It occurs with a diffuse boundary with nearby woodland vegetation communities and is in places being progressively invaded by native woody species in prickly box (*Bursaria spinosa*) and drooping shoe-oak (*Allocasuarina verticillata*). The area of LNGT on the property equates to approximately 1.02 ha (three patches 0.60, 0.17 and 0.25 ha in size) and is connected by patches of NBA and NAV woodland where the cover of woody species is marginally in excess of 30% cover. If a micro-scale mapping approach was taken then it may be possible to define very small LNGT units approximately +/- 250 m² within the NBA and NVA patches, however this approach is not considered practical in this case and does not reflect the existing or future ecological condition of these patches under natural processes (ie these areas will become increasingly dominated by woody species).

Potential impacts

Approximately 0.56 ha of LNGT is proposed to be directly impacted by the subdivision development. In the landscape surrounding 69 Brighton Road within the Brighton Municipality (ie within 5 km) there are hundreds of hectares of mapped GTL and GPL vegetation units according to TASVEG 4.0 (Appendix C, pg 96). Not all this vegetation would qualify as the listed ecological community however based on NBES knowledge of these surrounding grasslands a large proportion of these are likely to be LNGT.

The potential impact of removing LNGT from the 69 Brighton Road study area is thus seen as a very minor loss of LNGT from the broader area, particularly in the context of this vegetation in the wider municipal area and the local habitat protection which will be achieved by retention of a habitat offset area (approximately 1.64 ha), including a proposal by the proponent to restore native grassland values by removing native woody species from an area of approximately 1.46 ha of NBA and NAV (previously GTL) which has been colonised by prickly box and drooping she-oak. The overall outcome of this proposal will see the restoration of a greater area of LNGT than is currently present and would otherwise all be lost through natural woody species succession on the site.

With consideration of the proposal and the significant impact criteria (Table 1), there is not considered to be any risk of the proposal resulting in significant impacts to this community and thus the project does not warrant referral in relation to this matter.

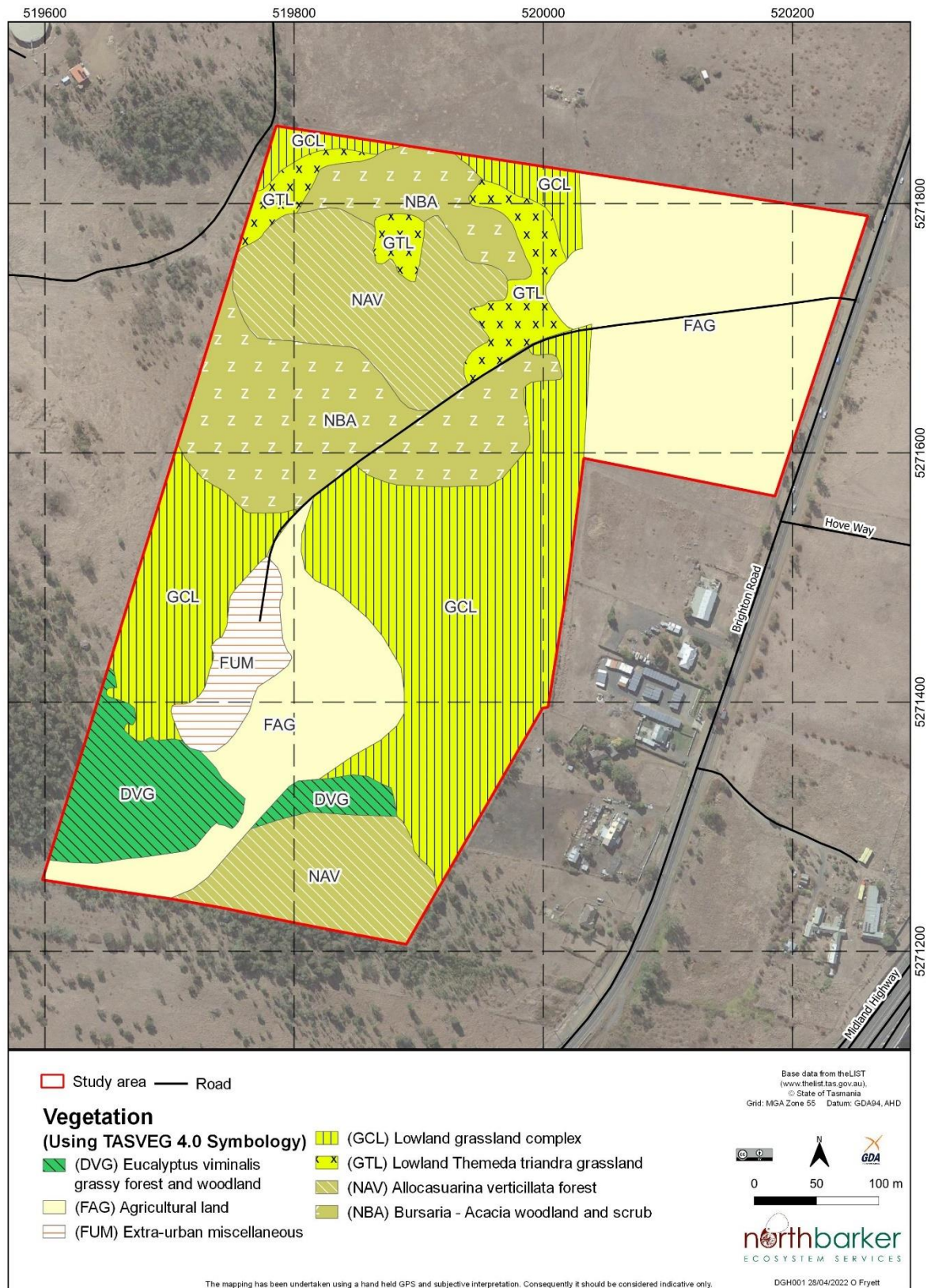


Figure 3: distribution of Lowland Native Grasslands of Tasmania (areas denoted as GTL – Lowland *Themeda triandra* grassland).

Table 1: Significant impact criteria with regards to Lowland Native Grasslands of Tasmania

Significant Impact Criteria ⁵	Likelihood	Comments
1. reduce the extent of an ecological community	Nil	The extent of LNGT at the local and broader scales will not decline as a result of this proposal and overall there will be a net gain in the area of LNGT on the property. Significant examples of LNGT occur in the Brighton area including Rifle Range Road, the "Horses Head", Lodge Hill and the Jordan River, the extent of which will remain entirely unaffected by this development.
2. fragment or increase fragmentation of an ecological community, for example by clearing vegetation for roads or transmission lines	Nil	The existing extent of the LNGT community displays considerable fragmentation between representative patches of this vegetation type. Causes of this fragmentation include both natural changes in floristic communities resulting from changes in underlying topographic and substrate conditions along with human influences including residential, commercial and highway/road developments. The proposed development of 69 Brighton Road will not result in any additional fragmentation to this ecological community beyond what is in existence currently.
3. adversely affect habitat critical to the survival of an ecological community	Nil	The small area of LNGT to be removed (0.56 ha) cannot be considered critical to the survival of this community in the context of local, more substantial occurrences of this vegetation type. Longer-term persistence of LNGT on the property will be enhanced through the management of native woody species. No effects to habitat critical to the survival of LNGT area anticipated.
4. modify or destroy abiotic (non-living) factors (such as water, nutrients, or soil) necessary for an ecological community's survival, including reduction of groundwater levels, or substantial alteration of surface water drainage patterns	Nil	As per Criteria 3 it has been established that the area of LNGT to be affected is unlikely to be habitat critical to the long-term survival of the ecological community. Additionally, there are no anticipated impacts to abiotic factors which will influence the remaining extant and restored areas of LNGT on the property. The surrounding subdivision development should not result in any direct or indirect changes to soil, water or nutrient cycles adjacent or within the ecological community as the area is upslope or outside of

⁵ Matters of National Environmental Significance: Significant Impact Guidelines 1.1, Commonwealth of Australia (2013)

		the groundwater catchment of the development area.
5. cause a substantial change in the species composition of an occurrence of an ecological community, including causing a decline or loss of functionally important species, for example through regular burning or flora or fauna harvesting	Nil	No direct or indirect influences from the subdivision development will result in impacts to species within the ecological community. Woody species removal will be undertaken to improve long-term conservation outcomes for the community in the immediate area.
6. cause a substantial reduction in the quality or integrity of an occurrence of an ecological community, including, but not limited to: – assisting invasive species, that are harmful to the listed ecological community, to become established, or – causing regular mobilisation of fertilisers, herbicides or other chemicals or pollutants into the ecological community which kill or inhibit the growth of species in the ecological community, or	Nil	The quality of the ecological community on 69 Brighton Road has the potential to be influenced by invasive species, particularly through the introduction and/or spread of weedy flora species. Such impacts should however be mitigated through machinery/hygiene management requirements for the subdivision to the point where weeds should not result in any significant influence on the LNGT. No other secondary influences from subdivision of the land including use of fertilisers, pollutants or herbicides are anticipated.
7. interfere with the recovery of an ecological community.	Nil	No specific recovery plan for this ecological community has been identified however priority management actions are listed in the conservation advice ⁶ Management of appropriate fire regimes is a key outcome for reducing woody species cover and maintaining species diversity. This outcome will be effectively achieved on site by mechanical woody species removal. No other actions resulting from the subdivision are likely to result in interference with the recovery of this ecological community.

⁶ Department of the Environment (2009). Approved Conservation Advice of Lowland Native Grasslands of Tasmania

Listed Threatened Fauna

Dasyurus viverrinus, eastern quoll (Endangered)

Species background

The eastern quoll is a medium-sized marsupial carnivore listed under the EPBCA as Endangered but not currently listed as threatened in Tasmania. Eastern quolls are widespread in Tasmania but recorded less frequently in the wettest third of the State (Figure 4). They are considered extinct on the mainland of Australia with the last wild sighting being in 1963 (though some reintroductions have since been undertaken).

Home ranges for this species are upwards of 35 to 44 ha (females and males respectively), with an extensive amount of overlap between individuals. Suitable habitat includes dry grasslands and forest mosaics, including adjacent agricultural lands.

No recovery plan has been developed for this species. As an endangered species, all populations are seen as important, although some areas might be considered as the primary strongholds for the species (e.g. Cradoc and North Bruny island⁷).

Threats for this species include habitat loss, modification and fragmentation, climate change, predation by feral animals (cats, dogs, foxes), disease, poison baiting, and road mortality⁸.

Site occurrence

The study area supports approximately 24 ha of potential foraging habitat for this species in the form of open grasslands, farmlands and grassy woodlands, however denning habitat features such as large rocks, logs or burrows are particularly sparse throughout the property (effectively absent). According to the Natural Values Atlas there have been 3 observations of the species recorded within 5 km of the site with the most recent observation being in 2018. This is a surprisingly low number of observations of this species and may be reflective of its natural low-density occurrence in the Brighton area. Overall, the study area is unlikely to support important breeding habitat for this species.

Potential impacts

Approximately 10.1 ha of potential habitat is proposed for direct impact. Hundreds of hectares of equally suitable (or better) habitat for this species is present in the Brighton municipality, with areas of habitat mosaics becoming more suitable away from the project area as human occupation decreases⁹. The potential impact of removing habitat from the 69 Brighton Road study area is thus seen as a very minor loss of potential habitat from the broader area, particularly in the context of local habitat protection which will be achieved by retention of a habitat offset area (approximately 1.64 ha) and areas which will by default remain undeveloped on the property for various reasons. It is unlikely such a small loss in a marginal periurban area could impact the carrying capacity of a broader population of this species.

With consideration of the proposal, the likelihood of the species occurring in the area (consideration of range, habitat, and past observations), and the significant impact criteria (Table 2), there is not considered to be any risk of the proposal resulting in significant impacts to this species and thus the project does not warrant referral in relation to this matter.

⁷ Fancourt *et al.* (2013)

⁸ Woinarski *et al.* (2014)

⁹ Daniels and Kirkpatrick (2012)

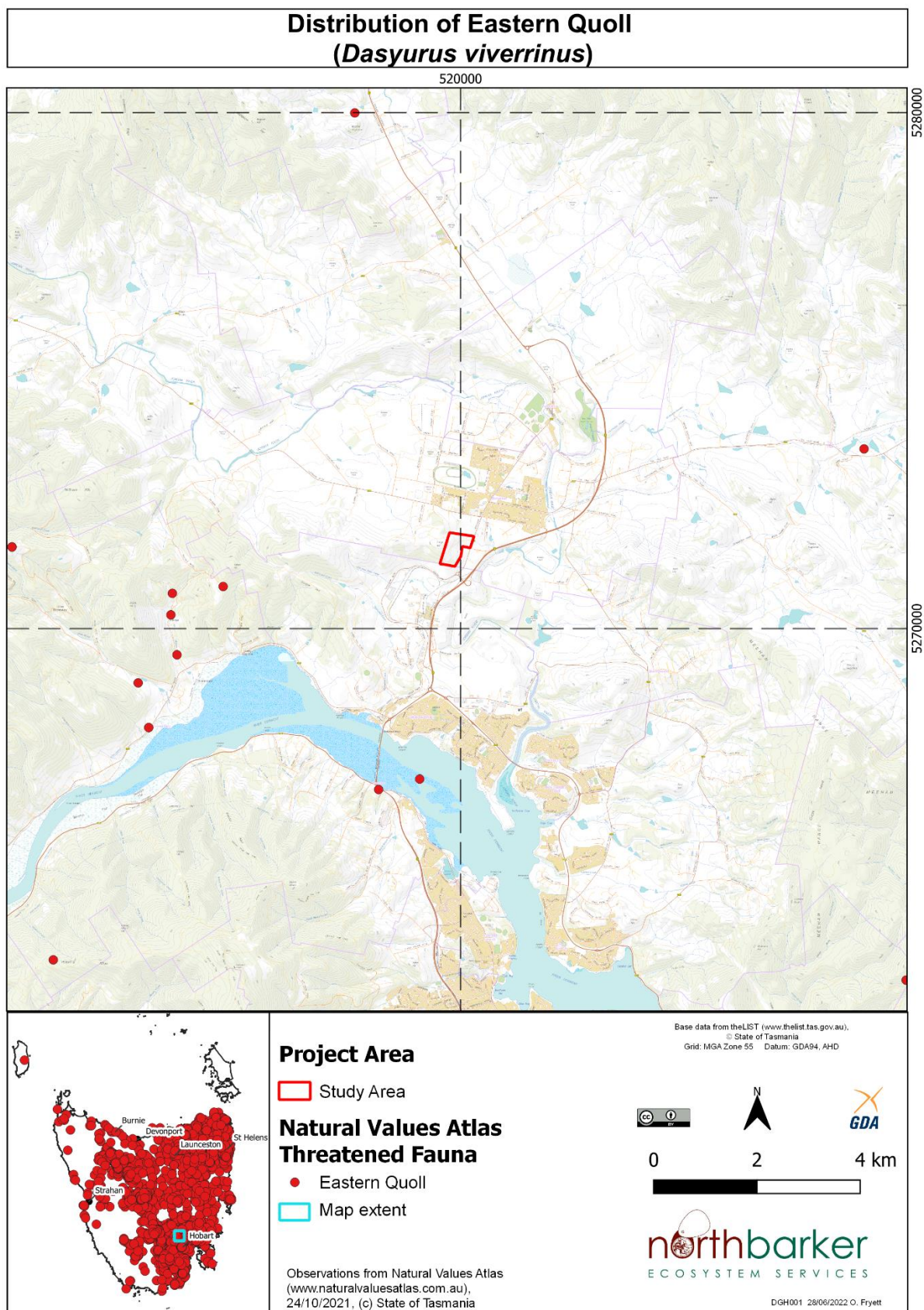


Figure 4: the Eastern Quoll and their statewide context

Table 2: Significant impact criteria with regards to eastern quoll

Significant Impact Criteria ¹⁰	Likelihood	Comments
1. Lead to a long-term decrease in the size of a population	Nil	The small loss of marginal potential habitat within an area unlikely to support resident individuals is unlikely to result in a decrease to any local population, particularly in the context of the abundance of equivalent or better habitat in the broader landscape (< 1 % expected loss of potential habitat), which can be expected to have some spare capacity given that species with broad ecological niches are unlikely to have full saturation of use of available habitat within their range due to various factors.
2. Reduce the area of occupancy of the species	Nil	<p>The small loss of marginal potential habitat within an area unlikely to support resident individuals is unlikely to result in any meaningful decrease in the area of occupancy of any local population, particularly in the context of the abundance of equivalent or better habitat in the broader landscape which can be expected to have some spare capacity given that species with broad ecological niches are unlikely to have full saturation of use of all available habitat within their range due to various factors.</p> <p>A loss of up to 10.1 ha of habitat can be expected to constitute less than a third of the potential range of 1-2 individuals (assuming landscape saturation which is unlikely) and this will have effectively no impact on the population level area of occupancy.</p>
3. Fragment an existing population into two or more populations	Nil	Habitat within project area already consists of fragments and remaining remnants are further perforated by low density residential use. Proposal will not have any meaningful fragmentation effect on the Eastern Quoll being highly mobile and adaptable species.
4. Adversely affect habitat critical to the survival of a species	Nil	Habitat within the project area cannot be considered critical for the survival of the species given the location, the history of landuse, the existing fragmentation and the absence of denning opportunities found within the footprint.

¹⁰ Matters of National Environmental Significance: Significant Impact Guidelines 1.1, Commonwealth of Australia (2013)

5. Disrupt the breeding cycle of a population	Nil	Given that denning is highly unlikely in the area and the site is only marginally suitable for any use, it is not conceivable the proposal will disrupt the breeding cycle of any local population.
6. Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	Nil	Potential impacts considered unlikely to be measurable even at a local population level, let alone the species as a whole.
7. Result in invasive species that are harmful to the species becoming established in the species' habitat	Nil	<p>Invasive species that are harmful to the species include cats, dogs, and foxes. Cats are ubiquitous throughout Tasmania, dogs are abundant in periurban areas, and foxes are currently thought to be absent from the State. The proposed project is thus unlikely to result in the increase or introduction of these species.</p> <p>The habitat of quolls may be susceptible to weed invasion but weed and hygiene recommendations within the NVA are considered to be sufficient for limiting this likelihood.</p>
8. Introduce disease that may cause the species to decline	Nil	Disease is listed as a potentially severe threat to the species ¹¹ . However, the project is unlikely to encourage the spread of disease through either: introduction of new diseases or spread of infected individuals, to the local population.
9. Interfere with the recovery of the species	Nil	The key recommendations for the recovery of this species surround the mitigation of predation/competition by introduced predators (e.g. cats and foxes). The proposed project will not interfere with these actions and is unlikely to increase the number of introduced predators in the local area as specified above in response to invasive species.

¹¹ Woinarski *et al.* (2014)

Perameles gunnii, eastern barred bandicoot (Vulnerable)

Species background

The Eastern Barred Bandicoot is listed as Vulnerable under the EPBCA but is not currently listed as threatened in Tasmania. It is extinct in the wild on mainland Australia, while the Tasmanian population has undergone marked population shifts in response to human landuse changes, with population decreases in some areas and increases in others¹². Observation records are now concentrated within the southeast and north of the State, compared to the Midlands (Figure). Important populations in Tasmania have yet to be formally identified¹³ but based on the distribution of modern observations and the finding that they are more frequent in intermediately modified areas with low density residential use than they are in natural bushland¹⁴, important populations would probably be those of periurban and semi-rural areas in the southeast, plus any relict populations in the pre-European stronghold of the Midlands.

Home ranges in Tasmania vary from 2–4 ha¹⁵, wherein they inhabit areas with complex native/ non-native ground cover that provides shelter, nest sites, and food - including grasslands and woodlands with grassy understories.

The main threats for this species include clearing and modification of habitat (in particular loss of complex ground cover and grasses), predation from introduced predators (cats and dogs), and infection from the contagious parasite *Toxoplasma* that is spread by cats¹⁶. The absence of foxes in Tasmania compared to mainland Australia would appear to be a contributing factor in the different conservation status.

Site occurrence

This species is distributed widely in the north and eastern parts of the State and prefers habitats which include a mosaic of elements including grasslands, pastures and native forest remnants. The Natural Values Atlas documents 29 records of the species within 5 km of the study area and there is a high likelihood that the site supports populations of the species, with both foraging and suitable shelter and breeding habitat available (including native vegetation as well as weeds such as blackberry and gorse bushes).

Potential impacts

The potential loss of native habitat in an area of thousands of hectares of equivalent suitable habitat cannot be seen as a meaningful loss when there is no reason to suspect the habitat within the study area contains a limited or particularly critical resource. A development of this scale and nature, when considered in isolation from any other current or future developments, thus has minimal likelihood of resulting in significant impacts upon the eastern barred bandicoot population due to habitat loss.

With consideration of the proposal, the likelihood of the species occurring in the area (consideration of range, habitat, and past observations), and the significant impact criteria (Table 3), there is not considered to be any risk of the proposal resulting in significant impacts to this species and thus the project does not warrant referral in relation to this matter.

¹² Hocking (1990)

¹³ Department of the Environment (2020) *Perameles gunnii gunnii* in Species Profile and Threats Database

¹⁴ Daniels (2011)

¹⁵ Mallick *et al.* (2001)

¹⁶ Obendorf and Munday (1990); Department of Environment (2020) *Perameles gunnii gunnii* in Species Profile and Threats Database

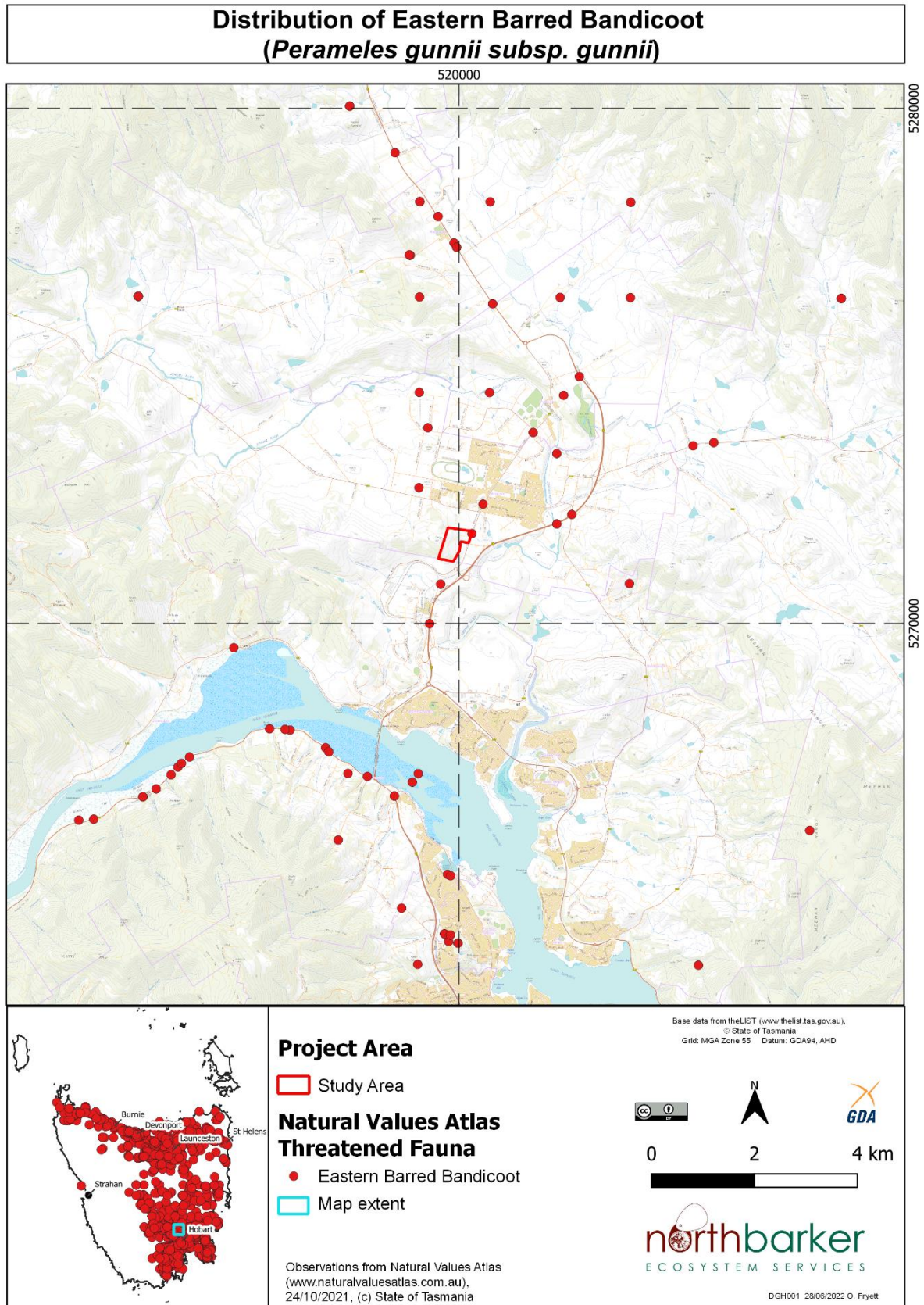


Figure 5: 69 Brighton Road property (study area) in relation to known observations of the eastern barred bandicoot and their statewide context

Table 3: Significant impact criteria with regards to eastern barred bandicoot

Significant Impact Criteria ¹⁷	Likelihood	Comments
1. Lead to a long-term decrease in the size of an important population	Nil	The small loss of habitat within the context of the abundance of equivalent habitat in the broader landscape (thousands of hectares present, such that the potential loss is < 1 % loss of potential habitat), has no likelihood of resulting in a long-term decrease of the local population as there is no reason to suspect the small area of habitat within the project footprint contains a limited or particularly critical resource for the local population. Eastern barred bandicoots do not have full saturation of occurrence across suitable habitats within a population, with various fine-scale factors influencing local distribution, with ostensibly ideal areas of habitat not always occupied due to chance, land management, and/or past events ¹⁸ . It can thus be expected that within the thousands of hectares of suitable bandicoot habitat around the project area (included retained patches and undeveloped areas on 69 Brighton Road), there will be some spare capacity to compensate for any individuals that could be evicted from the local area due to clearance within the footprint.
2. Reduce the area of occupancy of an important population of the species	Nil	Given that thousands of hectares of equivalent suitable habitat are present in the local area, the fact that bandicoots do not have perfect occupation of suitable habitat ¹⁹ , and the fact that conversion to modified land will not preclude the bandicoots from occurring at a site ²⁰ , it is not conceivable that the proposal will result in a decrease in the area of occupancy of the local population of the species. It may at worst result in the shifts in the ranges of some individuals, which is likely to be a regular occurrence in periurban areas in the normal course of events due to the numerous influential stressors and demographic pressures in such environments ²¹ .

¹⁷ Matters of National Environmental Significance: Significant Impact Guidelines 1.1, Commonwealth of Australia (2013)

¹⁸ Daniels (2011)

¹⁹ Daniels (2011)

²⁰ Daniels (2011)

²¹ Daniels (2011)

3. Fragment an existing important population into two or more populations	Nil	The subdivision and development of 69 Brighton Road will not create any impermeable barriers that prevent bandicoot dispersal throughout the landscape and as such will not result in any further fragmentation of habitat or restriction of bandicoot movement between subpopulations.
4. Adversely affect habitat critical to the survival of a species	Nil	There is no reason to suspect the small area of habitat within the project footprint contains a limited or particularly critical resource for the local population such that it may be critical to their survival. Given that thousands of hectares of equivalent suitable habitat are present in the local area, the fact that bandicoots do not have perfect occupation of suitable habitat ²² , and the fact that conversion of the land in question will not preclude the bandicoots from occurring at a site ²³ , it is not conceivable that the proposal will result in the loss of the local population.
5. Disrupt the breeding cycle of an important population	Nil	Bandicoots are prolific breeders that build ephemeral grassy nests and can have multiple litters per year, not necessarily using the same natal location within a season (G. Daniels pers. obs.). This life strategy is thought to be one of the primary reasons they are successful in periurban locations ²⁴ . Given the local population is not considered to be at risk from the proposal and that conditions for breeding will still be suitable, it is not conceivable the proposal will breach this criterion.
6. Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	Nil	Potential impacts considered unlikely to be measurable even at a local population level, let alone the species as a whole.
7. Result in invasive species that are harmful to the species becoming established in the species' habitat	Nil	Invasive species that are harmful to the species include cats, dogs, and foxes ²⁵ . Cats are ubiquitous throughout Tasmania, dogs are abundant in periurban areas, and foxes are currently thought to be absent from the State. The proposed project is thus unlikely to

²² Daniels (2011)

²³ Daniels (2011)

²⁴ Daniels (2011)

²⁵ Department of Sustainability and Environment (2009)

		<p>result in the increase or introduction of these species.</p> <p>Toxoplasmosis can be expected to be present in the area already, due to the ubiquity of feral and free-ranging domestic cats as vectors²⁶. It is not conceivable that the proposal will increase virility or transmission of the disease.</p> <p>The habitat of bandicoots may be susceptible to weed invasion (although conversely, they can also use certain weeds as shelter and nest sites) but weed and hygiene recommendations within the NVA are considered to be sufficient for limiting the likelihood of this being a detrimental impact.</p>
8. Introduce disease that may cause the species to decline	Nil	<p>Toxoplasmosis can be expected to be present in the area already, due to the ubiquity of feral and free-ranging domestic cats as vectors²⁷. It is not conceivable that the proposal will increase virility or transmission of the disease.</p>
9. Interfere with the recovery of the species	Nil	<p>Habitat loss/ degradation, predation, and <i>Toxoplasma</i> are considered the main drivers for declines²⁸, none of which are considered a risk of meaningfully increasing as a result of this proposal in a way that might interfere with the recovery of the species. Noting that as the species is not listed at the state level in Tasmania its status here may be effectively redundant in discussion of a national recovery.</p>

²⁶ Obendorf and Munday (1990); Department of the Environment (2020) *Perameles gunnii gunnii* in Species Profile and Threats Database

²⁷ Obendorf and Munday (1990); Department of the Environment (2020) *Perameles gunnii gunnii* in Species Profile and Threats Database

²⁸ Department of Sustainability and Environment (2009)

Sarcophilus harrisii, Tasmanian devil (Endangered)

Species background

The Tasmanian devil is listed under the EPBCA as Endangered, with the listing being a response to widespread rapid declines that occurred with the emergence of the infectious cancer, Devil Facial Tumour Disease (DFTD)²⁹. In addition to DFTD, habitat loss/ modification, road mortality, persecution, and the potential competition/ predation by introduced foxes are potential threatening processes³⁰.

Home ranges vary but are estimated to be on average 1300 ha. Devils utilise all habitats across the State (Figure 6), particularly those with a mosaic of open and forested land.

Site occurrence

There are 14 records of Tasmanian Devil documented within 5 km of the study area including roadside observations and roadkill records along the Midland Highway, Elderslie Road and Boyer Road. The study area supports largely foraging habitat for this species with an absence of suitable habitat features for denning such as boulders, logs and burrowable embankments. Overall, the study area is not considered important habitat for the Tasmanian Devil.

Potential impacts

Hundreds of hectares of equally suitable (or better) habitat for this species is present in the local area, with areas of mosaic habitats becoming more suitable away from the project area as human occupation decreases³¹. The potential impact of the removal of fragments of potential habitat within the study area is thus seen as very minor loss of potential habitat from the broader area. It is unlikely such a small loss in a marginal periurban area could impact the carrying capacity of a broader population.

With consideration of the proposal, the likelihood of the species occurring in the area (consideration of range, habitat, and past observations), and the significant impact criteria (Table 4), there is not considered to be any risk of the proposal resulting in significant impacts to this species and thus the project does not warrant referral in relation to this matter.

²⁹ Hawkins, *et al.* (2006)

³⁰ Department of the Environment (2020) *Sarcophilus harrisii* in Species Profile and Threats Database

³¹ Daniels and Kirkpatrick (2012)

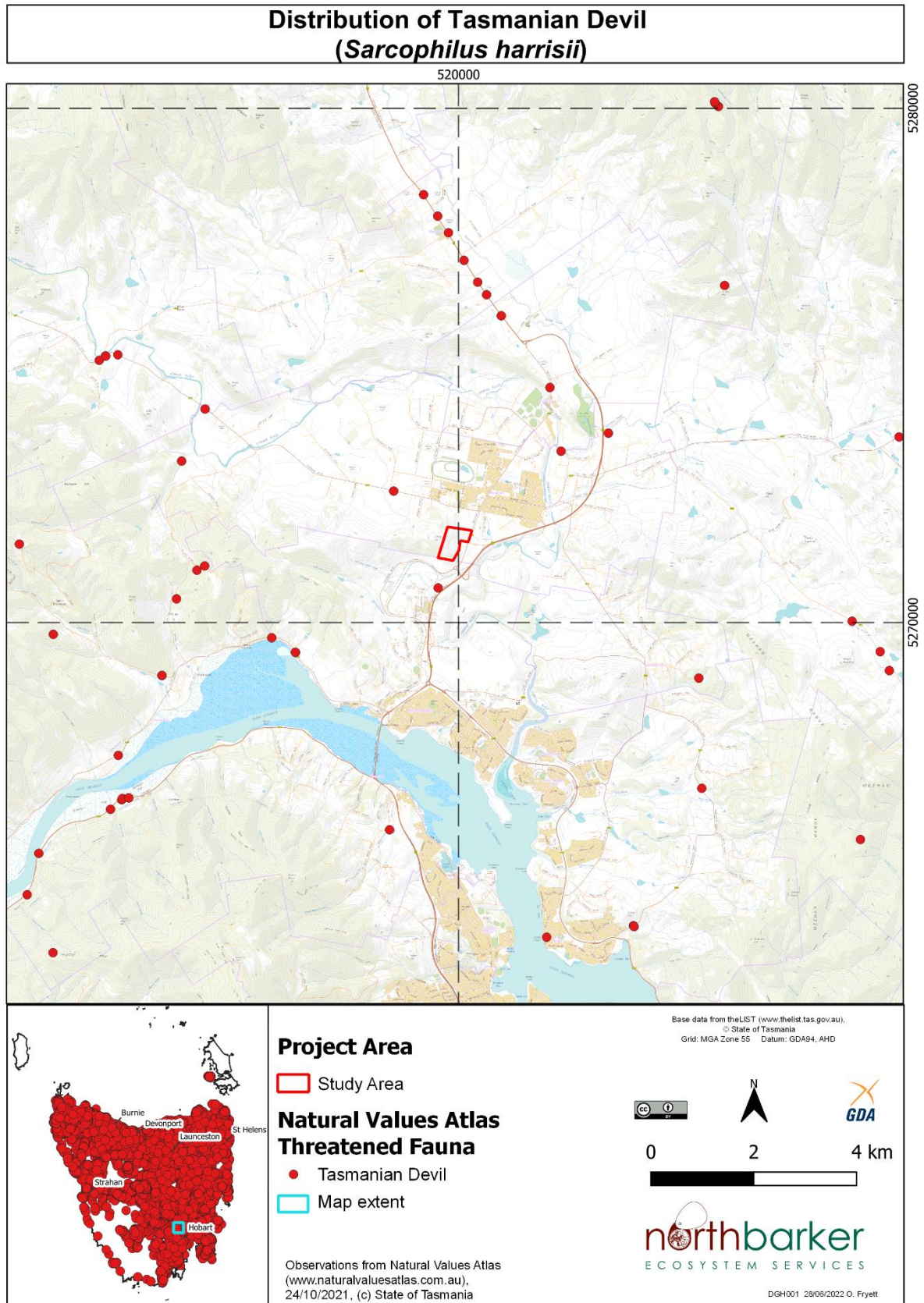


Figure 6: project area in relation to known observations of the Tasmanian devil and their statewide context

Table 4: Significant impact criteria with regards to Tasmanian devil

Significant Impact Criteria ³²	Likelihood	Comments
8. Lead to a long-term decrease in the size of a population	Nil	The small loss of marginal potential habitat within an area unlikely to support resident individuals is unlikely to result in a decrease to any local population, particularly in the context of the abundance of equivalent or better habitat in the broader landscape (< 1 % expected loss of potential habitat), which can be expected to have some spare capacity given that species with broad ecological niches are unlikely to have full saturation of use of available habitat within their range due to various factors.
9. Reduce the area of occupancy of the species	Nil	<p>The small loss of marginal potential habitat within an area unlikely to support resident individuals is unlikely to result in any meaningful decrease in the area of occupancy of any local population, particularly in the context of the abundance of equivalent or better habitat in the broader landscape which can be expected to have some spare capacity given that species with broad ecological niches are unlikely to have full saturation of use of all available habitat within their range due to various factors.</p> <p>A loss of native habitat within the study area can be expected to constitute less than 1 % of the potential range of numerous individuals but have effectively no impact on the population level area of occupancy.</p>
10. Fragment an existing population into two or more populations	Nil	The subdivision and development of 69 Brighton Road will not create any impermeable barriers that prevent devil dispersal throughout the landscape and as such will not result in any further fragmentation of habitat or restriction of natural devil movement.
11. Adversely affect habitat critical to the survival of a species	Nil	Habitat within the project area cannot be considered critical for the survival of the species given the location and the absence of denning opportunities found within the footprint.

³² Matters of National Environmental Significance: Significant Impact Guidelines 1.1, Commonwealth of Australia (2013)

12. Disrupt the breeding cycle of a population	Nil	Given that denning is highly unlikely in the area and the site is only marginally suitable for any use, it is not conceivable the proposal will disrupt the breeding cycle of any local population.
13. Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	Nil	Potential impacts considered unlikely to be measurable even at a local population level, let alone the species as a whole.
14. Result in invasive species that are harmful to the species becoming established in the species' habitat	Nil	<p>The only invasive species listed as potentially harmful to the species is the red fox³³ which is currently thought to be absent from Tasmania. The proposed project is unlikely to result in the introduction of this species.</p> <p>The habitat of devils may be susceptible to weed invasion but weed and hygiene recommendations within the NVA are considered to be sufficient for limiting this likelihood.</p>
15. Introduce disease that may cause the species to decline	Nil	Disease is listed as a severe threat to the species due to DFTD ³⁴ . The project area is within the known range of DFTD and is unlikely to have any influence on its virility or dispersal.
16. Interfere with the recovery of the species	Nil	Recovery of this species centres around the management of DFTD, the biosecurity insurance populations, and development of a vaccine ³⁵ . The proposed project is not considered to pose any interference to the abatement of these threats and recovery of the species.

³³ Department of the Environment (2020) *Sarcophilus harrisii* in Species Profile and Threats Database

³⁴ Hawkins *et al.* (2006)

³⁵ Department of the Environment (2020) *Sarcophilus harrisii* in Species Profile and Threats Database

Listed Threatened Flora

The PMST tool predicts 16 threatened flora species (or their habitat) as likely, possible (may), or known to occur in the area. The natural values assessment however only recorded one of these species in the project area (*Dianella amoena*) with the remaining species considered to have a low likelihood (9), very low likelihood (3) or nil likelihood of being present on the site.

The ratings of low, very low and nil likelihood were largely given on the basis of relatively nearby records of the respective species, but also habitat and/or landuse within the project area was deemed to be largely incompatible with their potential occurrence and/or the species were considered highly unlikely to have been overlooked. In the unlikely event of one of these MNES having been overlooked in the project area, an overlooked occurrence and the subsequent risks from the proposal are not considered to be likely to trigger significant impact criteria, on the basis that the risk is so low and the overlooked plants could only possibly be minor in extent and abundance without having already been recorded. The majority of the flora MNES species predicted by the PMST have no likelihood of occurring within or around the project area, or might occur in the area so infrequently and/or in such a manner that there is not considered to be any likelihood of significant impacts (Appendix B).

Dianella amoena, grassland flax-lily (Endangered)

Species background

Dianella amoena is a perennial, tufted, mat-forming lily. Plants are rhizomatous and can form loose clumps up to 5 m wide. Rhizomes are yellow and slender (4 mm wide), with shoots arising every 10–30 cm. Leaves are grey-green, dull crimson at the base, narrow and tapering, grow to 45 cm long by 12 mm wide, and are broadly V-shaped, with a prominent abaxial keel along the midrib and loose clasping leaf sheaths. Blades, sheaths and midribs usually have small, irregularly spaced teeth. Leaves are deciduous in summer if plants are water-stressed (Carter 2010d; Gray & Knight 2001).

The inflorescence is erect, 20–90 cm long, with a slender, arching scape that bears several bluish, star-shaped, nodding, sweetly fragrant flowers. Perianth segments are pale to deep blue-violet, recurved, elliptic, grow to 10 mm long by 3 mm, the outer tepals with five veins, the inner tepals with three veins. There are six stamens, that grow to 7 mm long, with pale yellow filaments, orange strumae and pale lime-yellow anthers, while the style is whitish-translucent and grows to 6 mm long. Fruits are ovoid purple berries approximately 7 mm long, and seeds are shiny black and smooth and 3 mm long. Flowering occurs from October to April (Carr & Horsfall 1995; Carter 2010d).

It occurs mainly in the northern and southern Midlands, where it grows in native grasslands and grassy woodlands in both Tasmania and Victoria.

Site occurrence

Localised occurrences of *Dianella amoena* were identified in the northeastern part of the study area in association with remnants of native GTL vegetation. The plants were found in four small clumps which ranged in size from 1m² to 4 m² with individual plants each occupying approximately 1m² (approximately 10 plants in total). Given the rhizomatous nature of the species (spreads underground via a fleshy root), the counting of exact individual numbers of plants was not possible.

Following the discovery of the first *D. amoena* plants targeted searching for the species was undertaken throughout the property more widely including transects and meandering searches. No further locations of the species were identified.

Potential impacts

The subdivision of 69 Brighton Road stands to directly impact approximately ten (10) *Dianella amoena* individuals. At the local scale (ie within 5 km) of the site this will not significantly reduce the extent or rate of occurrence of this species by any meaningful amount within approximately 10s of hectares of

this species occurring within and around the Brighton area, including areas of public land managed the Department of State Growth supporting 1000s of *D. amoena* individuals. At a broader scale (statewide species range) the extent of resultant loss to this species as a meta-population will be even less significant (ie immeasurable and non-significant). Potential habitat for this species is widely distributed throughout the southern Midlands of Tasmania in areas which have not been subjected to substantially survey effort.

With consideration of the proposal, the low numbers of the species which have been identified, the extent of healthy, unaffected populations and the significant impact criteria (Table 5), there is not considered to be any risk of the proposal resulting in significant impacts to this species and thus the project does not warrant referral in relation to this matter.

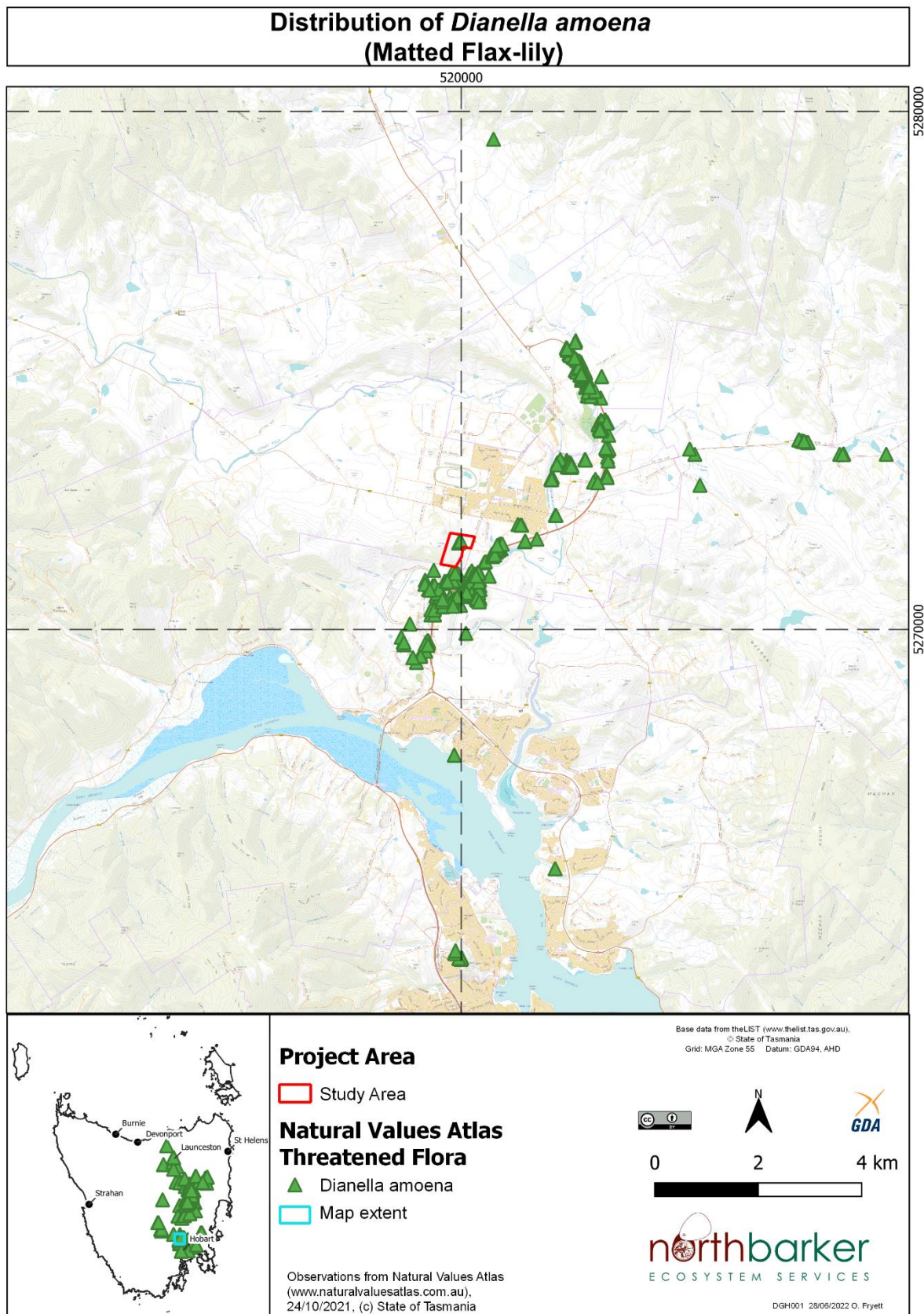


Figure 7: project area in relation to known observations of *Dianella amoena*

Table 5: Significant impact criteria with regards to *Dianella amoena*

Significant Impact Criteria ³⁶	Likelihood	Comments
1. Lead to a long-term decrease in the size of a population	Nil	<p>The small loss of individuals (approximately ten) and small area of potential habitat for this species is unlikely to result in any measurable decrease to populations of the species in the local Brighton area or the broader (state wide) population of the species. In the Brighton area alone, there are extant populations of this species which occupy hundreds of thousands of square metres and support several 100s of thousands of individual plants. The individuals at 69 Brighton Road do not represent any geographically or bioregionally distinct occurrence of the species.</p> <p>The loss of individuals at 69 Brighton Road is therefore considered to be immeasurably small and insignificant to the population of this species overall.</p>
2. Reduce the area of occupancy of the species	Nil	<p>The small loss of individuals from a subpopulation within an area supporting several hundreds of thousands of plants is unlikely to result in any meaningful decrease in the area of occupancy of any local population, particularly in the context of the abundance of equivalent or better habitat in the broader landscape.</p> <p>A small loss of individuals and suitable native habitat within the study area is unlikely to impact on the population level area of occupancy.</p>
3. Fragment an existing population into two or more populations	Nil	<p>The existing population of <i>D. amoena</i> on 69 Brighton Road is an isolated occurrence and one of many smaller and dispersed subpopulations of the species in the Brighton area. The loss of individual plants proposed in this case will not increase the rate to which the species is already fragmented in its current distribution (which is an artefact of both natural and human-induced influences).</p>
4. Adversely affect habitat critical to the survival of a species	Nil	<p>Habitat within the project area cannot be considered critical for the survival of the species given the location within its range, the existing fragmentation and the small</p>

³⁶ Matters of National Environmental Significance: Significant Impact Guidelines 1.1, Commonwealth of Australia (2013)

		numbers of plants found within the footprint.
5. Disrupt the breeding cycle of a population	Nil	Impacts to a small number of individuals from this subpopulation of plants is highly unlikely to result in any influence on the reproductive/breeding cycle of the species population.
6. Modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline	Nil	Potential impacts considered unlikely to be measurable even at a local population level, let alone the species as a whole.
7. Result in invasive species that are harmful to the species becoming established in the species' habitat	Nil	The proposed development will not result in the spread or introduction of invasive species into areas which support known occurrences or optimal potential habitat for this species.
8. Introduce disease that may cause the species to decline	Nil	No plant diseases are known to detrimentally effect this species.
9. Interfere with the recovery of the species	Nil	Key recovery actions for this species include fencing, weed control, burning/light seasonal grazing for biomass management ³⁷ None of the proposed actions at 69 Brighton Road will interfere with the recovery objectives for this species.

³⁷ *Dianella amoena* SPRAT Profile

POTENTIAL CHANGES ASSOCIATED WITH EPBCA REVIEW AND LISTINGS

EPBCA Review

With respect to the proposal under consideration here, key points from the statutory review of the EPBCA are³⁸:

- Australia's natural environment and iconic places are in an overall state of decline and are under increasing threat. The current environmental trajectory is unsustainable.
- The construct of Australia's federation means that the management of the environment is a shared responsibility and jurisdictions need to work effectively together, and in partnership with the community.
- The EPBC Act is ineffective. It does not enable the Commonwealth to play its role in protecting and conserving environmental matters that are important for the nation. It is not fit to address current or future environmental challenges.
- Duplication exists between the EPBC Act and state and territory regulatory frameworks for development assessment and approval. Efforts have been made to harmonise and streamline with the states and territories, but these efforts have not gone far enough.
- Fundamental reform of national environmental law is required, and new, legally enforceable National Environmental Standards should be the foundation. Standards should be granular and measurable, providing flexibility for development, without compromising environmental sustainability.
- National Environmental Standards should be regulatory instruments. The Commonwealth should make National Environmental Standards, in consultation with stakeholders, including the states and territories. The law must require the Standards to be applied, unless the decision-maker can demonstrate that the public interest and the national interest is best served otherwise.
- The proposed National Environmental Standards provide a clear pathway for greater devolution. Legally enforceable Standards, transparent accreditation of state and territory arrangements, and strong assurance are essential to provide community confidence in devolved arrangements. Greater devolution will deliver more streamlined regulation for business, while ensuring that environmental outcomes in the national interest are being achieved.
- The Standards should focus on outcomes for matters of national environmental significance, and the fundamentally important processes for sound and efficient decision-making. Standards will provide certainty—in terms of the environmental outcomes the community can expect from the law, and the legal obligations of proponents.
- The goal of the EPBC Act should be to deliver ecologically sustainable development. The Act should require that National Environmental Standards are set and decisions are made in a way that ensures it is achieved. The Act should support a focus on protecting (avoiding impact), conserving (minimising impact) and restoring the environment.
- A greater focus on adaptive planning is required to deliver environmental outcomes. Regional plans should be developed that support the management of cumulative threats and set clear rules to manage competing land uses at the right scale.
- Strategic national plans should be developed for big-ticket, nationally pervasive issues such as

³⁸ from <https://epbcactreview.environment.gov.au/resources/interim-report/summary-points>

the management of feral animals or adaptation of the environment to climate change. These plans should guide the national response and enable action and investment by all parties to be effectively targeted and efficient.

- The current collaborative approach to monitoring, compliance, enforcement and assurance is too weak. Serious enforcement actions are rarely used, indicating a limited regard for the benefits of using the full force of the law where it is warranted. When they are issued, penalties are not commensurate with the harm of damaging a public good of national interest. They do not provide an adequate deterrent.
- A strong, independent cop on the beat is required. An independent compliance and enforcement regulator, that is not subject to actual or implied political direction from the Commonwealth Minister, should be established. The regulator should be responsible for monitoring compliance, enforcement and assurance. It should be properly resourced and have available to it a full toolkit of powers.

Implications for Current Proposal

It is possible that within the construction timeframe of this development, the EPBCA will be over-hauled or replaced with the National Environmental Standards. It is not possible to fully predict the scope of this potential change, as the standards would develop and could take on essentially any form. It is considered highly likely however that potential impacts to MNES as the trigger for consideration as a controlled action will be a broadly similar process, as the key environmental recommendations from the review include a focus on outcomes for MNES. Given the current proposal has been concluded to have a very low risk of detrimentally impacting MNES³⁹ and is not considered to warrant referral at this time, it is unlikely to be impacted by an altered assessment process as the conclusion under a new process would likely be the same – *i.e.* it would still be unlikely to warrant assessment and approval for potential impacts to MNES.

Implications of Potential Changes in Listings and Threatened Statuses

One factor that could alter the likelihood of the project requiring federal assessment may be changes to the conservation status of a value under the EPBCA, such as the up-listing of a value or a new listing. Under the Act, any s75 decision (controlled action or otherwise) protects a project from future listing events, but if a proponent chose not to refer then they would need to consider the impacts of a proposal on a newly listed (or up-listed) MNES (even if the action is well underway), and potentially pause their project and refer it.

Additional potential MNES

As far as we are aware, no unlisted values currently known from the proposal area are under consideration for listing, and it is considered to be highly unlikely any of the unlisted values within the proposal area will be seen to warrant consideration for listing in the near future.

A current theme for nominations for listing is bushfire affected species, on account of the catastrophic 2019/20 bushfires and the rapid alteration of threatened statuses that may have resulted from them. Given the nature of the values in the current project area, this is unlikely to be of any consequence.

We are aware that a nomination for listing of the 'southeast Australian woodland bird assemblage' was in preparation roughly three years ago, but this has never made it to the Finalised Priority Assessment List – based on the habitat in the area and the bird assemblage present, it would be unlikely to have much consequence for the proposal if this community was listed.

Other species such as the Tasmanian bettong (*Bettongia gaimardi*) have been nominated for

³⁹ Within the suite of species covered in this assessment

consideration of listing in recent years but have not progressed beyond initial screening. Similarly, *Dianella amoena* was nominated for consideration of delisting in recent years but was not approved for official consideration.

Based on this, we see the risk of additional new MNES requiring assessment within the development time frame of 69 Brighton Road as being low.

CONCLUSION


Our assessment has covered all the MNES with the potential to occur within and around the proposed subdivision area and with the potential to experience direct or indirect impacts. Based on the current footprint for developing approximately 10.1 ha of the 69 Brighton Road property, it is seen as very unlikely that the proposal will breach any EPBCA significant impact criteria in relation to any of these values. Broadly speaking this is primarily because of the low density/extent of MNES values present, the negligible loss of MNES which will result from the development and the healthy representation of populations of all affected MNES in the local area. Overall, we conclude that significant impacts to MNES are not likely in this case and that a referral under the EPBCA is not warranted.

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APPENDIX A: EPBCA PROTECTED MATTERS REPORT

 <p>Australian Government Department of Climate Change, Energy, the Environment and Water</p>
<h3>EPBC Act Protected Matters Report</h3> <p>This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected. Please see the caveat for interpretation of information provided here.</p> <p>Report created: 09-Nov-2022</p> <p>Summary Details Matters of NES Other Matters Protected by the EPBC Act Extra Information Caveat Acknowledgements</p>

Summary

Matters of National Environment Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	None
National Heritage Places:	1
Wetlands of International Importance (Ramsar)	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	3
Listed Threatened Species:	53
Listed Migratory Species:	29

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <https://www.dcccew.gov.au/parks-heritage/heritage>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Lands:	15
Commonwealth Heritage Places:	None
Listed Marine Species:	35
Whales and Other Cetaceans:	None
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Australian Marine Parks:	None
Habitat Critical to the Survival of Marine Turtles:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have

State and Territory Reserves:	9
Regional Forest Agreements:	1
Nationally Important Wetlands:	2
EPBC Act Referrals:	11
Key Ecological Features (Marine):	None
Biologically Important Areas:	5
Bioregional Assessments:	None
Geological and Bioregional Assessments:	None

Details

Matters of National Environmental Significance

National Heritage Places			[Resource Information]
Name	State	Legal Status	Buffer Status
Indigenous			
Jordan River Levee site	TAS	Listed place	In buffer area only

Listed Threatened Ecological Communities

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.
Status of Vulnerable, Disallowed and Ineligible are not MNES under the EPBC Act.

Community Name	Threatened Category	Presence Text	Buffer Status
Lowland Native Grasslands of Tasmania	Critically Endangered	Community likely to occur within area	In feature area
Tasmanian Forests and Woodlands dominated by black gum or Brookers gum (Eucalyptus ovata / E. brookeriana)	Critically Endangered	Community likely to occur within area	In feature area
Tasmanian white gum (Eucalyptus viminalis) wet forest	Critically Endangered	Community likely to occur within area	In feature area

Listed Threatened Species

Status of Conservation Dependent and Extinct are not MNES under the EPBC Act.
Number is the current name ID.

Scientific Name	Threatened Category	Presence Text	Buffer Status
BIRD			
Aquila audax fleayi Tasmanian Wedge-tailed Eagle, Wedge-tailed Eagle (Tasmanian) [64435]	Endangered	Breeding likely to occur within area	In feature area
Botaurus poiciloptilus Australasian Bittern [1001]	Endangered	Species or species habitat known to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Ceyx azureus diemenensis Tasmanian Azure Kingfisher [25977]	Endangered	Species or species habitat may occur within area	In feature area
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea antipodensis gibsoni Gibson's Albatross [82270]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Breeding known to occur within area	In feature area
Limosa lapponica baueri Nunivak Bar-tailed Godwit, Western Alaskan Bar-tailed Godwit [86380]	Vulnerable	Species or species habitat may occur within area	In buffer area only
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
<u>Macronectes halli</u> Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
<u>Numenius madagascariensis</u> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
<u>Pachyptila turtur subantarctica</u> Fairy Prion (southern) [64445]	Vulnerable	Species or species habitat known to occur within area	In buffer area only
<u>Pardalotus quadragintus</u> Forty-spotted Pardalote [418]	Endangered	Foraging, feeding or related behaviour may occur within area	In feature area
<u>Pterodroma leucoptera leucoptera</u> Gould's Petrel, Australian Gould's Petrel [26033]	Endangered	Species or species habitat may occur within area	In feature area
<u>Sternula nereis nereis</u> Australian Fairy Tern [82950]	Vulnerable	Species or species habitat may occur within area	In buffer area only
<u>Thalassarche bulleri</u> Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
<u>Thalassarche bulleri platei</u> Northern Buller's Albatross, Pacific Albatross [82273]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
<u>Thalassarche cauta</u> Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
<u>Thalassarche chrysostoma</u> Grey-headed Albatross [66491]	Endangered	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
<u>Thalassarche impavida</u> Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
<u>Thalassarche melanophris</u> Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
<u>Thalassarche salvini</u> Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
<u>Thalassarche steadi</u> White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
<u>Tyto novaehollandiae castanops (Tasmanian population)</u> Masked Owl (Tasmanian) [67051]	Vulnerable	Breeding known to occur within area	In feature area
FISH			
<u>Prototroctes maraena</u> Australian Grayling [26179]	Vulnerable	Species or species habitat known to occur within area	In feature area
<u>Thunnus maccoyii</u> Southern Bluefin Tuna [69402]	Conservation Dependent	Species or species habitat likely to occur within area	In buffer area only
FROG			
<u>Litoria raniformis</u> Growling Grass Frog, Southern Bell Frog, Green and Golden Frog, Warty Swamp Frog, Golden Bell Frog [1828]	Vulnerable	Species or species habitat likely to occur within area	In feature area
INSECT			
<u>Antipodia chaostola leucophaea</u> Tasmanian Chaostola Skipper, Heath-sand Skipper [77672]	Endangered	Species or species habitat likely to occur within area	In feature area
MAMMAL			
<u>Dasyurus maculatus maculatus (Tasmanian population)</u> Spotted-tail Quoll, Spot-tailed Quoll, Tiger Quoll (Tasmanian population) [75183]	Vulnerable	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
<u>Dasyurus viverrinus</u> Eastern Quoll, Luaner [333]	Endangered	Species or species habitat likely to occur within area	In feature area
<u>Perameles gunnii gunnii</u> Eastern Barred Bandicoot (Tasmania) [66651]	Vulnerable	Species or species habitat known to occur within area	In feature area
<u>Sarcophilus harrisii</u> Tasmanian Devil [299]	Endangered	Species or species habitat likely to occur within area	In feature area
PLANT			
<u>Barbarea australis</u> Native Wintercress, Riverbed Wintercress [12540]	Endangered	Species or species habitat likely to occur within area	In feature area
<u>Caladenia anthracina</u> Black-tipped Spider-orchid [64855]	Critically Endangered	Species or species habitat known to occur within area	In buffer area only
<u>Caladenia caudata</u> Tailed Spider-orchid [17067]	Vulnerable	Species or species habitat known to occur within area	In feature area
<u>Colobanthus curtisiae</u> Curtis' Colobanth [23961]	Vulnerable	Species or species habitat likely to occur within area	In feature area
<u>Dianella amoena</u> Matted Flax-lily [64886]	Endangered	Species or species habitat known to occur within area	In feature area
<u>Epacris virgata</u> Pretty Heath, Dan Hill Heath [20375]	Endangered	Species or species habitat likely to occur within area	In buffer area only
<u>Glycine latrobeana</u> Clover Glycine, Purple Clover [13910]	Vulnerable	Species or species habitat known to occur within area	In feature area
<u>Hibbertia basaltica</u> Basalt Guinea-flower [81675]	Endangered	Species or species habitat known to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Lepidium hyssopifolium Basalt Pepper-cress, Peppercress, Rubble Pepper-cress, Pepperweed [16542]	Endangered	Species or species habitat known to occur within area	In feature area
Leucochrysum albicans subsp. tricolor Hoary Sunray, Grassland Paper-daisy [89104]	Endangered	Species or species habitat may occur within area	In feature area
Ozothamnus reflexifolius Reflexed Everlasting [77384]	Vulnerable	Species or species habitat likely to occur within area	In buffer area only
Prasophyllum apoxychilum Tapered Leek-orchid [64947]	Endangered	Species or species habitat may occur within area	In buffer area only
Pterostylis commutata Midland Greenhood [64535]	Critically Endangered	Species or species habitat may occur within area	In feature area
Pterostylis wapstrarum Fleshy Greenhood [66694]	Critically Endangered	Species or species habitat known to occur within area	In buffer area only
Pterostylis ziegeleri Grassland Greenhood, Cape Portland Greenhood [64971]	Vulnerable	Species or species habitat likely to occur within area	In feature area
Xerochrysum palustre Swamp Everlasting, Swamp Paper Daisy [76215]	Vulnerable	Species or species habitat likely to occur within area	In feature area
SNAIL			
Ammoniropa vigens Ammonite Pinwheel Snail [90200]	Critically Endangered	Species or species habitat likely to occur within area	In feature area
Listed Migratory Species		[Resource Information]	
Scientific Name	Threatened Category	Presence Text	Buffer Status
Migratory Marine Birds			
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
<i>Ardeanna grisea</i> Sooty Shearwater [82651]		Species or species habitat likely to occur within area	In buffer area only
<i>Diomedea antipodensis</i> Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
<i>Diomedea epomophora</i> Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
<i>Diomedea exulans</i> Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
<i>Diomedea sanfordi</i> Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
<i>Macronectes giganteus</i> Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
<i>Macronectes halli</i> Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
<i>Thalassarche bulleri</i> Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
<i>Thalassarche cauta</i> Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
<i>Thalassarche chrysostoma</i> Grey-headed Albatross [66491]	Endangered	Species or species habitat may occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
<u>Thalassarche impavida</u> Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
<u>Thalassarche melanophris</u> Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
<u>Thalassarche salvini</u> Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
<u>Thalassarche steadi</u> White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Migratory Marine Species			
<u>Lamna nasus</u> Porbeagle, Mackerel Shark [83288]		Species or species habitat likely to occur within area	In buffer area only
Migratory Terrestrial Species			
<u>Hirundapus caudacutus</u> White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area	In feature area
<u>Myiagra cyanoleuca</u> Satin Flycatcher [612]		Species or species habitat known to occur within area	In feature area
Migratory Wetlands Species			
<u>Actitis hypoleucos</u> Common Sandpiper [59309]		Species or species habitat likely to occur within area	In feature area
<u>Calidris acuminata</u> Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area	In feature area
<u>Calidris ferruginea</u> Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area	In feature area
Calidris ruficollis Red-necked Stint [860]		Species or species habitat likely to occur within area	In buffer area only
Charadrius bicinctus Double-banded Plover [895]		Species or species habitat likely to occur within area	In buffer area only
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur within area	In feature area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat may occur within area	In buffer area only
Numenius madagascariensis Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
Pluvialis fulva Pacific Golden Plover [25545]		Species or species habitat likely to occur within area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area	In feature area

Other Matters Protected by the EPBC Act

Commonwealth Lands		[Resource Information]
The Commonwealth area listed below may indicate the presence of Commonwealth land in this vicinity. Due to the unreliability of the data source, all proposals should be checked as to whether it impacts on a Commonwealth area, before making a definitive decision. Contact the State or Territory government land department for further information.		
Commonwealth Land Name	State	Buffer Status
Defence		
Defence - PONTVILLE RIFLE RANGE [60022]	TAS	In buffer area only
Unknown		
Commonwealth Land - [60254]	TAS	In buffer area only

Commonwealth Land Name	State	Buffer Status
Commonwealth Land - [60350]	TAS	In buffer area only
Commonwealth Land - [60256]	TAS	In buffer area only
Commonwealth Land - [60231]	TAS	In buffer area only
Commonwealth Land - [60248]	TAS	In buffer area only
Commonwealth Land - [60249]	TAS	In buffer area only
Commonwealth Land - [60238]	TAS	In buffer area only
Commonwealth Land - [60233]	TAS	In buffer area only
Commonwealth Land - [60257]	TAS	In buffer area only
Commonwealth Land - [60253]	TAS	In buffer area only
Commonwealth Land - [60252]	TAS	In buffer area only
Commonwealth Land - [60251]	TAS	In buffer area only
Commonwealth Land - [60250]	TAS	In buffer area only
Commonwealth Land - [60244]	TAS	In buffer area only

Listed Marine Species	[Resource Information]		
Scientific Name	Threatened Category	Presence Text	Buffer Status
Bird			
Actitis hypoleucos			
Common Sandpiper [59309]		Species or species habitat likely to occur within area	In feature area
Apus pacificus			
Fork-tailed Swift [678]		Species or species habitat likely to occur within area overfly marine area	In feature area
Ardenna grisea as Puffinus griseus			
Sooty Shearwater [82651]		Species or species habitat likely to occur within area	In buffer area only
Bubulcus ibis as Ardea ibis			
Cattle Egret [66521]		Species or species habitat may occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
Calidris acuminata Sharp-tailed Sandpiper [874]		Species or species habitat known to occur within area	In feature area
Calidris ferruginea Curlew Sandpiper [856]	Critically Endangered	Species or species habitat may occur within area overfly marine area	In feature area
Calidris melanotos Pectoral Sandpiper [858]		Species or species habitat may occur within area overfly marine area	In feature area
Calidris ruficollis Red-necked Stint [860]		Species or species habitat likely to occur within area overfly marine area	In buffer area only
Charadrius bicinctus Double-banded Plover [895]		Species or species habitat likely to occur within area overfly marine area	In buffer area only
Diomedea antipodensis Antipodean Albatross [64458]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea antipodensis gibsoni as Diomedea gibsoni Gibson's Albatross [82270]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea epomophora Southern Royal Albatross [89221]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Diomedea exulans Wandering Albatross [89223]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Diomedea sanfordi Northern Royal Albatross [64456]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat known to occur within area overfly marine area	In feature area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Breeding known to occur within area	In feature area
Hirundapus caudacutus White-throated Needletail [682]	Vulnerable	Species or species habitat known to occur within area overfly marine area	In feature area
Lathamus discolor Swift Parrot [744]	Critically Endangered	Breeding known to occur within area overfly marine area	In feature area
Limosa lapponica Bar-tailed Godwit [844]		Species or species habitat may occur within area	In buffer area only
Macronectes giganteus Southern Giant-Petrel, Southern Giant Petrel [1060]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Macronectes halli Northern Giant Petrel [1061]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area overfly marine area	In feature area
Neophema chrysostoma Blue-winged Parrot [726]		Species or species habitat known to occur within area overfly marine area	In feature area

Scientific Name	Threatened Category	Presence Text	Buffer Status
<u>Numenius madagascariensis</u> Eastern Curlew, Far Eastern Curlew [847]	Critically Endangered	Species or species habitat may occur within area	In feature area
<u>Pachyptila turtur</u> Fairy Prion [1066]		Species or species habitat known to occur within area	In buffer area only
<u>Pluvialis fulva</u> Pacific Golden Plover [25545]		Species or species habitat likely to occur within area	In buffer area only
<u>Thalassarche bulleri</u> Buller's Albatross, Pacific Albatross [64460]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
<u>Thalassarche bulleri platei</u> as <u>Thalassarche sp. nov.</u> Northern Buller's Albatross, Pacific Albatross [82273]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
<u>Thalassarche cauta</u> Shy Albatross [89224]	Endangered	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
<u>Thalassarche chrysostoma</u> Grey-headed Albatross [66491]	Endangered	Species or species habitat may occur within area	In buffer area only
<u>Thalassarche impavida</u> Campbell Albatross, Campbell Black-browed Albatross [64459]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
<u>Thalassarche melanophrys</u> Black-browed Albatross [66472]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only
<u>Thalassarche salvini</u> Salvin's Albatross [64463]	Vulnerable	Foraging, feeding or related behaviour likely to occur within area	In buffer area only

Scientific Name	Threatened Category	Presence Text	Buffer Status
Thalassarche steadi White-capped Albatross [64462]	Vulnerable	Foraging, feeding or related behaviour known to occur within area	In buffer area only
Tringa nebularia Common Greenshank, Greenshank [832]		Species or species habitat likely to occur within area overfly marine area	In feature area
Extra Information			
State and Territory Reserves		[Resource Information]	
Protected Area Name	Reserve Type	State	Buffer Status
Brighton Bypass offset	Conservation Covenant	TAS	In buffer area only
Brighton Racecourse	Conservation Covenant	TAS	In buffer area only
Dromedary	Conservation Covenant	TAS	In buffer area only
Jordan	Nature Reserve	TAS	In buffer area only
Jordan River - Brighton bypass offset	Conservation Covenant	TAS	In buffer area only
Ravenswood	Conservation Covenant	TAS	In buffer area only
Risdon Peppermint Reserve	Conservation Covenant	TAS	In buffer area only
River Derwent	Marine Conservation Area	TAS	In buffer area only
Unnamed (Goulds Lagoon)	Conservation Area	TAS	In buffer area only
Regional Forest Agreements		[Resource Information]	
Note that all areas with completed RFAs have been included.			
RFA Name		State	Buffer Status
Tasmania RFA		Tasmania	In feature area
Nationally Important Wetlands		[Resource Information]	
Wetland Name		State	Buffer Status
Goulds Lagoon		TAS	In buffer area only
River Derwent		TAS	In buffer area only
EPBC Act Referrals		[Resource Information]	
Title of referral	Reference	Referral Outcome	Assessment Status
Controlled action			

Title of referral	Reference	Referral Outcome	Assessment Status	Buffer Status
Controlled action				
Bagdad Bypass Project	2011/5982	Controlled Action	Further Information Request	In buffer area only
Brighton Bypass Northern Project	2009/4762	Controlled Action	Post-Approval	In feature area
Brighton Bypass Southern Project - Upgrade of the Midland Highway	2009/4757	Controlled Action	Post-Approval	In feature area
Tasmania Natural Gas Project - Stage 3	2001/212	Controlled Action	Post-Approval	In feature area
Not controlled action				
Exploration Seismic survey	2001/516	Not Controlled Action	Completed	In buffer area only
Improving rabbit biocontrol: releasing another strain of RHDV, sthm two thirds of Australia	2015/7522	Not Controlled Action	Completed	In feature area
Midlands Highway Upgrade	2001/241	Not Controlled Action	Completed	In buffer area only
Tea Tree Secondary Road Pavement Widening and Junction Improvements	2008/4344	Not Controlled Action	Completed	In buffer area only
Not controlled action (particular manner)				
Brighton Transport Hub, road and rail line construction	2008/4537	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
South East Irrigation Scheme	2013/6843	Not Controlled Action (Particular Manner)	Post-Approval	In feature area
Referral decision				
New Bridgewater Bridge	2021/9114	Referral Decision	Referral Publication	In buffer area only
Biologically Important Areas				
Scientific Name		Behaviour	Presence	Buffer Status
Seabirds				
Ardenna grisea				
Sooty Shearwater [82651]		Foraging	Known to occur	In buffer area only
Ardenna tenuirostris				
Short-tailed Shearwater [82652]		Foraging	Known to occur	In buffer area only

Scientific Name	Behaviour	Presence	Buffer Status
Pelecanoides urinatrix Common Diving-petrel [1018]	Foraging	Known to occur	In buffer area only
Pterodroma mollis Soft-plumaged Petrel [1036]	Foraging	Known to occur	In buffer area only
Thalassarche cauta cauta Shy Albatross [82345]	Foraging likely	Likely to occur	In buffer area only

Caveat

1 PURPOSE

This report is designed to assist in identifying the location of matters of national environmental significance (MNES) and other matters protected by the Environment Protection and Biodiversity Conservation Act 1999 (Cth) (EPBC Act) which may be relevant in determining obligations and requirements under the EPBC Act.

The report contains the mapped locations of:

- World and National Heritage properties;
- Wetlands of International and National Importance;
- Commonwealth and State/Territory reserves;
- distribution of listed threatened, migratory and marine species;
- listed threatened ecological communities; and
- other information that may be useful as an indicator of potential habitat value.

2 DISCLAIMER

This report is not intended to be exhaustive and should only be relied upon as a general guide as mapped data is not available for all species or ecological communities listed under the EPBC Act (see below). Persons seeking to use the information contained in this report to inform the referral of a proposed action under the EPBC Act should consider the limitations noted below and whether additional information is required to determine the existence and location of MNES and other protected matters.

Where data are available to inform the mapping of protected species, the presence type (e.g. known, likely or may occur) that can be determined from the data is indicated in general terms. It is the responsibility of any person using or relying on the information in this report to ensure that it is suitable for the circumstances of any proposed use. The Commonwealth cannot accept responsibility for the consequences of any use of the report or any part thereof. To the maximum extent allowed under governing law, the Commonwealth will not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance

3 DATA SOURCES

Threatened ecological communities

For threatened ecological communities where the distribution is well known, maps are generated based on information contained in recovery plans, State vegetation maps and remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Threatened, migratory and marine species

Threatened, migratory and marine species distributions have been discerned through a variety of methods. Where distributions are well known and if time permits, distributions are inferred from either thematic spatial data (i.e. vegetation, soils, geology, elevation, aspect, terrain, etc.) together with point locations and described habitat; or modelled (MAXENT or BIOCLIM habitat modelling) using

Where little information is available for a species or large number of maps are required in a short time-frame, maps are derived either from 0.04 or 0.02 decimal degree cells; by an automated process using polygon capture techniques (static two kilometre grid cells, alpha-hull and convex hull); or captured manually or by using topographic features (national park boundaries, islands, etc.).

In the early stages of the distribution mapping process (1999-early 2000s) distributions were defined by degree blocks, 100K or 250K map sheets to rapidly create distribution maps. More detailed distribution mapping methods are used to update these distributions

4 LIMITATIONS

The following species and ecological communities have not been mapped and do not appear in this report:

- threatened species listed as extinct or considered vagrants;
- some recently listed species and ecological communities;
- some listed migratory and listed marine species, which are not listed as threatened species; and
- migratory species that are very widespread, vagrant, or only occur in Australia in small numbers.

The following groups have been mapped, but may not cover the complete distribution of the species:

- listed migratory and/or listed marine seabirds, which are not listed as threatened, have only been mapped for recorded
- seals which have only been mapped for breeding sites near the Australian continent

The breeding sites may be important for the protection of the Commonwealth Marine environment.

Refer to the metadata for the feature group (using the Resource Information link) for the currency of the information.

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [Office of Environment and Heritage, New South Wales](#)
- [Department of Environment and Primary Industries, Victoria](#)
- [Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [Department of Environment, Water and Natural Resources, South Australia](#)
- [Department of Land and Resource Management, Northern Territory](#)
- [Department of Environmental and Heritage Protection, Queensland](#)
- [Department of Parks and Wildlife, Western Australia](#)
- [Environment and Planning Directorate, ACT](#)
- [Birdlife Australia](#)
- [Australian Bird and Bat Banding Scheme](#)
- [Australian National Wildlife Collection](#)
- [Natural history museums of Australia](#)
- [Museum Victoria](#)
- [Australian Museum](#)
- [South Australian Museum](#)
- [Queensland Museum](#)
- [Online Zoological Collections of Australian Museums](#)
- [Queensland Herbarium](#)
- [National Herbarium of NSW](#)
- [Royal Botanic Gardens and National Herbarium of Victoria](#)
- [Tasmanian Herbarium](#)
- [State Herbarium of South Australia](#)
- [Northern Territory Herbarium](#)
- [Western Australian Herbarium](#)
- [Australian National Herbarium, Canberra](#)
- [University of New England](#)
- [Ocean Biogeographic Information System](#)
- [Australian Government, Department of Defence](#)
- [Forestry Corporation, NSW](#)
- [Geoscience Australia](#)
- [CSIRO](#)
- [Australian Tropical Herbarium, Cairns](#)
- [eBird Australia](#)
- [Australian Government – Australian Antarctic Data Centre](#)
- [Museum and Art Gallery of the Northern Territory](#)
- [Australian Government National Environmental Science Program](#)
- [Australian Institute of Marine Science](#)
- [Reef Life Survey Australia](#)
- [American Museum of Natural History](#)
- [Queen Victoria Museum and Art Gallery, Inveresk, Tasmania](#)
- [Tasmanian Museum and Art Gallery, Hobart, Tasmania](#)
- Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact us](#) page.

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APPENDIX B: EPBCA SIGNIFICANT IMPACT CONSIDERATION OF MNES (SPECIES WITHIN 5 KM)

MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
World Heritage Properties			
None	-	No	None identified.
National Heritage Places			
1	Jordan River Levee Site	No	The Jordan River Levee is located where the Midland Highway crosses the Jordan River east of the township of Brighton. This is beyond the scope of our natural values assessment , however no impacts to the Jordan River Levee are anticipated.
Wetlands of International Importance			
None	-	No	None identified.
Great Barrier Reef Marine Park			
None	-	No	None identified.

⁴⁰ Includes comments from SPRAT profiles and EPPBCA listing advice and conservation advice

MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
Commonwealth Marine Area			
None	-	No	None identified.
Listed Threatened Ecological Communities			
3		No	See below
Listed Threatened Species			
53		No	See below
Listed Migratory Species			
29		No	See below
Commonwealth Land			
15		No	None identified.
Commonwealth Heritage Places			
None	-	No	None identified.
Listed Marine Species			
35		No	See below
Whales and Other Cetaceans			
None		No	None identified.

MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
Critical Habitats			
None	-	No	None identified.
Commonwealth Reserves Terrestrial			
None	-	No	None identified.
Commonwealth Reserves Marine			
None	-	No	None identified.
State and Territory Reserves			
9		-	-
Regional Forest Agreements			
1		-	-
Invasive Species			
-		-	-
Nationally Important Wetlands			
1. Goulds Lagoon 2. River Derwent	Goulds Lagoon approximately 6.2 km south of project area. River Derwent wetlands constitute the River Derwent Marine Conservation Area approximately 4.1 km southeast of the project area.	No	Not a trigger for referral.

MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
Key Ecological Features (Marine)			
None		No	None identified.
Listed Threatened Ecological Communities – 3 identified (1 confirmed by ground surveys)			
Lowland native grasslands of Tasmania critically endangered	<p>The PMST predicts the likely occurrence of this community within 5 km of the project area. This is correct with our experience assessing grasslands in the Brighton area and the general distribution of the main constituent TASVEG units that contribute to the EPBCA listed community through key definitions and condition criteria (Appendix C).</p> <p>Within the project area, approximately 1.02 ha of native grassland (LNGT) was identified during the natural values assessment and investigated against for potential qualification as the EPBCA listed grassland community. For full description of impacts and proposed mitigation see <i>Listed Threatened Flora pg 26</i></p>	No	None identified.
Tasmanian forests and woodlands dominated by black gum or Brookers gums (<i>Eucalyptus ovata</i> / <i>E. brookeriana</i>) critically endangered	Although this ecological community is predicted as being likely to occur on site by the PMST database, field surveys confirmed it is not present.	No	No likelihood of occurrence – no potential for impacts.
Tasmanian white gum	Although this ecological community is predicted as being likely to occur on site by the PMST database, field surveys confirmed it	No	No likelihood of occurrence – no

MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
(<i>Eucalyptus viminalis</i>) wet forest critically endangered	is not present.		potential for impacts.
Listed Threatened Species – 53 identified			
Birds (28)			
<i>Aquila audax fleayi</i> wedge-tailed eagle endangered	<p>Wedge-tailed eagles' nest in a range of old growth native forests and are dependent on forest for nesting. This species requires large, sheltered trees for nesting and is highly sensitive to anthropogenic disturbances during the breeding season. Territories can contain up to five alternate nests usually close to each other but may be up to 1 km apart where habitat is locally restricted. They hunt and scavenge on a wide variety of fauna including fish, reptiles, birds and mammals.</p> <p>Suitable nesting habitat is present within 5000 m of the site in surrounding gullies. However, the closest eagle nest to the site is 3.1 km away to the southwest,</p> <p>Whilst there is some chance the species may fly over the area on occasion there are no expected potential impacts to any eagle nests associated with the proposal and thus negligible likelihood of a detrimental impact.</p>	No	<p>This species may fly over or forage in the project area on occasion, however the area is not considered to represent a limited resource, nor will the project meaningfully decrease critical resource availability to this species. No eagle nests are known or likely to occur within the 1 km line of sight for development. As the proposal will not impact a meaningful amount of potential habitat or nesting sites for the species the project has:</p> <ul style="list-style-type: none"> No likelihood of breeding disturbance and therefore no adverse impacts on habitat critical to the survival of the species, no potential to disrupt the breeding cycle of a population, no potential to lead

MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
			<p>to a long-term decrease in the size of a population and no impacts to habitat to the extent that the species is likely to decline.</p> <ul style="list-style-type: none"> • No possible fragmentation effects. • No likelihood of introduction of disease or harmful invasive species. • No potential for interference with the recovery of the species. • No meaningful reduction in the area of occupancy of the species, given that permanent habitat losses are only likely to constitute a very minor and occasional potential foraging resource. <p>Thus, the proposal has no potential for significant impacts to the wedge-tailed eagle.</p>
<i>Botaurus poiciloptilus</i>	Australasian bitterns are a highly cryptic species, utilising	No	No potential for impacts.

MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
Australasian bittern endangered	wetlands and lakes with a dense cover of vegetation. No suitable habitat for this species exists within the proposed development area.		
<i>Calidris ferruginea</i> curlew sandpiper critically endangered /migratory /marine	The curlew sandpiper was once a common visitor to Tasmania, but their numbers have declined significantly since the 1950's ⁴¹ . It frequents intertidal mudflats in sheltered coastal areas, with the most important sites for them in Tasmanian centred on the north and east coast of Tasmania ⁴² . However, they are also occasionally recorded inland, along the open edges of ephemeral and permanent lakes and other water bodies (Appendix D). No suitable habitat for this species exists within the proposed development area.	No	No potential for impacts.
<i>Ceyx azureus diemenensis</i> azure kingfisher endangered	This species is found along rivers in the south, west, north and northwest of Tasmania with outlying occurrences in the northeast, east, centre and Bass Strait islands (Appendix D). This species occurs in the forested margins of major river systems where it perches on branches overhanging rivers waiting for prey items such as small fish, insects and freshwater crayfish to come down the river. It nests in holes along the top of riverbanks and is therefore susceptible to clearing and modification of river-side vegetation. There is thought to be fewer than 500 mature individuals left in Tasmania 400+/-100 (based on Holdsworth <i>et</i>	No	No potential for impacts.

⁴¹ Cooper et al. (2012); Reid and Park (2003)

⁴² Bryant (2002)

MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
	<p><i>a/l.</i> 2021) with the overall distribution of Tasmania's azure kingfisher reflecting the higher rainfalls in the west and north-west regions of Tasmania.</p> <p>No suitable habitat for this species exists within the proposed development area.</p>		
<p><i>Diomedea antipodensis</i> antipodean albatross vulnerable /migratory /marine</p>	<p>Endemic to New Zealand, the antipodean albatross is a pelagic species that often forages in the south-west Pacific Ocean, Southern Ocean and Tasman Sea (Appendix D).</p> <p>Due to its pelagic nature, it is unlikely to occur on site.</p>	No	No likelihood of occurrence – no potential for impacts.
<p><i>Diomedea antipodensis gibsoni</i> Gibson's albatross vulnerable /migratory /marine</p>	<p>This species breeds only on Adams Island and Auckland Island New Zealand. They typically forage in the Tasman Sea and further south or the mid-Pacific Ocean (Appendix D).</p> <p>Due to its pelagic nature, it is unlikely to occur on site .</p>	No	No likelihood of occurrence – no potential for impacts.
<p><i>Diomedea epomophora</i> southern royal albatross vulnerable /migratory /marine</p>	<p>The majority of the southern royal albatross population nest on the subantarctic Campbell Island.</p> <p>Due to its pelagic nature (Appendix D), it is unlikely to occur on site.</p>	No	No likelihood of occurrence – no potential for impacts.
<p><i>Diomedea exulans</i> wandering albatross vulnerable /migratory /marine</p>	<p>This species has a circumpolar distribution breeding on six subantarctic islands. In Australian territory this species breeds on Macquarie Island and forages in the Australian portions of the Southern Ocean (Appendix D).</p> <p>Due to its pelagic nature, it is unlikely to occur on site.</p>	No	No likelihood of occurrence – no potential for impacts.

MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
<i>Diomedea sanfordi</i> northern royal albatross endangered /migratory /marine	This species is regularly seen foraging off the waters of Tasmania (Appendix D). It predominately breeds on Chatham Island, New Zealand. Due to its pelagic nature, it is unlikely to occur on site.	No	No likelihood of occurrence – no potential for impacts.
<i>Hirundapus caudacutus</i> white-throated needletail vulnerable / migratory /marine	The white-throated needletail is a migratory species, breeding in central and north-eastern Asia in Siberia, Mongolia, northern-eastern China and northern Japan. It migrates south through eastern China, Korea and Japan spending its non-breeding season in eastern and south-eastern Australia including Tasmania. This species is almost exclusively aerial, occurring over most types of habitat with a preference to wooded areas, open forests, heathland and rainforests (Appendix E). Due to their aerial nature, this species is most likely unaffected by terrestrial habitat alteration outside of its Northern Hemisphere breeding range. It is uncommonly recorded but widespread in Tasmania. Large numbers of this species (in the 1000's) were recorded between the Bridgewater Bridge and New Norfolk during 1965 by BirdLife but no observation records have since been made in the area.	No	Unlikely to occur – no potential for significant impacts to an important population due to aerial nature (limited potential for impacts other than occasional collisions) and the non-breeding nature of the species in Tasmania.
<i>Lathamus discolor</i> swift parrot critically endangered /marine	Swift parrots are a migratory species, undertaking annual flights from Tasmania to the mainland of Australia. When in Tasmania they are semi-nomadic, crossing much to the State to coincide with the erratic and patchy flowering patterns of their preferred food plants, <i>Eucalyptus globulus</i> and <i>Eucalyptus ovata</i> (Appendix D). Breeding occurs in hollow-bearing trees within 10 km of	No	No potential for impacts.

MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
	<p>flowering food stands.</p> <p>Records on the NVA and from Birdlife indicate that this species has only ever been reported just over a dozen times within 5000 m of the site, with only one of the sightings occurring after 1998, during 2014, roughly 3000 m from the site.</p> <p>No suitable habitat for this species is present within the proposed development area.</p>		
<i>Limosa lapponica baueri</i> Bar-tailed godwit vulnerable	<p>This species is not known to occur in Tasmania, spending the non-breeding season predominantly in the north and north-west of Western Australia and in south-eastern Asia.</p>	No	No likelihood of occurrence – no potential for impacts.
<i>Macronectes giganteus</i> southern giant petrel endangered /migratory /marine	<p>This species breeds on six subantarctic and Antarctic islands in Australian Territory. It is an infrequent visitor to Tasmania (Appendix D).</p> <p>Due to its pelagic nature, it is unlikely to occur on site.</p>	No	No likelihood of occurrence – no potential for impacts.
<i>Macronectes halli</i> northern giant petrel vulnerable /migratory /marine	<p>This species breeds in the subantarctic.</p> <p>Due to its pelagic nature, it is unlikely to occur on site.</p>	No	No likelihood of occurrence – no potential for impacts.
<i>Numenius madagascariensis</i> eastern curlew critically endangered /marine	<p>Much like the curlew sandpiper, the eastern curlew was once a common visitor to Tasmania, but their numbers have declined</p>	No	No potential for impacts.

MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
	<p>significantly since the 1980's⁴³. It frequents intertidal mudflats in sheltered coastal areas, with the most important sites for them in Tasmanian centred on the northwest coast of Tasmania⁴⁴. However, they are also occasionally recorded inland, along the open edges of ephemeral and permanent lakes and other water bodies (Appendix D).</p> <p>It is unlikely that this species occurs on site.</p>		
<i>Pachyptila turtur subantarctica</i> fairy prion vulnerable	<p>In Australia this species breeds on Macquarie Island but forages as a pelagic species around Tasmania (Appendix D).</p> <p>Due to its pelagic nature, it is unlikely to occur on site.</p>	No	No likelihood of occurrence – no potential for impacts.
<i>Pardalotus quadragintus</i> Forty-spotted pardalote Endangered	<p>This species is associated with discrete breeding areas within southeast Tasmania. No known colonies or potential habitat for this species will be impacted by the proposed development.</p>	No	No likelihood of occurrence – no potential for impacts.
<i>Pterodroma leucoptera leucoptera</i> Gould's petrel endangered	<p>This species breeds on both Cabbage Tree and Boondelbah Island off NSW. They are a pelagic species (Appendix D).</p> <p>Due to its pelagic nature, it is unlikely to occur on site.</p>	No	No likelihood of occurrence – no potential for impacts.

⁴³ Cooper and Clemens et al. (2012); Reid and Park (2003)

⁴⁴ Bryant (2002)

MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
<i>Sternula nereis nereis</i> Australian fairy tern vulnerable	This species is found along Australian coastlines from Western Australia to Victoria and in Tasmania. It occurs along isolated sandy inlets, coastal beaches estuaries and saline and freshwater wetlands and lagoons (Appendix D). Unlikely to occur on site.	No	No likelihood of occurrence – no potential for impacts.
<i>Thalassarche bulleri</i> Buller's albatross vulnerable /migratory /marine	This species breeds in New Zealand and is a relatively common visitor to Australian waters. It is recorded off the coast of Tasmania (Appendix D). Due to its pelagic nature, it is unlikely to occur on site.	No	No likelihood of occurrence – no potential for impacts.
<i>Thalassarche bulleri platei</i> northern Buller's albatross vulnerable	This species breeds only on Chatham and Three Kings Island in New Zealand. It forages in the Pacific Ocean and Tasman Sea. Due to its pelagic nature, it is unlikely to occur on site.	No	No likelihood of occurrence – no potential for impacts.
<i>Thalassarche cauta</i> shy albatross endangered /migratory /marine	Breeds on remote islands off the Tasmanian coast: Albatross Island, Pedra Branca and the Mewstone. Is relatively sedentary, which is unique among albatross, and generally forages close to the colony over continental shelf (Appendix D), with a range of < 200 km. Whilst there is one record of this species attributed to within 500 m of the site, the estimated accuracy of the position is up to +/- 5000 m and was recorded in 1884. Other than this sighting, this species hasn't been observed within 5000 m of the site. The next closest sighting of this species was 25 km away with a position	No	No potential for impacts.

MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
	<p>accuracy of +/- 18,500 m (Appendix D).</p> <p>No suitable habitat for this species is present within the proposed development area.</p>		
<p><i>Thalassarche chrysostoma</i> grey-headed albatross endangered /migratory /marine</p>	<p>In Australia, this species breeds on the western flanks of Petrel Peak, Macquarie Island. They forage in the Southern Ocean, with most records coming from the south and west of Tasmania (Appendix D).</p> <p>Due to its pelagic nature, it is unlikely to occur on site.</p>	No	No likelihood of occurrence – no potential for impacts.
<p><i>Thalassarche impavida</i> Campbell albatross vulnerable /migratory /marine</p>	<p>This species breeds only on Campbell Island, New Zealand in the subantarctic. It visits Australian waters and is most commonly seen foraging off Tasmania over oceanic continental slopes (Appendix D).</p> <p>Due to its pelagic nature, it is unlikely to occur on site.</p>	No	No likelihood of occurrence – no potential for impacts.
<p><i>Thalassarche melanophris</i> black-browed albatross vulnerable /migratory /marine</p>	<p>During the breeding season, this species is mostly confined to the waters surrounding Heard Island, Macquarie Island, McDonald Island and Bishop and Clerk Islets.</p> <p>Due to its pelagic nature (Appendix D), it is unlikely to occur on site.</p>	No	No likelihood of occurrence – no potential for impacts.
<p><i>Thalassarche salvini</i> Salvin's albatross vulnerable /migratory /marine</p>	<p>This species breeds in the south of New Zealand on Bounty, Snares and Chatham Islands and is a non-breeding visitor to Australian waters, infrequently seen around Tasmania (Appendix D).</p>	No	No likelihood of occurrence – no potential for impacts.

MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
	Due to its pelagic nature, it is unlikely to occur on site.		
<i>Thalassarche steadi</i> white-capped albatross vulnerable /migratory /marine	This species is an occasional visitor to Tasmanian waters and can sometimes be seen flying along the coastlines though is often mistaken for the shy albatross. Due to its pelagic nature (Appendix D), it is unlikely to occur on site.	No	No likelihood of occurrence – no potential for impacts.
<i>Thinornis cucullatus cucullatus</i> hooded plover (eastern) vulnerable /marine	This species is widely distributed in Tasmania (Appendix D) and inhabits sandy ocean beaches. This species nests on or near beaches, with nests located on flat beaches above the high tide mark and on the sides of sparsely vegetated dunes. With the lack of suitable habitat near the proposed site it is unlikely that this species will occur.	No	No likelihood of occurrence – no potential for impacts.
<i>Tyto novaehollandiae castanops</i> Tasmanian masked owl vulnerable	Masked owls are a nocturnal species that favour the edges of dry forests, utilising nearby hollows ≥ 15 cm in diameter for nesting. Therefore, significant habitat for this species is limited to large eucalypts within dry eucalypt forest in their core range. Their core foraging habitat includes mature native forests and woodlands typically below 600 m altitude as well as mosaics of both native vegetation and agricultural patches. There have been nine recorded sightings of this species occurring within 500 m of the site during between 1975-1981 that were recorded on the NVA and by Birdlife (Appendix D). No suitable hollow-bearing trees exist within the extent of the potential impact area. Regardless, given the nearness of the site to housing	No	No likelihood of occurrence – no potential for impacts.

MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
	and roads, we consider the chances of this species occurring on the site as low.		
Fish (1)			
<i>Prototroctes maraena</i> Australian grayling vulnerable	No suitable habitat for this species is present within the proposed development area.	No	N/A
Frogs (1)			
<i>Litoria raniformis</i> green & gold Frog vulnerable	<p>In Tasmania, the species occurs in lowland areas in the south-east (where it is very rare) and north (Appendix D), breeding in permanent freshwater or slightly brackish habitats, generally with emergent vegetation. It has declined significantly (over 20 %) in range and abundance over the last 20 years, having disappeared from the Midlands, Derwent Valley, much of the Hobart region and parts of the north-west coast (although historical records are also less common in that region).</p> <p>The only known record of this species occurring within 5000 m of the proposed site was during 1970. Since then, none have been recorded and it is highly unlikely that this species would occur on site based on its currently limited extent in southern Tasmania and the lack of suitable habitat.</p> <p>No suitable habitat for this species is present within the proposed development area.</p>	No	No likelihood of occurrence – no potential for impacts.

MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
Insects (1)			
<i>Antipodia chaostola leucophaea</i> chaostola skipper Endangered	<p>A medium brown and yellow butterfly, this species is restricted to dry forest and woodland that support sedges from the <i>Gahnia</i> genus. It is found in small, isolated populations mostly in eastern Tasmania (Appendix D).</p> <p>No suitable habitat for this species is present within the proposed development area.</p>	No	No likelihood of occurrence – no potential for impacts.
Mammals (4)			
<i>Dasyurus maculatus</i> spotted-tail quoll (Tasmanian population) vulnerable	<p>Spotted-tailed quolls have large home ranges (88 - 5512 ha), within which they primarily utilise a variety of wooded habitats (generally with complex structure), with complementary use of adjacent non-forest. Habitat use is dependent on the availability of denning opportunities and prey density.</p> <p>One observations on the NVA are attributed to within 5000 m of the proposed site with the most recent sighting being a roadkill incident in early 2020 (Figure 5, Appendix D).</p> <p>No optimal breeding or foraging habitat for this species is present within the proposed development area.</p>	No	No potential for impacts.
<i>Dasyurus viverrinus</i> eastern quoll endangered	<p>The eastern quoll is a medium-sized marsupial carnivore listed under the EPBCA as Endangered but not currently listed as rare or threatened in Tasmania. Eastern quolls are widespread in Tasmania but recorded less frequently in the wettest third of the State (Figure 4, Appendix D). They are considered extinct on the</p>	No	Hundreds of hectares of equally suitable (or better) habitat for this species is present in the local area. The potential impact of the removal of 10.1 ha of potential habitat is thus

MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
	<p>mainland of Australia with the last wild sighting being in 1963 (though some reintroductions have since been undertaken).</p> <p>Home ranges for this species are upwards of 35 to 44 ha (females and males respectively), with an extensive amount of overlap between individuals. Suitable habitat includes dry grasslands and forest mosaics, including adjacent agricultural lands.</p> <p>No recovery plan has been developed for this species. As an endangered species, all populations are seen as important, although some areas might be considered as the primary strongholds for the species (e.g. Cradoc and North Bruny island).</p> <p>Approximately 10.1 ha of habitat (FAG, NAV, GTL, NBA) within the study area is considered potentially suitable for this species. Three individuals have been recorded within 5000 m of the proposal.</p>		<p>seen as very minor loss of potential habitat from the broader area. It is unlikely such a small loss in a marginal periurban area could impact the carrying capacity of a broader population.</p> <p>As the proposal will not impact a meaningful amount of potential habitat or denning sites for the species, the project has:</p> <ul style="list-style-type: none"> • No likelihood of breeding disturbance and therefore no adverse impacts on habitat critical to the survival of the species, no potential to disrupt the breeding cycle of a population, no potential to lead to a long-term decrease in the size of a population and no impacts to habitat to the extent that the species is likely to decline. • No possible fragmentation effects. • No likelihood of introduction of disease or harmful invasive

MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
			<p>species.</p> <ul style="list-style-type: none"> No potential for interference with the recovery of the species. No meaningful reduction in the area of occupancy of the species. <p>Thus, the proposal has no potential for significant impacts to the eastern quoll.</p>
<p><i>Perameles gunnii gunnii</i> eastern barred bandicoot vulnerable</p>	<p>The eastern barred bandicoot is listed as Vulnerable under the EPBCA but is not currently listed as rare or threatened in Tasmania. It is extinct in the wild on mainland Australia, while the Tasmanian population has undergone marked population shifts in response to human landuse changes, with population decreases in some areas and increases in others . Observation records are now concentrated within the southeast and north of the State, compared to the Midlands (Figure 8, Appendix D). Important populations in Tasmania have yet to be formally identified but based on the distribution of modern observations and the finding that they are more frequent in intermediately modified areas with low density residential use than they are in natural bushland, important populations would probably be those of periurban and semi-rural areas in the southeast, plus any relict populations in the pre-European stronghold of the</p>	<p>No</p>	<p>The potential loss of 10.1 ha of habitat in an area of thousands of hectares of equivalent suitable habitat cannot be seen as a meaningful loss when there is no reason to suspect the 10.1 ha of habitat contains a limited or particularly critical resource.</p> <p>As the proposal will not impact a meaningful amount of potential habitat for the species, the project has:</p> <ul style="list-style-type: none"> No likelihood of breeding disturbance and therefore no

MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
	<p>Midlands.</p> <p>Approximately 10.1 ha of potentially suitable native habitat is found within the project area in the form of forest and woodland (NAV, GTL, NBA, FAG) and disturbance-induced grassland (GCL). Adjacent modified habitats may be used in a complementary fashion where local habitat attributes are suitable.</p> <p>There have been 29 sightings within 5000 m of the site between with observations as recent as July 2020. The species is likely to inhabit the area and given the location and the habitat attributes it is possible the area forms part of the range for what could be an important population. It is noted however that the project area is unlikely to contain a limited resource for the species and that thousands of hectares of equivalent habitat are found in the local area.</p>		<p>adverse impacts on habitat critical to the survival of an important population of the species, no potential to disrupt the breeding cycle of an important population, no potential to lead to a long-term decrease in the size of an important population and no impacts to habitat to the extent that the species is likely to decline.</p> <ul style="list-style-type: none"> • No possible fragmentation effects. • No likelihood of introduction of disease or harmful invasive species. • No potential for interference with the recovery of the species. • No meaningful reduction in the area of occupancy of the species. <p>Thus, the proposal has no potential for significant impacts to the eastern</p>

MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
			barred bandicoot.
<i>Sarcophilus harrisii</i> Tasmanian devil endangered	<p>The Tasmanian devil is listed under the EPBCA as Endangered, with the listing being a response to widespread rapid declines that occurred with the emergence of the infectious cancer, Devil Facial Tumour Disease (DFTD). In addition to DFTD, habitat loss/ modification, road mortality, persecution, and the potential competition/ predation by introduced foxes are potential threatening processes. The protection of breeding opportunities such as den sites, is particularly important for the species due to the mortalities from demographic pressures.</p> <p>There are 14 confirmed records within 5 km of the project area. The 10.1 ha of native forest and grassland habitat in the project area is likely to be the most suitable for use by the species, however all the habitats are considered to be marginal for breeding due to absence of suitable denning sites. Consistent with this, no evidence of devil prints or scats/latrines were found within the natural values assessment. It is highly improbable that individuals would be resident within the project footprint and it is likely the species may simply disperse through the project area occasionally.</p>	No	<p>Hundreds of hectares of equally suitable (or better) habitat for this species is present in the local area, with areas of mosaic habitats becoming more suitable away from the project area as human occupation decreases. The potential impact of the removal of fragments comprising 10.1 ha of potential habitat is thus seen as very minor loss of potential habitat from the broader area. It is unlikely such a small loss in a marginal periurban area could impact the carrying capacity of a broader population.</p> <p>As the proposal will not impact a meaningful amount of potential habitat or denning sites for the species, the project has:</p> <ul style="list-style-type: none"> No likelihood of breeding disturbance and therefore no adverse impacts on habitat critical to the survival of the species, no potential to disrupt the breeding cycle of a

MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
			<p>population, no potential to lead to a long-term decrease in the size of a population and no impacts to habitat to the extent that the species is likely to decline.</p> <ul style="list-style-type: none"> • No possible fragmentation effects. • No likelihood of introduction of disease or harmful invasive species. • No potential for interference with the recovery of the species. • No meaningful reduction in the area of occupancy of the species. <p>Thus, the proposal has no potential for significant impacts to the Tasmanian devil.</p>
Other (1)			
<i>Ammoniropa vigens</i> ammonite pinwheel snail	Endemic to Tasmania, this species of land snail occurs only in the Hobart area (Appendix D). Found only under dolerite rocks within forested habitats, this species is currently restricted to two known	No	No likelihood of occurrence – no potential for impacts.

MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
critically endangered	<p>extant populations. Within these two populations there is thought to be < 200 individuals coving an area of 2 ha.</p> <p>No records of individuals within 5000 m of the proposed site (nearest known localities approximately 12 km southeast near Mt Direction. No suitable habitat is present within the project area.</p>		
Flora (15) – maps for context of distribution comments in Appendix H			
<p><i>Barbarea australis</i></p> <p>native wintercress, riverbed wintercress</p> <p>endangered</p>	<p><i>Barbarea australis</i> is a riparian species found near river margins, creek beds and along flood channels adjacent to the river. It tends to favour the slower reaches and has not been found on steeper sections of rivers. It predominantly occurs in flood deposits of silt and gravel deposited as point bars and at the margins of base flows, or more occasionally or between large cobbles on sites frequently disturbed by fluvial processes. Some of the sites are a considerable distance from the river, in flood channels scoured by previous flood action, exposing river pebbles. Most populations are in the Central Highlands, but other populations occur in the north-east and upland areas in the central north.</p> <p>No suitable habitat is present within the project area.</p>	No	No likelihood of occurrence – no potential for impacts.
<p><i>Caladenia anthracina</i></p> <p>black-tipped spider-orchid</p> <p>critically endangered</p>	<p><i>Caladenia anthracina</i> has a restricted distribution in the Campbelltown/Ross area, occurring in grassy woodland with <i>Acacia dealbata</i> (silver wattle) and bracken on well-drained sandy soil. Two historical sites from the Derwent Valley are presumed extinct.</p>	No	No likelihood of occurrence – no potential for impacts.

MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
	No suitable habitat within the project area and well beyond (> 50 km) known range (Appendix F).		
<i>Caladenia caudata</i> tailed spider-orchid vulnerable	<p><i>Caladenia caudata</i> has highly variable habitat, which includes the central north: <i>Eucalyptus obliqua</i> heathy forest on low undulating hills; the north-east: <i>E. globulus</i> grassy/heathy coastal forest, <i>E. amygdalina</i> heathy woodland and forest, <i>Allocasuarina</i> woodland; and the south-east: <i>E. amygdalina</i> forest and woodland on sandstone, coastal <i>E. viminalis</i> forest on deep sands. Substrates vary from dolerite to sandstone to granite, with soils ranging from deep windblown sands, sands derived from sandstone and well-developed clay loams developed from dolerite. A high degree of insolation is typical of many sites.</p> <p>Marginal habitat suitability within project area. Targeted spring flora surveys undertaken in November 2021 and species not found to be present.</p>	No	No likelihood of occurrence – no potential for impacts.
<i>Colobanthus curtisiae</i> Curtis' colobanth vulnerable	<p>When first described, <i>Colobanthus curtisiae</i> was understood to occur in native grassland and grassy woodland (the type location is a grassy <i>E. pauciflora</i> woodland on a small basalt hill) but also extending to subalpine low vegetation (Ben Lomond area). This species is now known to occur in lowland grasslands and grassy woodlands but is also prevalent on rocky outcrops and margins of forest on dolerite on the Central Highlands (including disturbed sites such as log landings and snig tracks).</p> <p>Typically found further north in the Midlands and unlikely to have been overlooked in the project area.</p>	No	No likelihood of occurrence – no potential for impacts.

MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
<p><i>Dianella amoena</i> matted flax-lily endangered</p>	<p><i>Dianella amoena</i> occurs mainly in the northern and southern Midlands, where it grows in native grasslands and grassy woodlands.</p> <p>The species is present in the project area in low numbers (approximately 10 plants). A full account of the context of this species is provided in Listed Threatened Flora (pg 26).</p>	<p>No</p>	<ul style="list-style-type: none"> • No likelihood of breeding disturbance and therefore no adverse impacts on habitat critical to the survival of the species, no potential to disrupt the breeding cycle of a population (important or otherwise), no potential to lead to a long-term decrease in the size of a population (important or otherwise) and no impacts to habitat to the extent that the species is likely to decline. • No possible fragmentation effects. • No likelihood of introduction of disease or harmful invasive species. • No potential for interference with the recovery of the species. • No meaningful reduction in the area of occupancy of the species.

MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
			No potential for significant impacts.
<i>Epacris virgata</i> pretty heath endangered	<p><i>Epacris virgata</i> (Kettering) occurs among foothills in south-eastern Tasmania in dry sclerophyll forest on hilly terrain at elevations of 10-300 m above sea level, mainly on dolerite, though sometimes close to the geological boundary of dolerite and Permian mudstone. It is generally associated with grassy/heathy <i>Eucalyptus ovata</i> woodland/forest but is also occasionally found in grassy/heathy <i>E. pulchella</i> woodland/forest.</p> <p>No records of the species within 5000 m of the project. Unlikely to have been overlooked during NVA field investigations.</p>	No	No likelihood of occurrence – no potential for impacts.
<i>Glycine latrobeana</i> clover glycine vulnerable	<p><i>Glycine latrobeana</i> occurs in a range of habitats, geologies and vegetation types. Soils are usually fertile but can be sandy when adjacent to or overlaying fertile soils. The species mainly occurs on flats and undulating terrain over a wide geographical range, including near-coastal environments, the Midlands, and the Central Plateau. It mainly occurs in grassy/heathy forests and woodlands and native grasslands.</p> <p>14 records of the species within 5000m of the project area. Not observed during NVA field investigations and unlikely to have been overlooked.</p>	No	No potential for impacts.
<i>Hibbertia basaltica</i> basalt Guinea-flower	<i>Hibbertia basaltica</i> is restricted to areas of basalt between Pontville and Bridgewater in southern Tasmania where it occurs on slopes along the lower reaches of the Jordan River and one of	No	No potential for impacts.

MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
endangered	<p>its tributaries, in native grassland dominated by <i>Themeda triandra</i> (kangaroo grass) and <i>Austrostipa</i> (spear grass) species with the occasional <i>Bursaria spinosa</i> (prickly box). Rock cover is high, while soils are shallow clay loams. Slopes vary from 0-15 degrees, and altitude 15-45 m above sea level. Note that a very similar taxon, possibly undescribed or within the concept of <i>H. basaltica</i>, occurs in similar habitat but on Jurassic dolerite in the same part of the State, currently all such sites shown on databases as <i>H. basaltica</i>.</p> <p>Marginally suitable habitat present by way of dry east facing dolerite slope however species not observed. Common species <i>Hibbertia hirsuta</i> observed in areas of GTL/NBA.</p>		
<p><i>Lepidium hyssopifolium</i> basalt pepper-cress endangered</p>	<p>The native habitat of <i>Lepidium hyssopifolium</i> is the growth suppression zone beneath large trees in grassy woodlands and grasslands (e.g. over-mature black wattles and isolated eucalypts in rough pasture). <i>Lepidium hyssopifolium</i> is now found primarily under large exotic trees on roadsides and home yards on farms. It occurs in the eastern part of Tasmania between sea-level to 500 metres above sea level in dry, warm and fertile areas on flat ground on weakly acid to alkaline soils derived from a range of rock types. It can also occur on frequently slashed grassy/weedy roadside verges where shade trees are absent.</p> <p>Limited suitable habitat present within project area by way of large trees with significant growth suppression zones. Species considered highly unlikely to be present.</p>	No	<p>Not known from project area and unlikely to occur.</p> <p>No potential for significant impacts.</p>

MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
<i>Leucochrysum albicans</i> var. <i>tricolor</i> hoary sunray, grassland paper-daisy endangered	<i>Leucochrysum albicans</i> var. <i>tricolor</i> occurs in the west and on the Central Plateau and the Midlands, mostly on basalt soils in open grassland. This species would have originally occupied <i>Eucalyptus pauciflora</i> woodland and tussock grassland, though most of this habitat is now converted to improved pasture or cropland. Species not observed and unlikely to have been overlooked during NVA field investigations.	No	No likelihood of occurrence – no potential for impacts.
<i>Ozothamnus reflexifolius</i> Reflexed everlasting Vulnerable	Species is known only from a defined population on the northern slopes of Mt Direction approximately 12 km south of project area. Species is not present in project area.	No	Not known from project area and unlikely to occur.
<i>Prasophyllum apoxychilum</i> tapered leek-orchid endangered	<i>Prasophyllum apoxychilum</i> is restricted to eastern and north-eastern Tasmania where it occurs in coastal heathland or grassy and scrubby open eucalypt forest on sandy and clay loams, often among rocks. It occurs at a range of elevations and seems to be strongly associated with dolerite in the east and south-east of its range. Location, habitat and/or landuse not considered to be compatible with occurrence of the species.	No	No likelihood of occurrence – no potential for impacts.
<i>Pterostylis commutata</i> Midland greenhood critically endangered	<i>Pterostylis commutata</i> is restricted to Tasmania's Midlands, where it occurs in native grassland and <i>Eucalyptus pauciflora</i> grassy woodland on well-drained sandy soils and basalt loams. Marginal habitat suitability within project area. Targeted spring	No	No likelihood of occurrence – no potential for impacts.

MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
	flora surveys undertaken in November 2021 and species not found to be present.		
<i>Pterostylis wapstrarum</i> Fleshy greenhood Critically endangered	<i>Pterostylis wapstrarum</i> is restricted to four extant subpopulations in the southern midlands where it grows in native grasslands and grassy eucalypt woodlands. Potential habitat suitability within project area. Targeted spring flora surveys undertaken in November 2021 and species not found to be present.		No potential for impacts.
<i>Pterostylis ziegeleri</i> grassland greenhood vulnerable	<i>Pterostylis ziegeleri</i> is restricted to the east and north of Tasmania. In coastal areas, the species occurs on the slopes of low stabilised sand dunes and in grassy dune swales, while in the Midlands it grows in native grassland or grassy woodland on well-drained clay loams derived from basalt. Suitable habitat is present within the project area, but the species has not been observed and is unlikely to have been overlooked unless it was low in number.	No	No potential for impacts.
<i>Xerochrysum palustre</i> swamp everlasting, swamp paper-daisy vulnerable	Mostly inhabits seasonally swampy environments in lowlands, but highland occurrences on basalt outcrops have also been found. No suitable swampy environments present.	No	No likelihood of occurrence – no potential for impacts.
Migratory and Marine birds (15) – maps for context of distribution comments in appendices E			
<i>Actites hypoleucos</i>	This species frequents coastal and inland wetlands, both fresh	No	No likelihood of occurrence – no

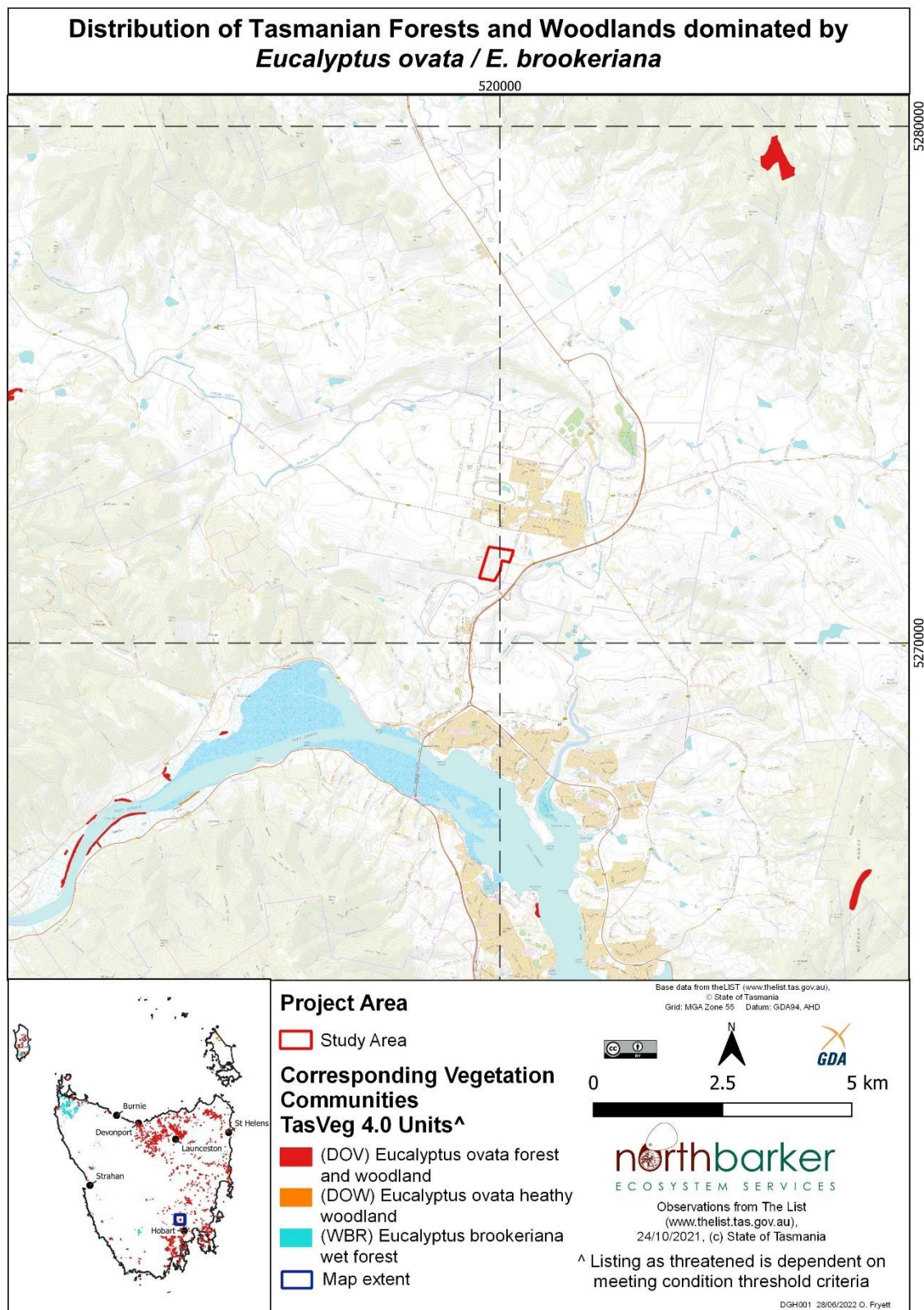
MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
common sandpiper migratory/marine	and saline. Within these habitats they tend to stick to the muddy edges and rocky shores. This species breeds in Eurasia and migrates to Australia during the non-breeding season. This species has not been recorded within 5 km of the proposed site.		potential for impacts.
<i>Apus pacificus</i> fork-tailed swift migratory/marine	An aerial insectivore occasionally recorded in Tasmania. Most records of the Fork-tailed swift are from Bass Strait Islands with fewer on mainland northern Tasmania. Almost exclusively an aerial species. This species has not been recorded within 5 km of the proposed site but may fly over rarely.	No	No potential for impacts.
<i>Ardea ibis</i> cattle egret marine	This species inhabits wetlands, woodlands and grassy areas including pastures where drainage is poor. There are twelve records of this species within 5 km of the proposed site, and it can be expected to occur in the wetland areas occasionally.	No	No potential for impacts.
<i>Ardenna grisea</i> sooty shearwater migratory/marine	This species breeds on small islands off the coast of Australia and New Zealand. It migrates to the northern hemisphere during the non-breeding season. This species has not been recorded within 5 km of the proposed site.	No	No likelihood of occurrence – no potential for impacts.
<i>Calidris acuminata</i>	These species of shorebirds and waders all breed outside	No	No potential for impacts.

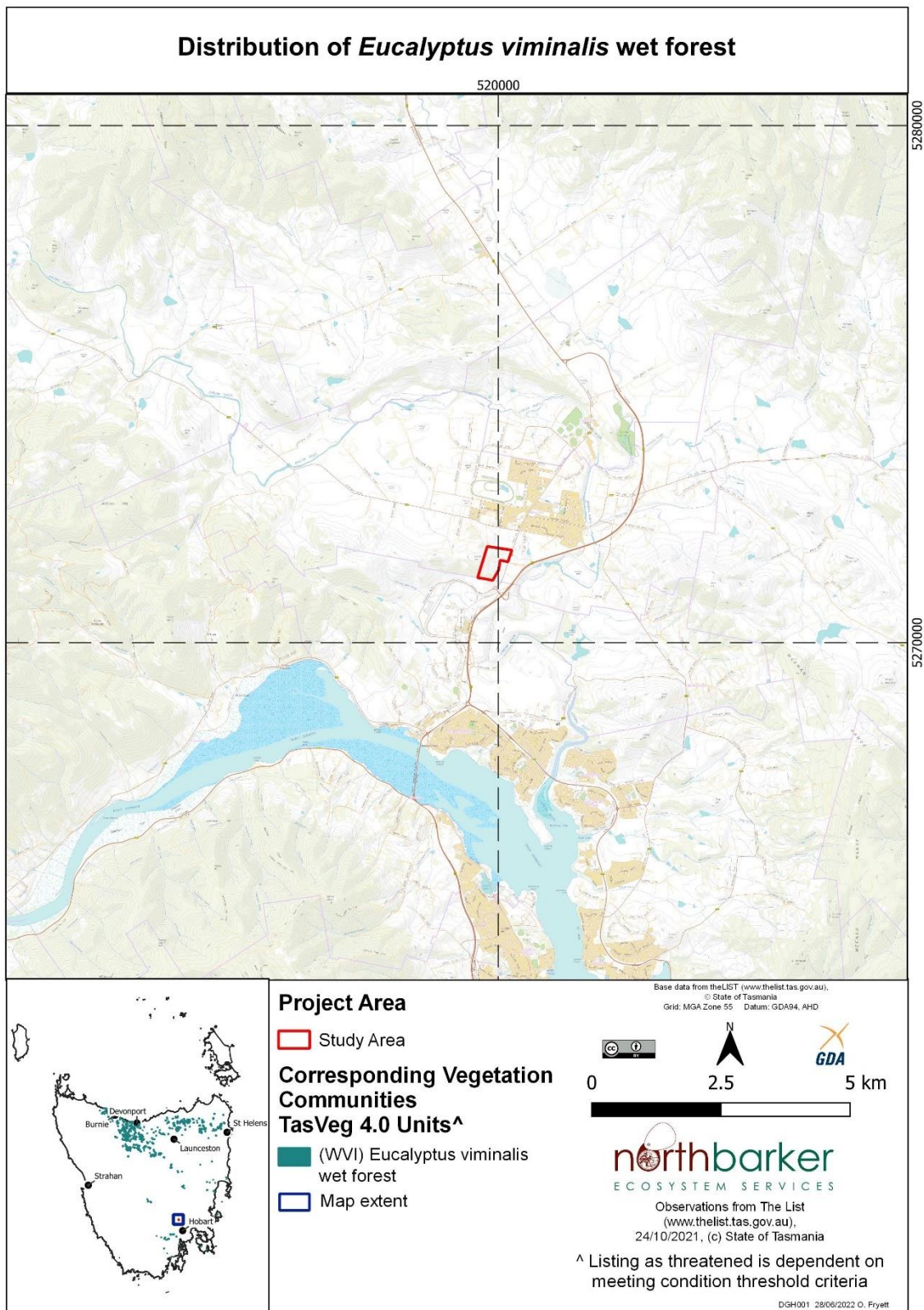
MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
sharp-tailed sandpiper migratory	<p>Australia and migrate to Australia for the summer where they frequent estuaries, sheltered coastlines, mudflats, bays, lagoons, intertidal sandflats and inlets where they forage for food.</p> <p>The exception to these species which breed in the northern hemisphere and migrate to the southern hemisphere is the double-banded plover, which breeds in the southern hemisphere predominately in New Zealand.</p> <p>Only two of these species have been recorded within 5 km of the proposed site. These are the double-banded plover, which was recorded in 1980 near the Jordan River, and the red-neck stint, which was recorded near Bridgewater in the late 1800's.</p>		
<i>Calidris melanotos</i> pectoral sandpiper migratory/marine			
<i>Calidris ruficollis</i> red-necked stint migratory/marine			
<i>Charadrius bicinctus</i> double-banded plover migratory/marine			
<i>Gallinago hardwickii</i> Latham's snipe migratory/marine			
<i>Haliaeetus leucogaster</i> white-bellied sea-eagle marine	In Tasmania, the white-bellied sea-eagle is restricted to nesting within 5 km of coastlines, major estuaries and inland lakes. They typically build nests in large eucalypt trees, much like the Tasmanian wedge-tailed eagle (<i>Aquila audax fleayi</i>), although their specific nesting requirements aren't as strict as the wedge-tailed eagle, such that they often nest in relatively small and	No	No likelihood of occurrence – no potential for impacts.

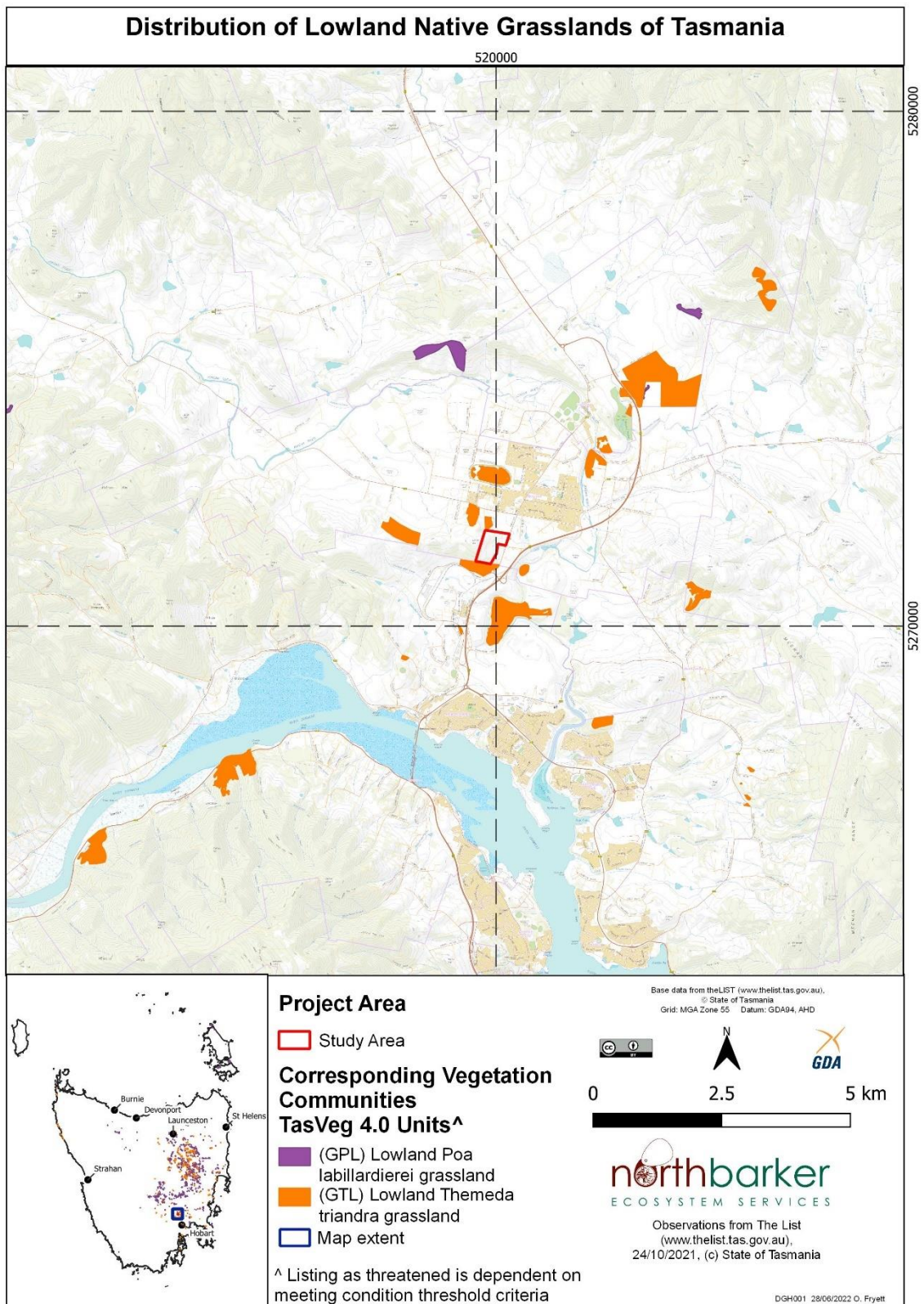
MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
	<p>exposed coastal trees (including [in a minority of cases] non-native species [e.g. <i>Pinus radiata</i>]), and are also known to nest occasionally on sea cliffs or even piles of rocks at ground level on islands lacking ground predators (e.g. Ninth Island).</p> <p>No suitable nesting habitat for this species exists within or adjacent (within 1 km) of the proposed project area.</p>		
<i>Limosa lapponica</i> bar-tailed godwit migratory/marine	<p>This species migrates to Australia after breeding in the northern hemisphere. They frequent estuaries, sheltered coastlines, mudflats, bays, lagoons, intertidal sandflats and inlets where they forage for food.</p> <p>This species has not been recorded within 5 km of the proposed site.</p>	No	No likelihood of occurrence – no potential for impacts.
<i>Myiagra cyanoleuca</i> satin flycatcher migratory/marine	<p>This species is primarily found in tall forests with gullies in preferred wetter habitats, but more broadly utilises a variety of forest types. They are migratory birds moving north for the winter. This species is thinly distributed in Tasmania.</p> <p>This species has not recently been recorded within 5 km of the proposed site but may occur in the forest remnants occasionally.</p>	No	No potential for impacts.
<i>Pachyptila turtur</i> fairy prion marine	<p>This species is found throughout the southern hemisphere and breeds on small islands. It is a pelagic species feeding on the water surface.</p> <p>This species was recorded with 5 km of the site during the 1920s, however it is likely species that this sighting was either inaccurate</p>	No	No likelihood of occurrence – no potential for impacts.

MNES (and other matters protected by the Act)	Context ⁴⁰	Potential Significant Impact	Justification
	or a vagrant individual.		
<i>Pluvialis fulva</i> Pacific golden plover migratory/marine	These species breed outside of Australia and migrate to Australia for the summer where they frequent estuaries, sheltered coastlines, mudflats, bays, lagoons, intertidal sandflats and inlets where they forage for food.	No	No potential for impacts.
<i>Tringa nebularia</i> common greenshank migratory/marine			

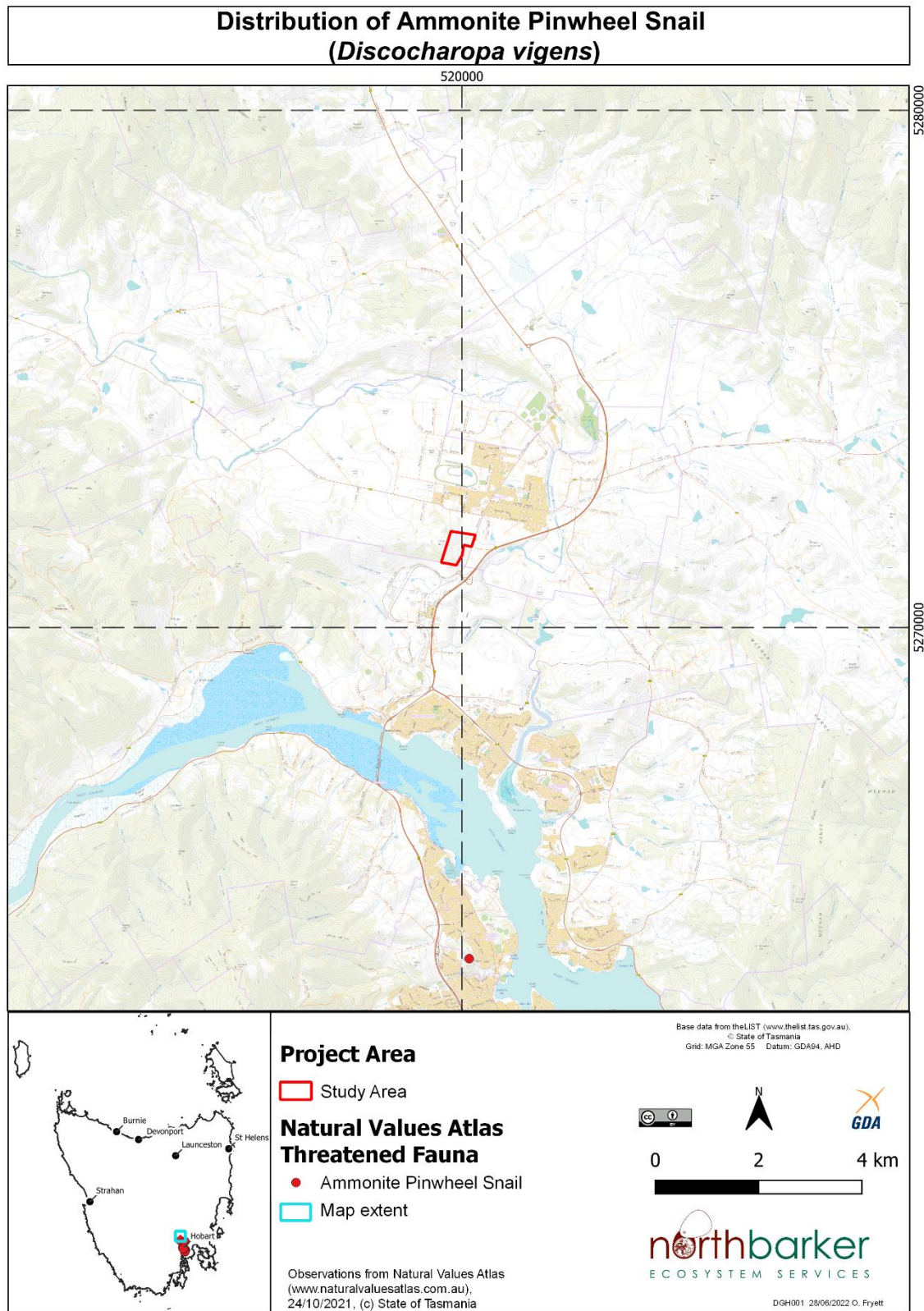
APPENDIX C: DISTRIBUTION MAPS OF RELEVANT EPBCA COMMUNITIES



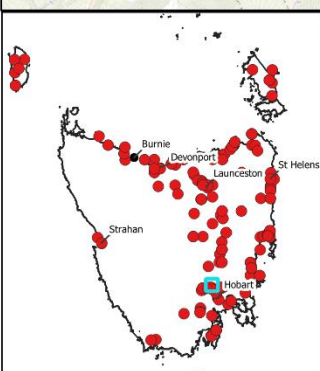
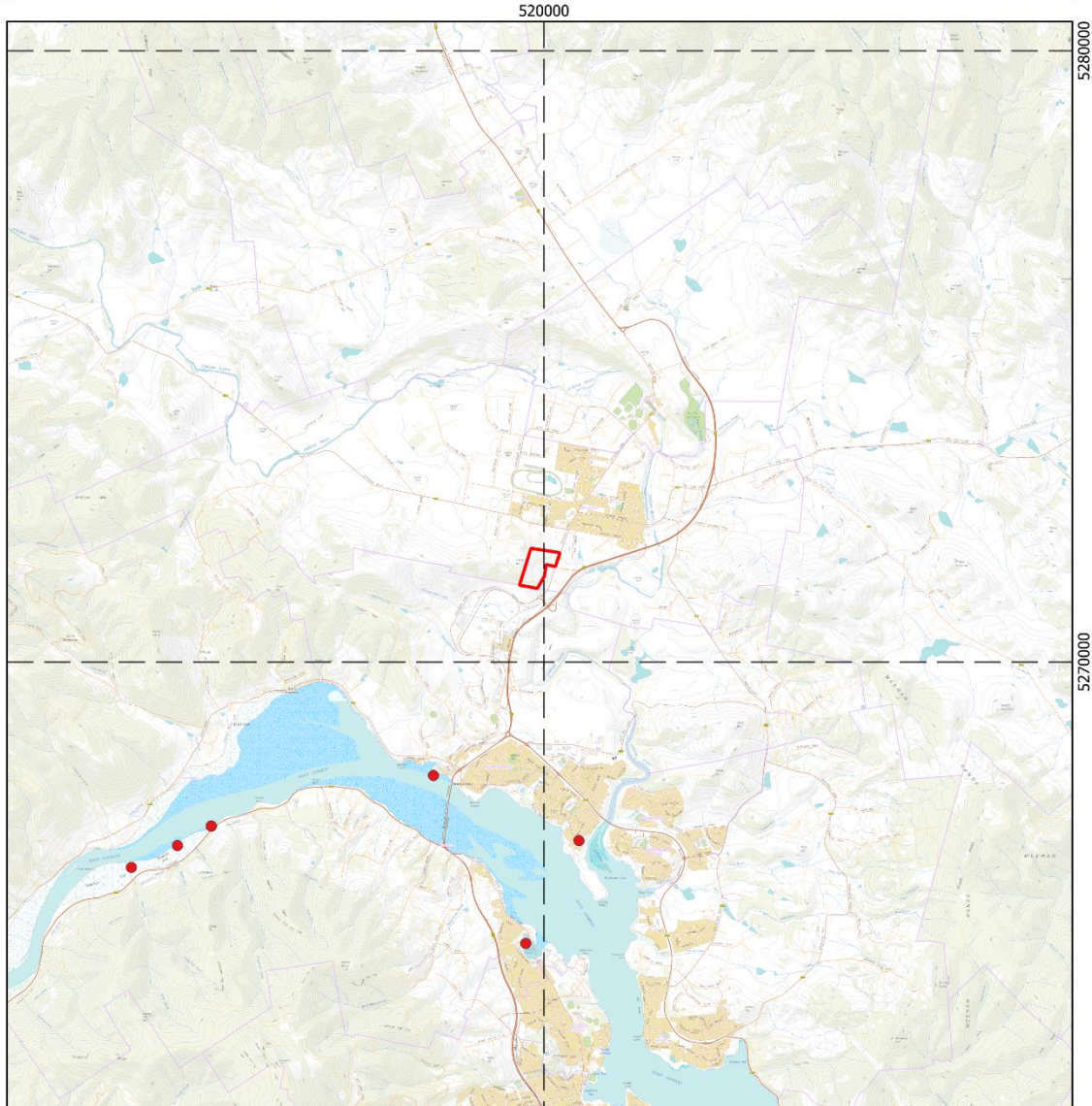




APPENDIX D: DISTRIBUTION MAPS OF MNES THREATENED FAUNA



Distribution of Australasian Bittern (*Botaurus poiciloptilus*)



Project Area

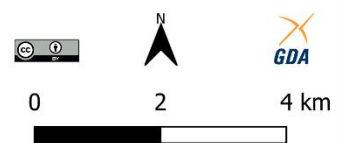
Study Area

Natural Values Atlas Threatened Fauna

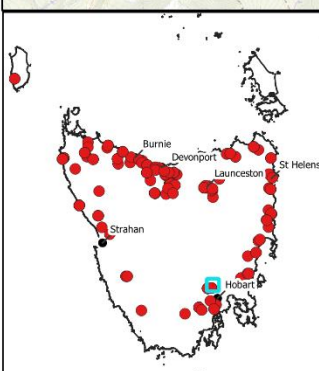
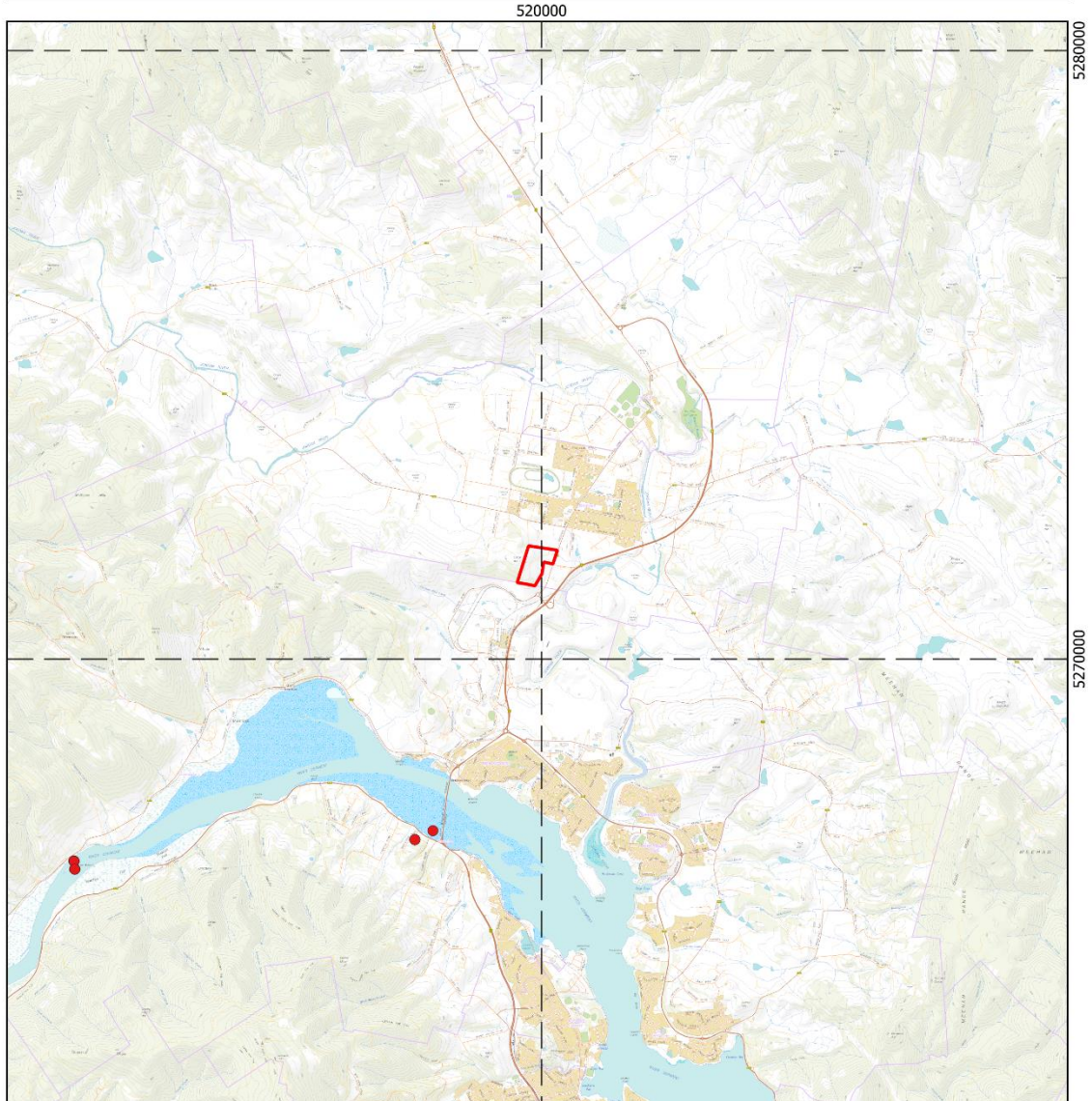
- Australasian Bittern
- Map extent

Observations from Natural Values Atlas
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Distribution of Australian Grayling (*Prototroctes maraena*)



Project Area

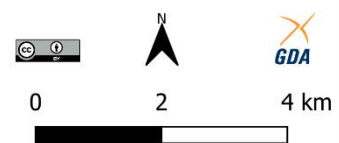
Study Area

Natural Values Atlas Threatened Fauna

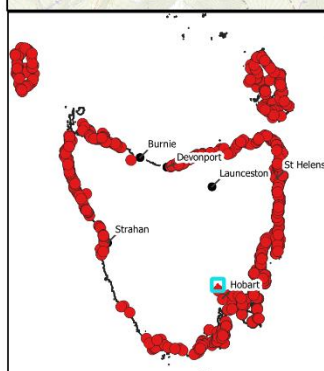
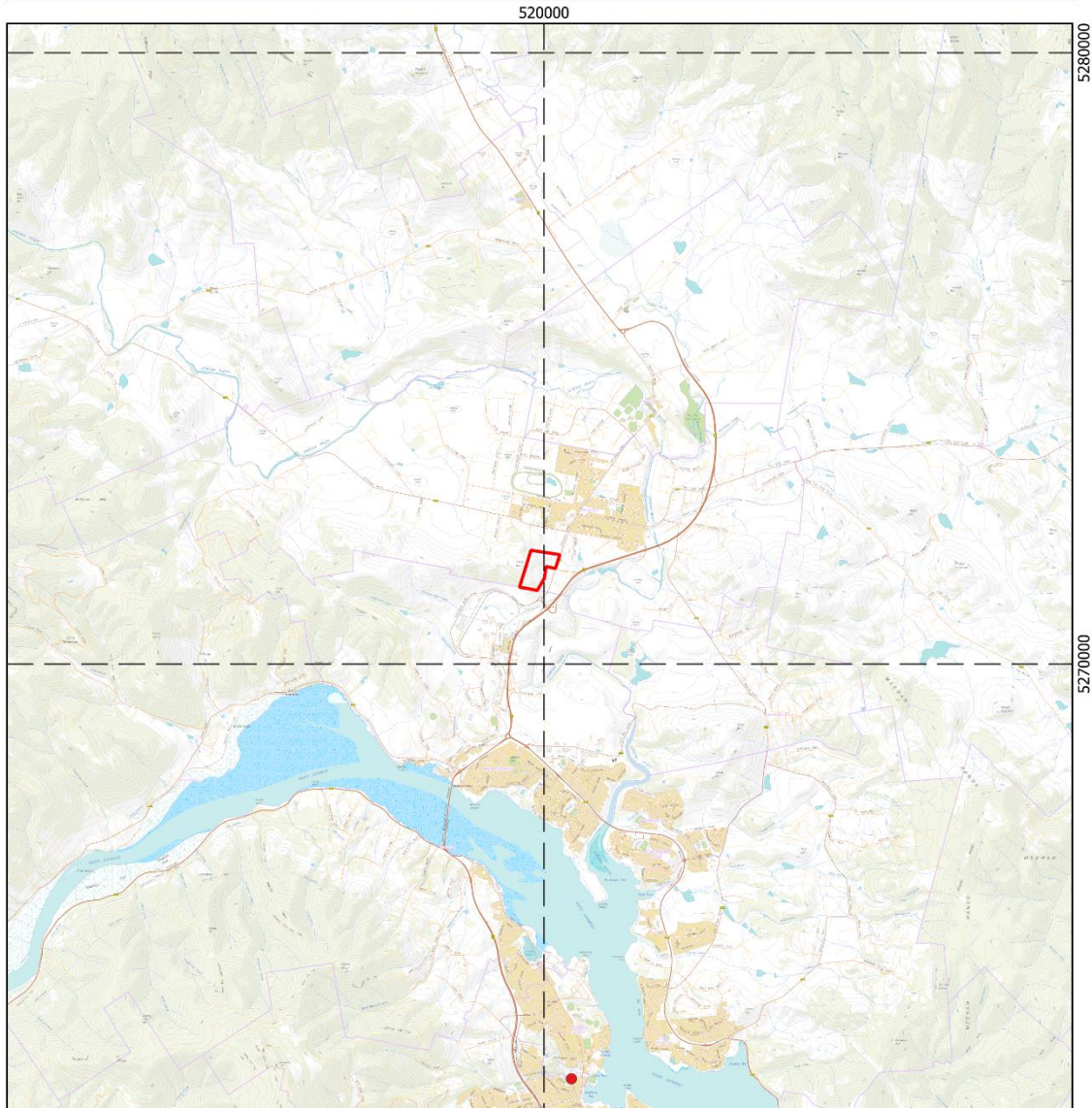
- Australian Grayling
- Map extent

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Distribution of Eastern Hooded Plover (*Thinornis cucullatus*)



Project Area

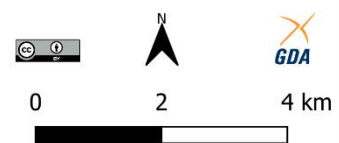
Study Area

Natural Values Atlas Threatened Fauna

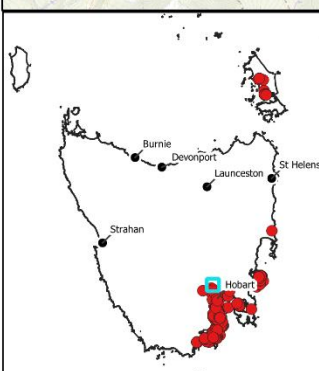
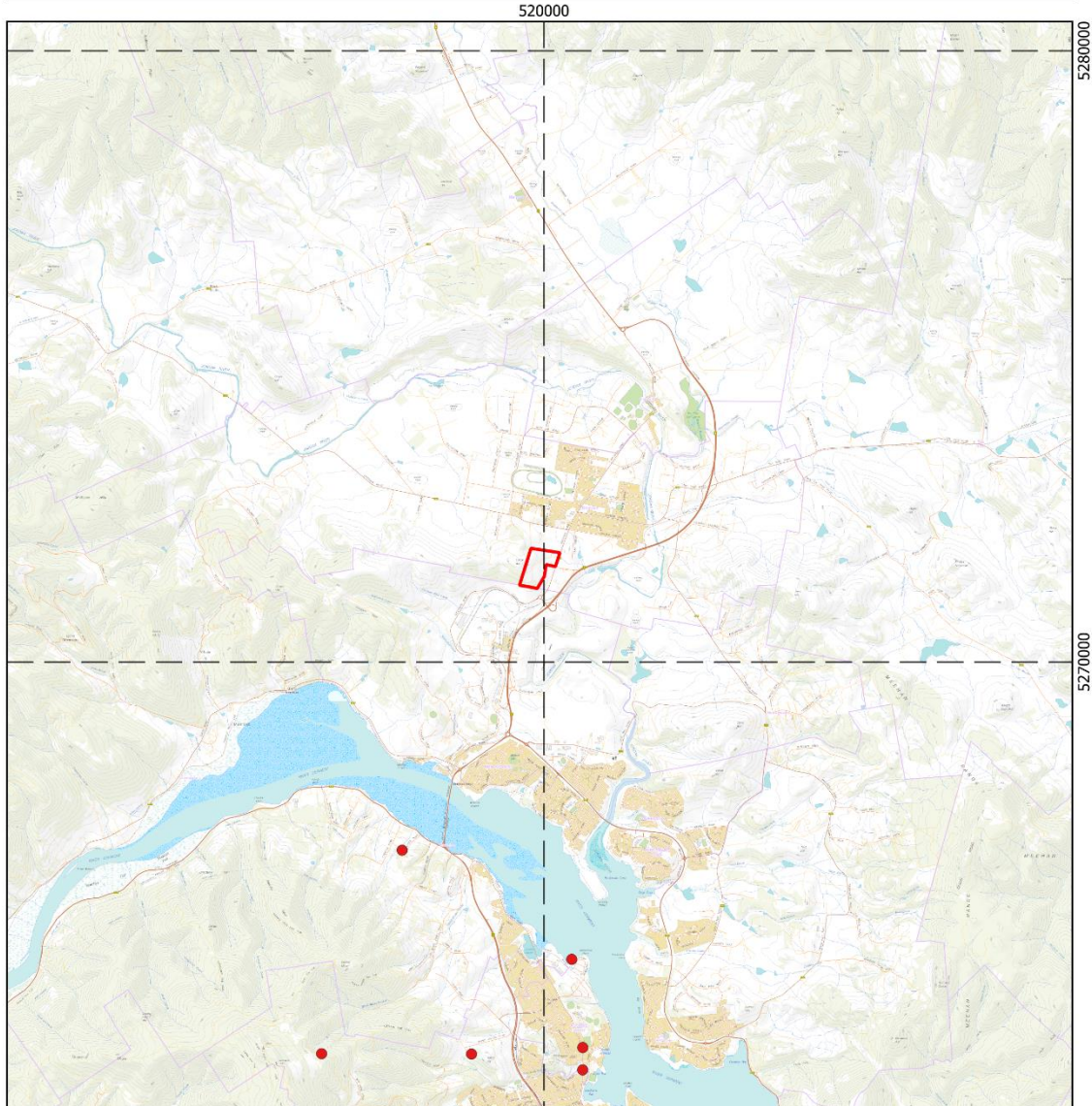
● Eastern Hooded Plover
 Map extent

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Distribution of Forty-spotted Pardalote (*Pardalotus quadragintus*)



Project Area

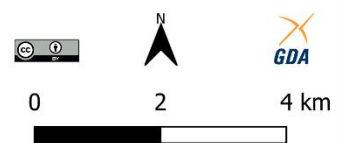
Study Area

Natural Values Atlas Threatened Fauna

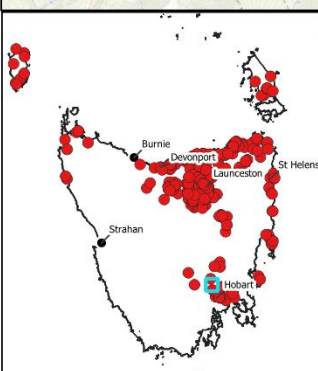
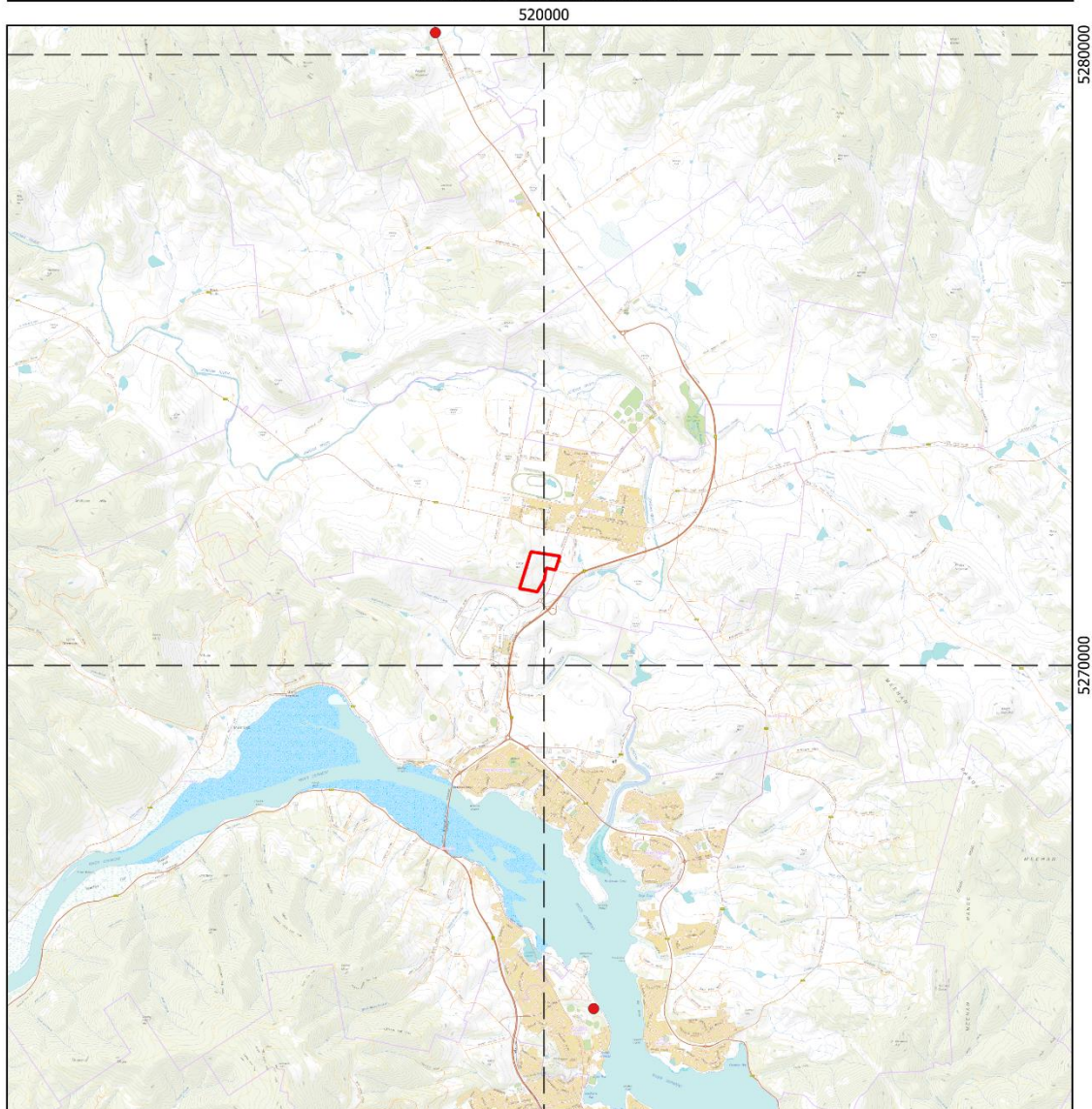
- Forty-spotted Pardalote
- Map extent

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Distribution of Green and Golden Frog (*Litoria raniformis*)



Project Area

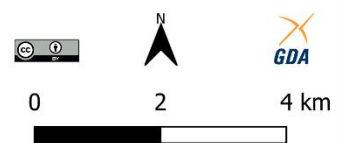
Study Area

Natural Values Atlas Threatened Fauna

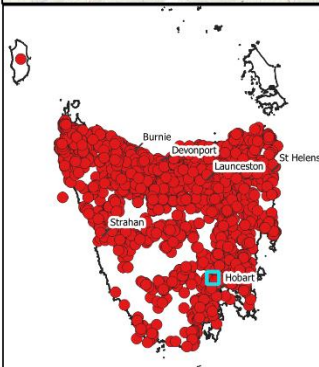
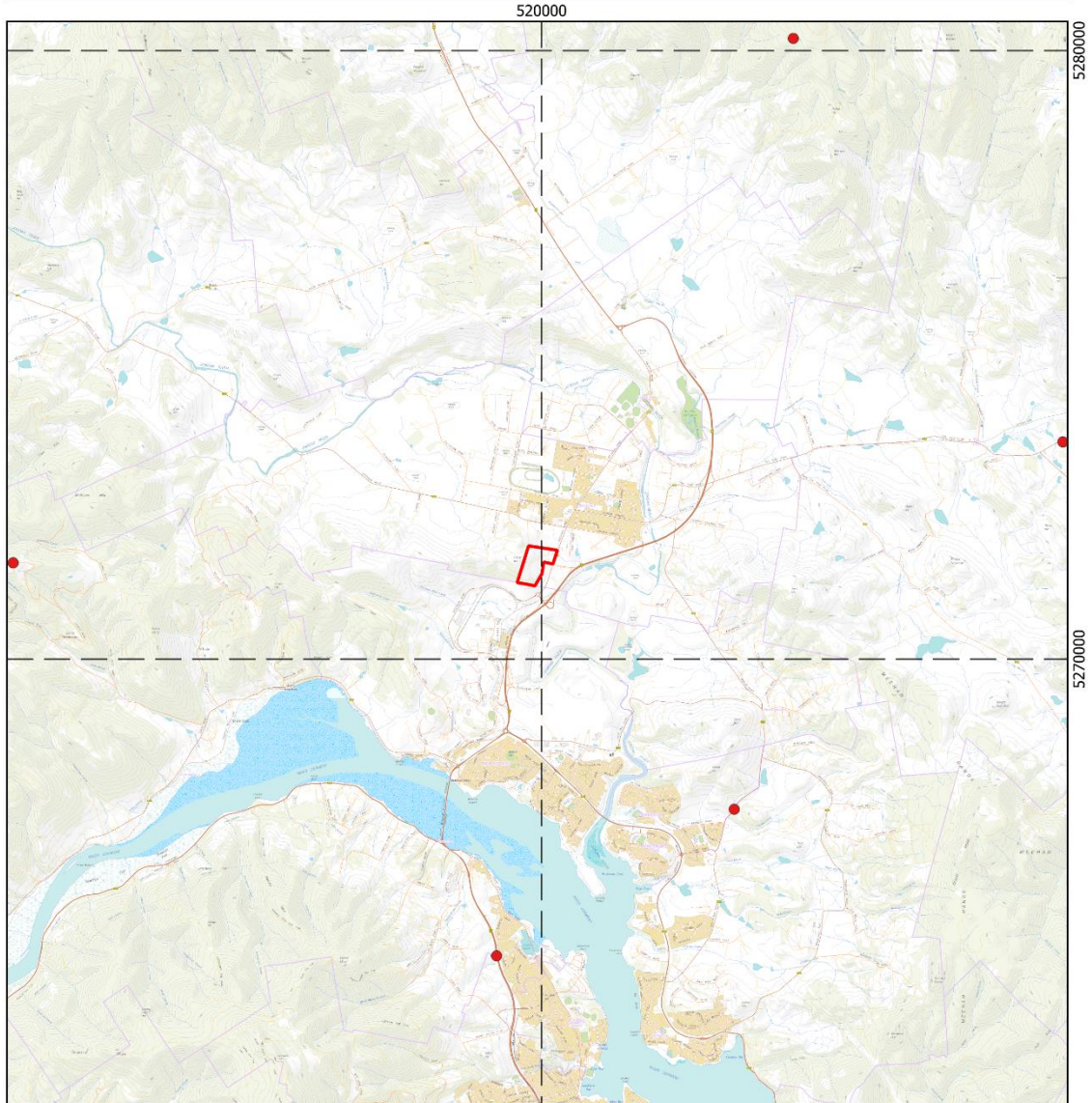
- Green and Golden Frog
- Map extent

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Distribution of Spotted-tail Quoll *(Dasyurus maculatus subsp. maculatus)*



Project Area

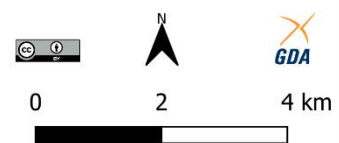
Study Area

Natural Values Atlas Threatened Fauna

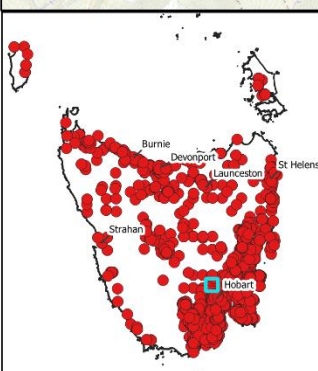
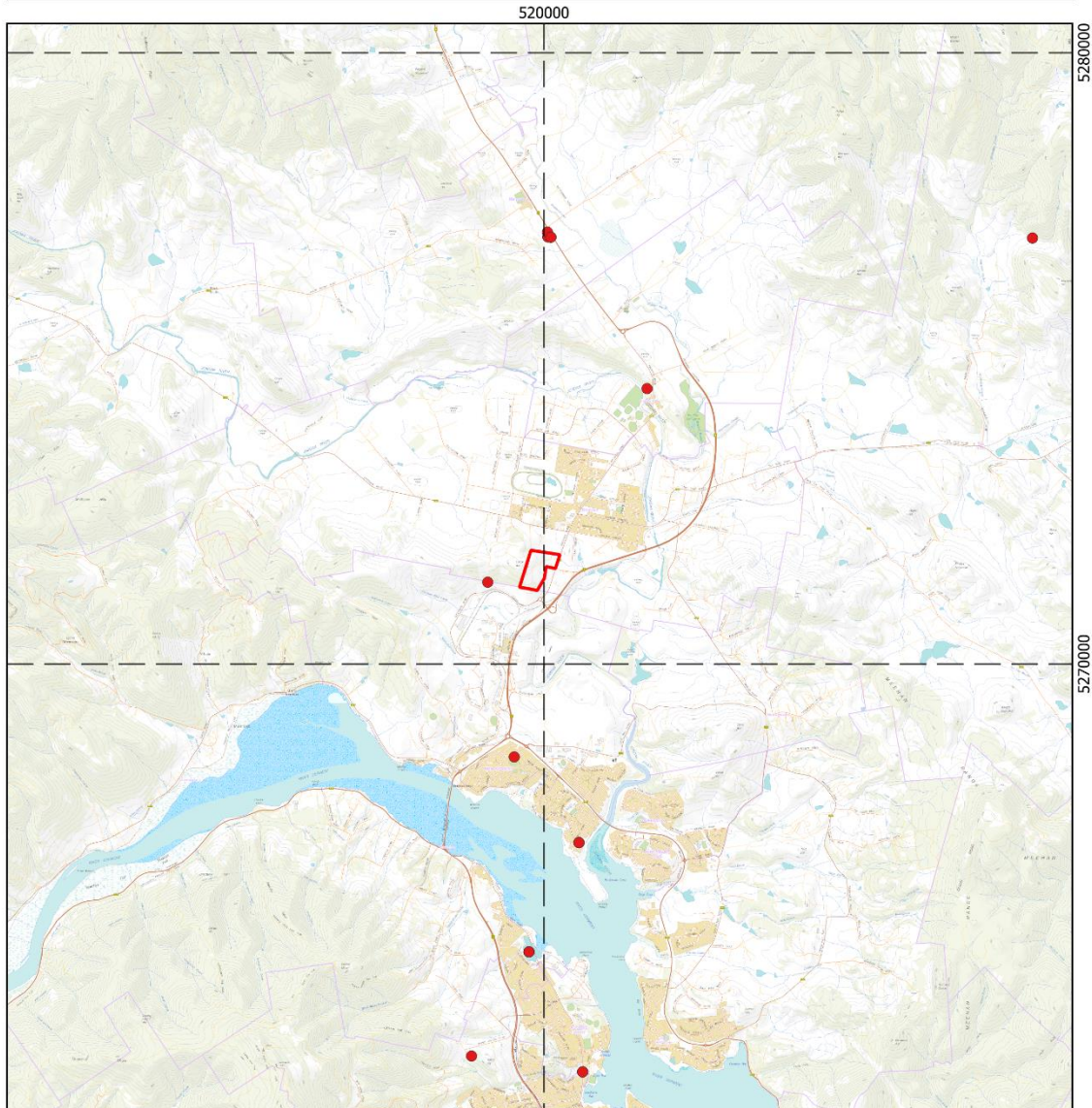
- Spotted-tail Quoll
- Map extent

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Distribution of Swift Parrot (*Lathamus discolor*)



Project Area

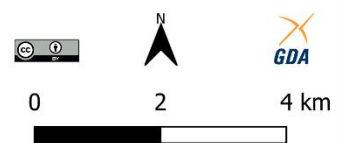
Study Area

Natural Values Atlas Threatened Fauna

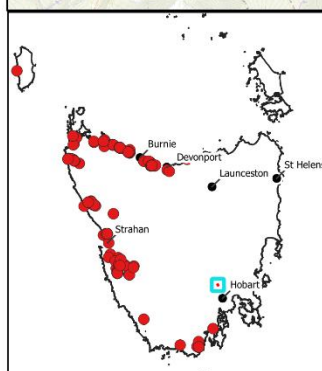
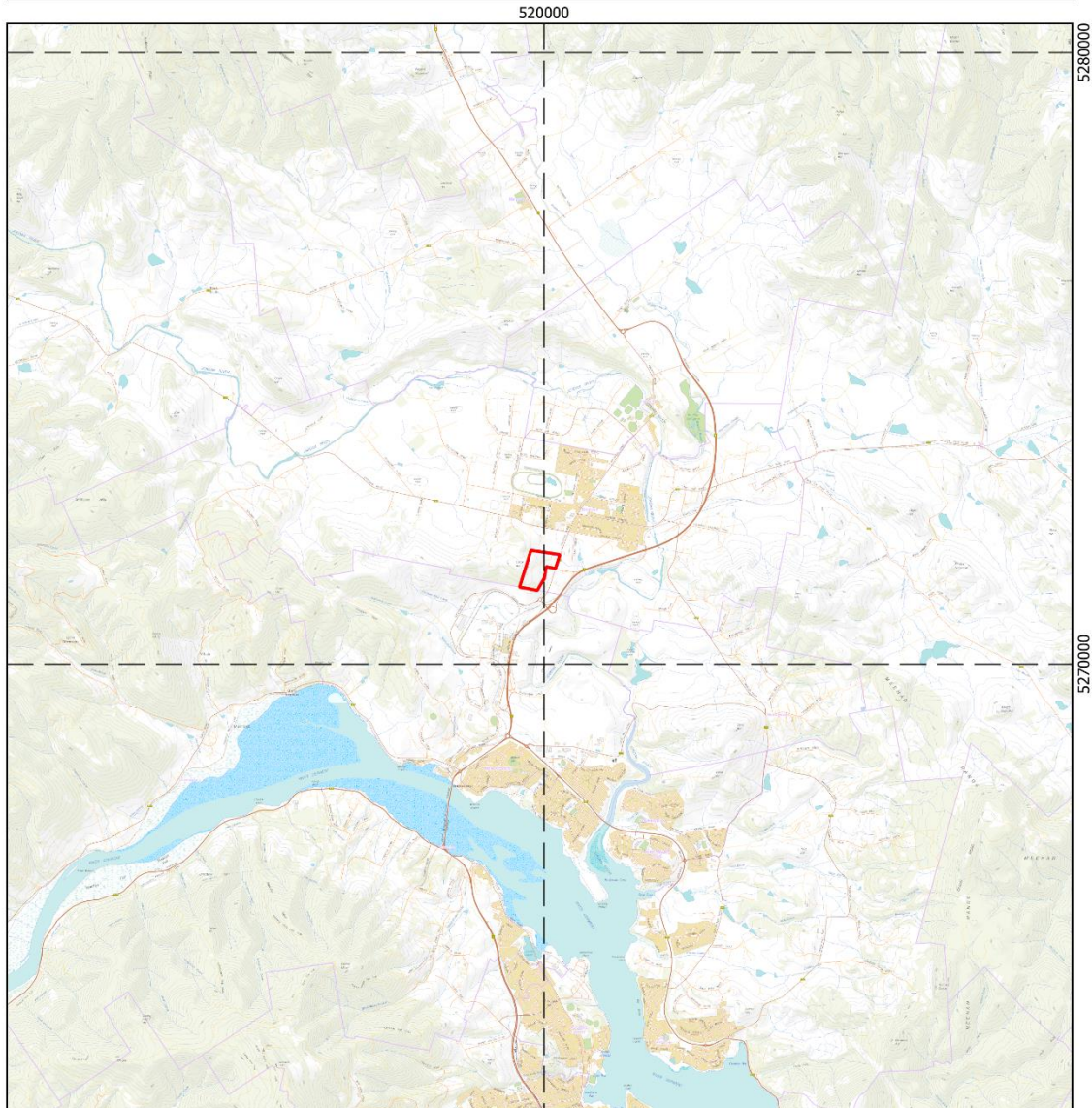
• Swift Parrot
 Map extent

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Distribution of Tasmanian Azure Kingfisher (*Ceyx azureus subsp. diemenensis*)



Project Area

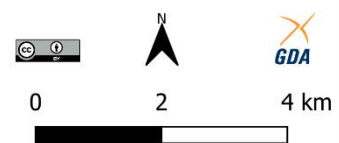
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Natural Values Atlas Threatened Fauna

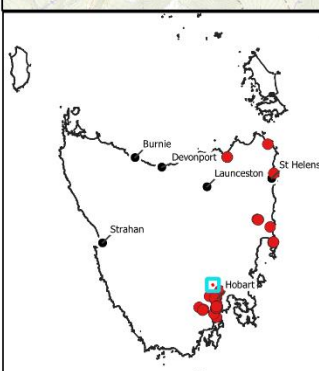
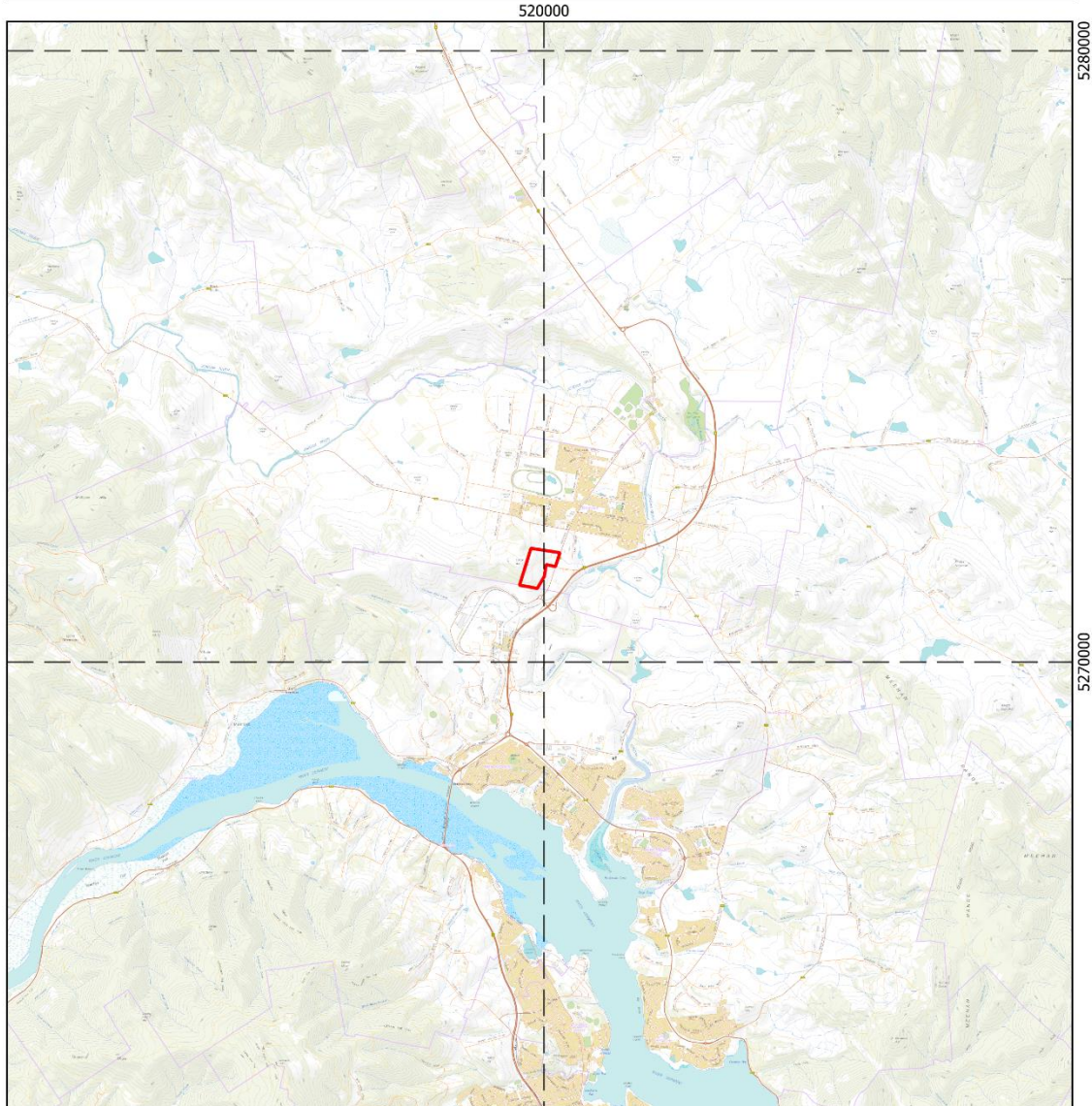
- Tasmanian Azure Kingfisher
- Map extent

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Distribution of Tasmanian Chaostola Skipper (*Antipodia chaostola subsp. leucophaea*)



Project Area

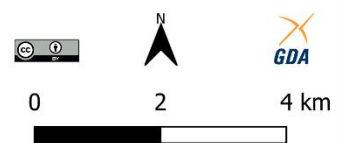
Study Area

Natural Values Atlas Threatened Fauna

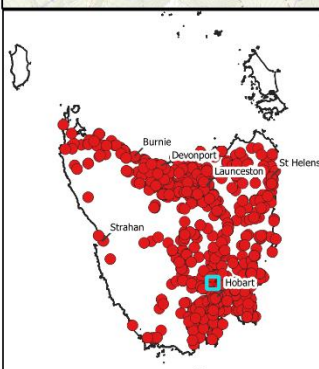
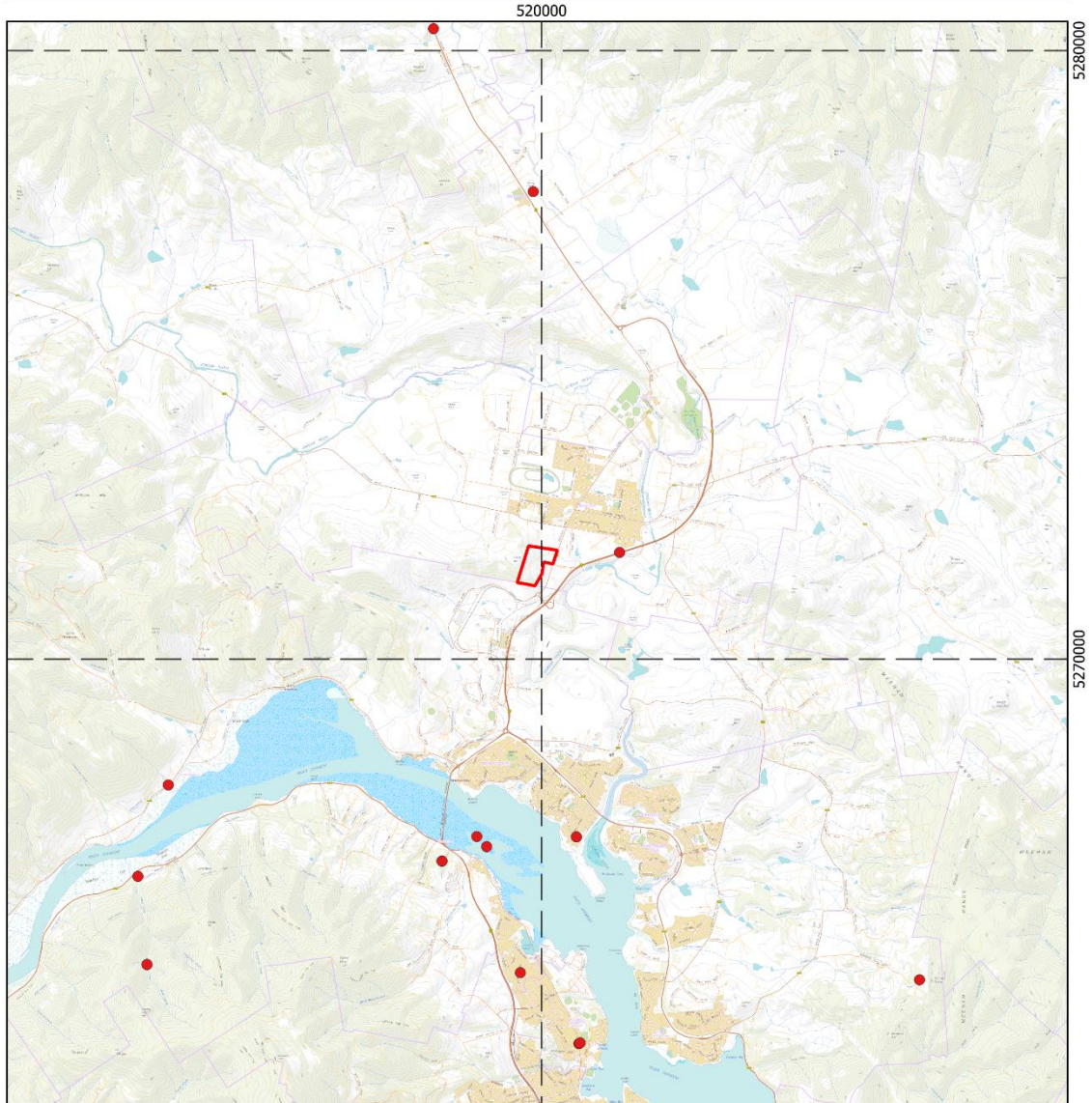
- Tasmanian Chaostola Skipper
- Map extent

Observations from Natural Values Atlas
(www.naturalvaluesatlas.com.au),
24/10/2021, (c) State of Tasmania

Base data from theLIST (www.thelist.tas.gov.au),
© State of Tasmania
Grid: MGA Zone 55 Datum: GDA64, AHD



Distribution of Tasmanian Masked Owl (*Tyto novaehollandiae*)



Project Area

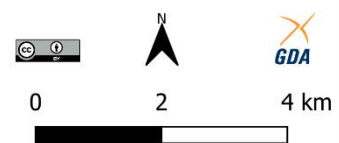
Study Area

Natural Values Atlas Threatened Fauna

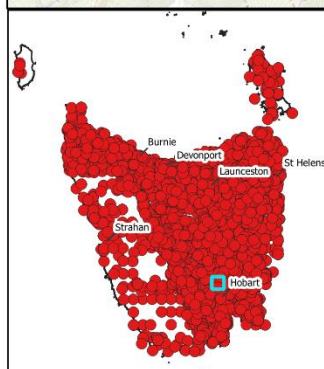
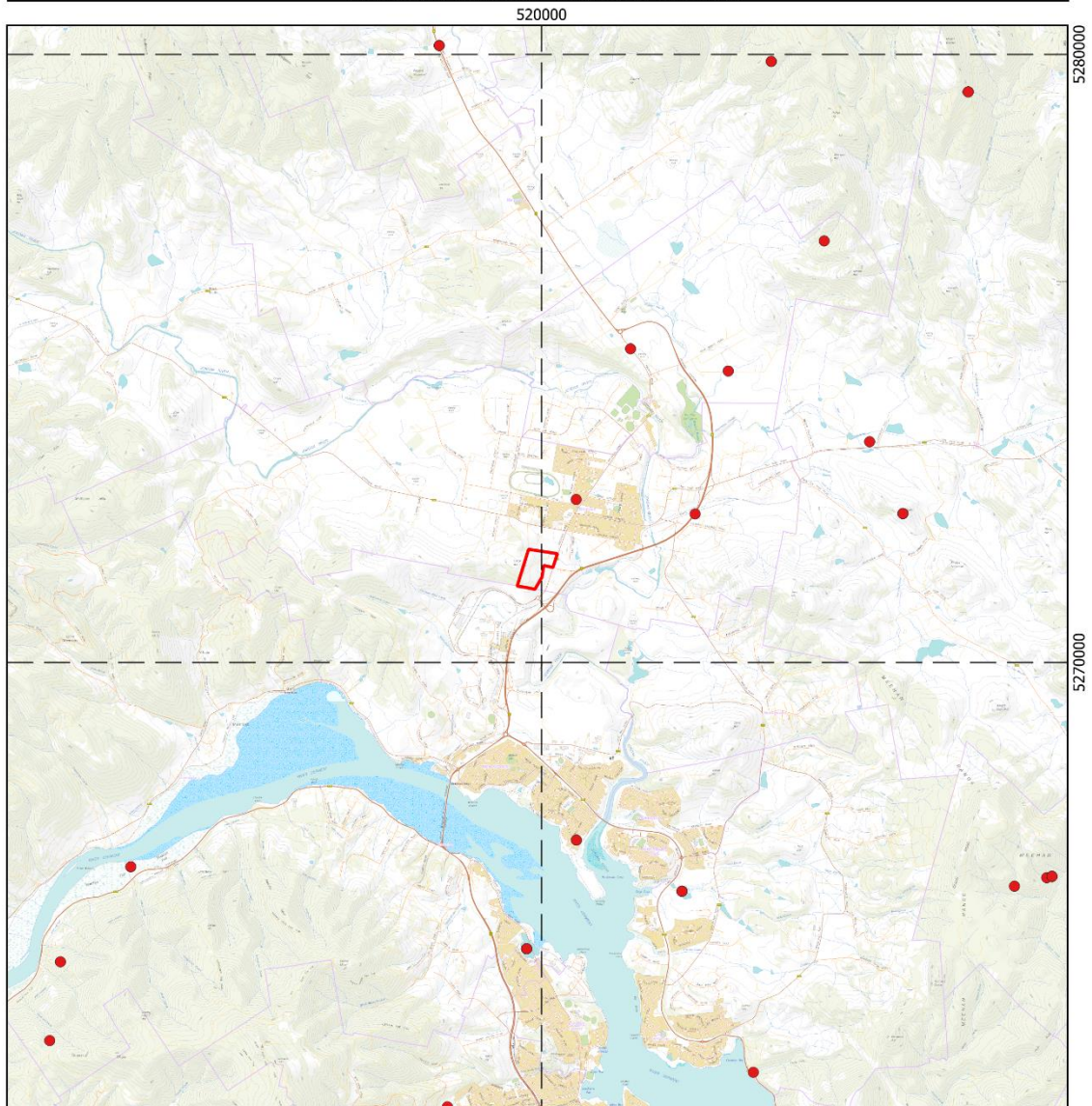
Tasmanian Masked Owl
Map extent

Observations from Natural Values Atlas
(www.naturalvaluesatlas.com.au),
24/10/2021, (c) State of Tasmania

Base data from theLIST (www.thelist.tas.gov.au),
© State of Tasmania
Grid: MGA Zone 55 Datum: GDA94, AHD



Distribution of Tasmanian Wedge-tailed Eagle (*Aquila audax subsp. fleayi*)



Project Area

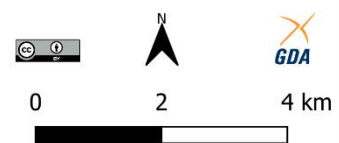
Study Area

Natural Values Atlas Threatened Fauna

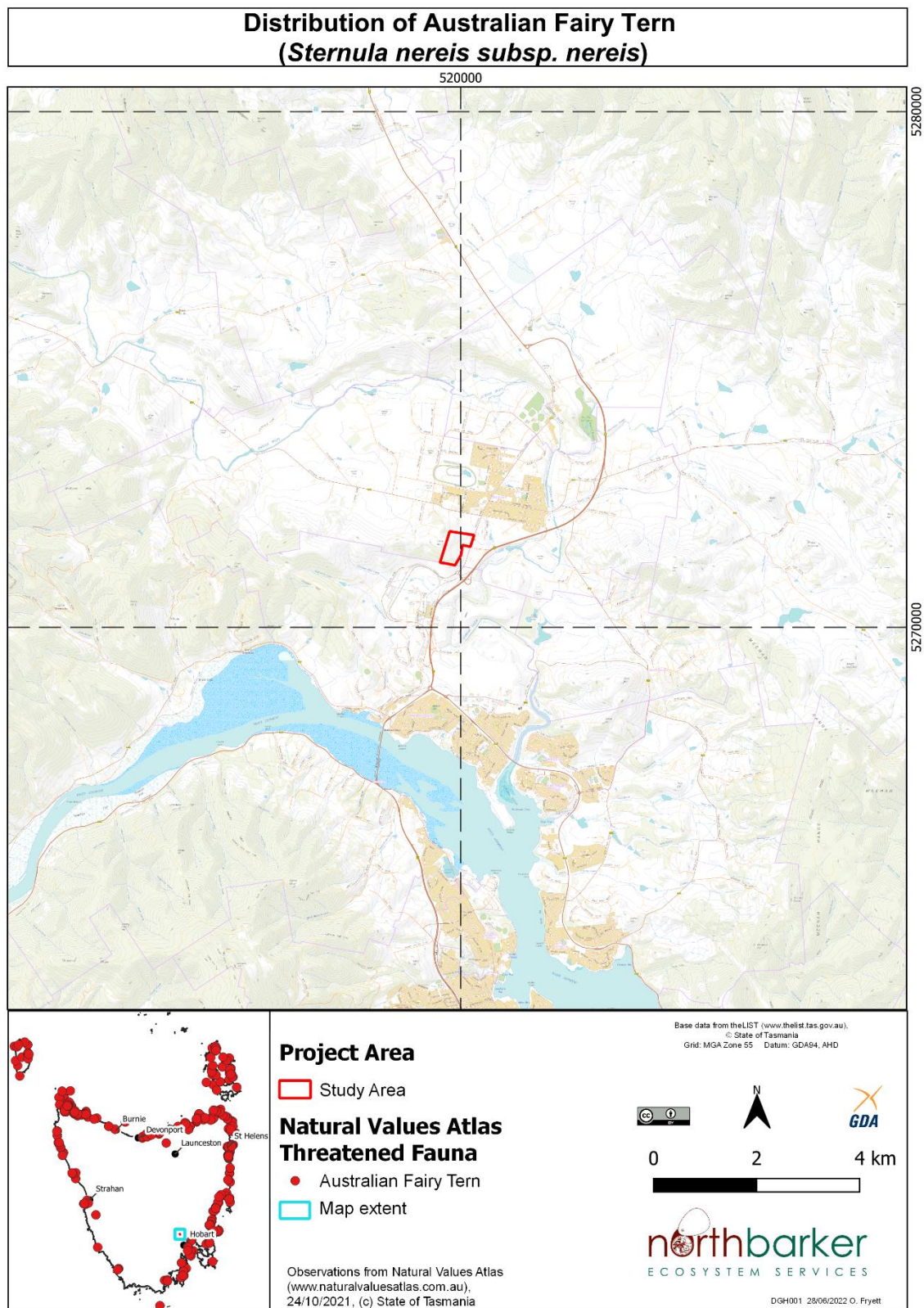
- Tasmanian Wedge-tailed Eagle
- Map extent

Observations from Natural Values Atlas
(www.naturalvaluesatlas.com.au),
24/10/2021, (c) State of Tasmania

Base data from theLIST (www.thelist.tas.gov.au),
© State of Tasmania
Grid: MGA Zone 55 Datum: GDA64, AHD

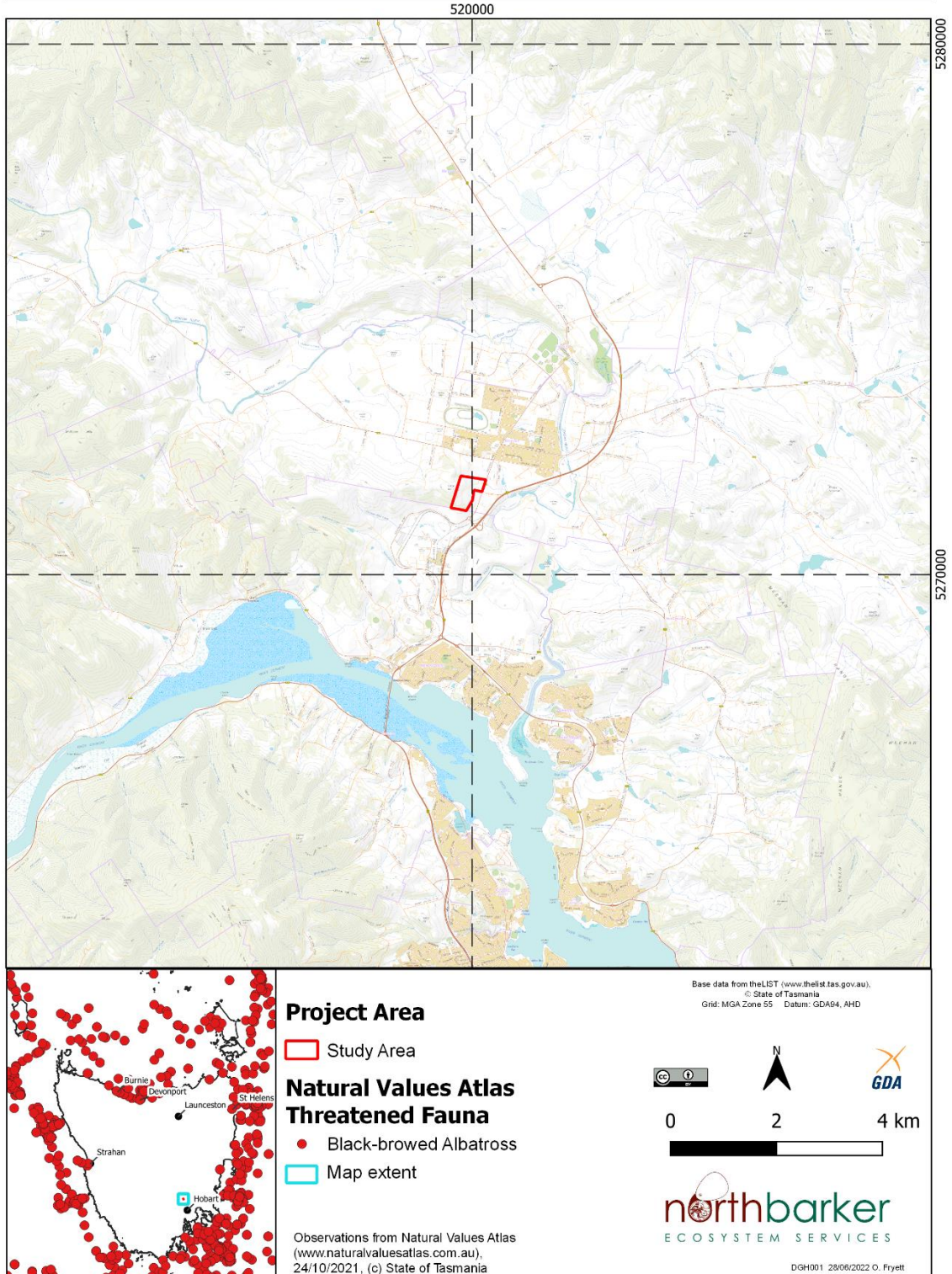


APPENDIX E: DISTRIBUTION MAPS OF MIGRATORY AND/OR MARINE MNES FAUNA⁴⁵

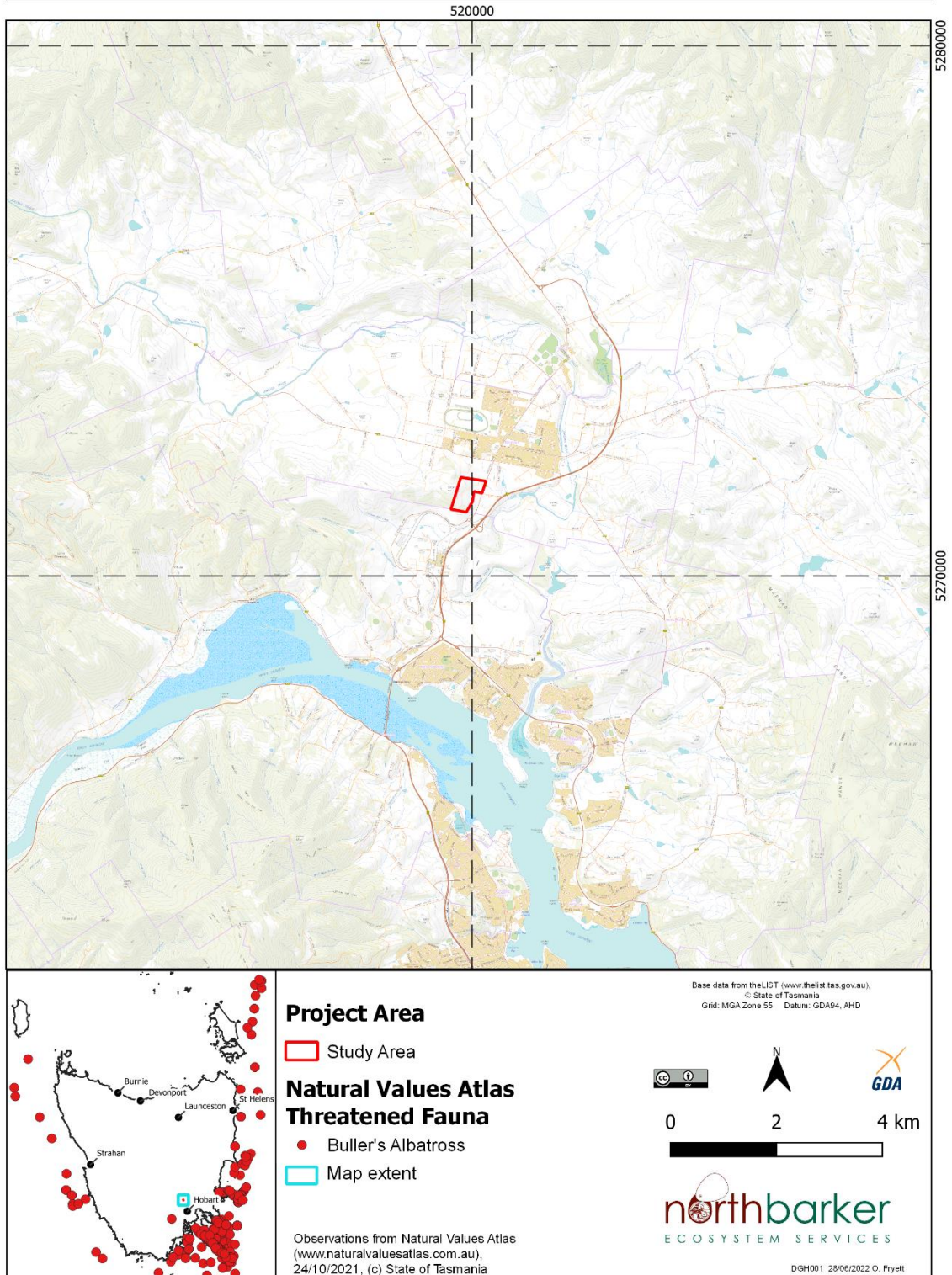


⁴⁵ Excluding threatened fauna already presented in Appendix D

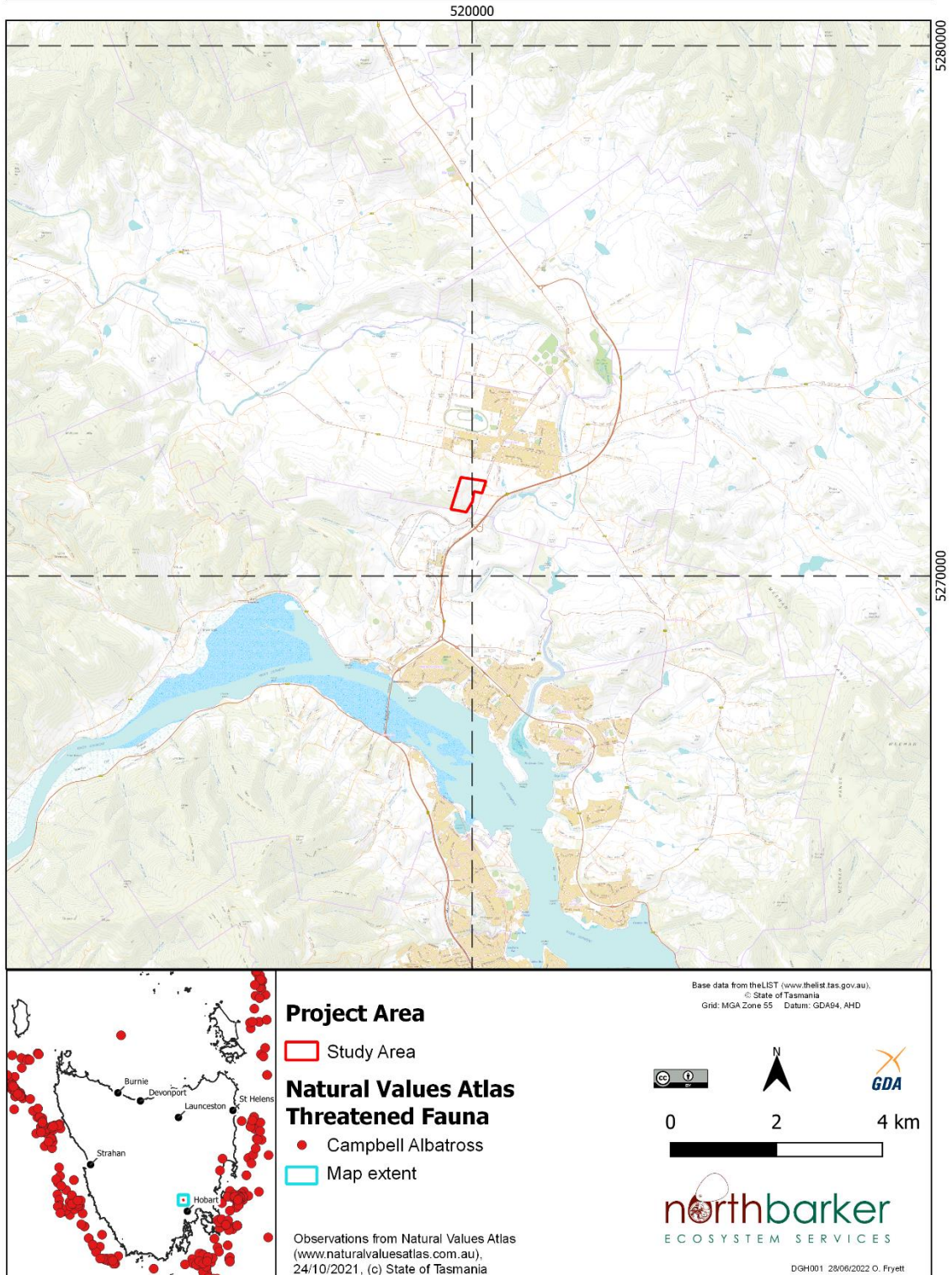
Distribution of Black-browed Albatross *(Thalassarche melanophris)*



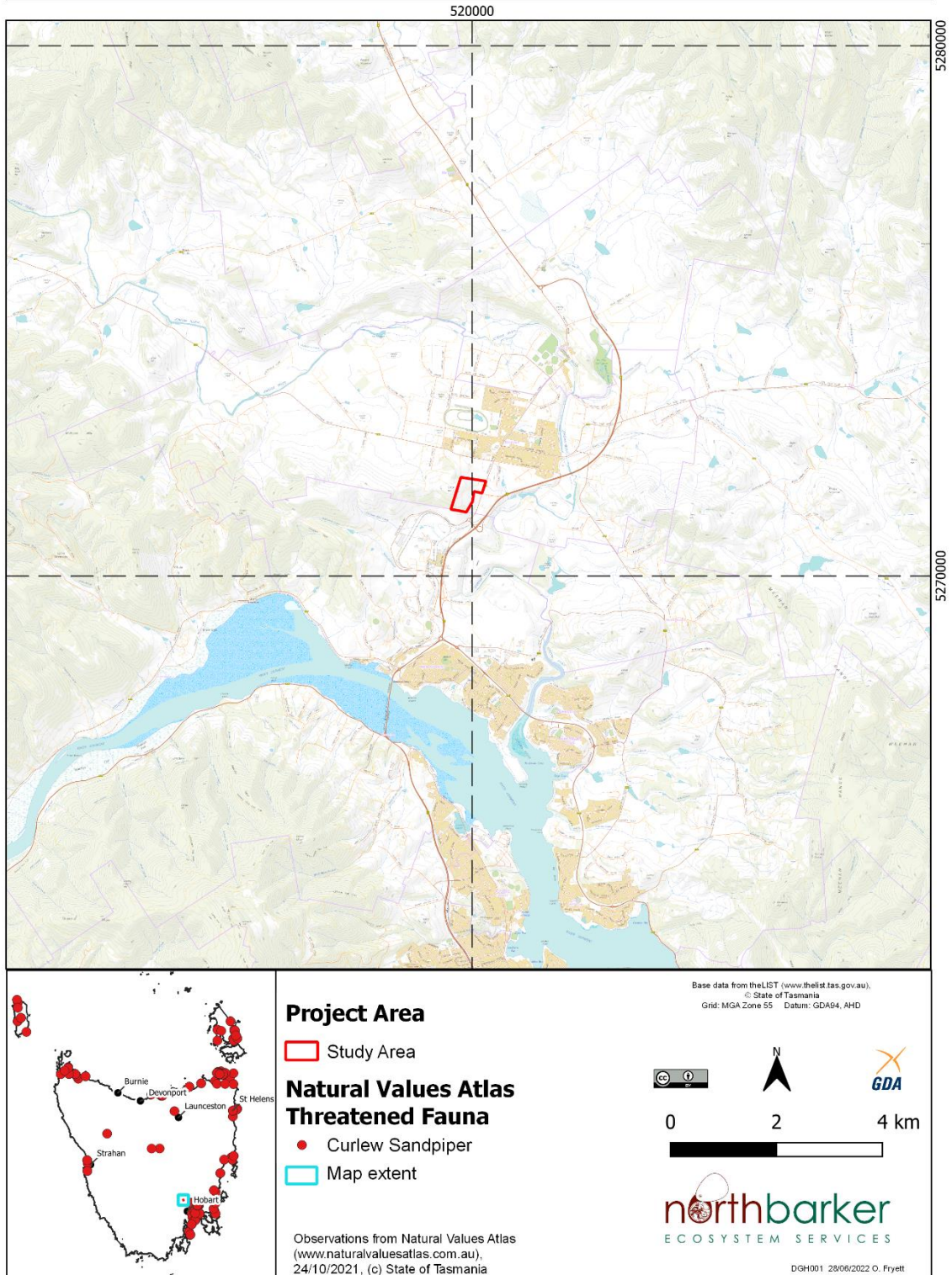
Distribution of Buller's Albatross (*Thalassarche bulleri*)



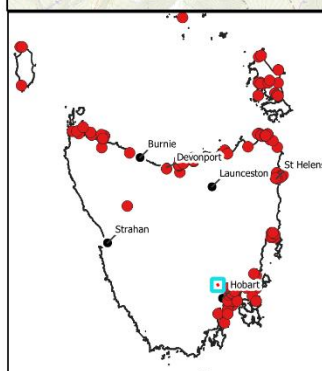
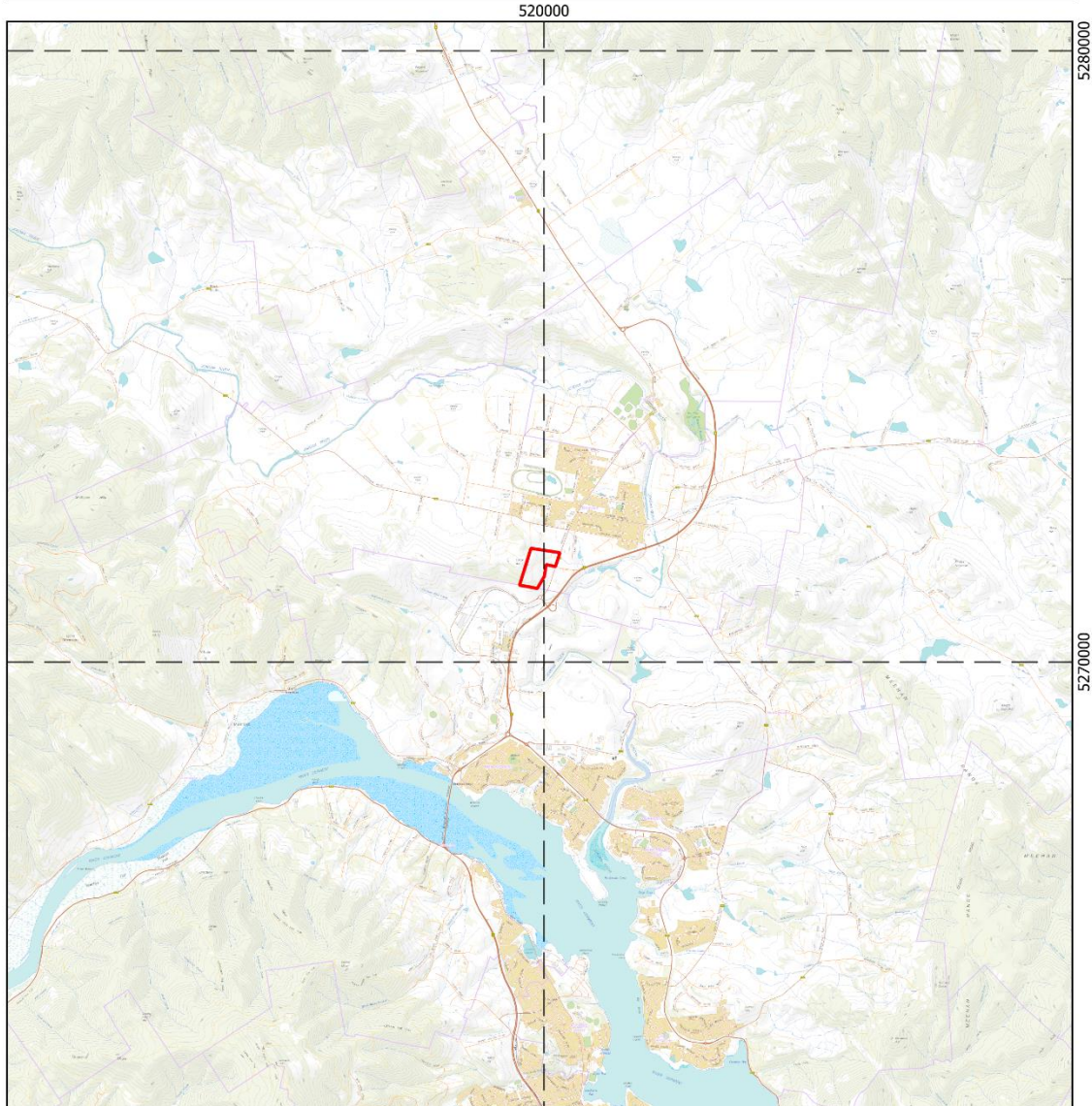
Distribution of Campbell Albatross (*Thalassarche impavida*)



Distribution of Curlew Sandpiper (*Calidris ferruginea*)



Distribution of Eastern Curlew (*Numenius madagascariensis*)



Project Area

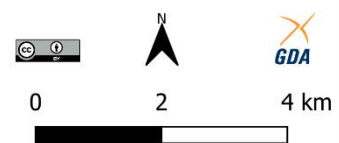
Study Area

Natural Values Atlas Threatened Fauna

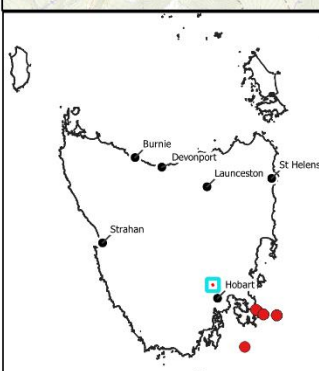
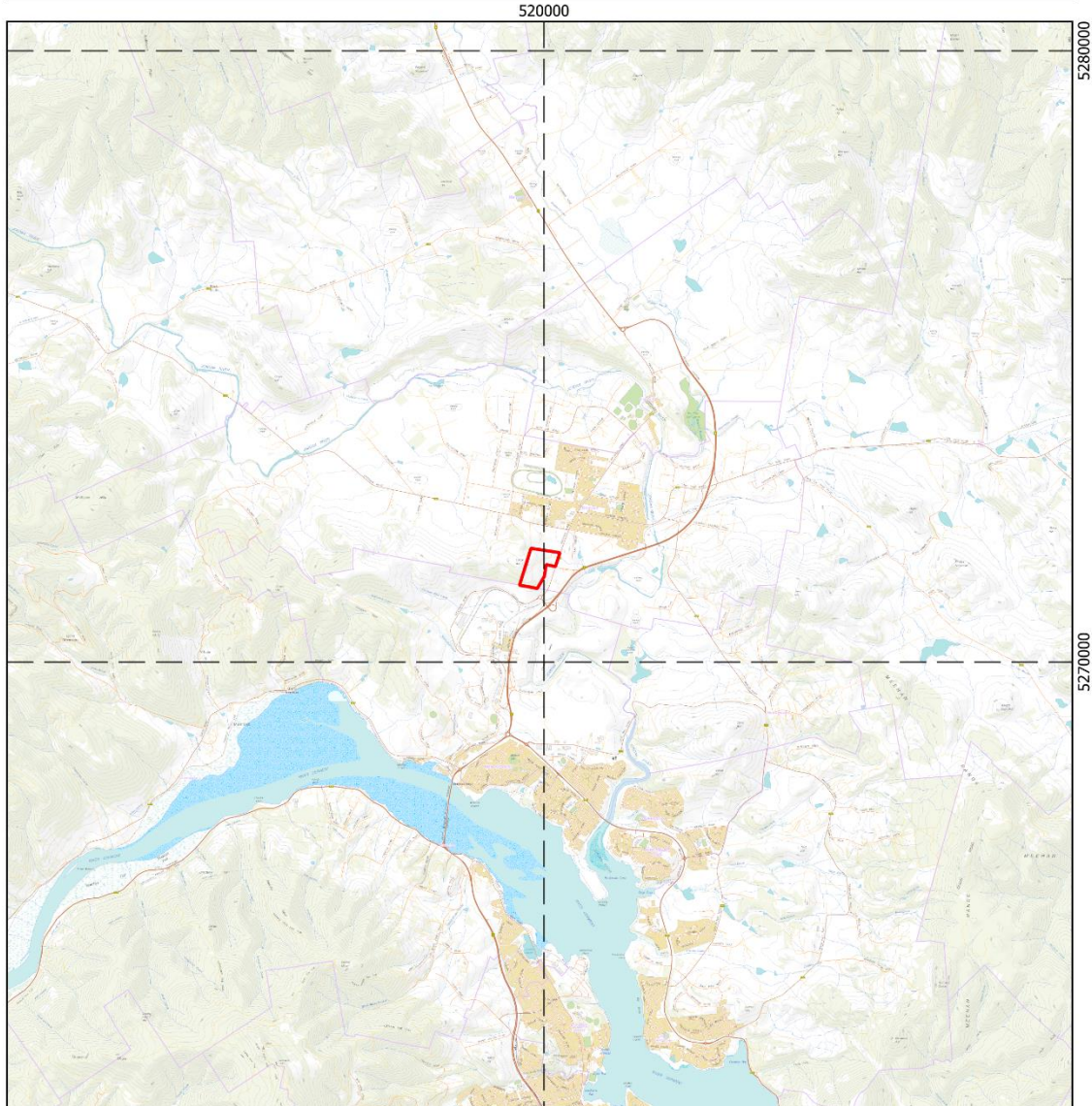
- Eastern Curlew
- Map extent

Observations from Natural Values Atlas
(www.naturalvaluesatlas.com.au),
24/10/2021, (c) State of Tasmania

Base data from theLIST (www.thelist.tas.gov.au),
© State of Tasmania
Grid: MGA Zone 55 Datum: GDA84, AHD



Distribution of Gibson's Albatross *(Diomedea antipodensis subsp. gibsoni)*



Project Area

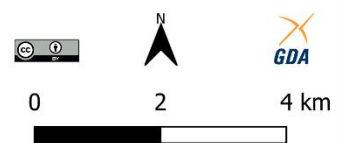
Study Area

Natural Values Atlas Threatened Fauna

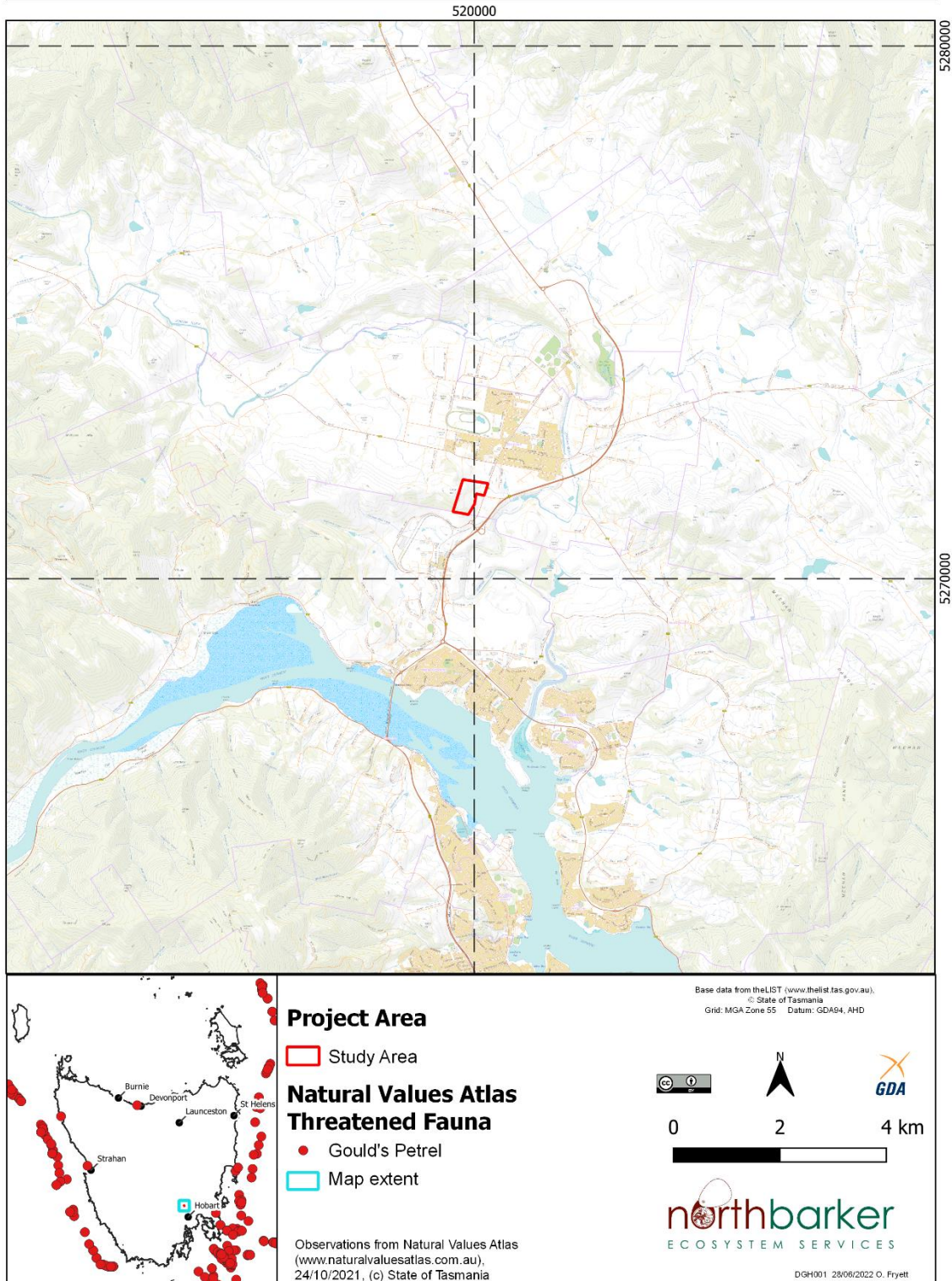
- Gibson's Albatross
- Map extent

Observations from Natural Values Atlas
(www.naturalvaluesatlas.com.au),
24/10/2021, (c) State of Tasmania

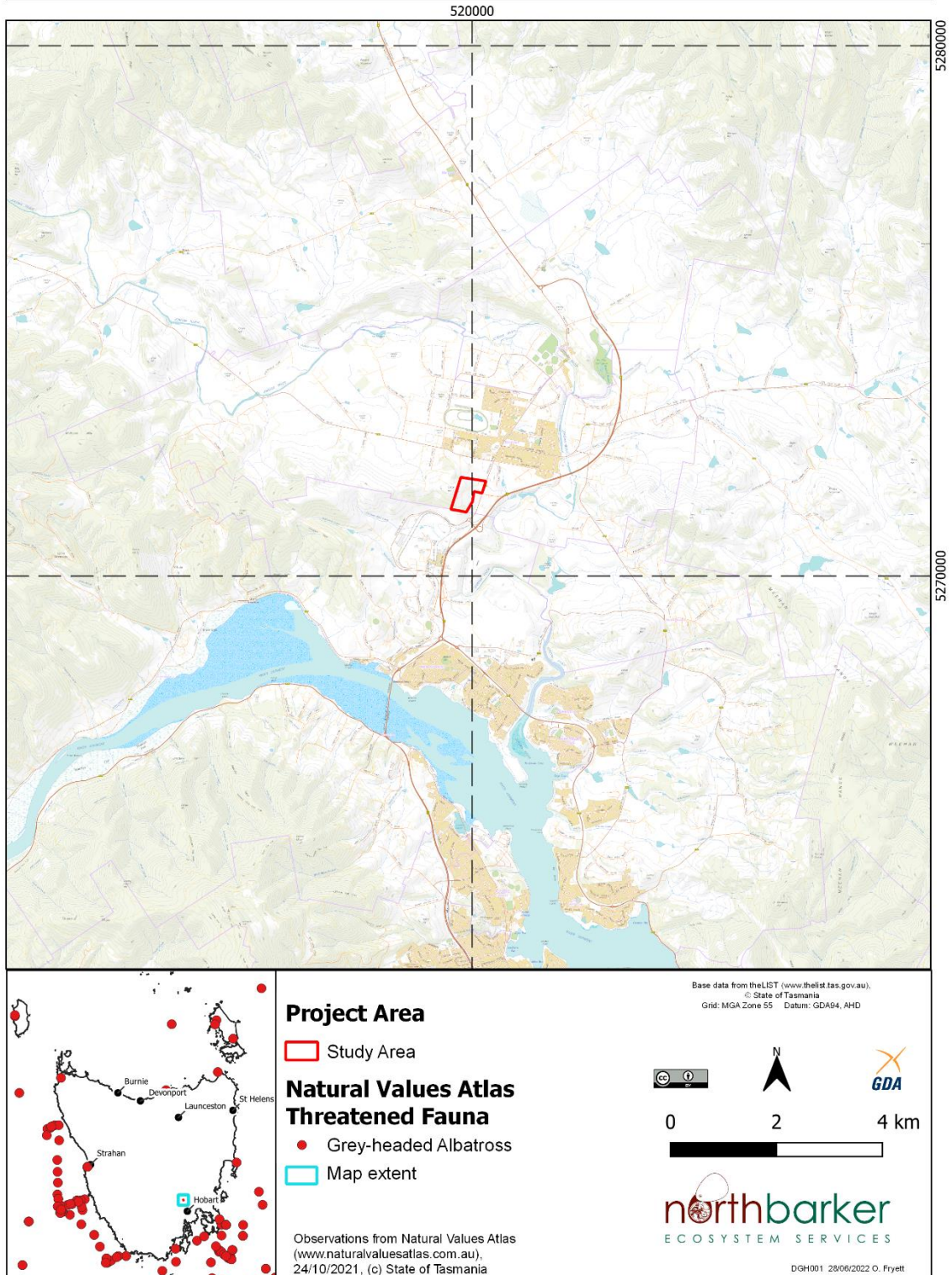
Base data from theLIST (www.thelist.tas.gov.au),
© State of Tasmania
Grid: MGA Zone 55 Datum: GDA94, AHD



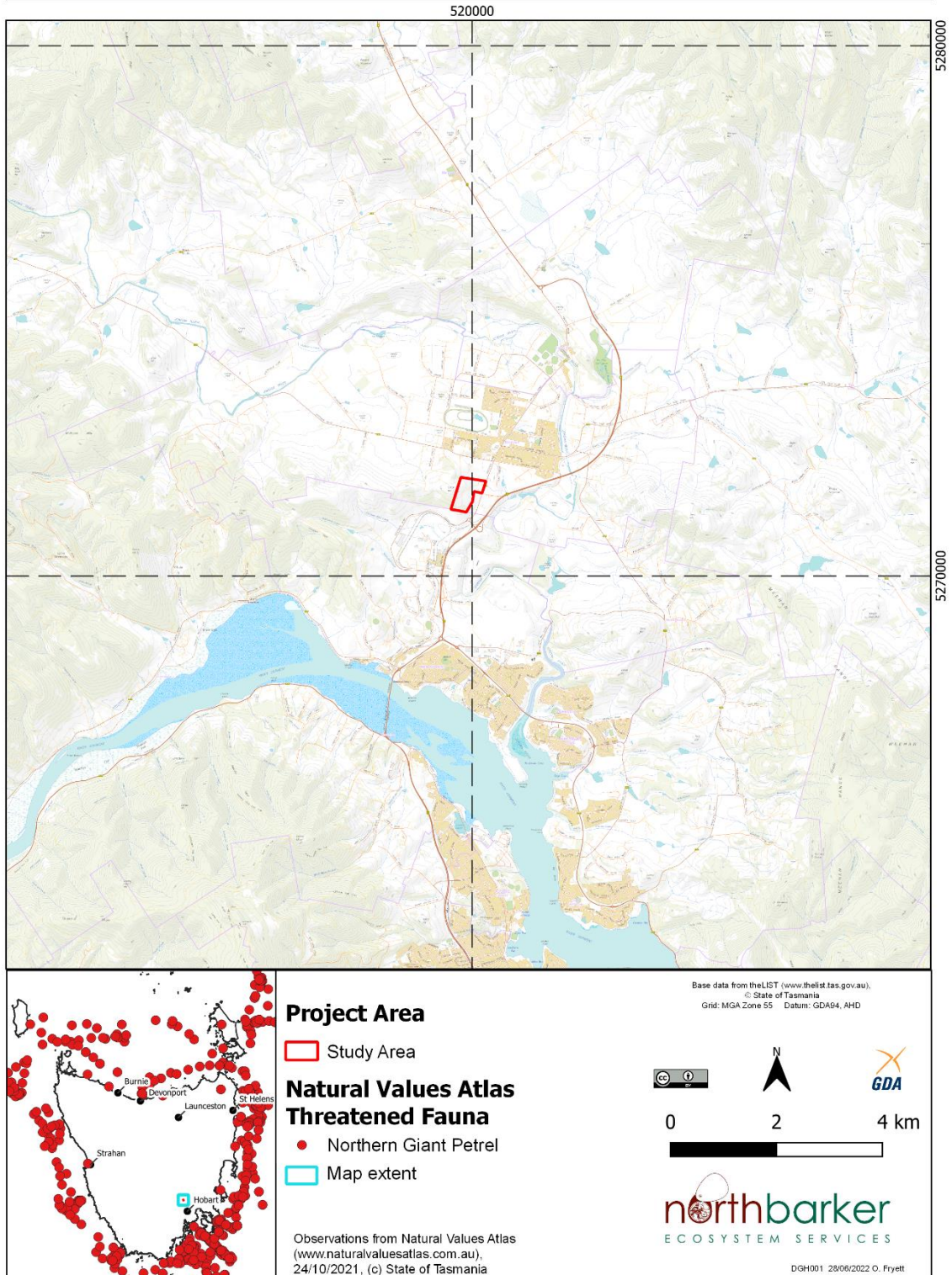
Distribution of Gould's Petrel **(*Pterodroma leucoptera*)**



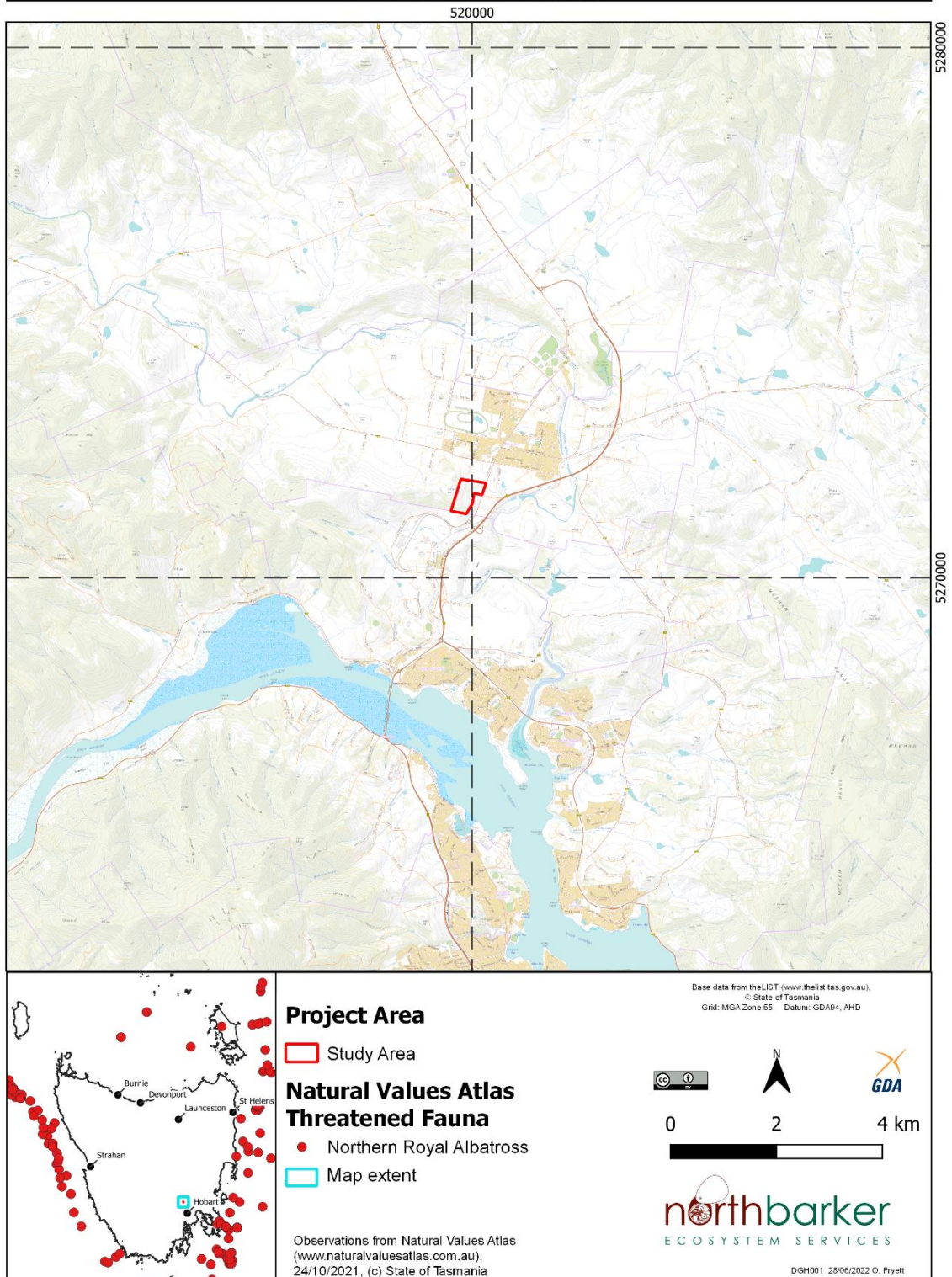
Distribution of Grey-headed Albatross (*Thalassarche chrysostoma*)



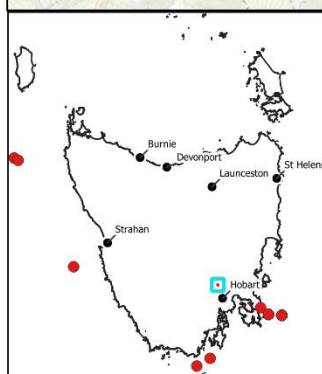
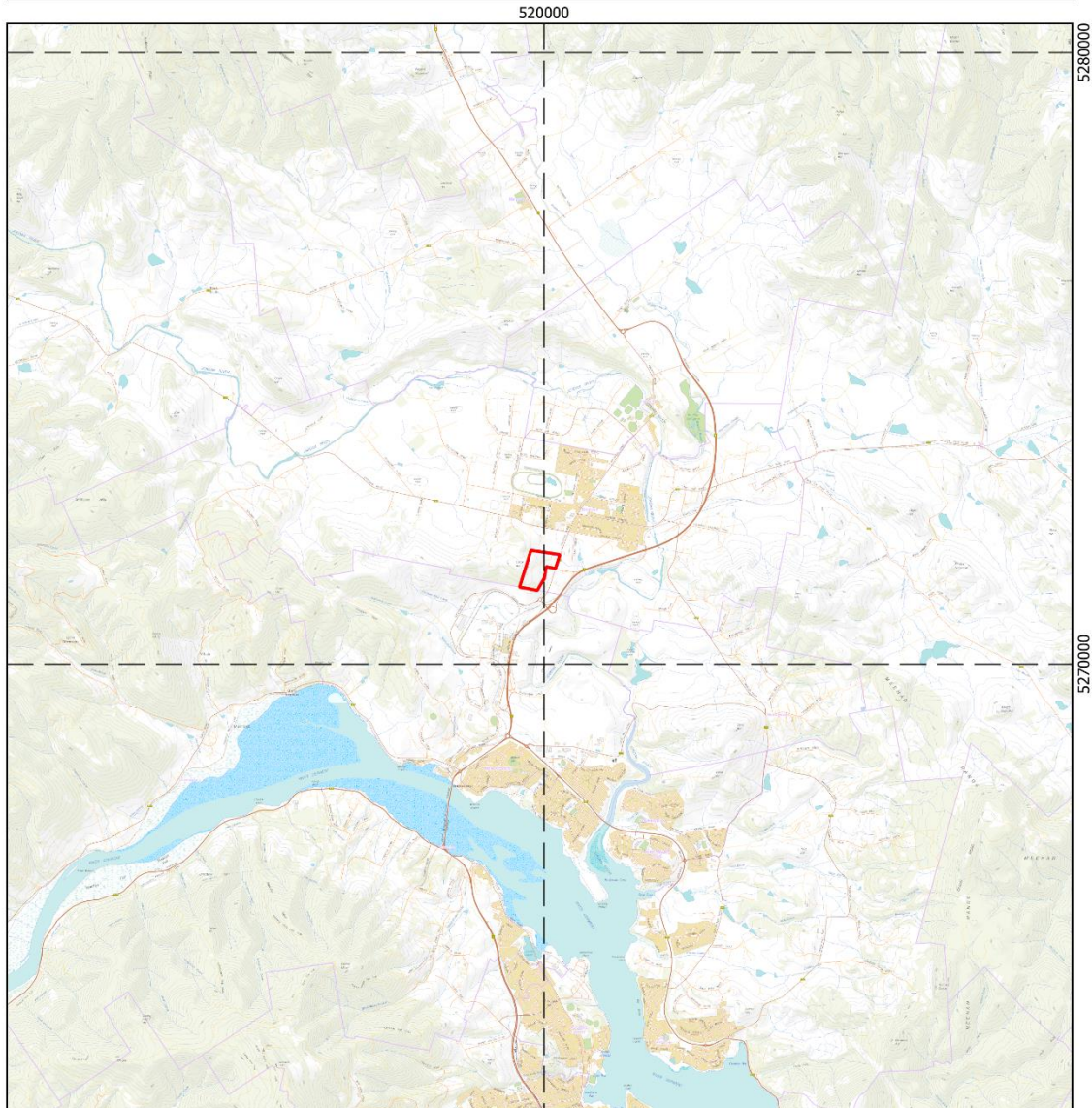
Distribution of Northern Giant Petrel (*Macronectes halli*)



Distribution of Northern Royal Albatross (*Diomedea sanfordi*)



Distribution of Salvin's Albatross (*Thalassarche salvinii*)



Project Area

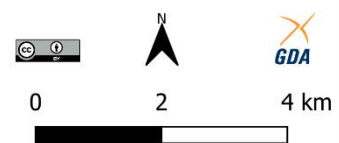
Study Area

Natural Values Atlas Threatened Fauna

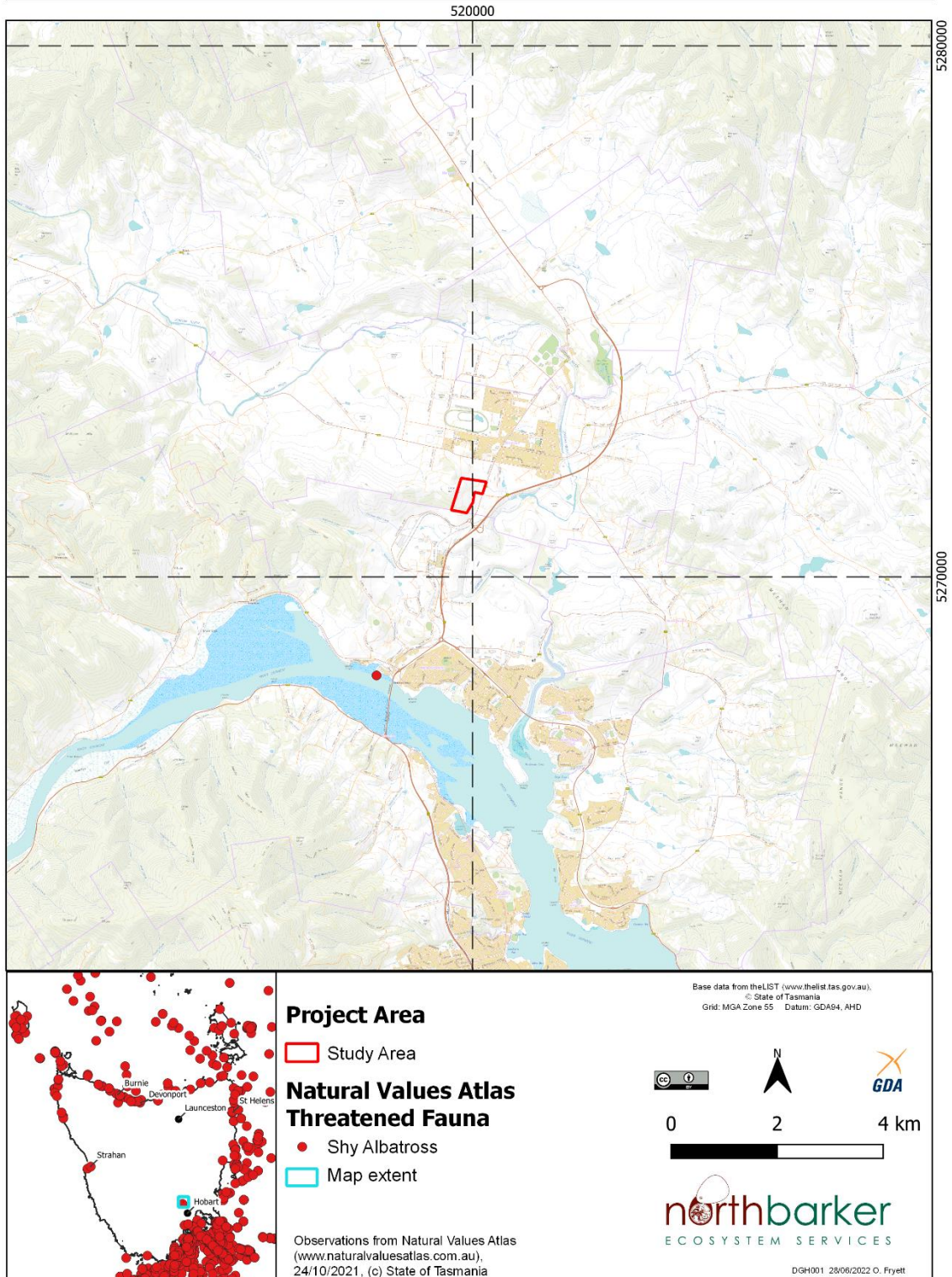
- Salvin's Albatross
- Map extent

Observations from Natural Values Atlas
(www.naturalvaluesatlas.com.au),
24/10/2021, (c) State of Tasmania

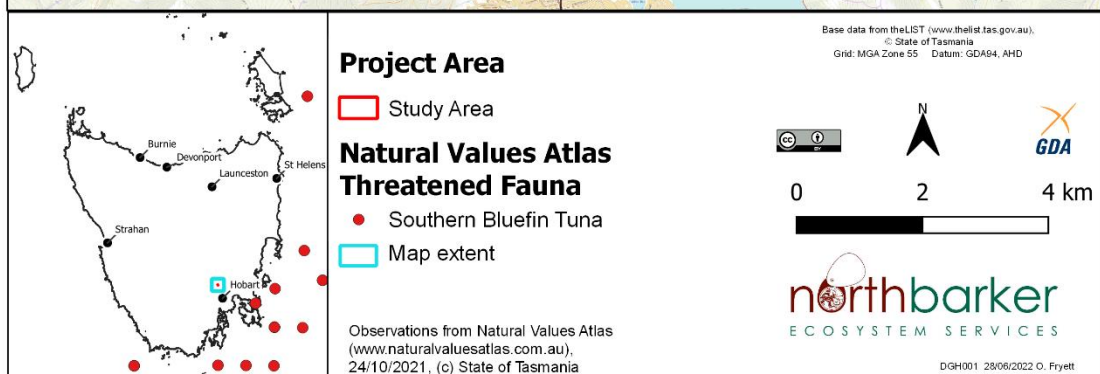
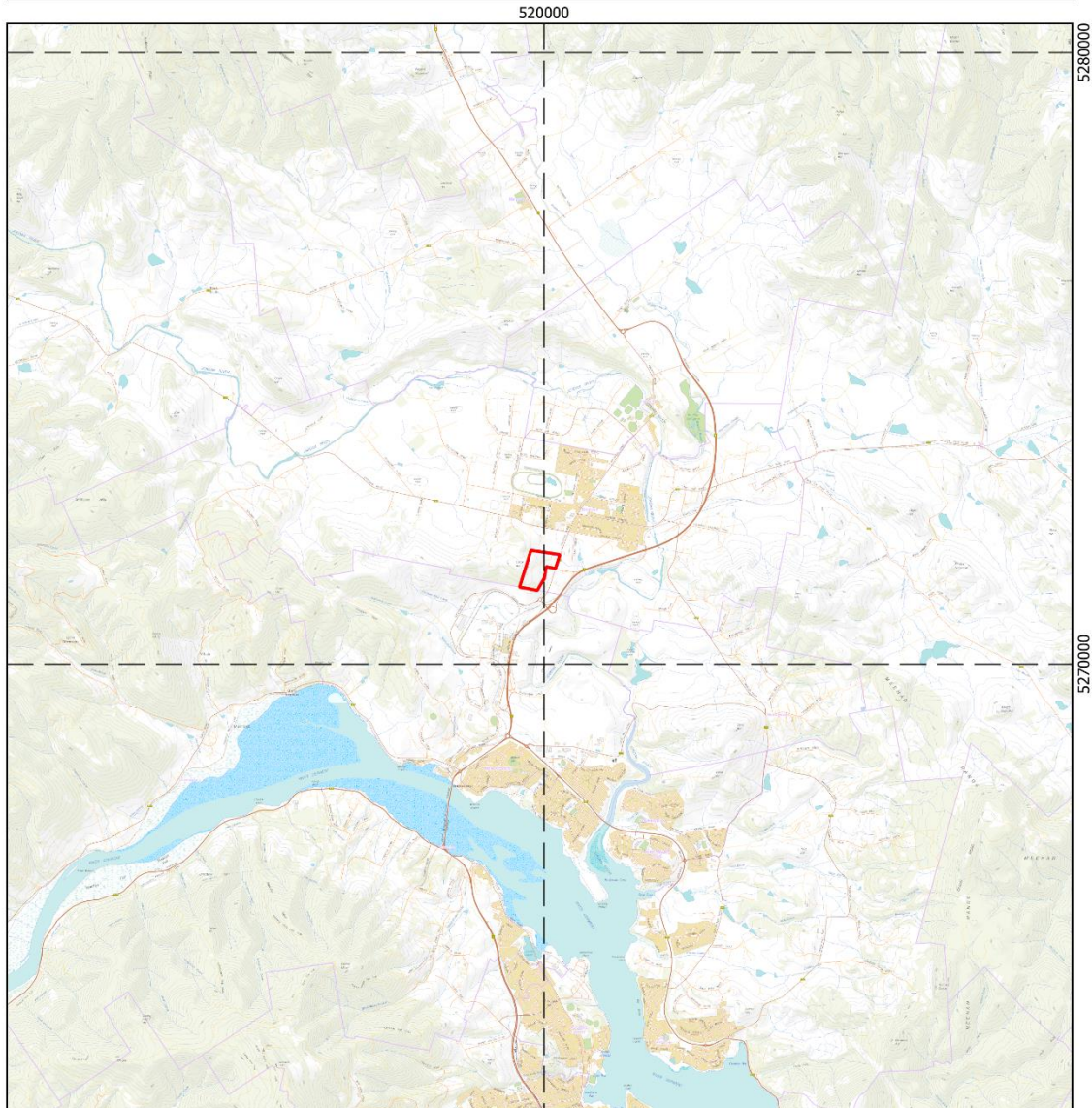
Base data from theLIST (www.thelist.tas.gov.au),
© State of Tasmania
Grid: MGA Zone 55 Datum: GDA94, AHD



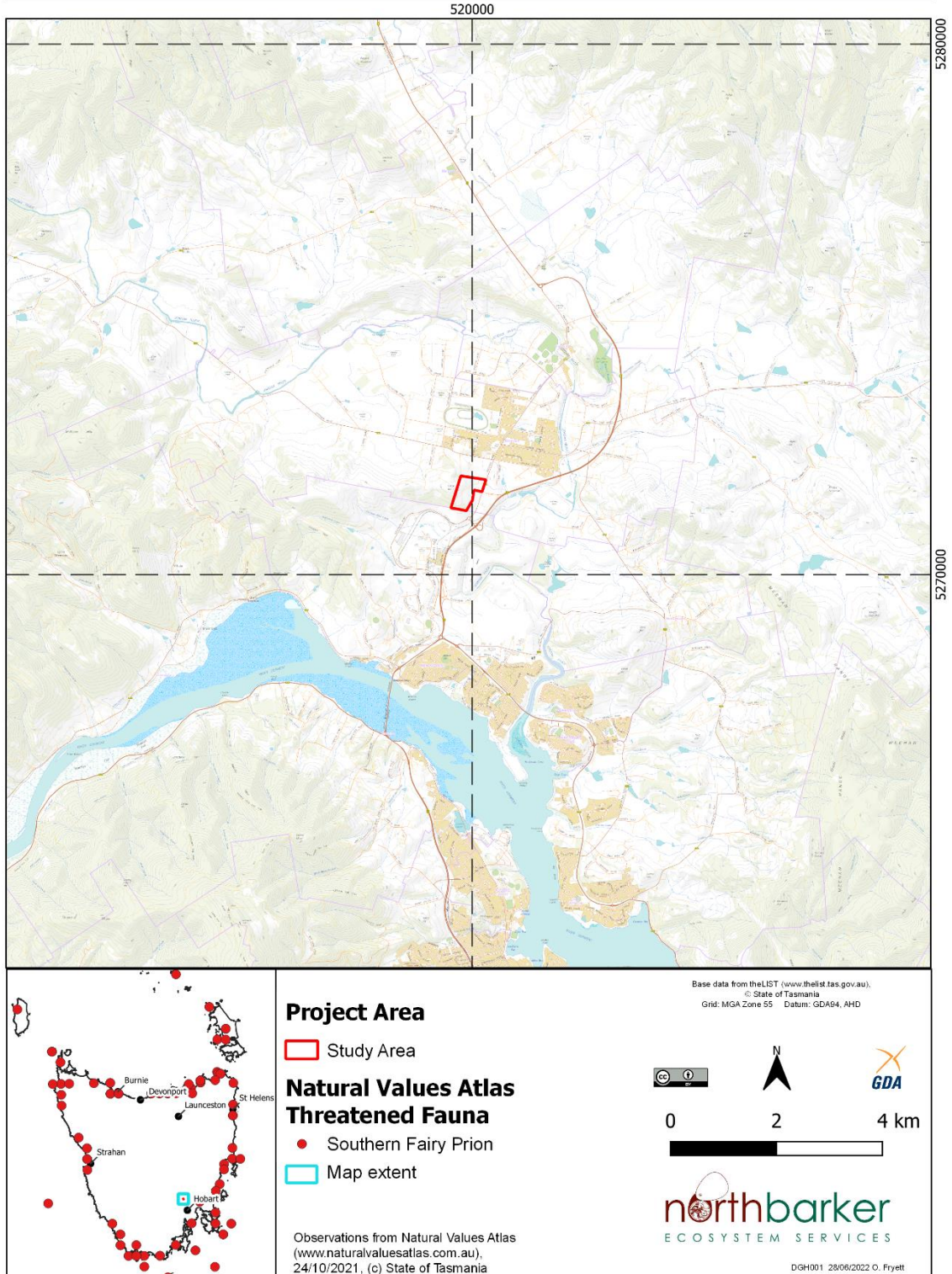
Distribution of Shy Albatross (*Thalassarche cauta*)



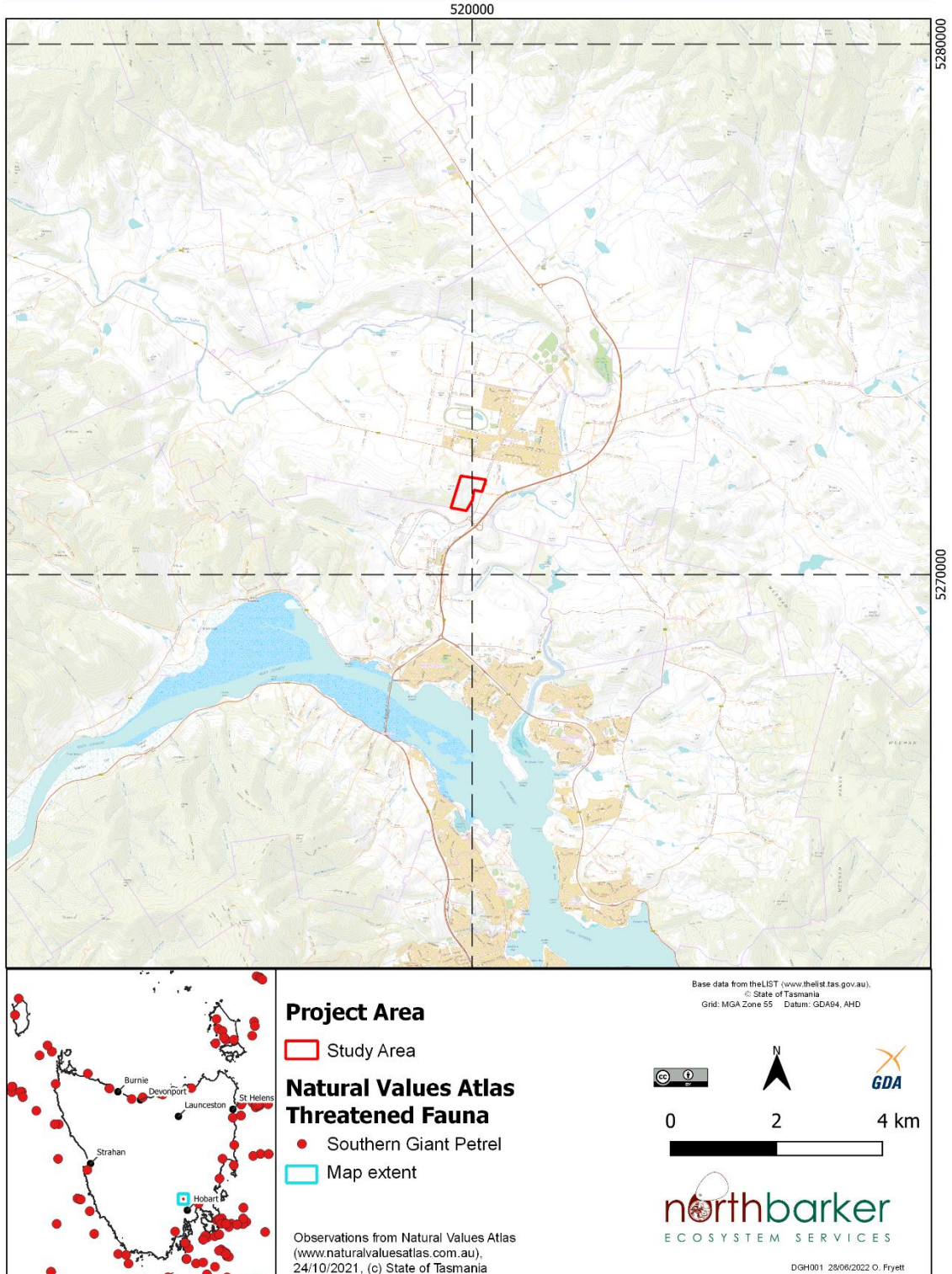
Distribution of Southern Bluefin Tuna (*Thunnus maccoyii*)



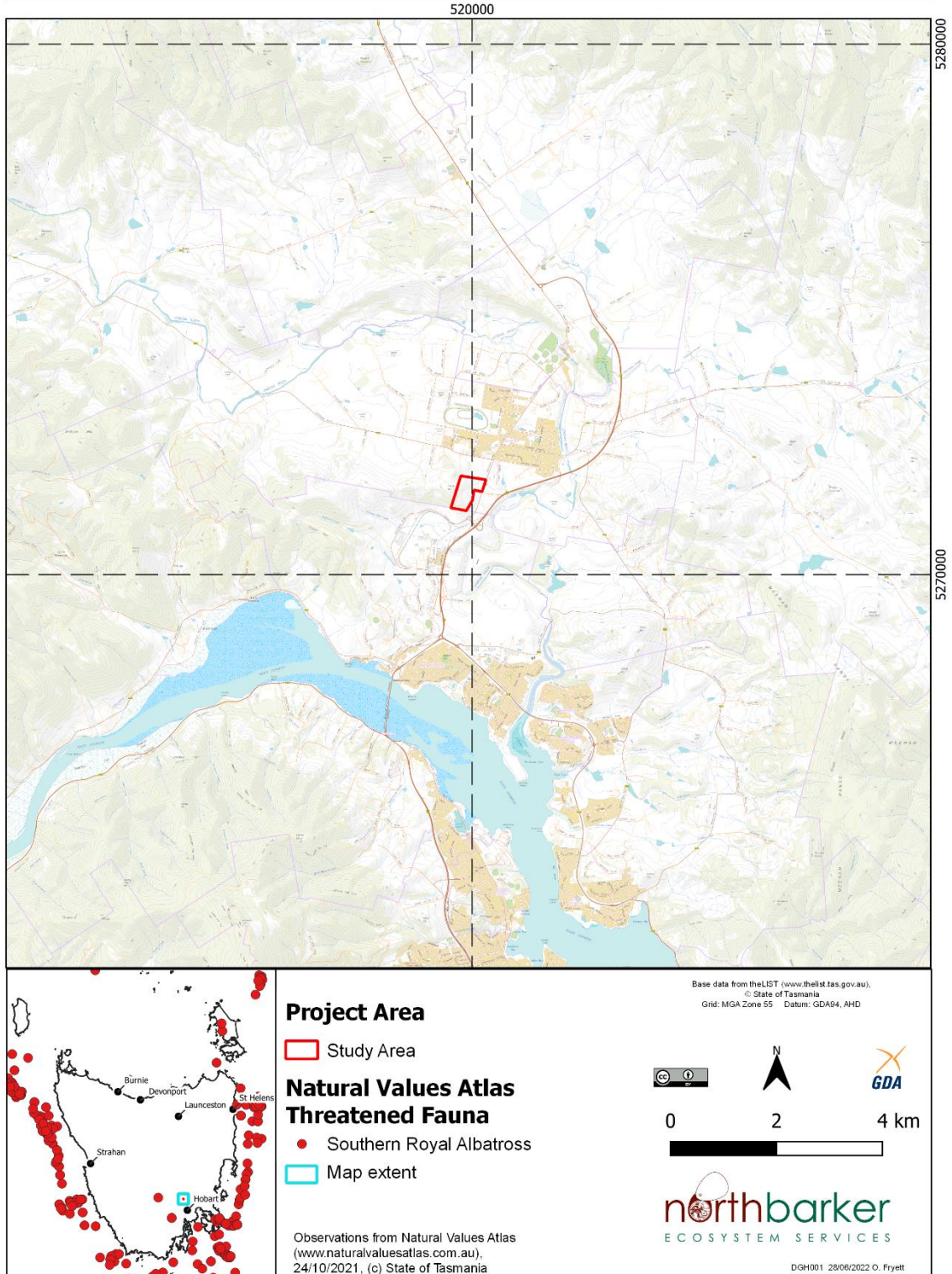
Distribution of Southern Fairy Prion (*Pachyptila turtur subantarctica*)



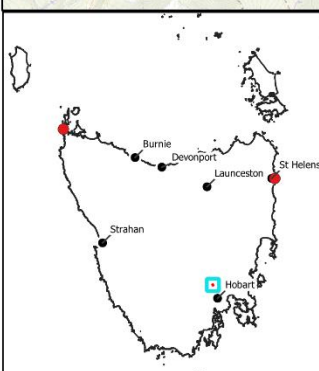
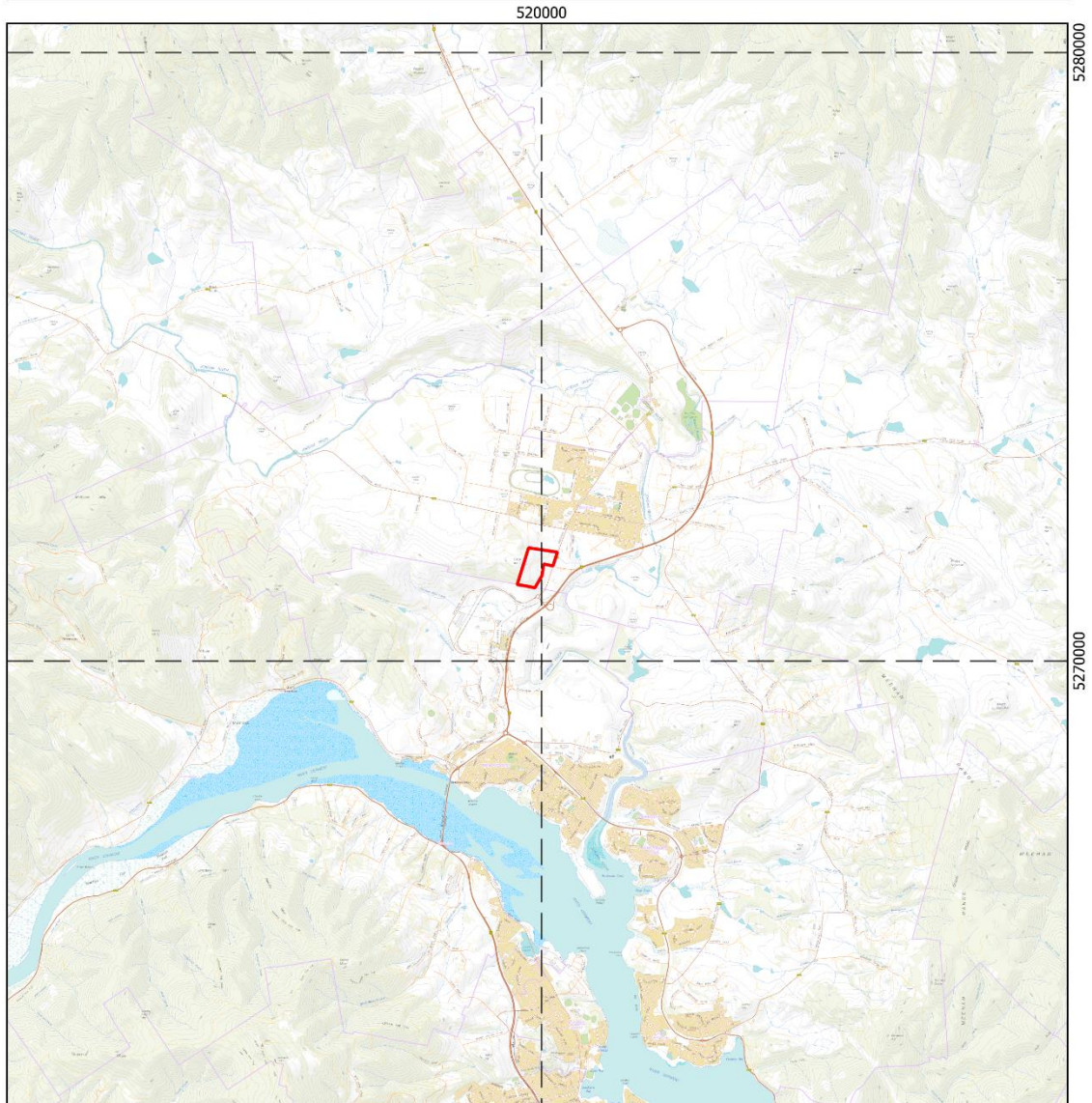
Distribution of Southern Giant Petrel (*Macronectes giganteus*)



Distribution of Southern Royal Albatross (*Diomedea epomophora*)



Distribution of Wandering Albatross (*Diomedea exulans*)



Project Area

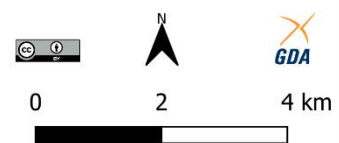
Study Area

Natural Values Atlas Threatened Fauna

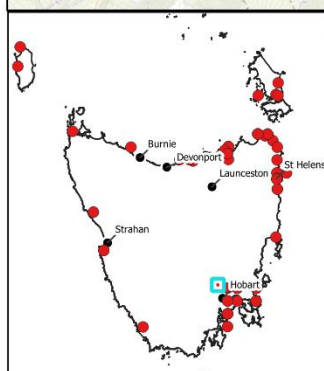
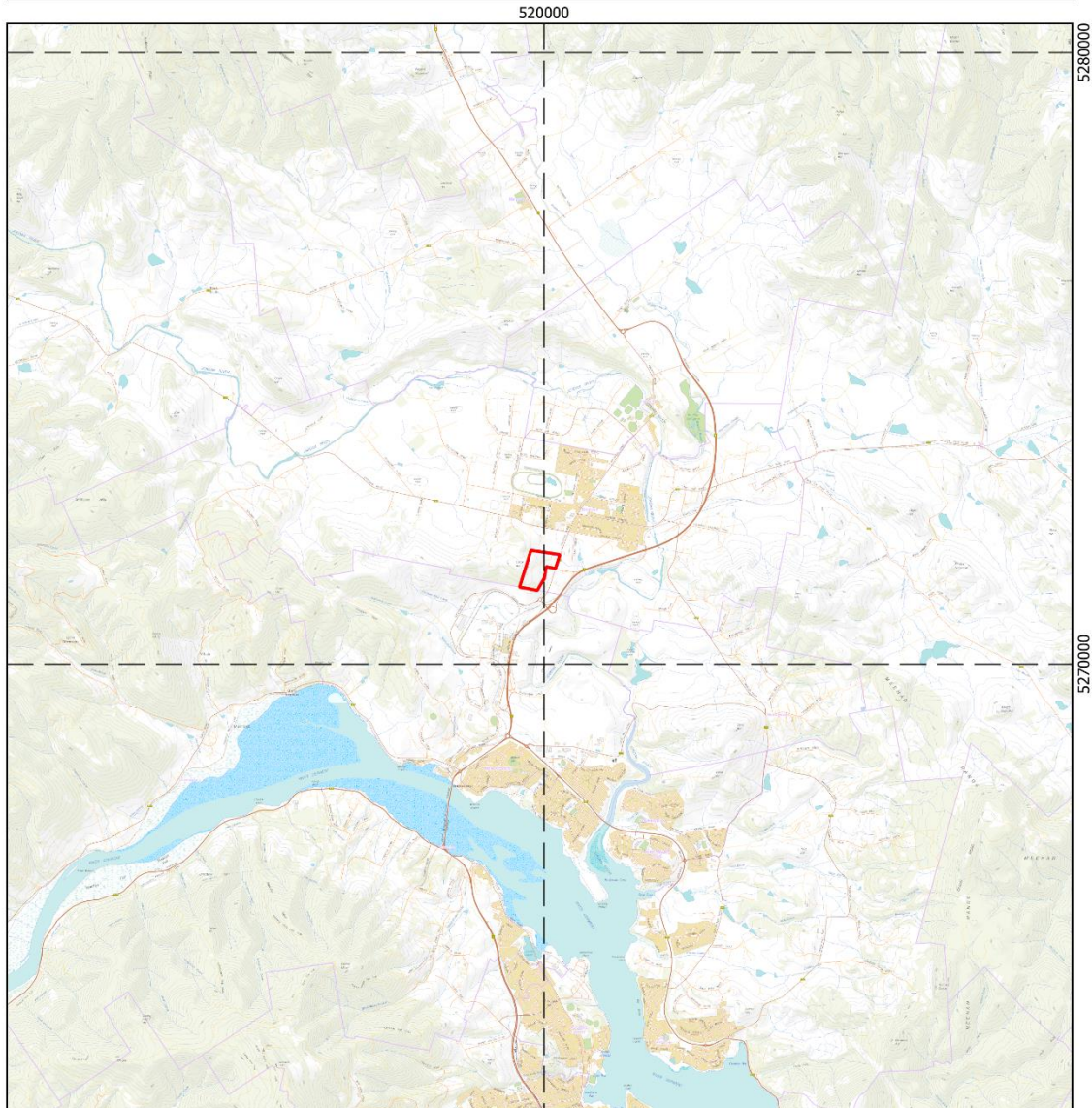
● Wandering Albatross
 Map extent

Observations from Natural Values Atlas
(www.naturalvaluesatlas.com.au),
24/10/2021, (c) State of Tasmania

Base data from theLIST (www.thelist.tas.gov.au),
© State of Tasmania
Grid: MGA Zone 55 Datum: GDA64, AHD



Distribution of Western Alaskan Bar-tailed Godwit (*Limosa lapponica subsp. baueri*)



Project Area

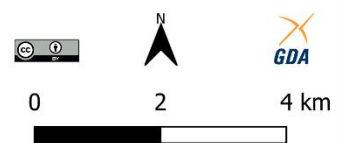
Study Area

Natural Values Atlas Threatened Fauna

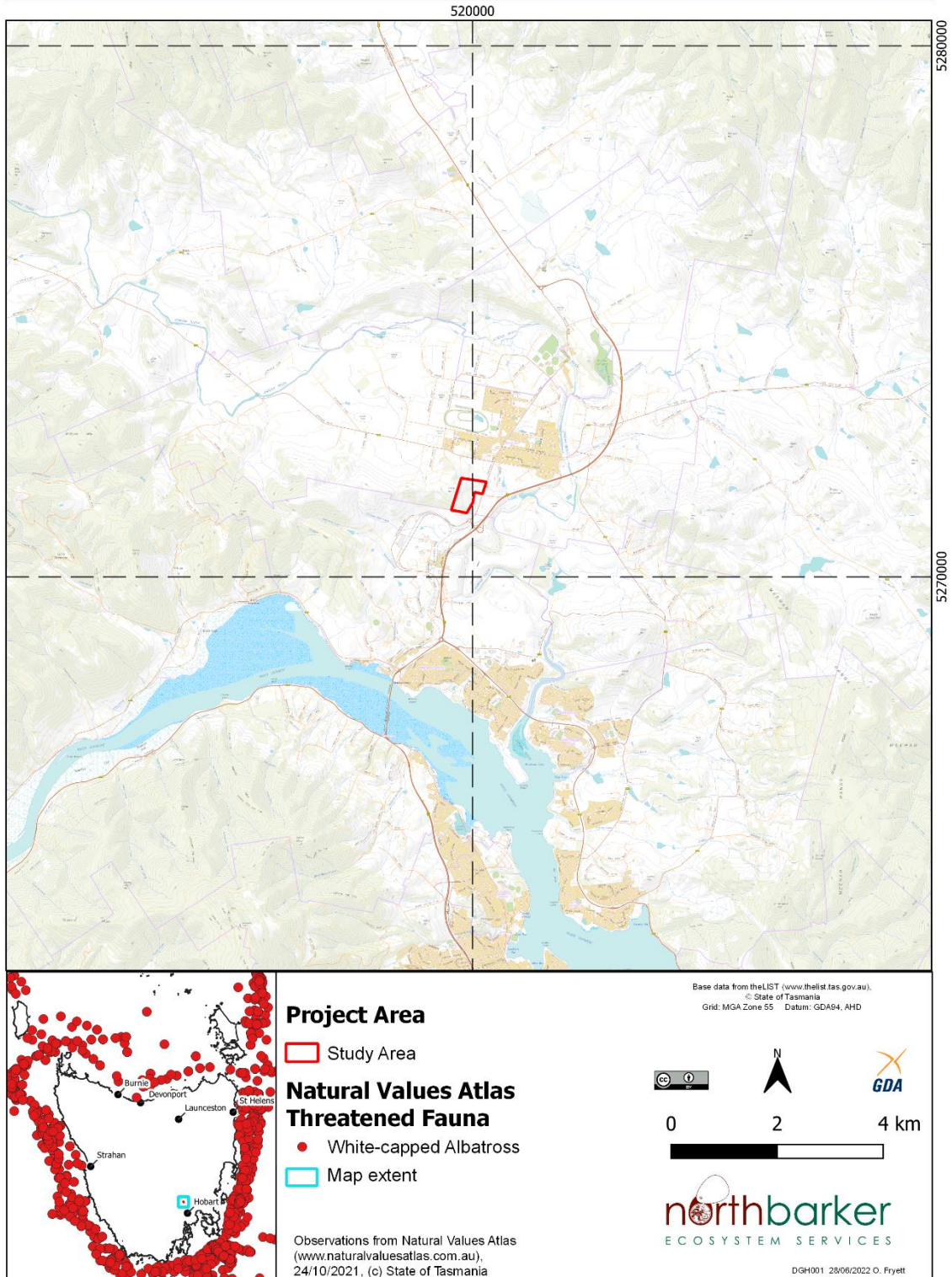
- Western Alaskan Bar-tailed Godwit
- Map extent

Observations from Natural Values Atlas
(www.naturalvaluesatlas.com.au),
24/10/2021, (c) State of Tasmania

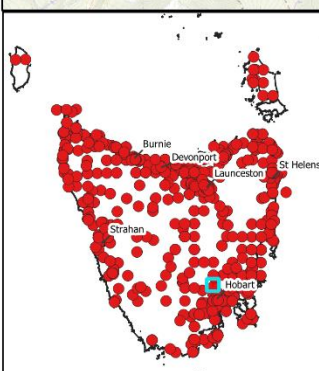
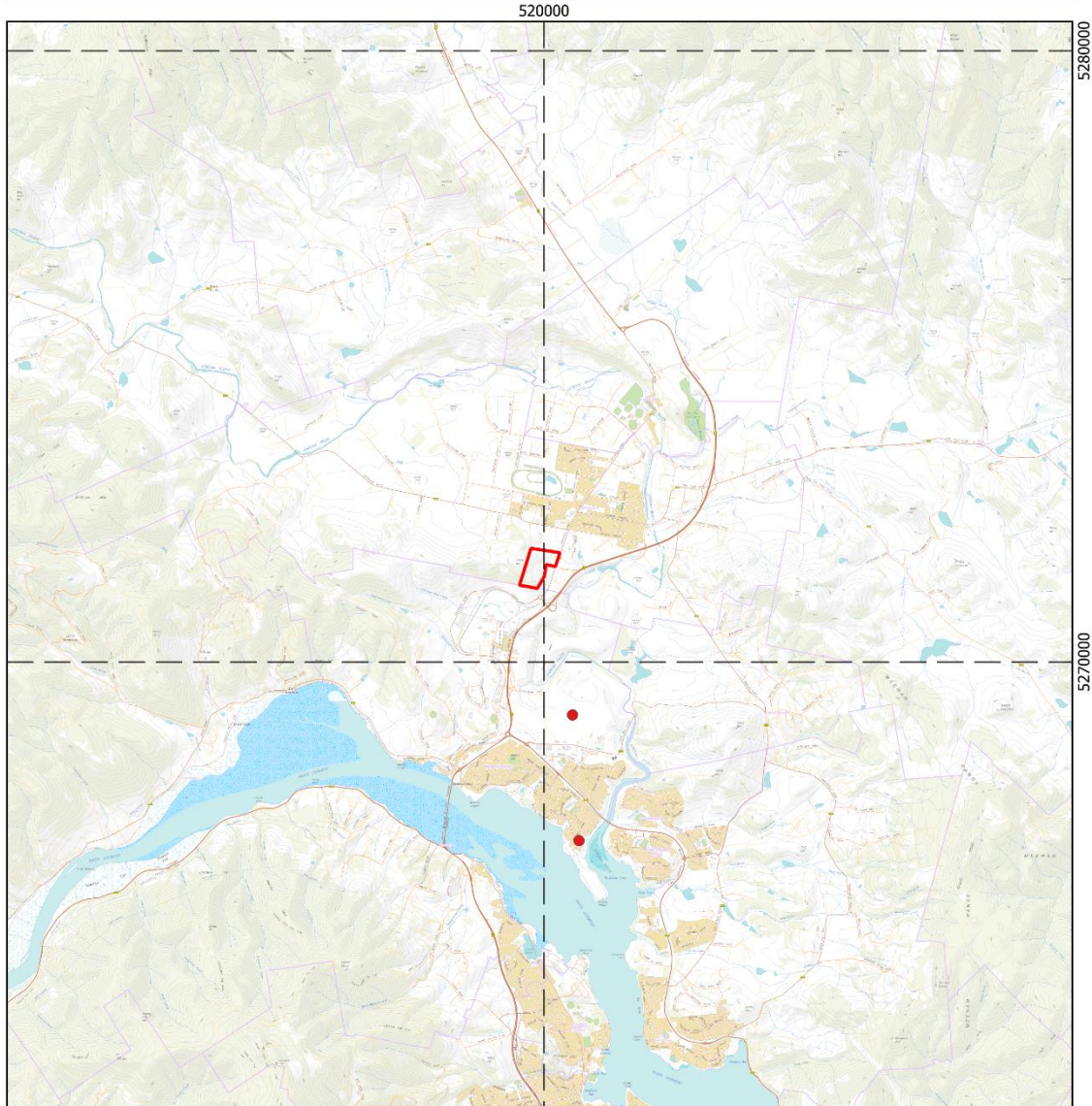
Base data from theLIST (www.thelist.tas.gov.au),
© State of Tasmania
Grid: MGA Zone 55 Datum: GDA84, AHD



Distribution of White-capped Albatross (*Thalassarche steadi*)



Distribution of White-throated Needletail (*Hirundapus caudacutus*)



Project Area

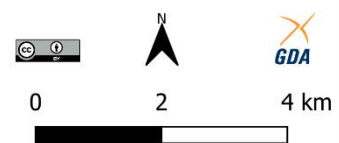
Study Area

Natural Values Atlas Threatened Fauna

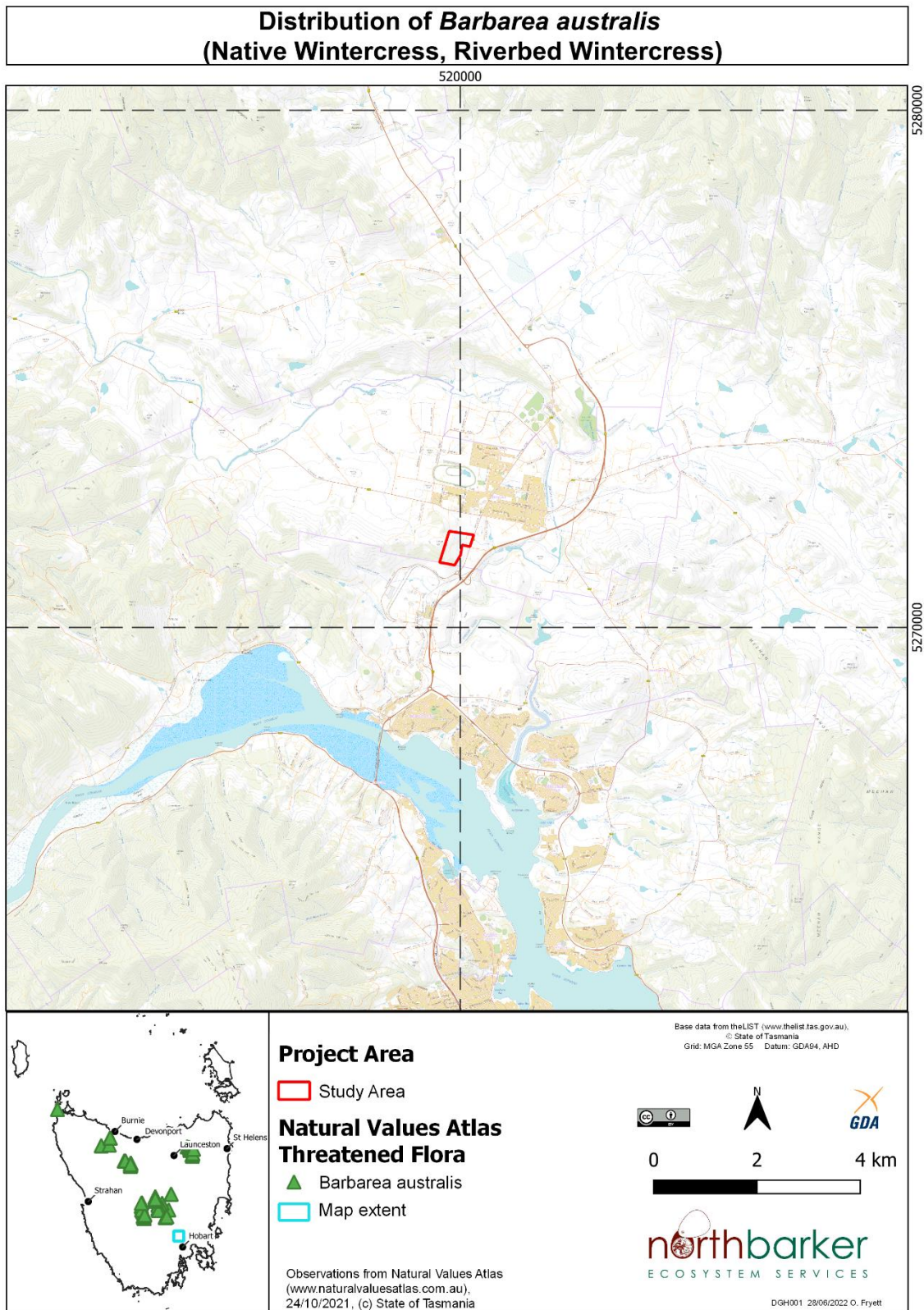
- White-throated Needletail
- Map extent

Observations from Natural Values Atlas
(www.naturalvaluesatlas.com.au),
24/10/2021, (c) State of Tasmania

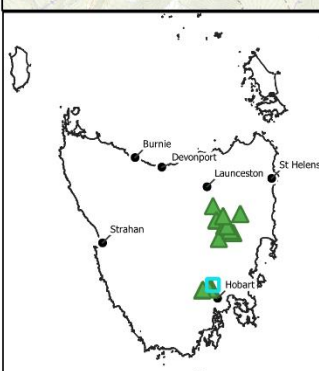
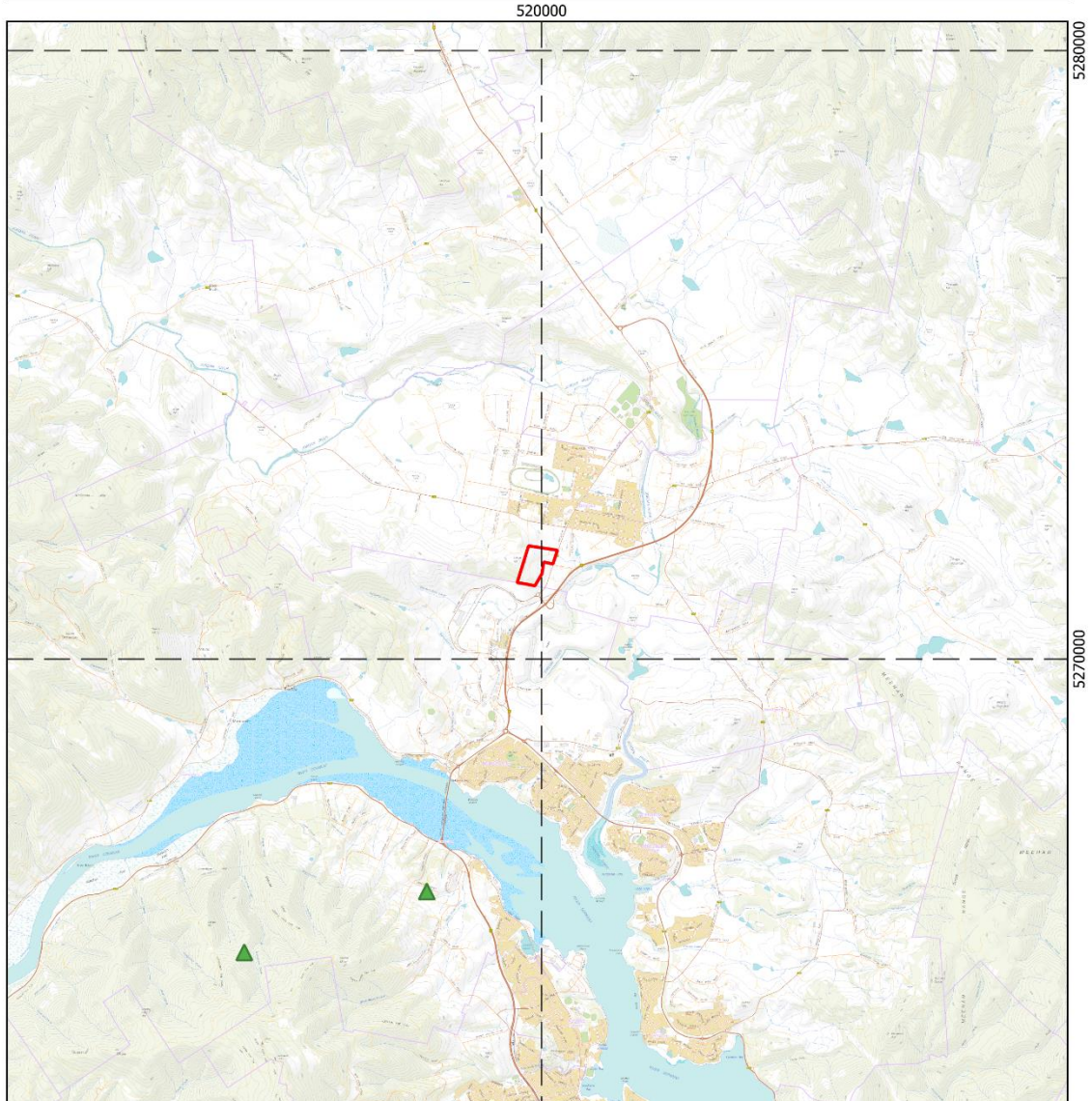
Base data from theLIST (www.thelist.tas.gov.au),
© State of Tasmania
Grid: MGA Zone 55 Datum: GDA84, AHD



APPENDIX F: DISTRIBUTION MAPS OF MNES THREATENED FLORA



Distribution of *Caladenia anthracina* (Black-tipped Spider-orchid)



Project Area

Study Area

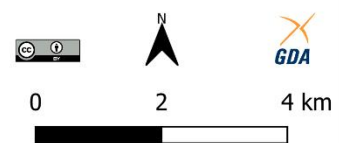
Natural Values Atlas Threatened Flora

Caladenia anthracina

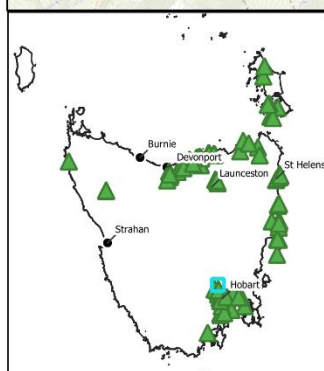
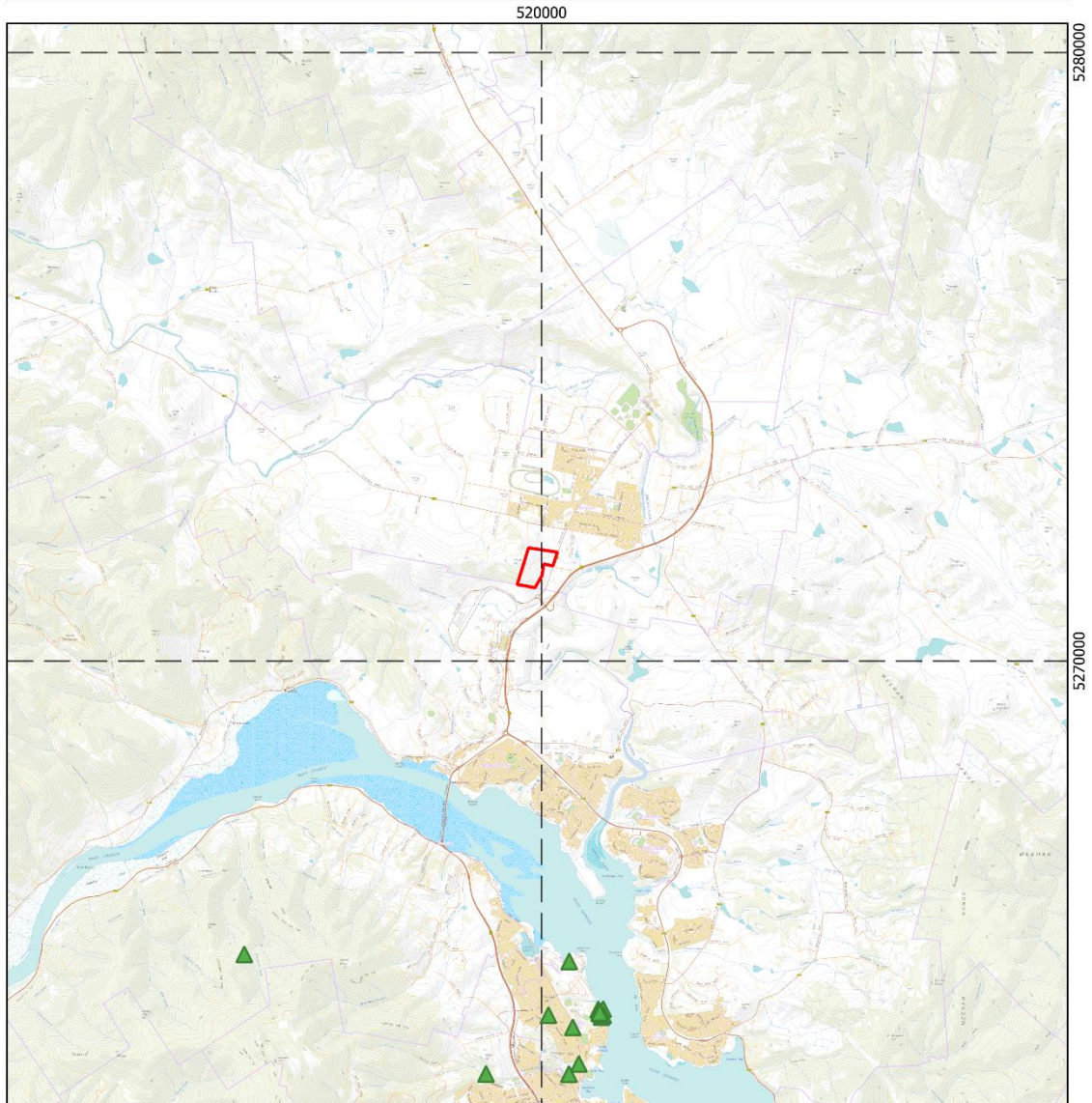
Map extent

Observations from Natural Values Atlas
(www.naturalvaluesatlas.com.au),
24/10/2021, (c) State of Tasmania

Base data from theLIST (www.thelist.tas.gov.au),
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Grid: MGA Zone 55 Datum: GDA64, AHD



Distribution of *Caladenia caudata* (Tailed Spider-orchid)



Project Area

Study Area

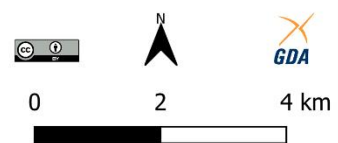
Natural Values Atlas Threatened Flora

Caladenia caudata

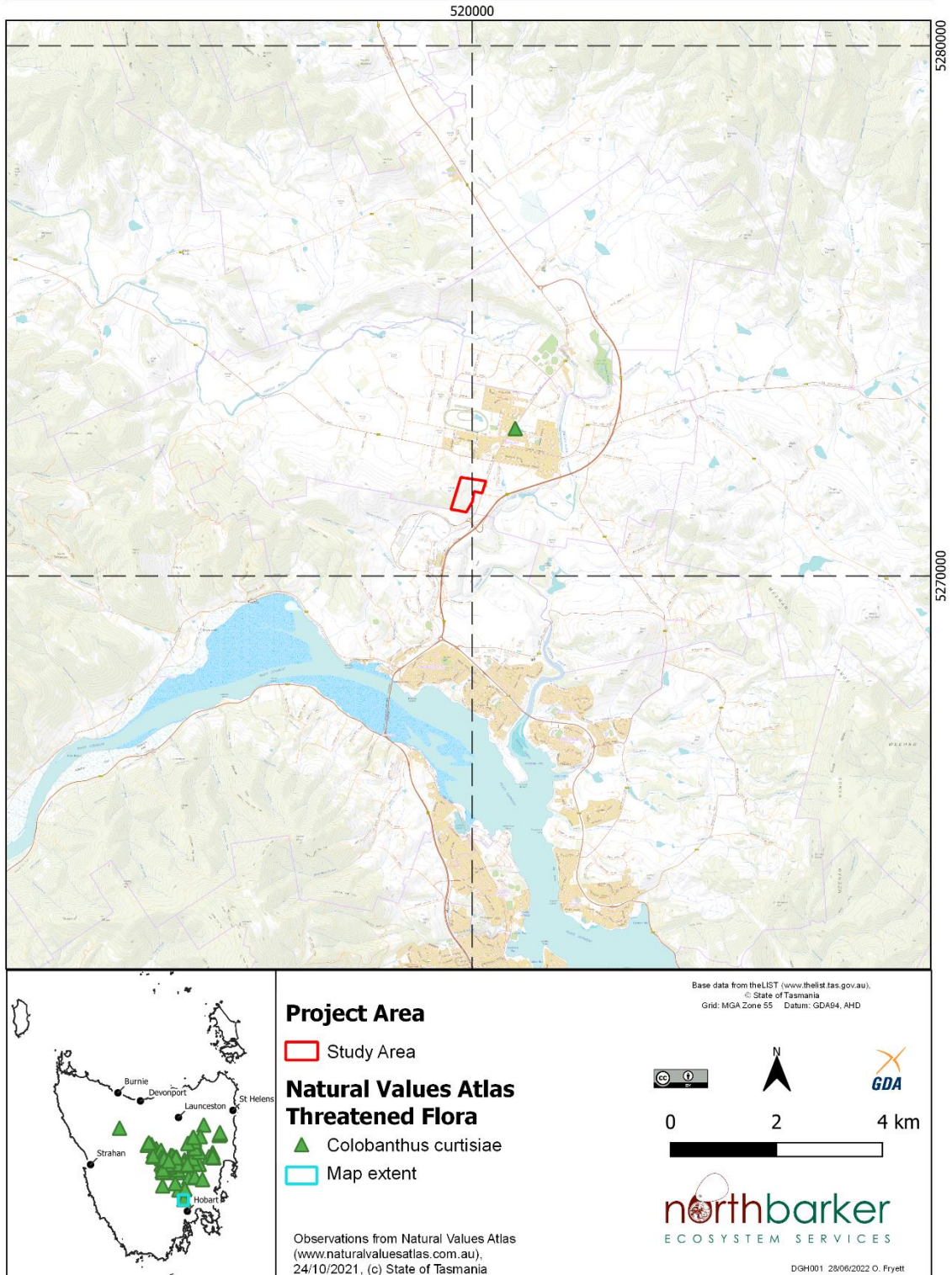
Map extent

Observations from Natural Values Atlas
(www.naturalvaluesatlas.com.au),
24/10/2021, (c) State of Tasmania

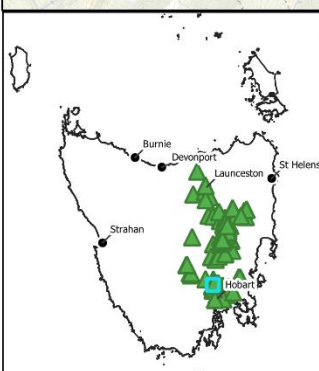
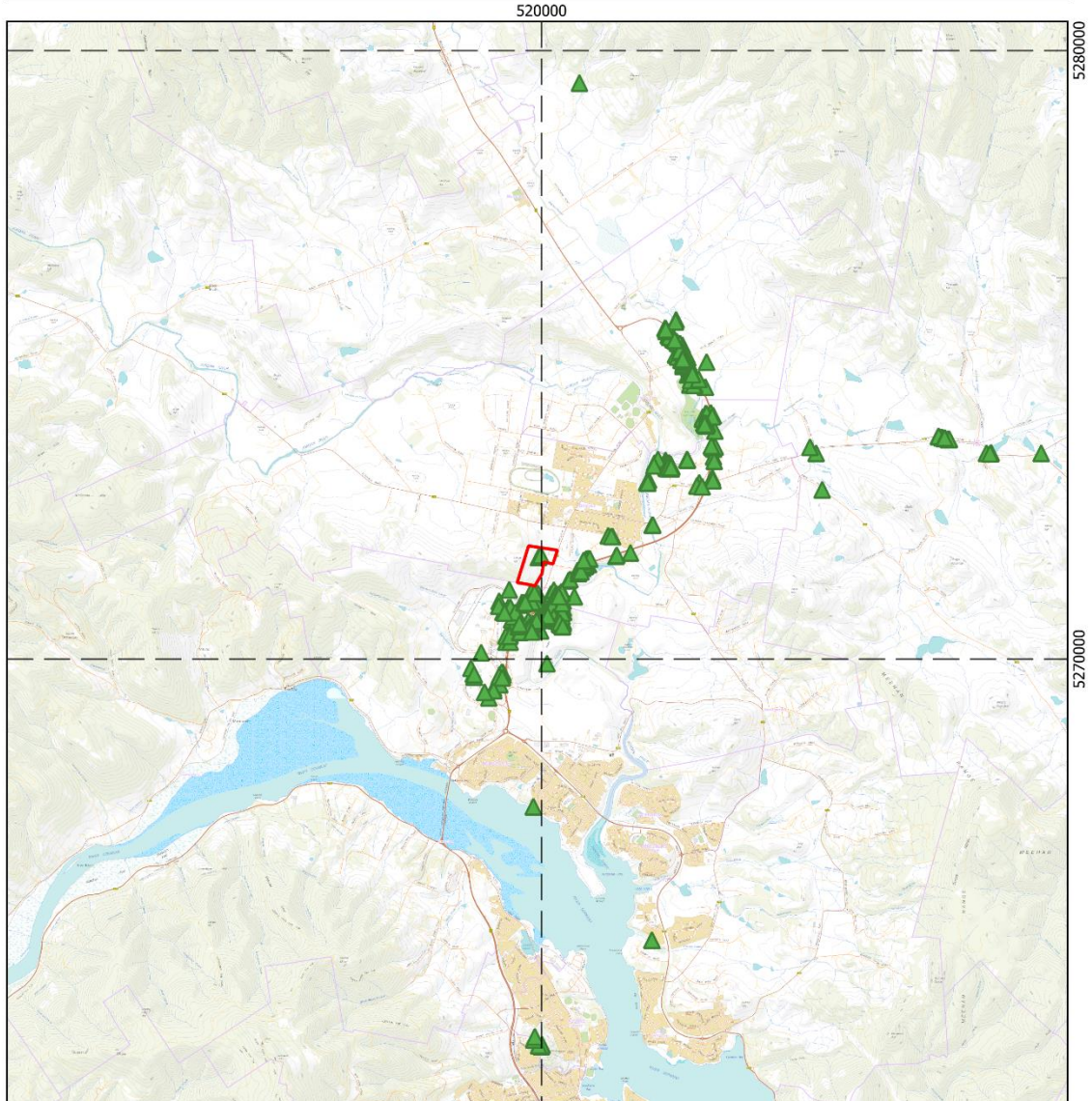
Base data from theLIST (www.thelist.tas.gov.au),
© State of Tasmania
Grid: MGA Zone 55 Datum: GDA64, AHD



Distribution of *Colobanthus curtisiae* (Curtis' Colobanth)



Distribution of *Dianella amoena* (Matted Flax-lily)



Project Area

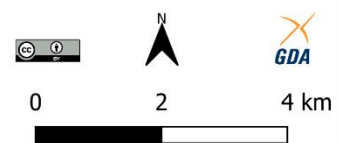
Study Area

Natural Values Atlas Threatened Flora

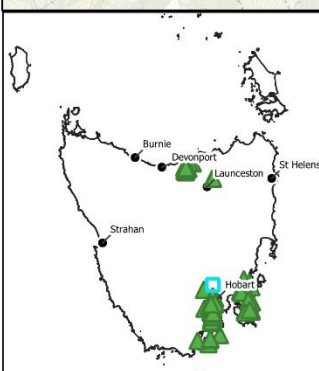
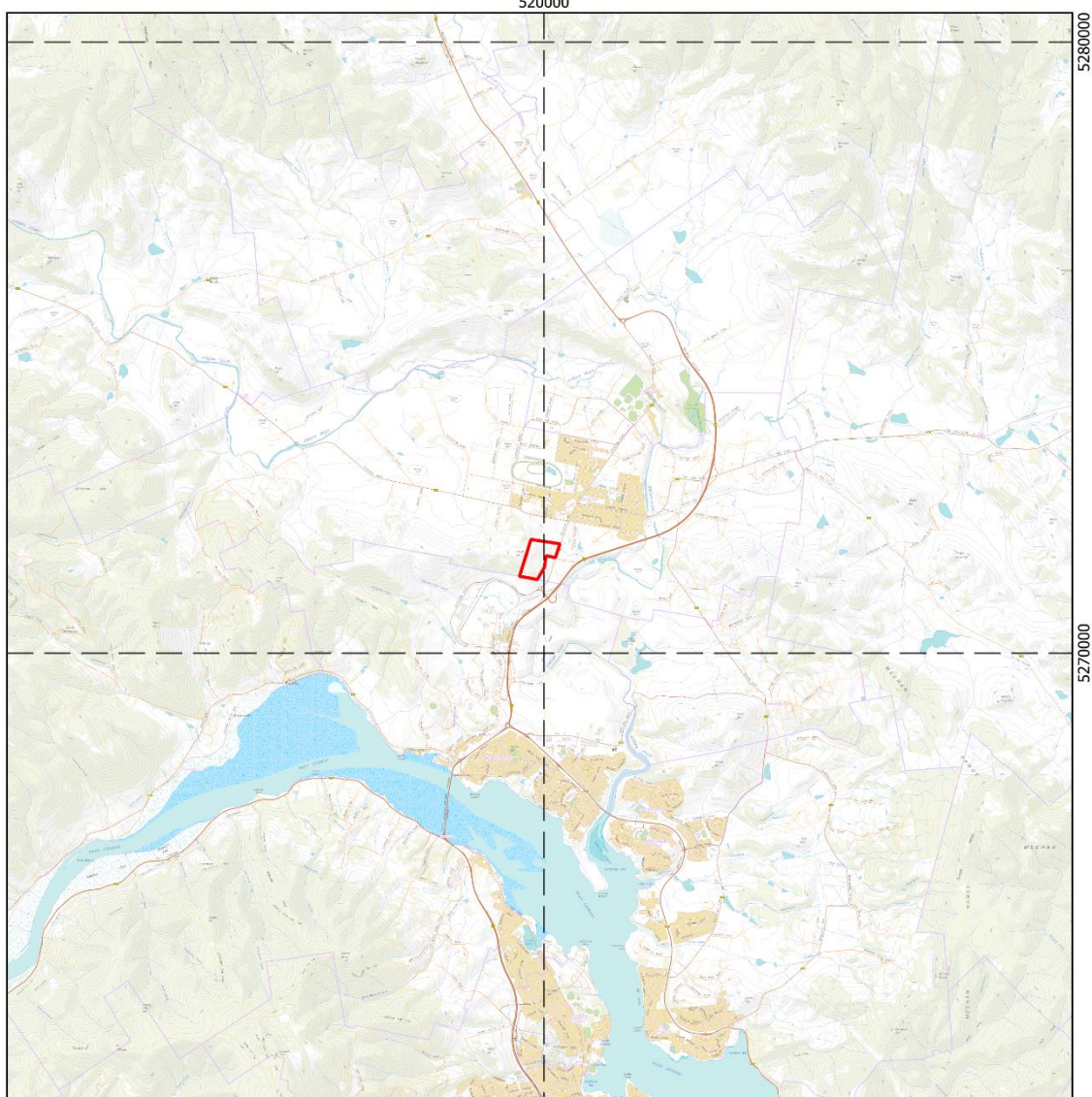
▲ *Dianella amoena*
□ Map extent

Observations from Natural Values Atlas
(www.naturalvaluesatlas.com.au),
24/10/2021, (c) State of Tasmania

Base data from theLIST (www.thelist.tas.gov.au),
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Distribution of *Epacris virgata* (Pretty Heath, Dan Hill Heath)



Project Area

Study Area

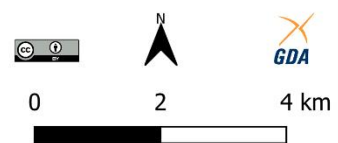
Natural Values Atlas Threatened Flora

▲ *Epacris virgata*

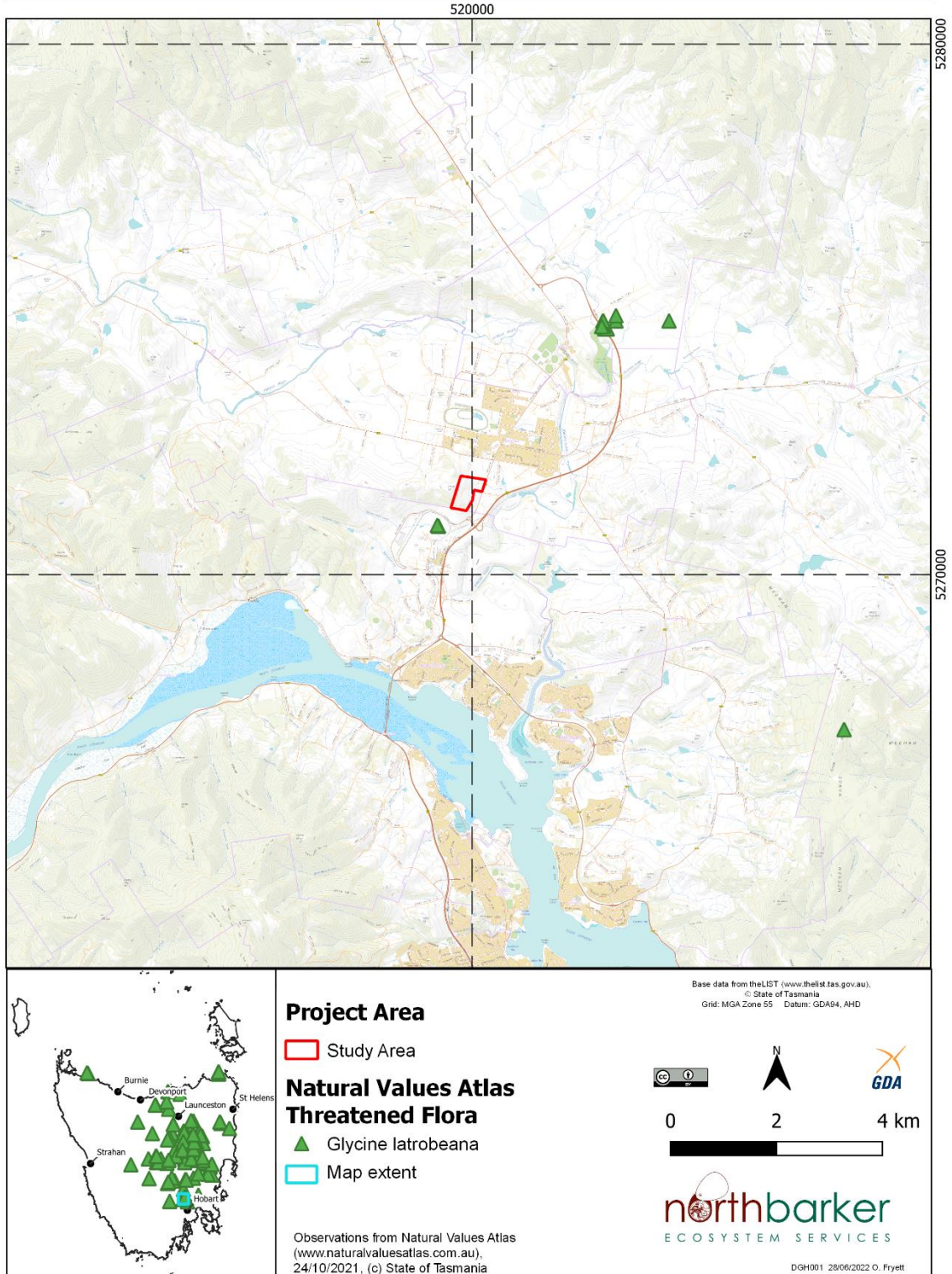
Map extent

Observations from Natural Values Atlas
(www.naturalvaluesatlas.com.au),
24/10/2021, (c) State of Tasmania

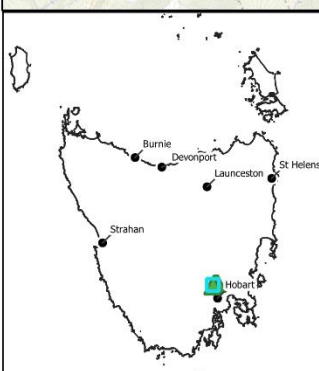
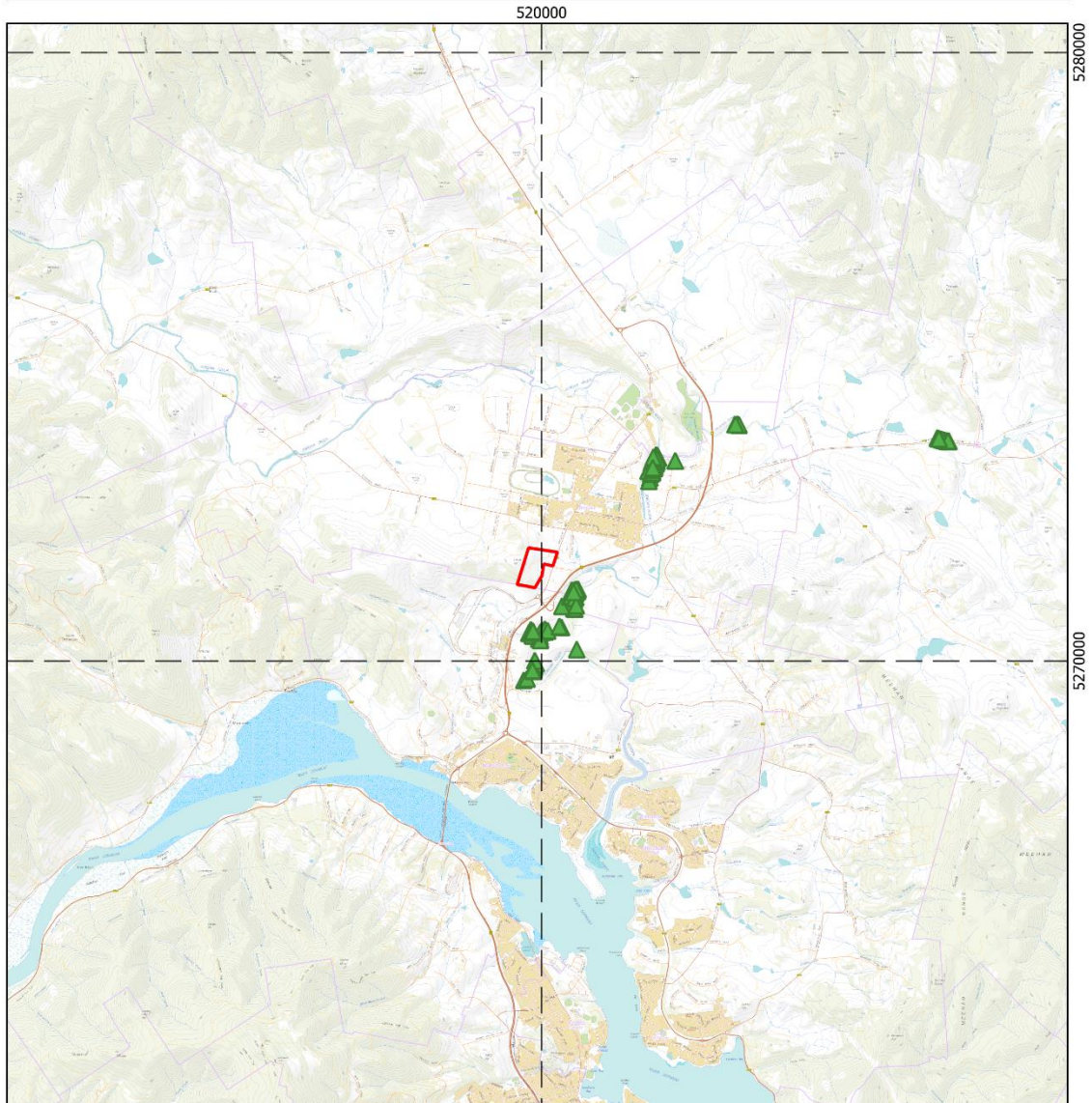
Base data from theLIST (www.thelist.tas.gov.au),
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Grid: MGA Zone 55 Datum: GDA94, AHD



Distribution of *Glycine latrobeana* (Clover Glycine, Purple Clover)



Distribution of *Hibbertia basaltica* (Basalt Guinea-flower)



Project Area

Study Area

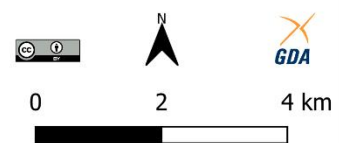
Natural Values Atlas Threatened Flora

▲ *Hibbertia basaltica*

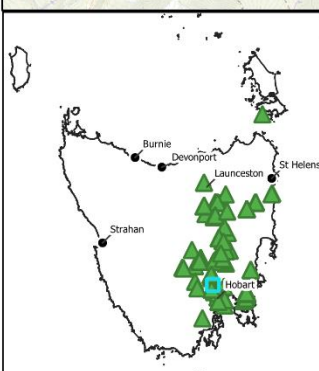
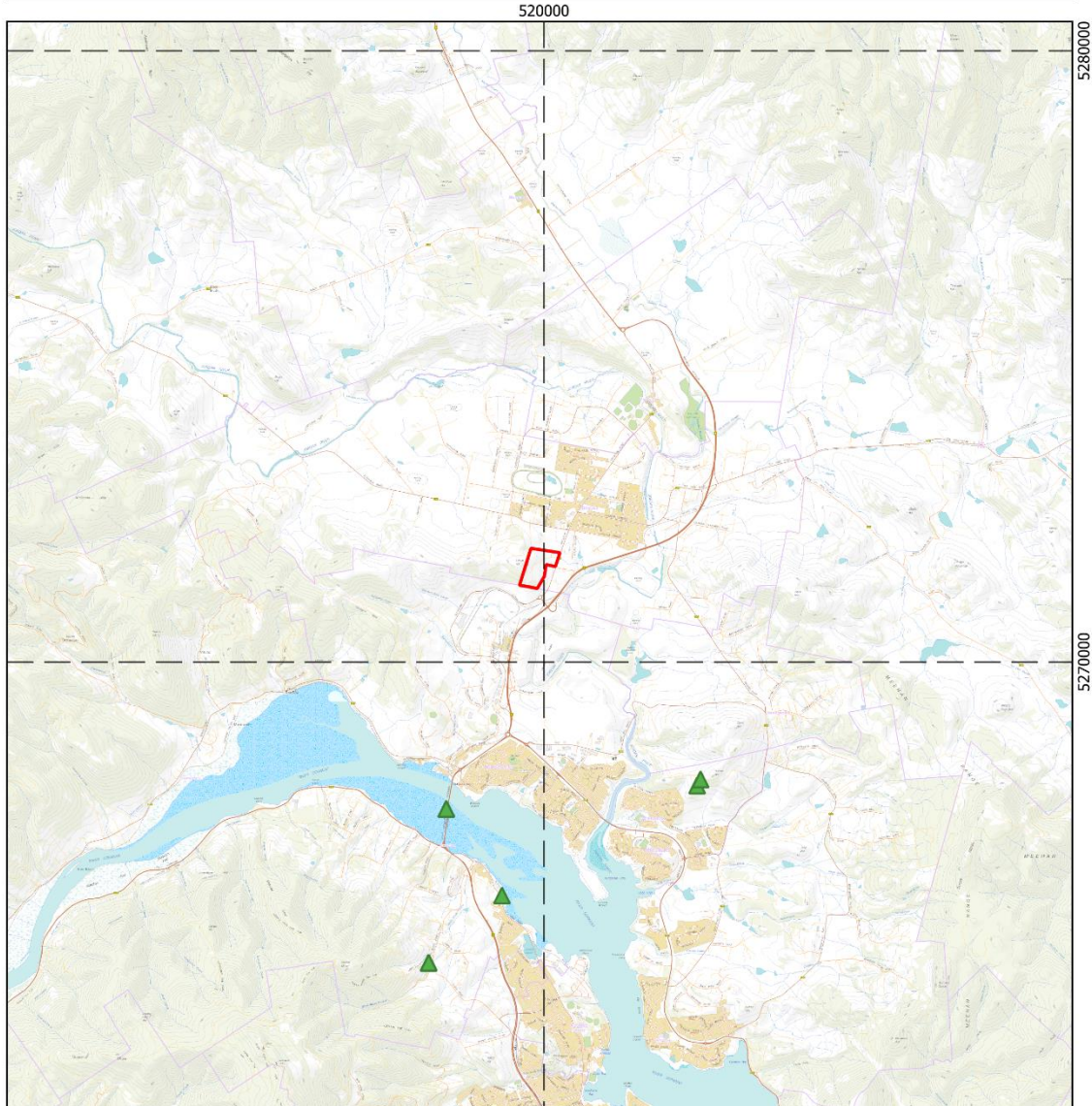
Map extent

Observations from Natural Values Atlas
(www.naturalvaluesatlas.com.au),
24/10/2021, (c) State of Tasmania

Base data from theLIST (www.thelist.tas.gov.au),
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Distribution of *Lepidium hyssopifolium*
(Basalt Pepper-cress, Peppercross, Rubble Pepper-cress, Pepperweed)



Project Area

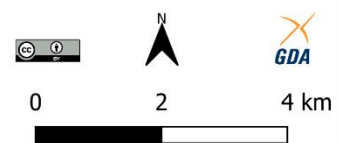
Study Area

**Natural Values Atlas
Threatened Flora**

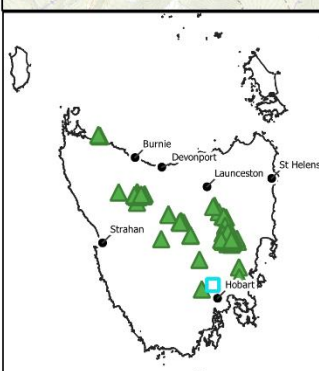
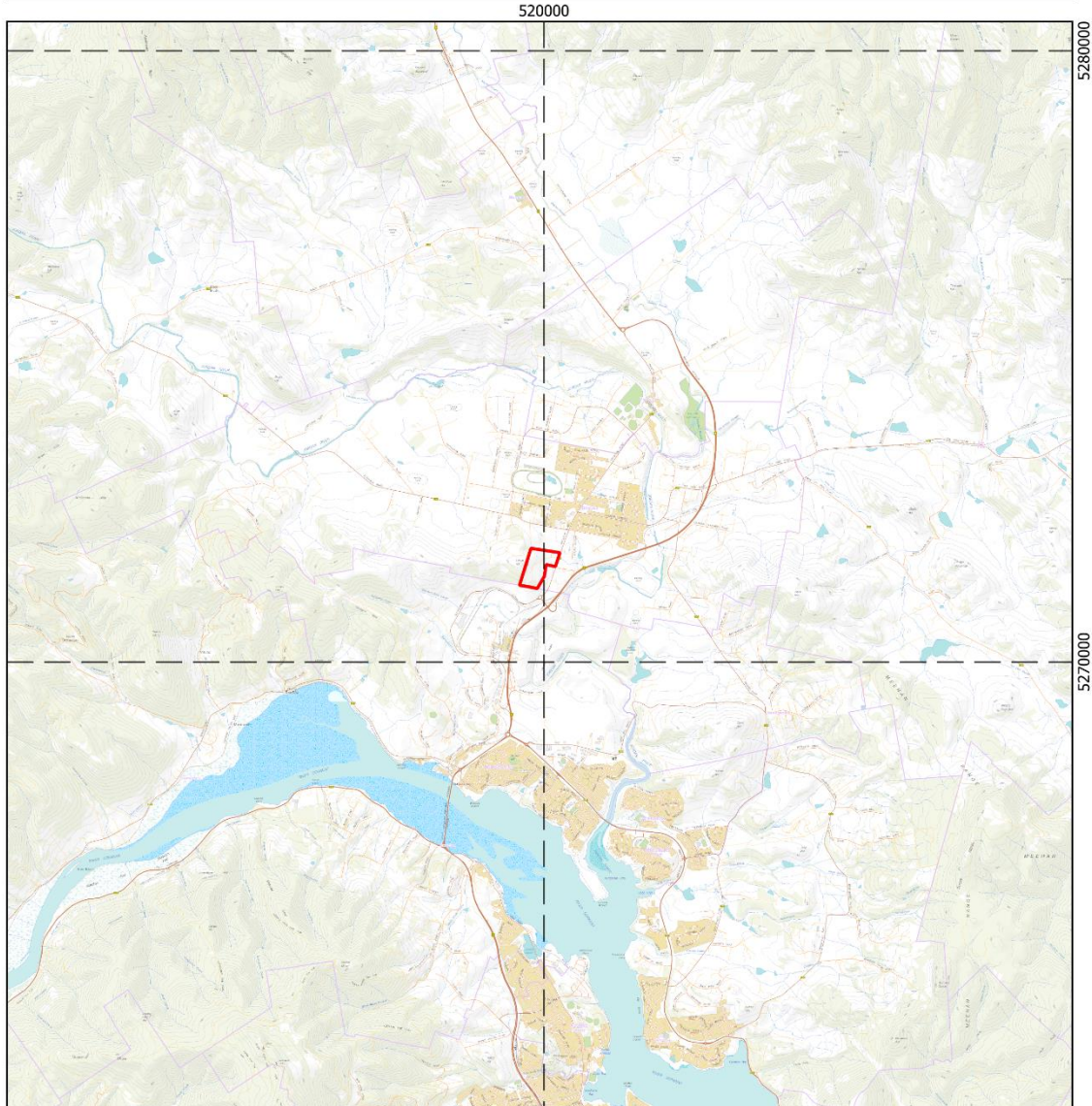
▲ *Lepidium hyssopifolium*
□ Map extent

Observations from Natural Values Atlas
(www.naturalvaluesatlas.com.au),
24/10/2021, (c) State of Tasmania

Base data from theLIST (www.thelist.tas.gov.au),
© State of Tasmania
Grid: MGA Zone 55 Datum: GDA94, AHD



**Distribution of *Leucochrysum albicans subsp. tricolor*
(Hoary Sunray, Grassland Paper-daisy)**



Project Area

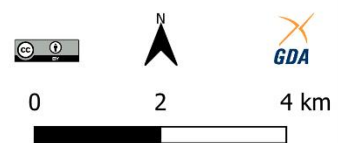
Study Area

**Natural Values Atlas
Threatened Flora**

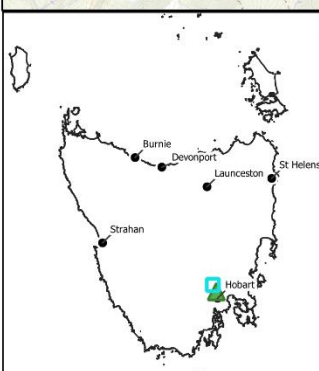
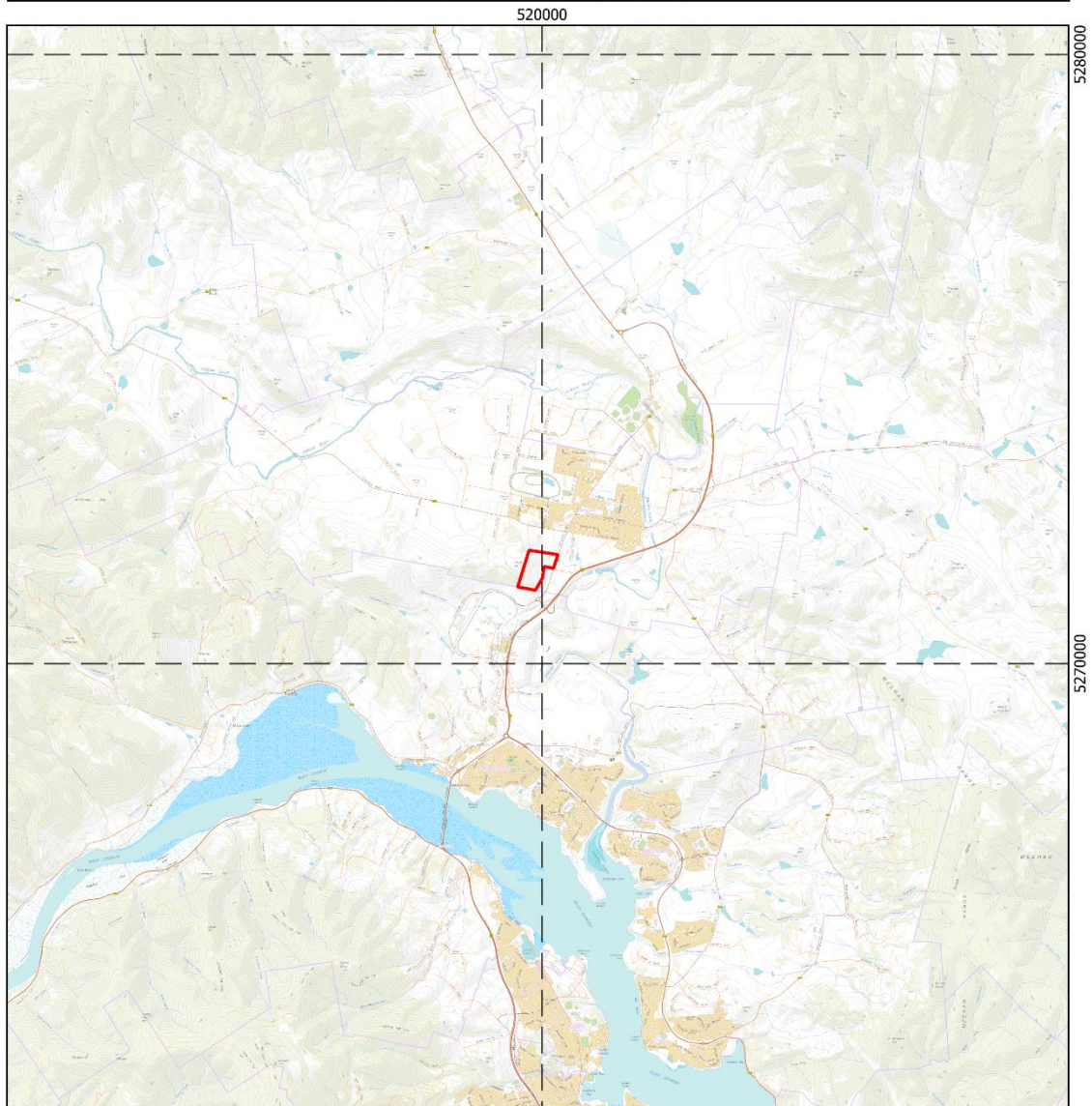
- ▲ *Leucochrysum albicans subsp. tricolor*
- Map extent

Observations from Natural Values Atlas
(www.naturalvaluesatlas.com.au),
24/10/2021, (c) State of Tasmania

Base data from theLIST (www.thelist.tas.gov.au),
© State of Tasmania
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Distribution of *Ozothamnus reflexifolius* (Reflexed Everlasting)



Project Area

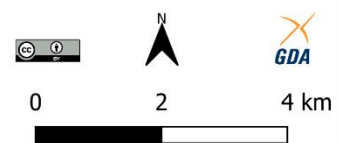
Study Area

Natural Values Atlas Threatened Flora

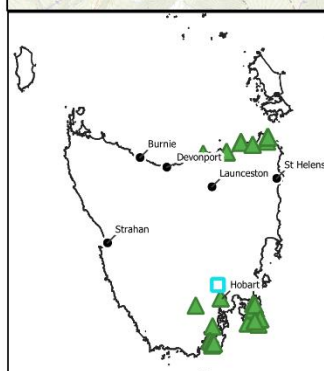
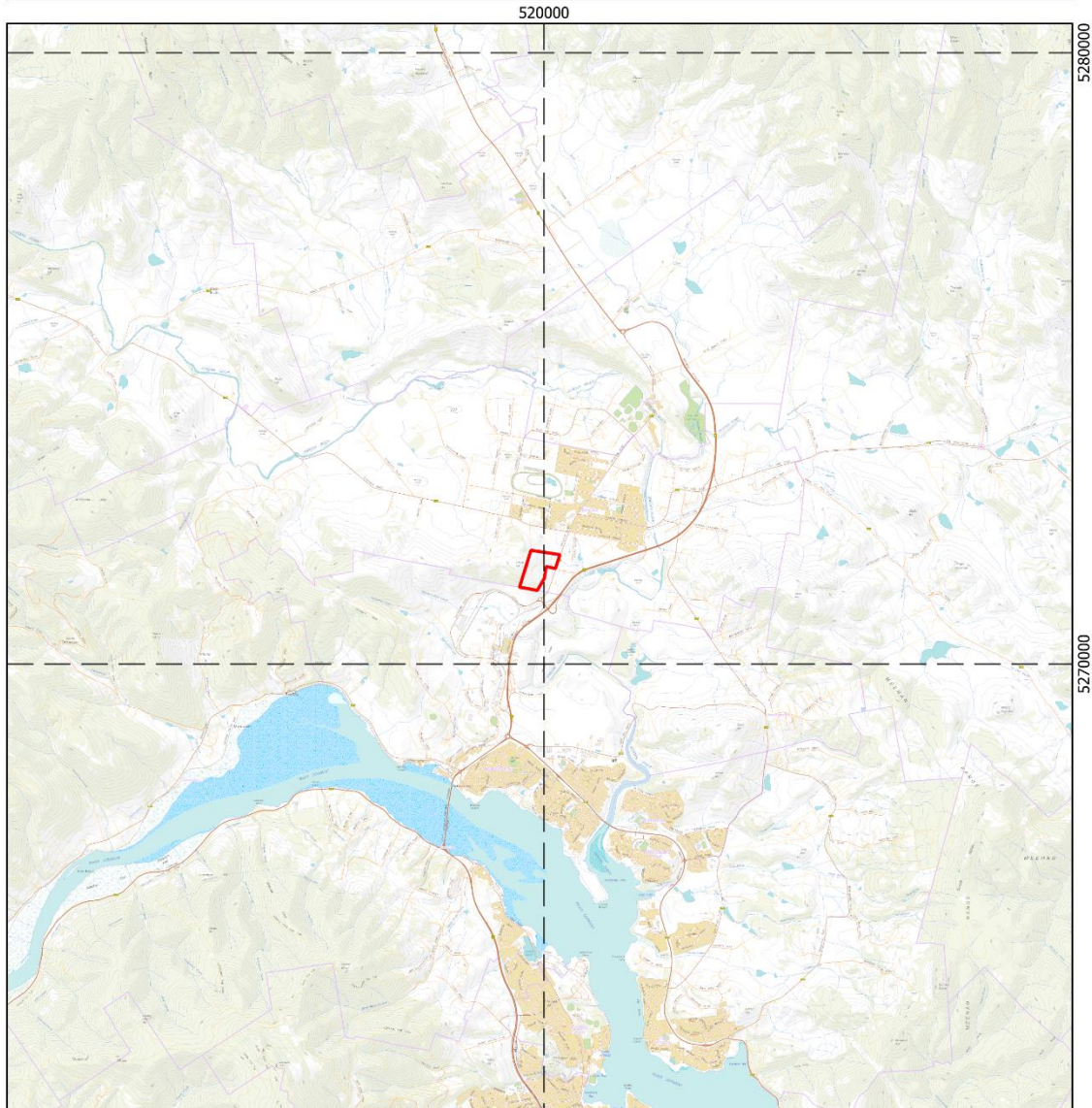
▲ *Ozothamnus reflexifolius*
 Map extent

Observations from Natural Values Atlas
(www.naturalvaluesatlas.com.au),
24/10/2021, (c) State of Tasmania

Base data from theLIST (www.thelist.tas.gov.au),
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Distribution of *Prasophyllum apoxychilum* (Tapered Leek-orchid)



Project Area

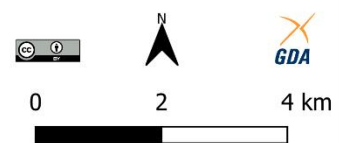
Study Area

Natural Values Atlas Threatened Flora

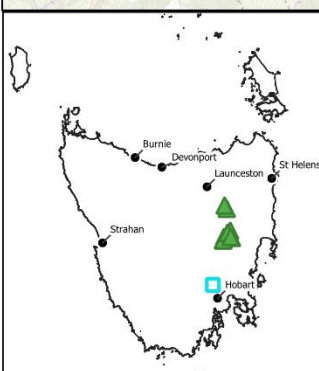
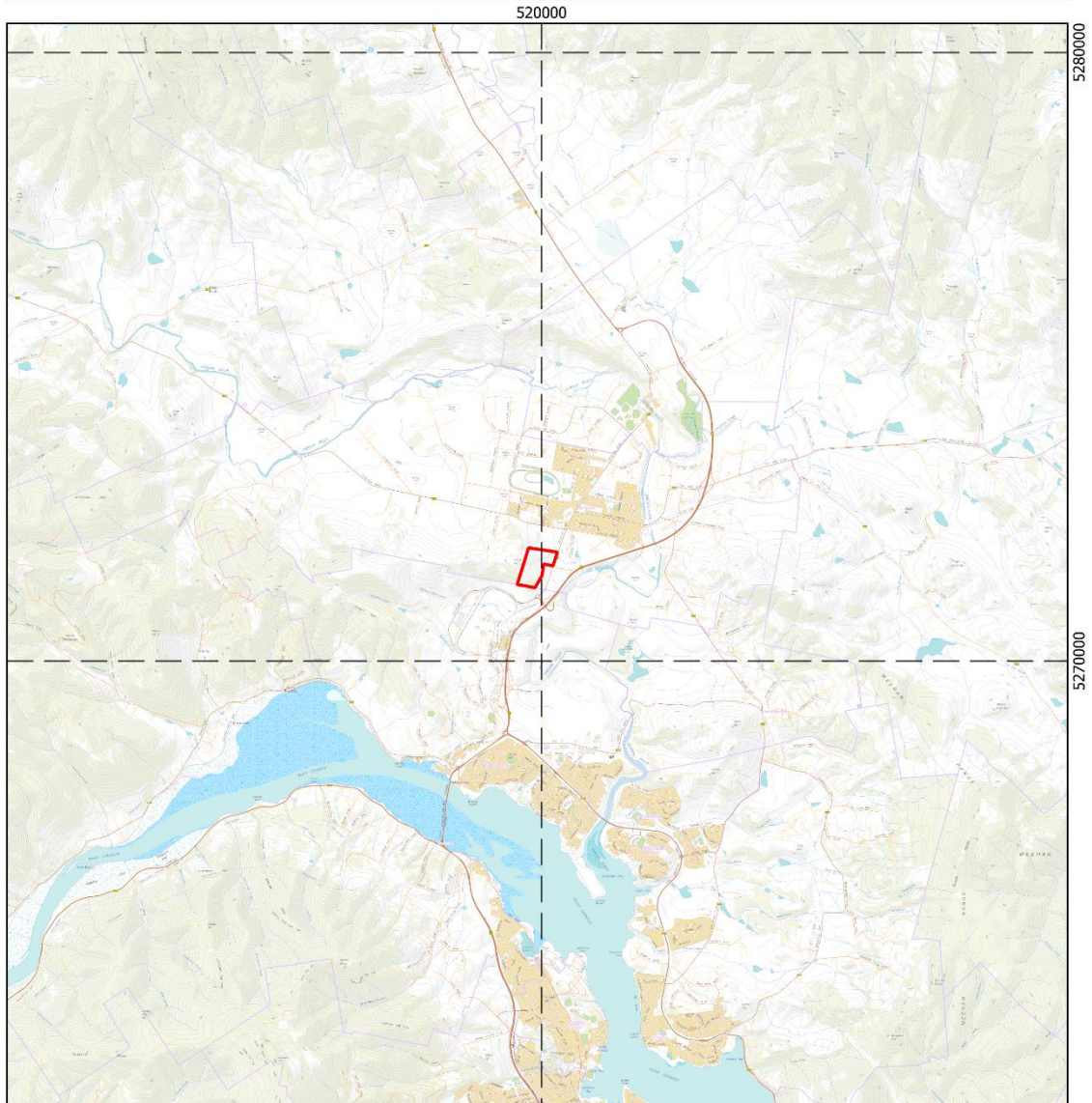
▲ *Prasophyllum apoxychilum*
 Map extent

Observations from Natural Values Atlas
(www.naturalvaluesatlas.com.au),
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Distribution of *Pterostylis commutata* (Midland Greenhood)



Project Area

Study Area

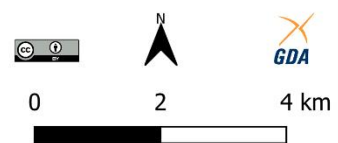
Natural Values Atlas Threatened Flora

▲ *Pterostylis commutata*

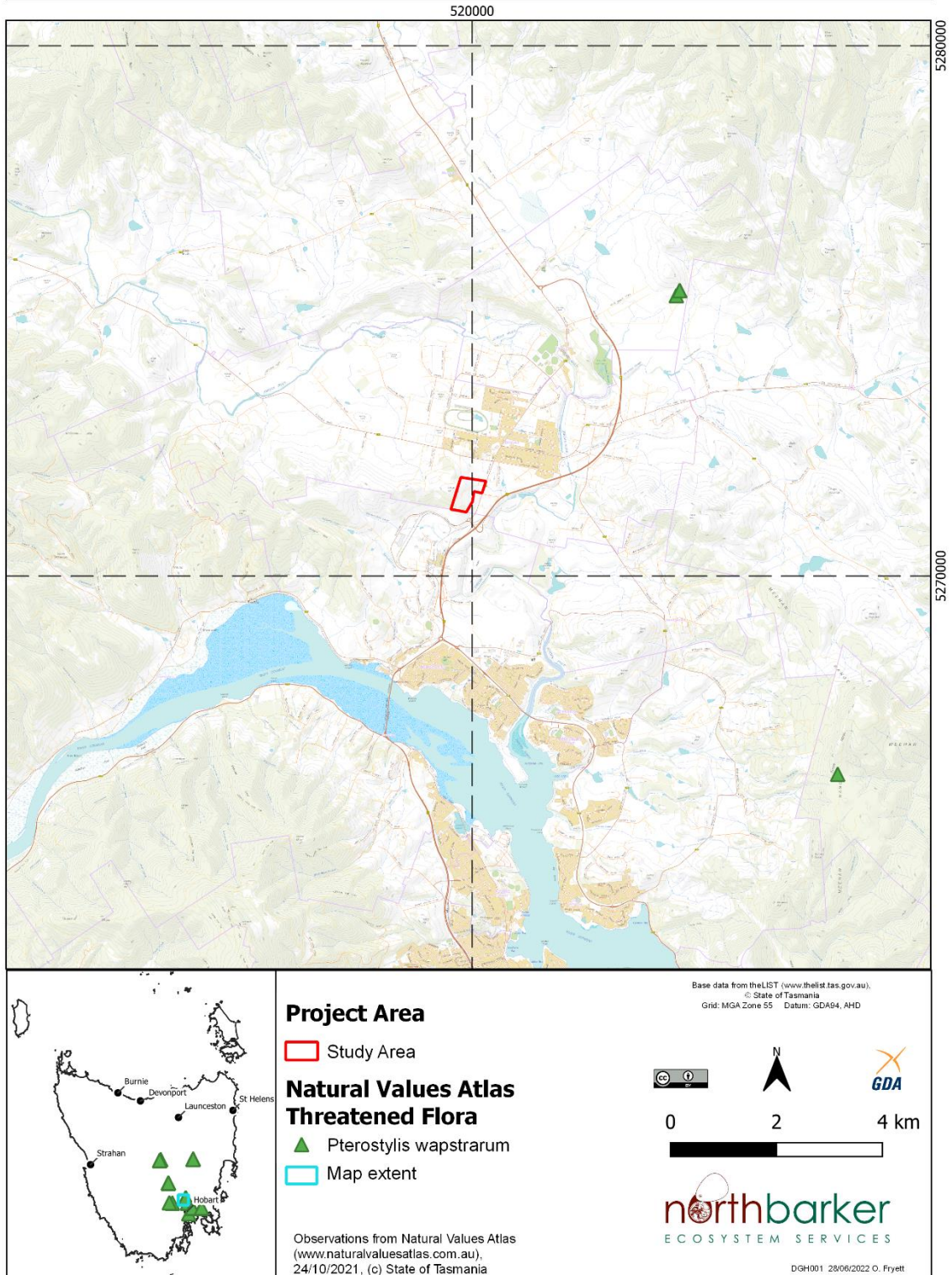
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Observations from Natural Values Atlas
(www.naturalvaluesatlas.com.au),
24/10/2021, (c) State of Tasmania

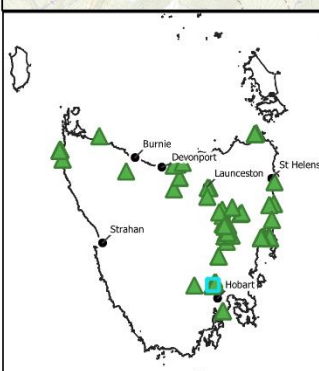
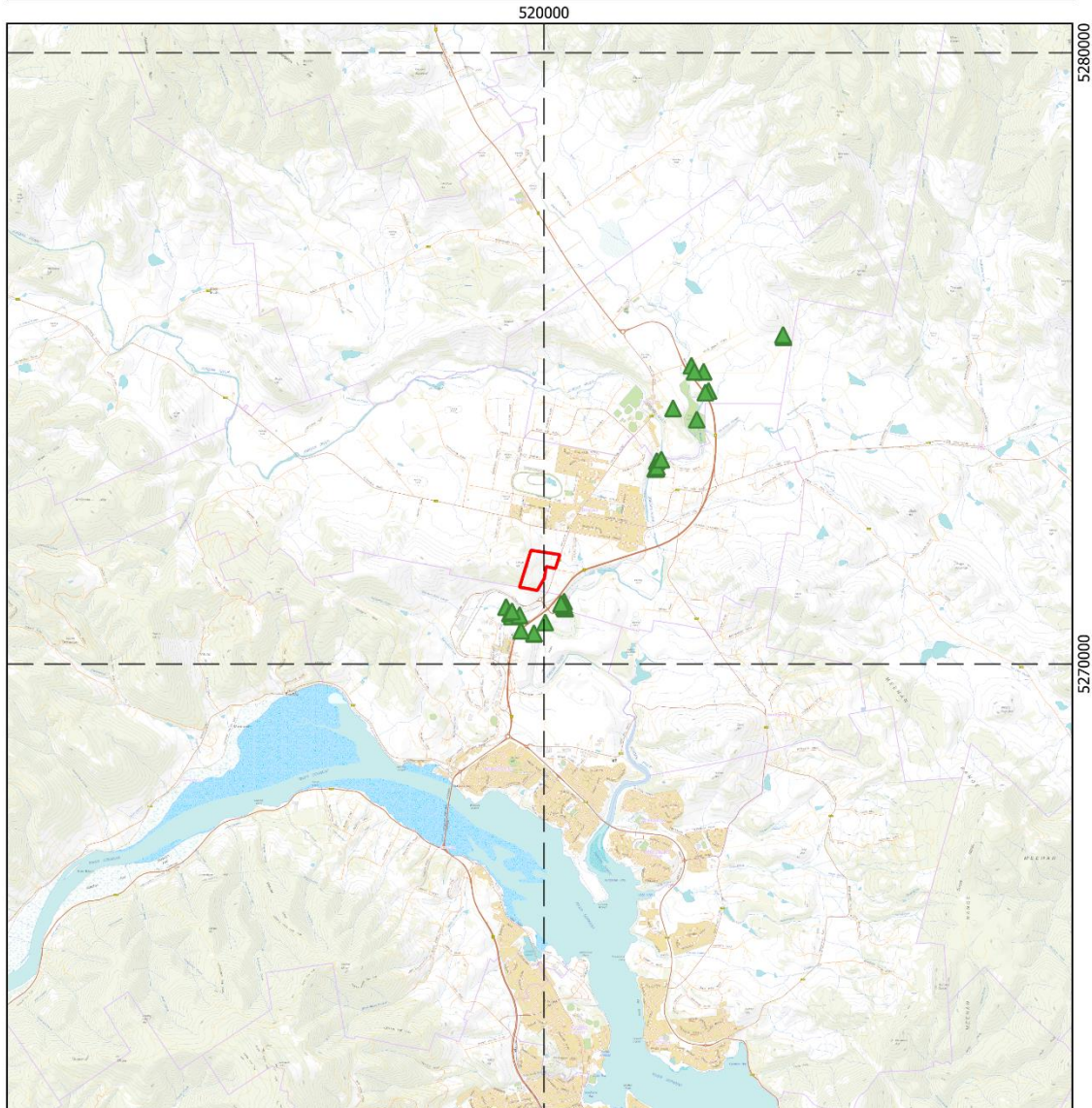
Base data from theLIST (www.thelist.tas.gov.au),
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Distribution of *Pterostylis wapstrarum* (Fleshy Greenhood)



Distribution of *Pterostylis ziegeleri* **(Grassland Greenhood, Cape Portland Greenhood)**



Project Area

Study Area

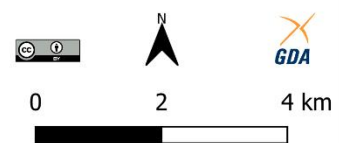
Natural Values Atlas Threatened Flora

▲ *Pterostylis ziegeleri*

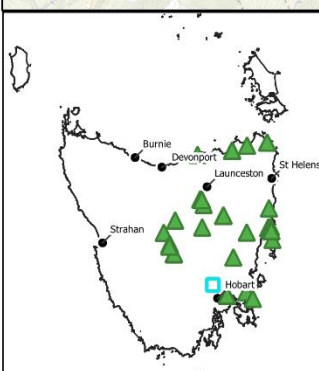
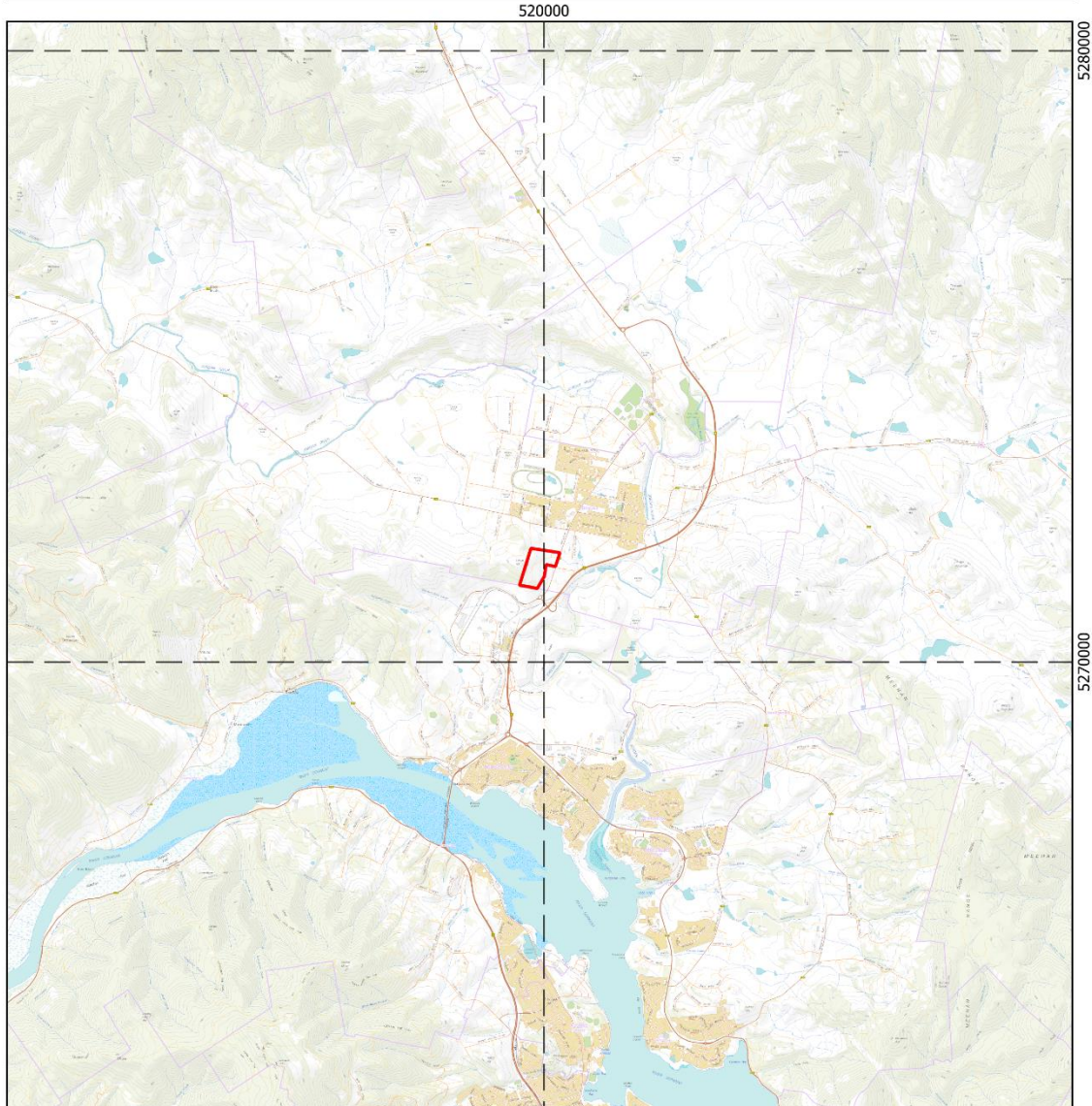
Map extent

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Distribution of *Xerochrysum palustre* (Swamp Everlasting, Swamp Paper Daisy)



Project Area

Study Area

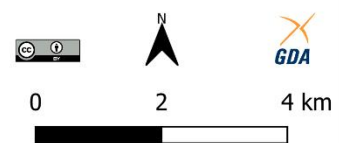
Natural Values Atlas Threatened Flora

▲ *Xerochrysum palustre*

Map extent

Observations from Natural Values Atlas
(www.naturalvaluesatlas.com.au),
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APPENDIX G: KEY DEFINITIONS - SIGNIFICANT IMPACT ASSESSMENT

Significant impact criteria

('important' statements in brackets applies to vulnerable species)

An action is considered likely to have a significant impact if there is a real chance or possibility that it will:

1. lead to a long-term decrease in the size of a (important) population
2. reduce the area of occupancy of (an important population of) the species
3. fragment an existing (important) population into two or more populations
4. adversely affect habitat critical to the survival of a species
5. disrupt the breeding cycle of a (important) population
6. modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline
7. result in invasive species that are harmful to the species becoming established in the species' habitat
8. introduce disease that may cause the species to decline, and/or
9. interfere (substantially) with the recovery of the species

What is a population of a species?

A population of a species is defined under the EPBC Act as an occurrence of a species in a particular area. In relation to critically endangered, endangered or vulnerable threatened species, occurrences include but are not limited to:

- a geographically distinct regional population, or collection of local populations, or
- a population, or collection of local populations, that occurs within a particular bioregion.

Important population

An important population is a population that is necessary for a species' long-term survival and recovery. This may include populations identified as such in recovery plans, and/or that are:

- key source populations either for breeding or dispersal,
- populations that are necessary for maintaining genetic diversity, and/or
- populations that are near the limit of the species range.