northbarker
ECOSYSTEM SERVICES

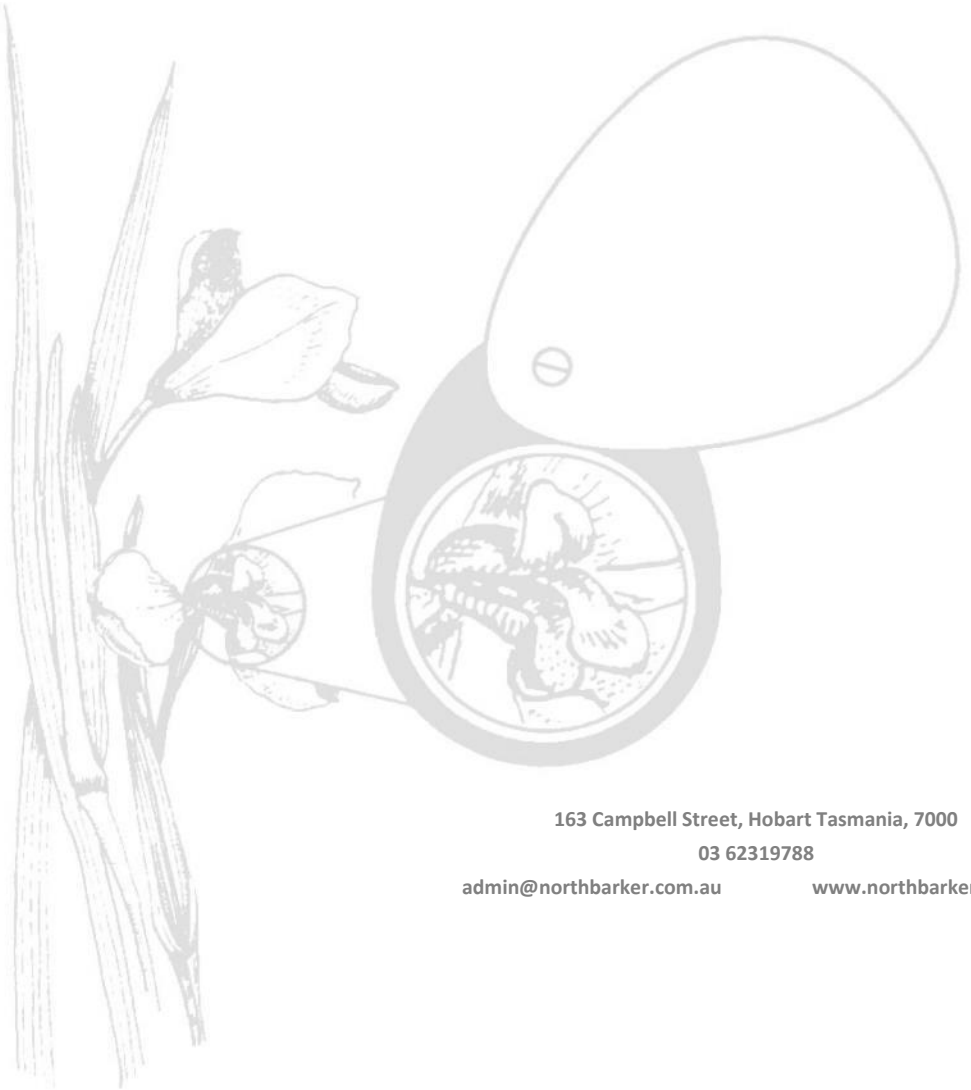
Habitat Tree (Hollow-bearing) Management Protocol

with particular reference to
potential Tasmanian masked owl habitat

Northern Midlands Irrigation Scheme

30th June 2022

For Tasmanian Irrigation



163 Campbell Street, Hobart Tasmania, 7000
03 62319788
admin@northbarker.com.au www.northbarker.com.au

1. Background

The natural values assessment (NVA) undertaken for the Northern Midlands Irrigation Scheme (NMIS) identified approximately 100 large trees/stags with potential to contain habitat suitable for nesting/roosting fauna (including the Tasmanian Masked Owl – *Tyto novaehollandiae* subsp. *castanops*); over half were excised from the design corridor with purposeful realignments, such that only 48 remain within the modified design corridor, with only 10 occurring within the indicative construction corridor at the time of writing.

It is anticipated that complete avoidance of these potential habitat trees will be unavoidable and at least some will be required to be cleared and/or impacted structurally to the degree that failure is likely (thus being equivalent to clearance) – noting the Australian Standard AS4970-2009 Protection of Trees on Development Sites defines impacts to tree roots based on Tree Protection Zones (TPZ), which are calculated in a radius from trunk diameter (12 x diameter at breast/DBH) up to a maximum of 15 m, while the Structural Root Zone (SRZ) is a smaller radius including components necessary for the trees structural stability only – according to the standard, impacts within the SRZ and/or impact to > 10% of the TPZ create a high risk of impacts to the tree, typically requiring consultation with an arborist to determine available mitigation measures and quantify impacts.

Whilst the risk to the masked owl is low on account of the relatively small number of trees within the potential construction corridor, coupled with the relatively low likelihood of the species being present in those particular trees, the NVA recommended the following:

- Avoid impacts to as many of the identified potential habitat trees as possible.
- Any potential habitat trees that cannot be avoided by the construction corridor should be subject to a habitat tree protocol involving targeted hollow use inspections.

The protocol is subsequently recommended to be undertaken as follows within the areas identified as supporting potentially suitable habitat trees (Figures 1a and 1b). The protocol can also apply to any other habitat trees (particularly with masked owl suitability) discovered during works.

2. Hollow-bearing tree management protocol

Application of this protocol (sections A through G) will require approval to take products of wildlife protected under the *Nature Conservation (Wildlife) Regulations 2021* and will require regulatory oversight for release of hold points for clearance. Any conditions within the associated permit/s must be adhered to and may supersede clauses in the protocol. The protocol clauses (other than the vegetation clearance itself) are to be carried out by suitably qualified ecologists.

A- Application of the protocol

(i) The protocol must be applied to any potential habitat tree (hollow-bearing likelihood) identified by the NVA field assessment within the Protocol Application Area - Figures 1a and 1b.

(ii) The protocol may additionally apply to any tree with a hollow suspected/confirmed during later investigations (such as observed during works) within the Protocol Application Area.

North Barker Ecosystem Services - IDB023
Grant Daniels (gdaniels@northbarker.com.au)

B- Timing of works

(i) Hollow-bearing tree clearance (and application of the protocol) with particular reference to trees with suitability for the masked owl, should be undertaken (to the extent possible) between March 1st and July 31st, to reduce the likelihood of nesting activity at the time of clearance[1].

(ii) For those trees in which section F applies, clearance must be undertaken within the working day on which approval is given, or the processes within that section repeated.

C- Pre-clearance procedure

(i) Identify all hollow-bearing potential habitat trees at risk of impacts within the Protocol Application Area as per clause A (i) or (ii).

(ii) For those trees identified as per A (i) or (ii), undertake retention viability assessment with the guidance of an arborist and/or ecologist.

(iii) Those that can viably be retained should be marked as exclusion zones on civil contracts including an associated buffer as a tree protection zone where possible[2] - the remainder of the protocol will not apply.

(iv) For those that cannot be retained, section D (or potentially E and F) applies.

D- Hollow-bearing tree management – active inspection/s and decommissioning

(i) Each tree/hollow should be assessed for direct hollow observation options (*i.e.* mechanisms to allow an ecologist/arborist with fauna identification skills to access the hollows for direct close-up observation) – options may include (but are not limited to) use of a cherry picker or similar, rope climbing, ladders:

a. If a tree can safely/adequately be assessed with such methods, clauses D (ii) – D (vi) apply.

b. If a tree cannot safely be assessed with such methods, section E applies.

(ii) Upon accessing the tree, the ecologist must inspect (to the degree possible) all hollows for viability and occupation of vertebrate fauna:

a. Inviable hollows can be ignored.

b. Viable hollows are to be investigated for current evidence of vertebrate fauna occupation as per clause D (iii).

[1] Noting that for masked owls breeding is possible year 'round (including an observation of chicks in May), but largely seasonal (October to November for most egg-laying) (Threatened Species Scientific Committee 2010)

[2] As per AS 4970-2009

North Barker Ecosystem Services - IDB023
Grant Daniels (gdaniels@northbarker.com.au)

c. Hollows that can't be safely inspected must be subject to requirements of section E.

(iii) If a hollow contains current evidence of being in use for nesting, the observer must conclude if the nest (and nest contents) is that of a masked owl, or any other species covered by a permit to take protected wildlife and/or products of wildlife:

a. If the nest/nest contents are that of a masked owl, section F applies.

b. If the nest/nest contents are from a species other than masked owl and they are covered by a permit (or do not require a permit), they may be taken (as per the conditions of the permit where applicable).

c. If the nest/nest contents are from a protected species (as per the schedules of the *Nature Conservation (Wildlife) Regulations 2021*) other than masked owl, and not a species covered by a permit, they should be estimated for time required until fledging and treated as an exclusion zone until nesting is completed and the hollow vacated – after which time clauses D(v) and D(vi) can apply.

(iv) If a hollow contains no current evidence of nesting but occupants are roosting/sheltering inside, the individual/s can be encouraged to leave the hollow or observed until they leave of their own accord (which could require dusk/dawn observation).

(v) Once the absence of current nesting and occupation has been confirmed, a vacant hollow may be decommissioned/blocked-up by covering entrances with corflute (or equivalent material).

(vi) Once all viable hollows in a tree are decommissioned as per this method, the tree can be approved for clearance (with the clearance timeframe not critical once hollows are decommissioned).

E- Hollow-bearing tree management – passive inspection/s and clearance

(i) For trees that cannot safely be accessed as per D(i), an ecologist must undertake a dusk observation (minimum 1 hr), followed by a dawn observation (minimum 1 hr) the next day, and repeat these surveys over the course of 3 consecutive evenings/mornings.

a. If masked owl activity is recorded during this survey, the ecologist will make an assessment on the likelihood of breeding activity from the observations: if breeding is suspected, section F will apply; if the use is suspected to be non-breeding, clause E (i)b will apply.

b. If this survey records occupation from a species other than masked owl, or suspected non-breeding occupation by a masked owl (e.g. roosting), the surveys with continue in evenings/mornings until a day occurs where all hollows in a tree under observation are considered to be vacant and the tree will be cleared on that day – if 5 consecutive evenings/mornings are surveyed and the hollow/s are still occupied, the tree should be banged on with hand-mallets until the occupant/s vacate (if this does not work the regulator will need to be engaged to advise on acceptable methods to vacate the occupants).

North Barker Ecosystem Services - IDB023
Grant Daniels (gdaniels@northbarker.com.au)

c. Once all viable hollows in a tree are determined to be vacant as per this method, the tree can be approved for clearance and must be cleared within the day approved. If not cleared within this timeframe, a dusk/dawn survey should be repeated, and the steps of clause E (i) b repeated if occupancy is detected.

F- Hollow-bearing tree management – masked owl nesting

(i) If breeding activity of masked owl is likely/confirmed, the tree will be excluded from clearance (applying a 150 m exclusion zone where no works will occur) until fledging has completed (up to 18 weeks), breeding has failed, or additional evidence is available to refute the suspected breeding evidence. A monitoring program will be required to inform this process and will need to be determined by the ecologist as to what is most suitable for the particular nesting tree.

(ii) Once the requirements of clause F (i) are completed, clauses D (v) and D(vi), or E (i) b and c can apply as appropriate.

REFERENCES

Australian Standard AS4970-2009 (Protection of trees on development sites).

Threatened Species Scientific Committee (TSSC) (2010). Commonwealth Listing Advice on *Tyto novaehollandiae castanops* (Masked Owl (Tasmanian)). Department of the Environment, Water, Heritage and the Arts. Canberra, ACT: Department of the Environment, Water, Heritage and the Arts. Available from: http://www.environment.gov.au/biodiversity/threatened/species/pubs/67051-listing-advice.pdf. In effect under the EPBC Act from 19-Aug-2010.

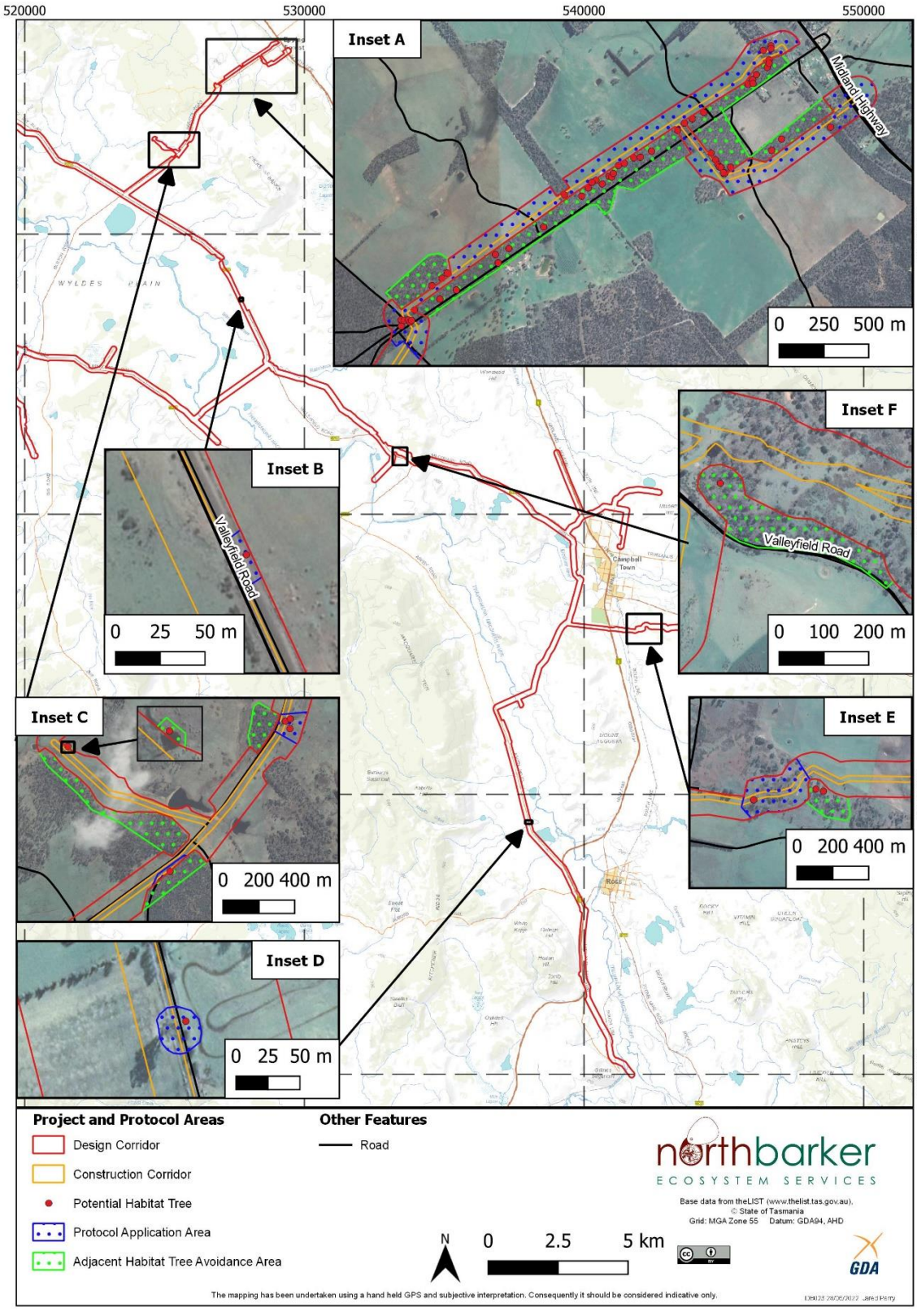


Figure 1a: Protocol Application Area (and additional adjacent avoidance areas for cases of realignments) and distribution of observed potential habitat trees

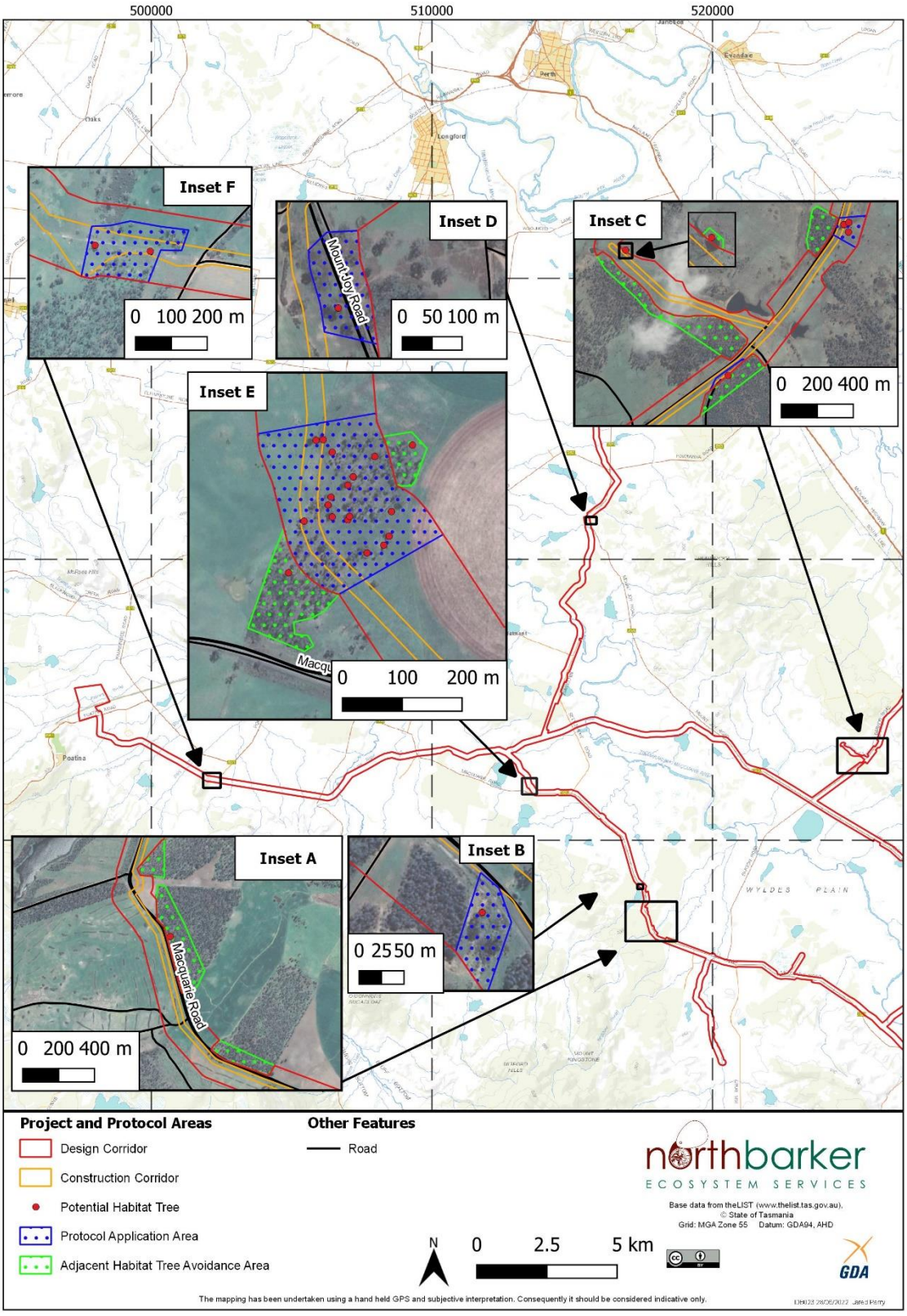


Figure 1b: Protocol Application Area (and additional adjacent avoidance areas for cases of realignments) and distribution of observed potential habitat trees