ecology & heritage partners

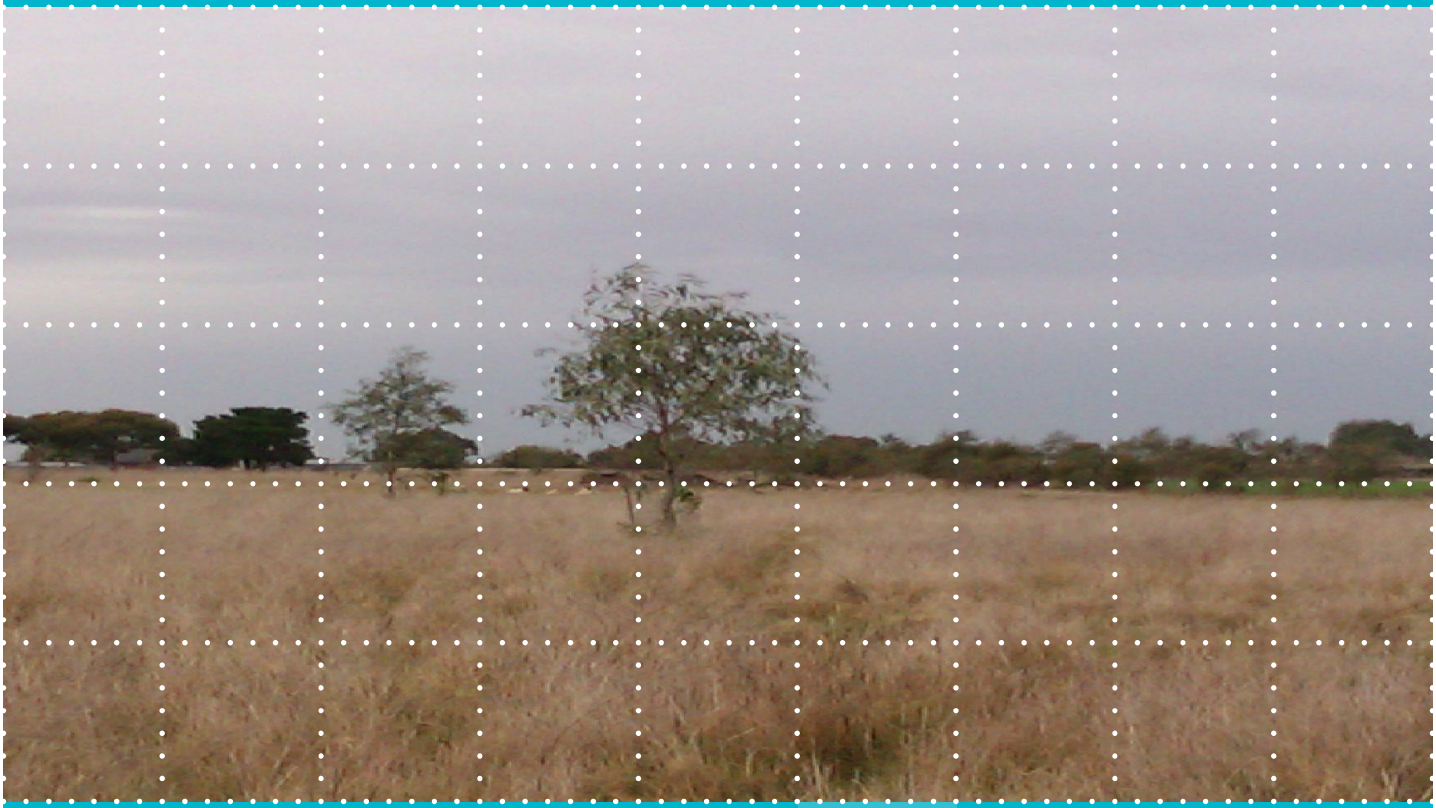
FINAL REPORT

Biodiversity Assessment for Areas 1088, 1089, 1091 and 1090, Scattered Tree Survey, Wyndham North

ON BEHALF OF:

Growth Areas Authority

December 2012



Ecology and Heritage Partners Pty Ltd

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DOCUMENT CONTROL

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EXECUTIVE SUMMARY

Introduction

Ecology and Heritage Partners Pty Ltd was commissioned by the Growth Areas Authority (GAA) to undertake a scattered tree survey for the Wyndham North area in the City of Wyndham, specifically for PSPs 40, 1088, 1089, 1090 and 1091 on the urban fringe of south-east Melbourne. This plan will guide future urban development of the Wyndham North area to assist the GAA in preparing a draft urban structure plan for the Wyndham North area.

Methods

Literature and database Review

The following resources and databases were reviewed over the duration of the project:

- The Victorian Biodiversity Atlas and Flora Information System databases;
- The DSE's Biodiversity Interactive Maps showing historic and current EVCs;
- Planning Schemes Online providing the current zone and overlays
- Relevant legislation and policies; and,
- Ecological reports that are relevant to the study area, including:
    - Draft sub-regional surveys for the Growling Grass Frog.
    - The Draft Biodiversity Conservation Strategy (BCS) for Melbourne's growth areas.

Field Assessment

The indigenous remnant tree assessment was undertaken for each of the properties where access was granted by the landowner, including all roadsides occurring within PSP 1088 (Oakbank). The assessment was conducted on 10, 13 and 17 July 2012 by two qualified botanists. A diameter at breast height (DBH) measurement was taken for each tree using a diameter tape. Indigenous remnant trees were classified into a size class (Very Large, Large, Medium or Small Tree) based on their DBH. Conservation significance for each tree was based on the relevant time-stamped Ecological Vegetation Class (EVC) and the Port Phillip and Westernport Native Vegetation Plan.

All indigenous trees (scattered and in patches) were assigned a sequential number and mapped onto aerial photographs as a point file to show the location of each tree within the study area.

Results

Indigenous Remnant Trees

A total of 30 indigenous remnant trees were recorded within the study area, consisting of four Very Large Old Trees, three Large Old Trees, three Medium Old Trees and 20 Small Trees. The majority of trees are River Red-gums *Eucalyptus camaldulensis*, with a few specimens of Yellow Box *Eucalyptus melliodora.* All remnant trees occur within properties 209266529 and 50242713, with the exception of two River Red-gums in the north road reserve of Leakes Road within the Oakbank PSP. Seven Very Large and Large indigenous trees are located within a remnant patch of Riparian Woodland along the Werribee River, outside the proposed boundary of the GGF corridor. All other trees (23) are considered scattered trees according to the DSE time-stamp data.

Legislative Implications

The recorded River Red-gum and Yellow Box within the study area are not listed or protected under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* or the State *Flora and Fauna Guarantee Act 1988*. As such, there are currently no implications for any proposed removal of the trees under these Acts.

Any proposal to remove any native vegetation in the study area, including trees identified during the current assessment, will require a planning permit from Wyndham City Council. However, once the Native Vegetation Precinct Plan has been prepared and incorporated for the relevant Precinct Structure Plan areas, clause 52.16 will apply to the protection and removal of native vegetation on properties within the Native Vegetation Precinct Plan. The objectives of *Victoria's Native Vegetation Management – A Framework for Action* will also require consideration as part of any proposal to remove native vegetation, including trees.

1 INTRODUCTION

1.1 Background

Ecology and Heritage Partners Pty Ltd was commissioned by the Growth Areas Authority (GAA) to undertake a scattered tree survey for the Wyndham North area in the City of Wyndham, specifically for Precinct Structure Plans (PSPs) 40, 1088, 1089, 1090 and 1091 on the urban fringe of south-east Melbourne (Figure 1). This plan will guide future urban development of the Wyndham North area to assist the GAA in preparing a draft urban structure plan for the Wyndham North area.

1.2 Scope

The purpose of the current assessment is to survey parcels within the PSPs that have not previously been assessed. A site assessment was completed to survey for scattered trees and trees in the identified native vegetation patches as depicted in the DSE Time Stamped data. Trees within 100 metres of the Werribee River are to be excluded for the survey as these will be retained as part of the Growling Grass Frog *Litoria raniformis* conservation corridor.

A discussion on recommendations and requirements under Commonwealth, State and local legislation and polices, along with potential impacts and mitigation measures has also been included.

1.3 Objectives

The objectives of this scope of work were to:

- Identify, measure and record data on all large and very large old trees within mapped patches of vegetation as well as scattered trees on properties at which access is granted and within all road reserves located in PSP 1088;
- Record parameters for each of these trees and mark the location with a hand-held GPS for later mapping. The parameters recorded are:
    - A unique identifier for each tree;
    - The species of the tree;
    - The diameter of these trees measured at breast height (approximately 1.3 metres), using tape measures that calculate this metric. Trees will be allocated to their respective size class; and,
    - The location of the tree.
- Trees within 100 metres of the Werribee River were excluded from the survey as these are likely to be retained as part of the proposed Growling Grass Frog conservation corridor;

- A draft report detailing the findings of the surveys, consistent with the requirements of the Biodiversity Assessment Template 2011 – 2012 (DSE 2009).
- Data format and submission including:
    - Scattered tree data will be provided as a shape file;
    - GPS co-ordinates will be provided as part of the tables in the report and in attribute tables in the shape file data;
    - All data will be provided for the scattered tree reporting and mapping as per the Biodiversity Assessment Template for the 2011 – 2012 BMP Contract; and,
    - All measurements taken for each tree in the tables in the report will be provided.

1.4 Study Area

The Wyndham North Area 1088, 1089, 1091 and 1098 (the study area) is located approximately 37 kilometres south-west of the Melbourne CBD, Victoria (Figure 1). It is bound by Boundary Road to the north, Leaks Road is to the south – east and the Werribee River borders the south-west. Site accesses to all properties was limited and therefore the study area for this assessment covers approximately 885 hectares and consists of 45 properties, and includes all road reserves within PSP 1088. A breakdown of properties and roadsides assessed are presented in Table 3 and Figure 4.

The majority of properties within the study area are privately owned, while others areas comprise public land located within road reserves of PSP 1088. The study area has largely been cleared for agricultural purposes, however isolated and modified areas of remnant native vegetation representative of the Plains Grassland EVC are present. The study area occurs on the volcanic plains of western Melbourne and as such is characterised by heavy basalt soil prone to waterlogging. Several creeks and minor tributaries occur in the study area, including Davis Creek and Dry Creek, along with remnant ephemeral wetlands.

The study area does not include trees within the proposed Growling Grass Frog (GGF) corridor, which occurs within 100 metres of the Werribee River (EHP 2012; Figure 2). The extent of the GGF corridor is yet to be finalised. For the purposes of the tree assessment, the proposed GGF corridor boundary is only relevant to property 209266529 in the Riverdale PSP. The indigenous remnant tree survey was undertaken in any areas of the relevant property that occur outside of the proposed GGF corridor, including an area that is proposed for exclusion from the corridor (Figures 2 and 3).

The study area lies within the Victorian Volcanic Plain bioregion (DSE 2012a). The bioregion extends from Hamilton in the west to Melbourne in the east and from Clunes in the north to Colac in the south. The study area is within the jurisdiction of the Port Phillip and Westernport Catchment Management Authority and Wyndham City Council. The Urban Growth Zone (UGZ) and Rural Conservation Zone (RCZ) are the dominant zones in the study

area. Small sections of the study area, in particular property 209266529, are covered by a Schedule 1 and 2 Environmental Significance Overlay (ESO 1 and 2).

2 METHODS

2.1 Nomenclature

Common and scientific names of vascular plants follow the Victorian Biodiversity Atlas (DSE 2011a) and the Census of Vascular Plants of Victoria (Walsh and Stajsic 2007).

2.2 Literature and Database Review

A desktop assessment was undertaken prior to field surveys. The following resources and databases were reviewed over the duration of the project:

- The Victorian Biodiversity Atlas (DSE 2012c), and Flora Information System (2011d) databases;
- The DSE's Biodiversity Interactive Maps showing historic and current Ecological Vegetation Classes (EVC) (DSE 2012a; DSE 2012b);
- Planning Schemes Online providing the current zone and overlays (DPCD 2012).
- Relevant legislation and policies; and,
- Ecological reports that are relevant to the study area, including:
    - Draft sub-regional surveys for the Growling Grass Frog (DSE 2011a).
    - The Draft Biodiversity Conservation Strategy (BCS) for Melbourne's growth areas (DSE 2011b).

2.3 Indigenous Remnant Tree Assessment

The indigenous remnant tree assessment was conducted on 10, 13 and 17 July 2012 by two botanists accredited under the DSE Vegetation Quality Assessment Check. A Trimble ™ containing the boundaries of properties and roadside reserves was used to accurately determine the extent of area requiring the indigenous tree survey. A diameter at breast height (DBH) measurement was taken for each tree using a diameter tape. The size class and conservation significance was determined for all indigenous trees according to the relevant EVC benchmark corresponding to the time-stamped data set (DSE 2012a). In cases where time-stamp data is not present and indigenous remnant trees are present, an appropriate EVC corresponding to the tree species (i.e. Plains Grassy Woodland for River Red-gum *Eucalyptus camaldulensis*) was used to determine size class and conservation significance. Benchmark tree measurements for relevant EVCs are provided in Table 1.

All indigenous trees (scattered and in patches) were assigned a sequential number and mapped onto aerial photographs as a point file to show the location of each tree within the study area (Figure 2).

Details pertaining to survey assessment date, duration and assessor are provided in Table 2.

Table 1: *Relevant EVC benchmark information pertaining to tree size classes.*

Bioregion	Ecological Vegetation Class	Very Large Old Tree (cm)*	Large Old Tree DBH (cm)	Medium Old Tree DBH (cm)*	Small Old Tree DBH (cm)*
Victorian Volcanic Plain	Riparian Woodland (641)	120+	80 - 119	60 - 79	<60
Victorian Volcanic Plain	Plains Grassy Woodland (55_61)	120+	80 - 119	60 - 79	<60

Notes: * Very Large Old Trees are at least 1.5 times the trunk diameter of a large old tree; Large Old Trees are >1.0 to <1.5 times trunk diameter; Medium Old Trees >0.75 to <1.0 times trunk diameter and; Small Old Trees are <0.75 times trunk diameter, as defined by the relevant DSE benchmarks and the Port Phillip and Westernport Native Vegetation Plan (DSE 2012a; PPWCMA 2006).

Table 2: *Scattered tree assessment: properties, date, and assessor.*

Parcel PFI*	Precinct	Assessment Date	Assessors
1773904	Oakbank	10/07/2012	Marc Freestone and Sandra Mijatovic
1773907	Oakbank	10/07/2012	Marc Freestone and Sandra Mijatovic
1773909	Oakbank	10/07/2012	Marc Freestone and Sandra Mijatovic
1778593	Oakbank	10/07/2012	Marc Freestone and Sandra Mijatovic
1779679	Oakbank	10/07/2012	Marc Freestone and Sandra Mijatovic
1779684	Oakbank	10/07/2012	Marc Freestone and Sandra Mijatovic
1779686	Oakbank	10/07/2012	Marc Freestone and Sandra Mijatovic
1779695	Oakbank	10/07/2012	Marc Freestone and Sandra Mijatovic
1779699	Oakbank	10/07/2012	Marc Freestone and Sandra Mijatovic
1782958	Oakbank	10/07/2012	Marc Freestone and Sandra Mijatovic
1782959	Oakbank	10/07/2012	Marc Freestone and Sandra Mijatovic
1782961	Oakbank	10/07/2012	Marc Freestone and Sandra Mijatovic
1801780	Oakbank	10/07/2012	Marc Freestone and Sandra Mijatovic
1801782	Oakbank	10/07/2012	Marc Freestone and Sandra Mijatovic
1801783	Oakbank	10/07/2012	Marc Freestone and Sandra Mijatovic
1801784	Oakbank	10/07/2012	Marc Freestone and Sandra Mijatovic
1804818	Tarneit North	10/07/2012	Marc Freestone and Sandra Mijatovic
50242640	Tarneit North	10/07/2012	Marc Freestone and Sandra Mijatovic
50242657	Oakbank	10/07/2012	Marc Freestone and Sandra Mijatovic
52998139	Oakbank	10/07/2012	Marc Freestone and Sandra Mijatovic
1782964	Oakbank	13/07/2012	Marc Freestone and Sandra Mijatovic

Parcel PFI*	Precinct	Assessment Date	Assessors
1805064	Tarneit North	13/07/2012	Marc Freestone and Sandra Mijatovic
50242704	Riverdale	13/07/2012	Marc Freestone and Sandra Mijatovic
50242708	Riverdale	13/07/2012	Marc Freestone and Sandra Mijatovic
50242713	Oakbank	13/07/2012	Marc Freestone and Sandra Mijatovic
201997164	Truganina	13/07/2012	Marc Freestone and Sandra Mijatovic
203377613	Truganina	13/07/2012	Marc Freestone and Sandra Mijatovic
209266529	Riverdale	13/07/2012	Marc Freestone and Sandra Mijatovic
212506418	Truganina	13/07/2012	Marc Freestone and Sandra Mijatovic
Roadsides**	Oakbank	13/07/2012	Marc Freestone and Sandra Mijatovic
21448	Truganina	17/07/2012	Marc Freestone and Sandra Mijatovic
21449	Truganina	17/07/2012	Marc Freestone and Sandra Mijatovic
1773902	Tarneit North	17/07/2012	Marc Freestone and Sandra Mijatovic
1773903	Tarneit North	17/07/2012	Marc Freestone and Sandra Mijatovic
1779580	Tarneit North	17/07/2012	Marc Freestone and Sandra Mijatovic
1804819	Tarneit North	17/07/2012	Marc Freestone and Sandra Mijatovic
2064153	Tarneit North	17/07/2012	Marc Freestone and Sandra Mijatovic
2064154	Tarneit North	17/07/2012	Marc Freestone and Sandra Mijatovic
207329749	Tarneit North	17/07/2012	Marc Freestone and Sandra Mijatovic
213446602	Tarneit North	17/07/2012	Marc Freestone and Sandra Mijatovic
213446622	Tarneit North	17/07/2012	Marc Freestone and Sandra Mijatovic
213480018	Tarneit North	17/07/2012	Marc Freestone and Sandra Mijatovic
213480043	Tarneit North	17/07/2012	Marc Freestone and Sandra Mijatovic
216786934	Tarneit North	17/07/2012	Marc Freestone and Sandra Mijatovic
52684500	Tarneit North	17/10/2012	Marc Freestone and Sandra Mijatovic

*All sites assessed are presented in this table.

**Roadsides include relevant sections of Leakes Road, Dohertys Road, Sayers Road, Boundary Road, Shanahans Road, Sewells Road, Davis Road and Gard Road within the Oakbank PSP area.

2.4 Assessment Qualifications and Limitations

The objective of the assessment was to document indigenous remnant trees (scattered or in patches of remnant native vegetation) within the study area. A large number of indigenous trees, most commonly River Red-gum have been planted by landowners. Planted indigenous trees were not included within the assessment as they do not meet the remnant tree definition under *Victoria's Native Vegetation Management: a Framework for Action* (DNRE 2002).

While a DBH reading was taken for most indigenous remnant trees, a number of trees could not be accessed for measurement due to the widespread flooding in the study area following recent rainfall events. Estimates of DBH are provided in such instances.

In addition, not all properties within the study area were assessed due to the lack of property access. Properties that could not be accessed for assessment are:

- Property PFI: 1773910
- Property PFI: 1805062
- Property PFI: 1779681
- Property PFI: 216787195
- Property PFI:50242645

The reasons that access was not granted included:

- Landholders denying access; and/or
- Landholders could not be contacted (by phone or by door-knocking), and therefore permission to enter the property could not be obtained.

Nevertheless, all properties that could not be accessed due to lack of response from landowners were assessed from the roadside or adjacent properties. Assessment from roadsides is not likely to affect the results of the assessment, as the absence of trees in these properties was easily established.

3 RESULTS

3.1 Indigenous Remnant Trees

A total of 30 indigenous remnant trees were recorded within the study area (Appendix 1). The majority of trees are River Red-gums, with a few specimens of Yellow Box *Eucalyptus melliodora*. All remnant trees occur within properties 209266529 and 50242713, with the exception of two River Red-gums in the north road reserve of Leakes Road within the Oakbank PSP (Figure 2e). The number of indigenous remnant trees within each size class is as follows:

- 4 Very Large Old Trees (VLOTs);
- 3 Large Old Trees (LOTs);
- 3 Medium Old Trees (MOTs); and
- 20 Small Trees (ST).

A total of seven Very Large and Large indigenous trees are located within a remnant patch of Riparian Woodland along the Werribee River, outside the designated boundary of the proposed GGF corridor (Figures 2 and 3). All other trees (23) are considered scattered trees according to the DSE time-stamp data (Figures 2 and 3) (Appendix 1). The scattered trees near the Werribee River correspond to the Riparian Woodland EVC. The scattered trees correspond most closely to the Plains Grassy Woodland EVC (55_61) within property 50242713 and Leakes Road, based on species and occurrence in the landscape.

Scattered indigenous remnant trees within the study area are assigned the lowest conservation significance rating based on the Bioregional Conservation Status (BCS) of the relevant pre-1750s EVC (DSE 2007a; DSE 2012a). Very Large, Large and Medium scattered indigenous trees within the study area are representative of the Riparian Woodland and Plains Grassy Woodland EVCs, both of which have a Bioregional Conservation Status of Endangered. Therefore, any scattered indigenous remnant trees are of High conservation significance, while trees occurring in remnant patches are assigned the conservation significance applied to the patch. Under the draft BCS, all remnant patches are considered Very High conservation significance, including any VLOTs and LOTs in patches (DSE 2011b). Scattered small indigenous trees are assigned a Low conservation significance rating based on the Port Phillip and Westernport Native Vegetation Plan (PPWCMA 2006). The number of indigenous remnant trees within the Very High, High, Medium and Low conservation significance category is as follows:

- 4 VLOTs are of **Very High** conservation significance, based on their occurrence in a remnant patch of the same significance;
- 3 LOTS are of **Very High** conservation significance, based on their occurrence in a remnant patch of the same significance;
- 3 MOTs are of **High** conservation significance and;

- 20 STs are of **Low** conservation significance.

All other trees within the study area are planted indigenous species, in particular River Red-gum and Yellow Box, or planted non-indigenous and exotic trees, most commonly Sugar Gum *Eucalyptus cladocalyx* and Pine *Pinus* spp. In all instances, landowners were able to confirm which trees have been planted. Planted trees were not included in the assessment as they do not meet the definition of a remnant tree under the Framework (DNRE 2002).

The number of indigenous trees recorded within each property or road reserve, as well as the size class and conservation significance of each tree are presented in Appendix 1.

4 RELEVANT LEGISLATION AND POLICY

This section discusses the implications of relevant environmental legislation and policies within the three tiers of government; Commonwealth, State and local.

4.1 Commonwealth

4.1.1 Environment Protection and Biodiversity Conservation Act 1999

The EPBC Act establishes a Commonwealth process for assessment of proposed actions that are likely to have a significant impact on matters of NES, or on Commonwealth land. An action (i.e. project, development, undertaking, activity, or series of activities), unless otherwise exempt, requires approval from the Commonwealth Environment Minister if they are likely to have an impact on any matters of NES. A referral under the EPBC Act is required if a proposed action is likely to have a 'significant impact' on any of the following matters of national conservation significance:

- World Heritage properties.
- National heritage places.
- Ramsar wetlands of international significance.
- Threatened species and ecological communities.
- Migratory and marine species.
- Commonwealth marine area.
- Nuclear actions (including uranium mining).
- Great Barrier Reef Marine Park.

Of the eight matters of NES, only threatened flora species listed under the EPBC Act require consideration as part of the current assessment. It is assumed that the remaining matters of NES will be addressed in the respective relevant reports, such as Native Vegetation Precinct Plans for each PSP areas.

Listed Flora Species

An action requires approval from the Commonwealth Environment Minister if it will, or if it is likely to, have a significant impact on an endangered or critically endangered species, or on an 'important population' or critical habitat of a listed vulnerable species.

Flora – No flora species listed under the EPBC Act were recorded during the current assessment. The only indigenous tree species encountered during the assessment, River Red-gum and Yellow Box are not listed under the Act.

Implications and Recommendations

No nationally significant flora species were recorded during the current assessment. As such, there are no implications for the indigenous remnant River Red-gums located during the current assessment under the Act.

4.2 State

4.2.1 Planning and Environment Act 1987

All planning schemes contain native vegetation provisions at Clause 52.17. A planning permit is required under the *Planning and Environment Act 1987* to remove, destroy or lop native vegetation, unless:

- The application is exempt under the schedule to Clause 52.17
- A Native Vegetation Precinct Plan applies.

Planning schemes may contain other provisions in relation to the removal of native vegetation.

Clause 52.16 applies to land where a native vegetation precinct plan, corresponding to that land, is incorporated into this scheme. Where an NVPP applies, a permit is required to remove destroy or lop native vegetation, except where it is in accordance with that NVPP and Clause 52.16. Though an NVPP can stand alone, it may form part of a more general strategic or precinct structure plan. The purpose of an NVPP is to protect and conserve native vegetation to reduce the impact of land and water degradation and provide habitat for plants and animals, and to enable other areas of native vegetation to be removed in accordance with the NVPP. The NVPP may require specified works to be provided or specified payments to be made to offset the removal, destruction or lopping of native vegetation. No permit is required under clause 52.17 where an NVPP is incorporated and listed in the schedule to clause 52.16 Native Vegetation Precinct Plan.

A permit to remove destroy or lop vegetation may still be required under an applicable overlay, such as an Environmental Significance Overlay (ESO) depending on the requirements of the schedule to that overlay. However, it is often the case that such overlays are removed during the precinct planning process.

Implications and Recommendations

A planning permit will be required from Wyndham City Council for any proposal to remove, destroy or lop any native vegetation within the study area, including a single plant of any native species. However, once the NVPP has been prepared and incorporated for the relevant PSP areas, clause 52.16 applies to the protection and removal of native vegetation on properties within the NVPP.

4.2.2 Flora and Fauna Guarantee Act 1988

The primary legislation for the protection of flora and fauna in Victoria is the FFG Act. The Act builds on broader national and international policy in the conservation of biodiversity.

The broad objectives of the FFG Act are to; 1) ensure native flora and fauna survive, flourish and maintain in situ evolutionary potential, 2) manage threatening processes, 3) encourage the conserving of flora and fauna through cooperative community endeavours, and 4) establish a regulatory structure for the conservation of flora and fauna in Victoria.

The FFG Act contains protection procedures such as the listing of threatened species and/or communities of flora and fauna, and the preparation of action statements to protect the long-term viability of these values.

Flora – No flora species listed under the FFG Act were recorded during the current assessment. The indigenous tree species encountered during the assessment, River Red-gum and Yellow Box, are not listed under the Act.

Implications and Recommendations

No state significant flora species were recorded during the current assessment. As such, there are no implications for the indigenous remnant River Red-gums and Yellow Box located during the current assessment under the Act.

4.2.3 The Native Vegetation Framework

Since 1989, most proposals to clear native vegetation have required a planning permit from the local Council (Responsible Authority), under the native vegetation provisions of Clause 52.17 of the Victoria Planning Provisions ('VPPs'). In 2002, the Victorian Government released *Victoria's Native Vegetation Management – A Framework for Action* (NRE 2002) ("the Framework"), which establishes a 'strategic direction for the protection, enhancement and revegetation of native vegetation across the State'.

Amendment (VC19) to Victoria's Planning Provisions introduced the Framework in July 2003 as an incorporated document for all Victorian Planning Schemes. Clauses 11 and 15.09 in the State Planning Policy Framework provide the framework for considering native vegetation issues in the planning system.

These clauses require planning and responsible authorities to have regard to the Framework, which establishes the strategic direction for the protection, enhancement and revegetation of native vegetation across Victoria.

The Framework states that the primary goal is to achieve *'a reversal, across the entire landscape, of the long-term decline in the extent and quality of native vegetation, leading to a Net Gain' (NRE 2002).*

When Net Gain is considered for potential impacts on native vegetation within all planning schemes, the Framework has defined a three-step approach for applying Net Gain to protection and clearance decisions. The three-step approach is:

1. To avoid adverse impacts, particularly through vegetation clearance.

2. If impacts cannot be avoided, to minimise impacts through appropriate consideration in planning processes and expert input to project design or management.

3. Identify appropriate offset options.

The three-step approach to Net Gain is the first consideration for all planning permit applications and planning scheme amendments, with emphasis placed on the first two steps of avoidance and minimisation. Only after these two steps have been taken should offsets (actions undertaken to achieve commensurate gains) be considered (NRE 2002).

Implications and Recommendations

The assessment of native vegetation other than indigenous remnant trees was outside the current scope of works. Any proposal to remove indigenous remnant trees within the study area will need to demonstrate consideration of the three step approach under the Framework. If removal of trees is approved via a planning permit or an NVPP, appropriate offsets will need to be calculated in order to meet offset requirements under the Framework (DNRE 2002).

4.2.4 Port Phillip and Westernport Native Vegetation Plan

The *Port Phillip and Westernport Native Vegetation Plan* (PPWCMA 2006) is a guide for local government in assessing planning applications for vegetation removal and determining permit conditions (Net Gain requirements) to ensure that ecological values across the region are not compromised.

The Plan provides information on biodiversity values across the Region and gives guidance to local municipalities on how clearing applications should be assessed. The document also outlines actions to ensure there is a more strategic and coordinated approach to address ongoing degradation in quantity and quality of native vegetation throughout Victoria.

The recommendations made in the *Native Vegetation Plan*, should be taken into consideration in the planning phase of any proposed future works.

Implications and Recommendations

Information regarding indigenous trees in the *Port Phillip and Westernport Native Vegetation Plan* (PPWCMA 2006) has been referred to when preparing this report.

5 CONCLUSION

A total of 30 indigenous remnant trees were recorded within the study area, consisting of 4 Very Large Old Trees, 3 Large Old Trees, 3 Medium Old Trees and 20 Small Trees. The majority of trees are River Red-gum *Eucalyptus camaldulensis*, with a few specimens of Yellow Box *Eucalyptus melliodora*. All remnant trees occur within properties 209266529 and 50242713, with the exception of two River Red-gums in the north road reserve of Leakes Road within the Oakbank PSP. A total of seven Very Large and Large indigenous trees are located within a remnant patch of Riparian Woodland along the Werribee River, outside the designated boundary of the proposed Growling Grass Frog corridor. All other trees (23) are considered scattered trees according to the DSE time-stamp data.

Currently there are no legislative implications arising from the assessment under the EPBC Act or the FFG Act.

Any proposal to remove any native vegetation in the study area, including trees identified during the current assessment, will require a planning permit from Wyndham City Council. However, once the Native Vegetation Precinct Plan (NVPP) has been prepared and incorporated for the relevant Precinct Structure Plan (PSP) areas, Clause 52.16 will apply to the protection and removal of native vegetation on properties within the NVPP. The objectives of *Victoria's Native Vegetation Management – A Framework for Action* will also require consideration as part of any proposal to remove native vegetation, including trees.

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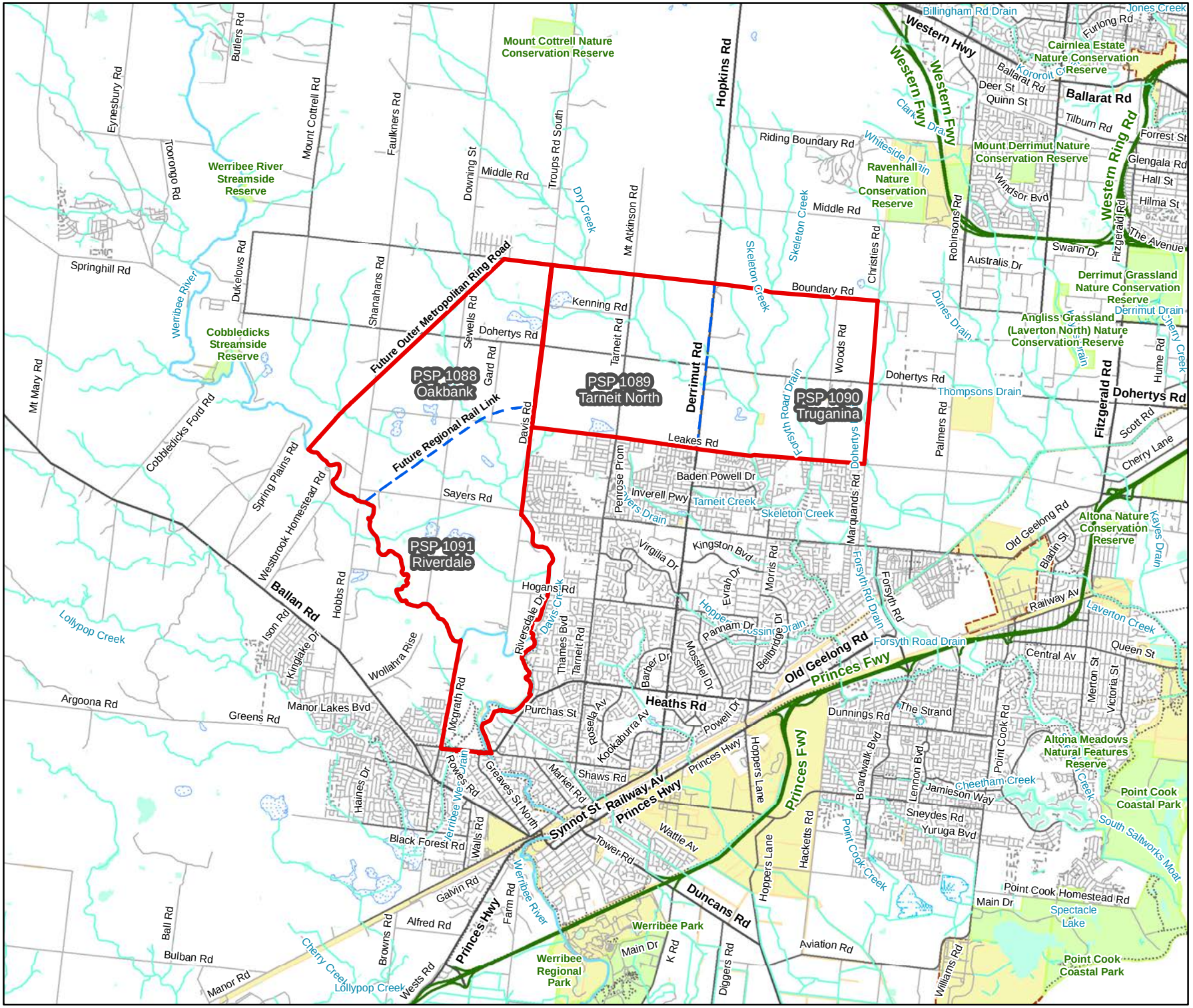
FIGURES



Legend

- Study Area
- PSP Boundaries
- Freeway
- Major Road
- Collector Road
- Minor Road
- Proposed Road
- Walking Track
- Minor Watercourse
- Major Watercourse
- Permanent Waterbody
- Land Subject to Inundation
- Wetland/Swamp
- Parks and Reserves
- Commonwealth Land
- Crown Land

Figure 1

Location of the study area

Wyndham PSPs

N

0 875 1,750

Metres

ecology & heritage partners

3917_Fig01_StudyArea.mxd 07/08/2012 ALF

Legend

- Study Area
- PSP Boundaries
- Areas Assessed
- No Access Granted (Properties assessed from roadside).
- Roadsides Assessed

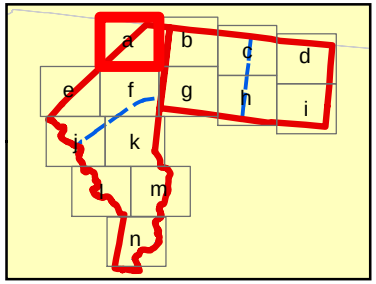


Figure 2a

Scattered trees in the study area

Wyndham PSPs

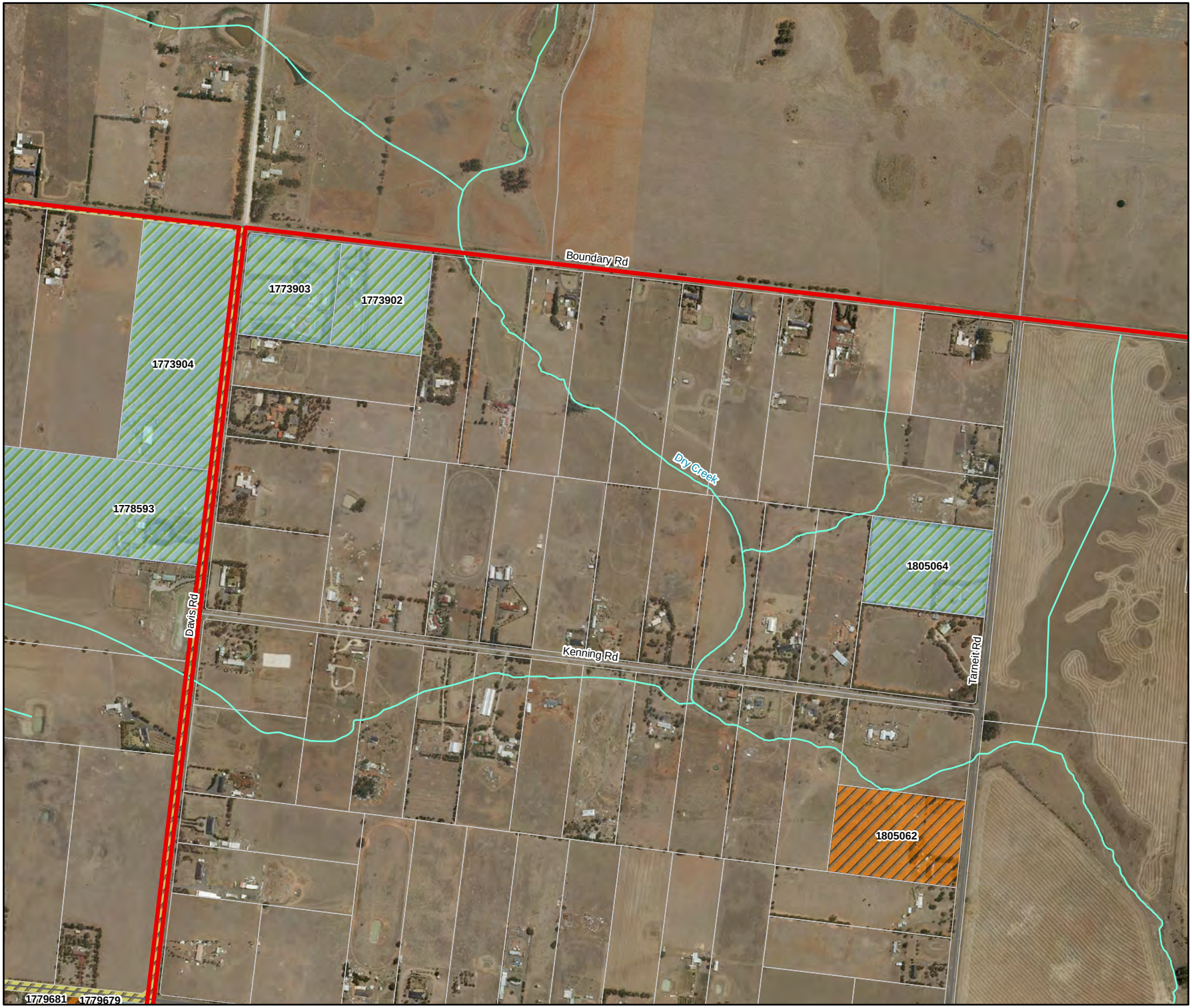
N

0 95 190

Metres

ecology & heritage partners

3917_Fig02_ScatteredTrees.mxd 10/08/2012 ALF



Legend

- Study Area
- PSP Boundaries
- Areas Assessed
- No Access Granted (Properties assessed from roadside).
- Roadsides Assessed

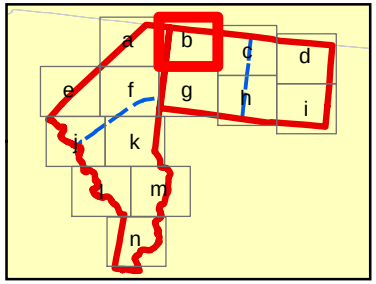


Figure 2b

Scattered trees in the study area

Wyndham PSPs

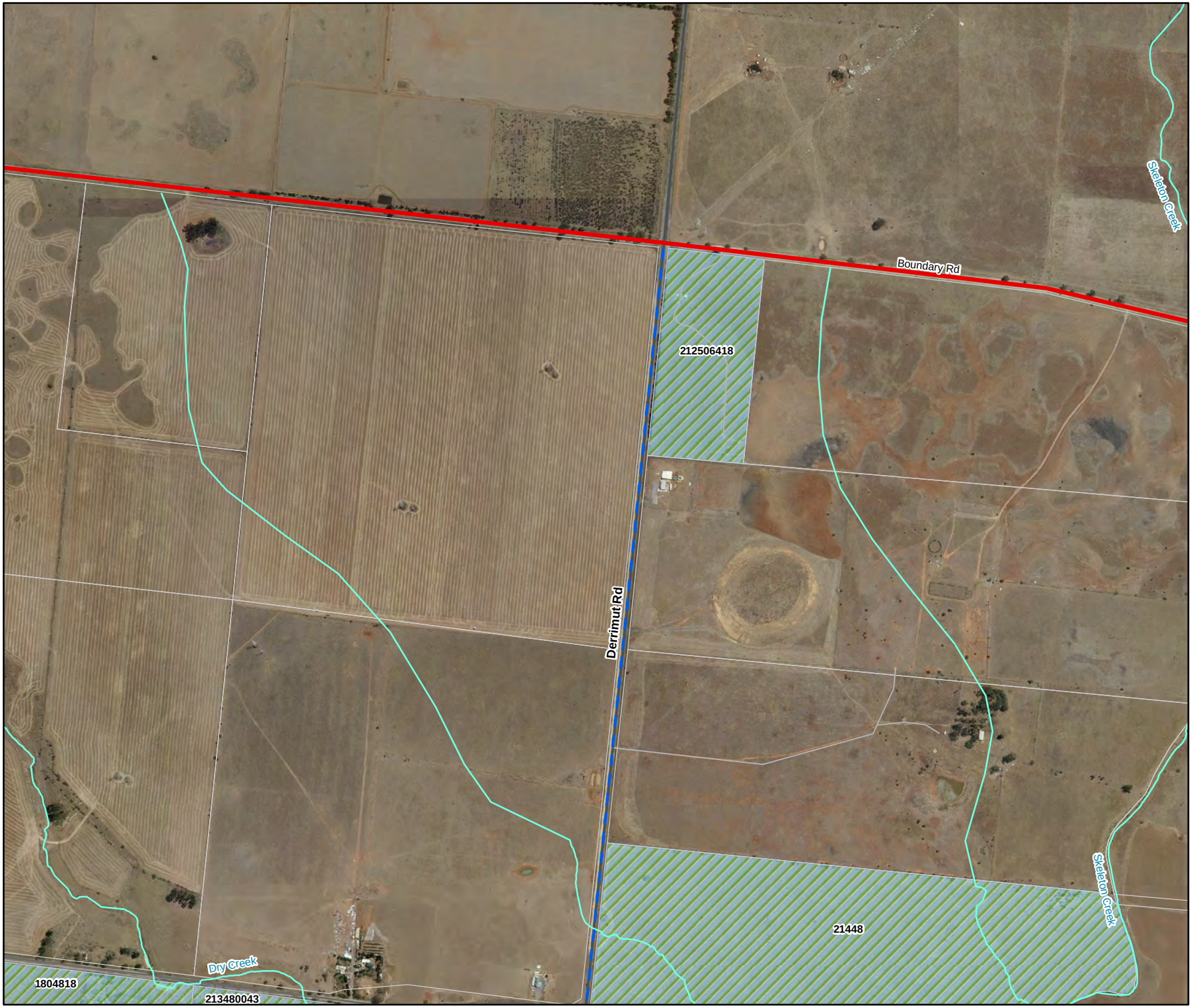
N

0 95 190

Metres

ecology & heritage partners

3917_Fig02_ScatteredTrees.mxd 10/08/2012 ALF



Legend

- Study Area
- PSP Boundaries
- Areas Assessed

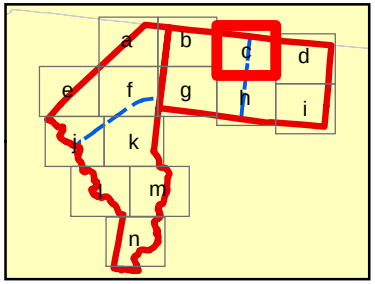


Figure 2c

Scattered trees in the study area

Wyndham PSPs

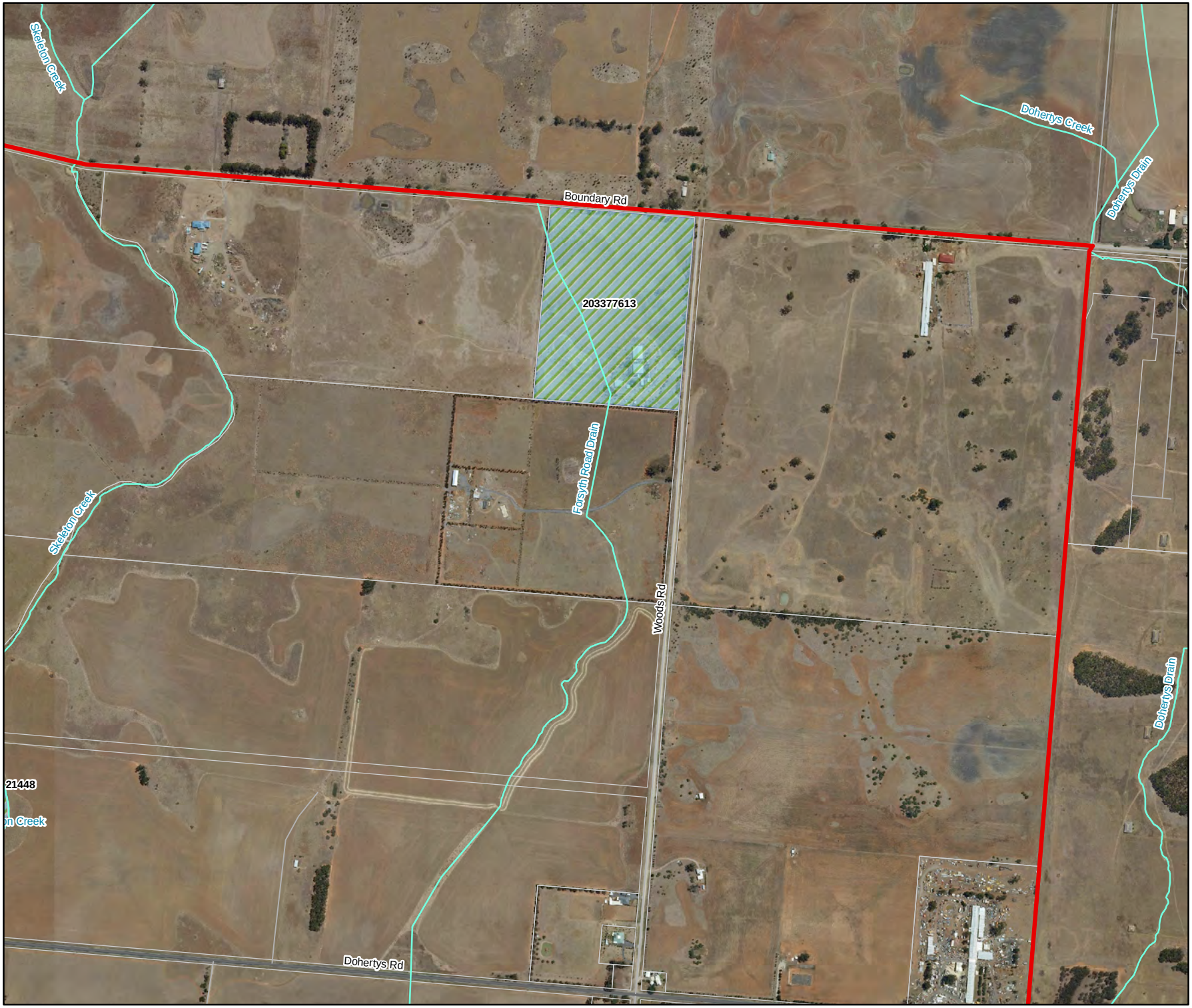
N

0 95 190

Metres

ecology & heritage partners

3917_Fig02_ScatteredTrees.mxd 10/08/2012 ALF



Legend

- Study Area
- PSP Boundaries
- Areas Assessed

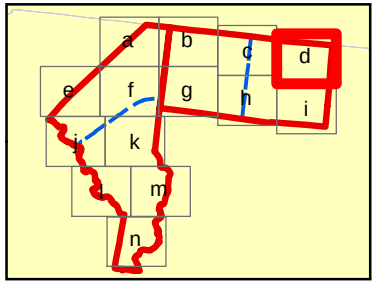


Figure 2d

Scattered trees in the study area

Wyndham PSPs

N

0 95 190

Metres

ecology & heritage partners

3917_Fig02_ScatteredTrees.mxd 10/08/2012 ALF

Legend

- Study Area
- PSP Boundaries
- Areas Assessed
- Roadsides Assessed

Scattered Trees

- Medium Old Tree
- Small Tree

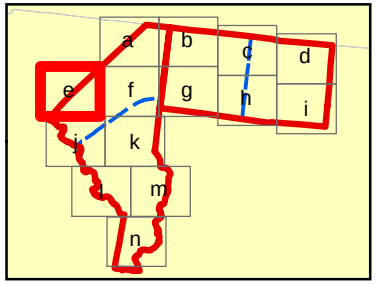


Figure 2e

Scattered trees in the study area

Wyndham PSPs

N

0 95 190

Metres

ecology & heritage partners

Legend

- Study Area
- PSP Boundaries
- Proposed GGF Conservation Area (yet to be finalised)
- Areas Assessed
- No Access Granted (Properties assessed from roadside).
- Roadsides Assessed

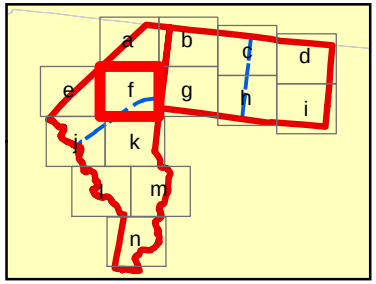


Figure 2f

Scattered trees in the study area

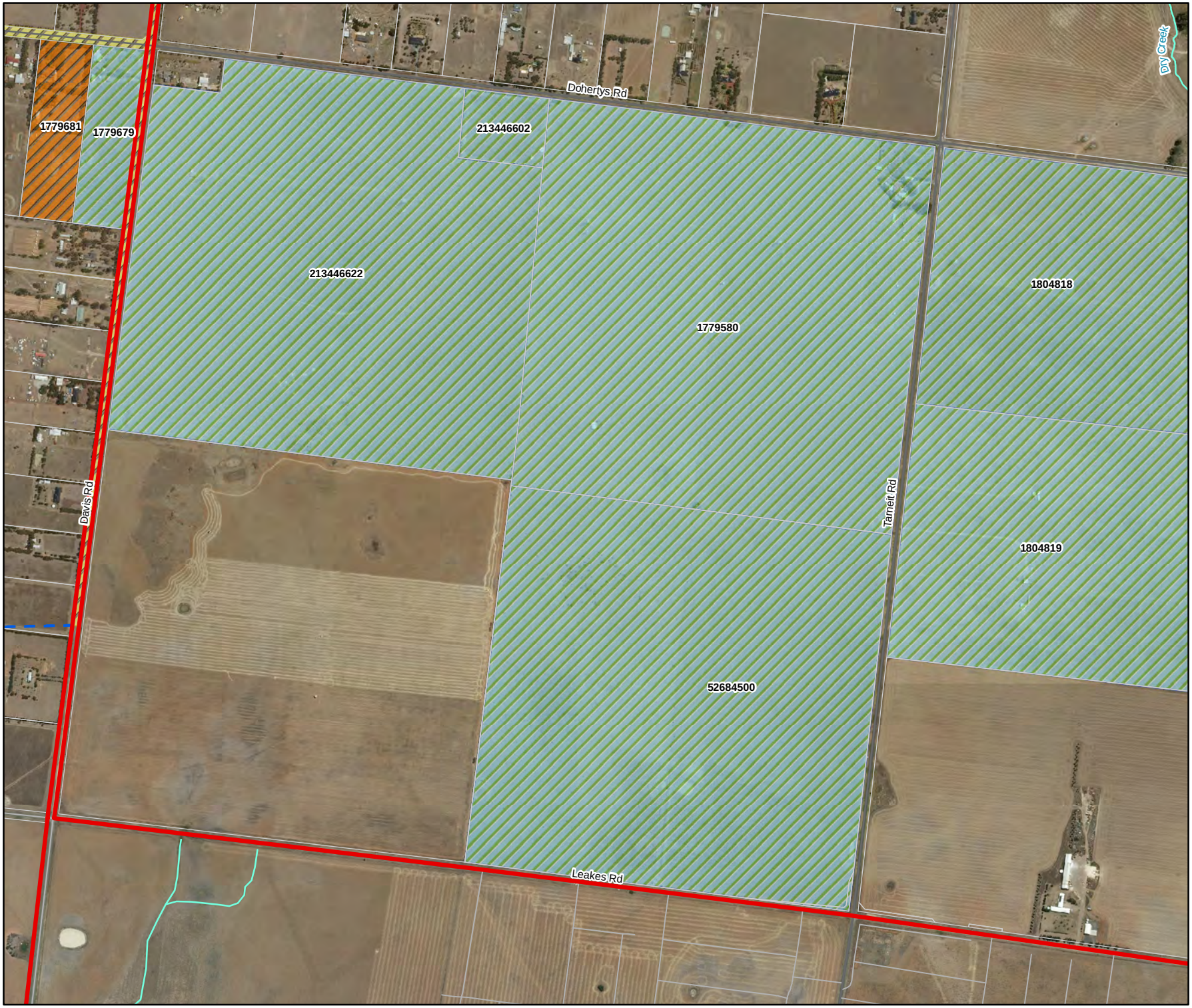
Wyndham PSPs

N

0 95 190

Metres

ecology & heritage partners



Legend

- Study Area
- PSP Boundaries
- Areas Assessed
- No Access Granted (Properties assessed from roadside).
- Roadsides Assessed

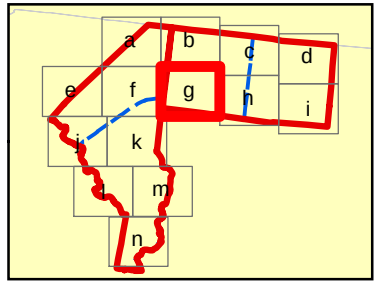


Figure 2g

Scattered trees in the study area

Wyndham PSPs

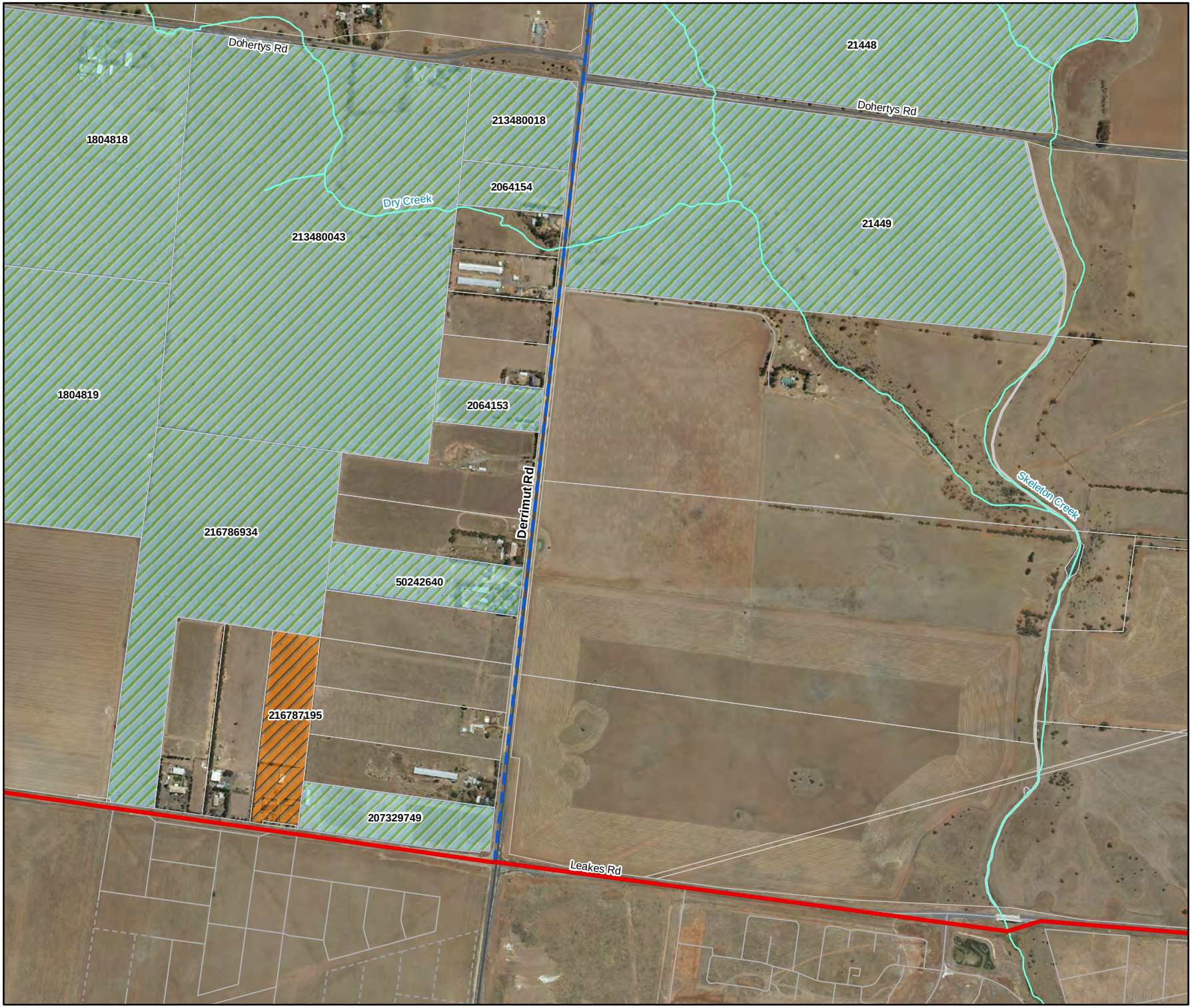
N

0 95 190

Metres

ecology & heritage partners

3917_Fig02_ScatteredTrees.mxd 10/08/2012 ALF



Legend

- Study Area
- PSP Boundaries
- Areas Assessed
- No Access Granted (Properties assessed from roadside).

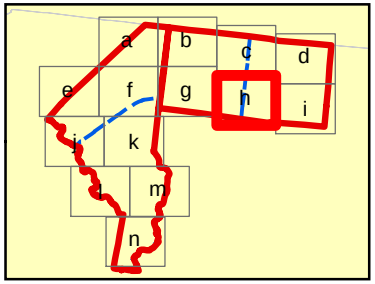


Figure 2h

Scattered trees in the study area

Wyndham PSPs

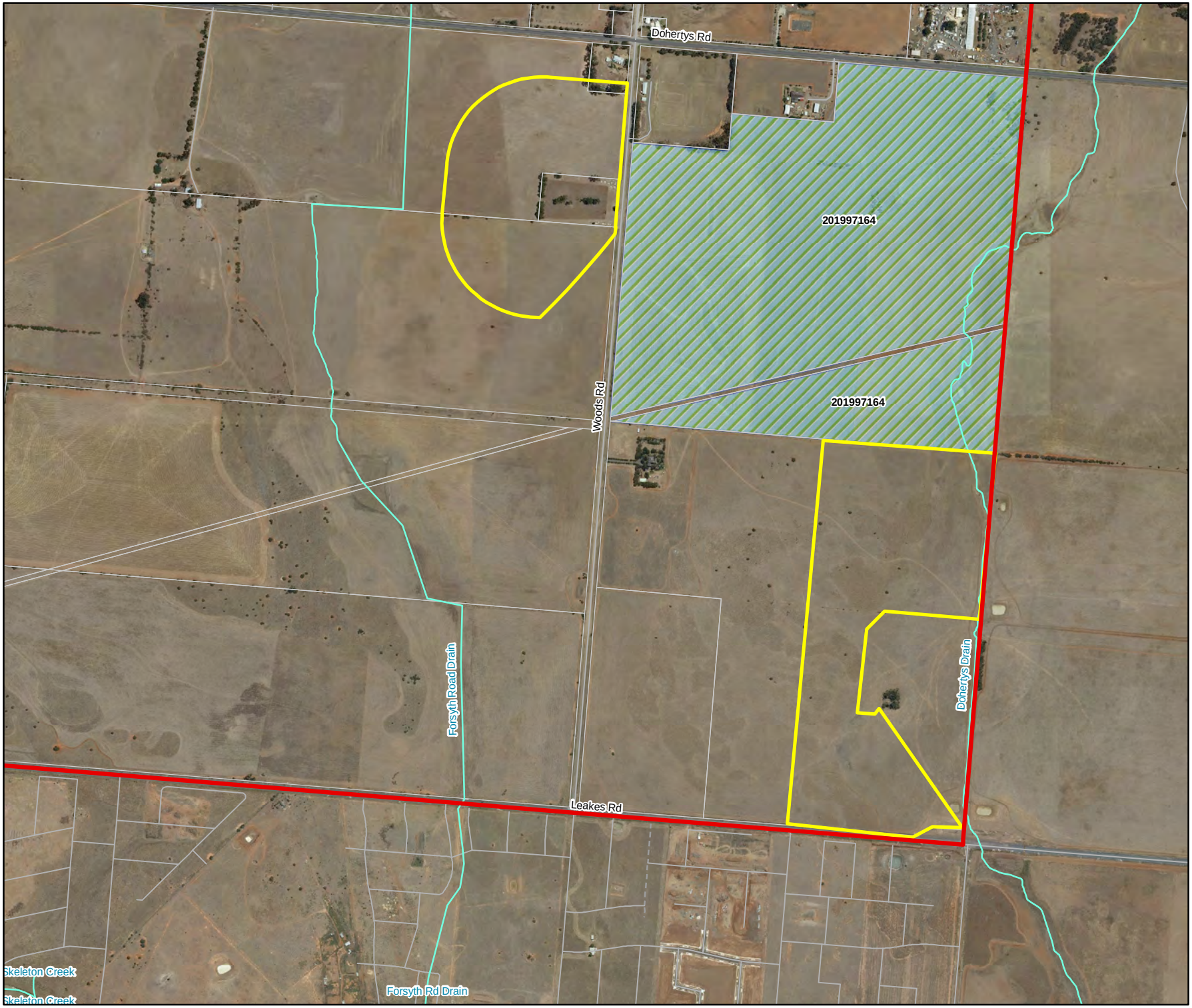
N

0 95 190

Metres

ecology & heritage partners

3917_Fig02_ScatteredTrees.mxd 10/08/2012 ALF



Legend

- Study
- PSP Boundaries
- Proposed GGF Conservation Area (yet to be finalised)
- Areas

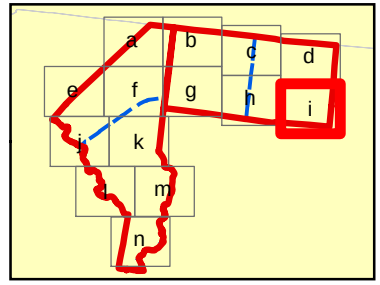


Figure 2i

Scattered trees in the study area

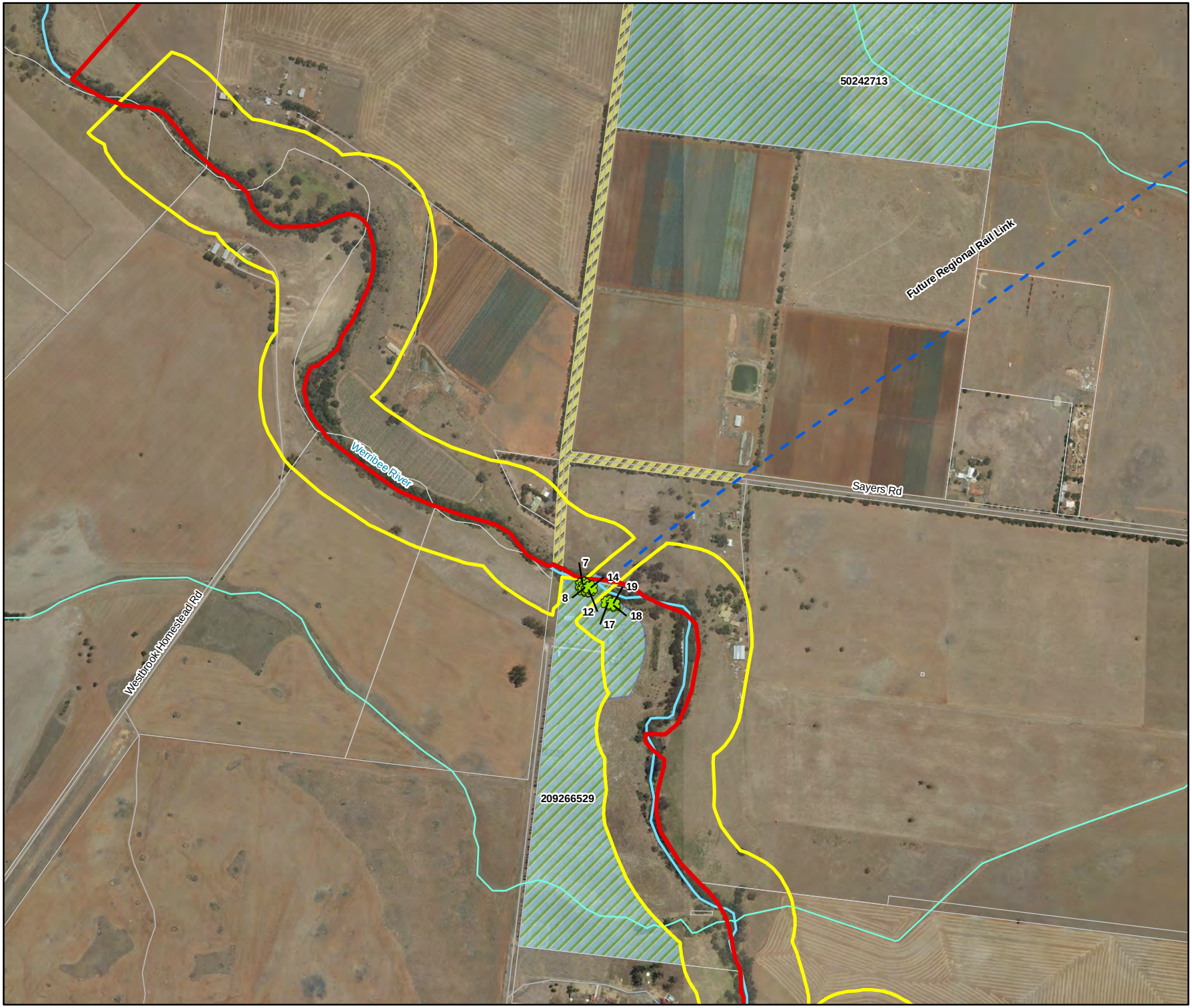
Wyndham PSPs

N

0 95 190

Metres

ecology & heritage partners



Legend

- Study Area
- PSP Boundaries
- Proposed GGF Conservation Area (yet to be finalised)
- Areas Assessed
- Roadsides Assessed

Scattered Trees

- Small Tree

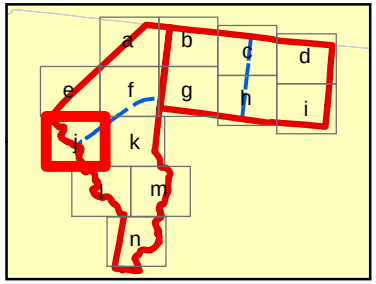


Figure 2j

Scattered trees in the study area

Wyndham PSPs

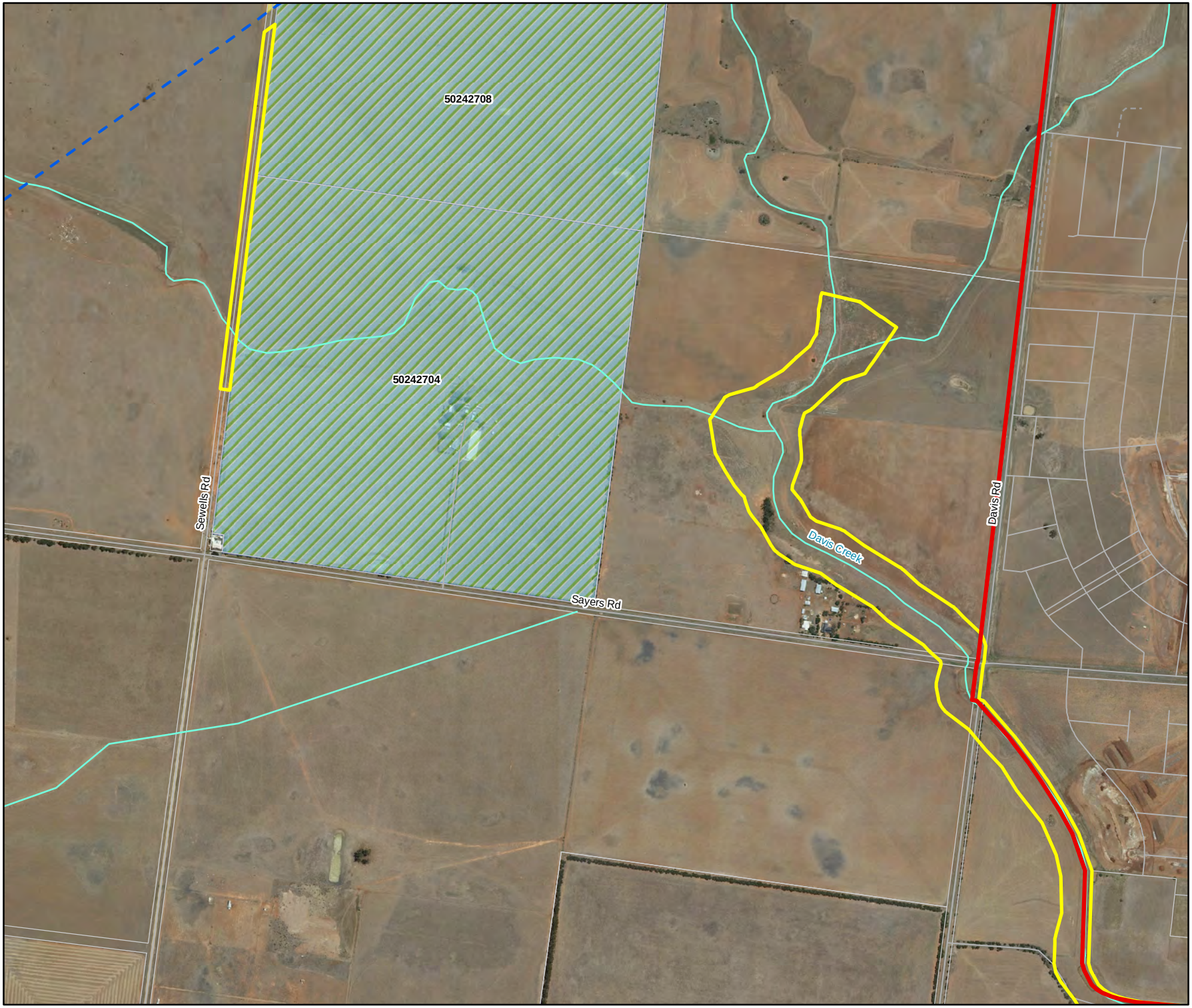
N

0 95 190

Metres

ecology & heritage partners

3917_Fig02_ScatteredTrees.mxd 10/08/2012 ALF



Legend

- Study Area
- PSP Boundaries
- Proposed GGF Conservation Area (yet to be finalised)
- Areas Assessed
- Roadsides Assessed

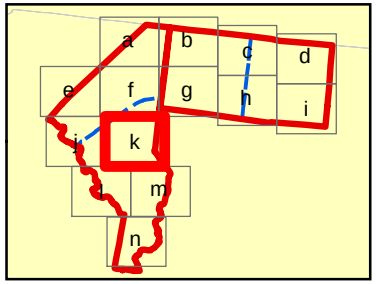


Figure 2k

Scattered trees in the study area

Wyndham PSPs

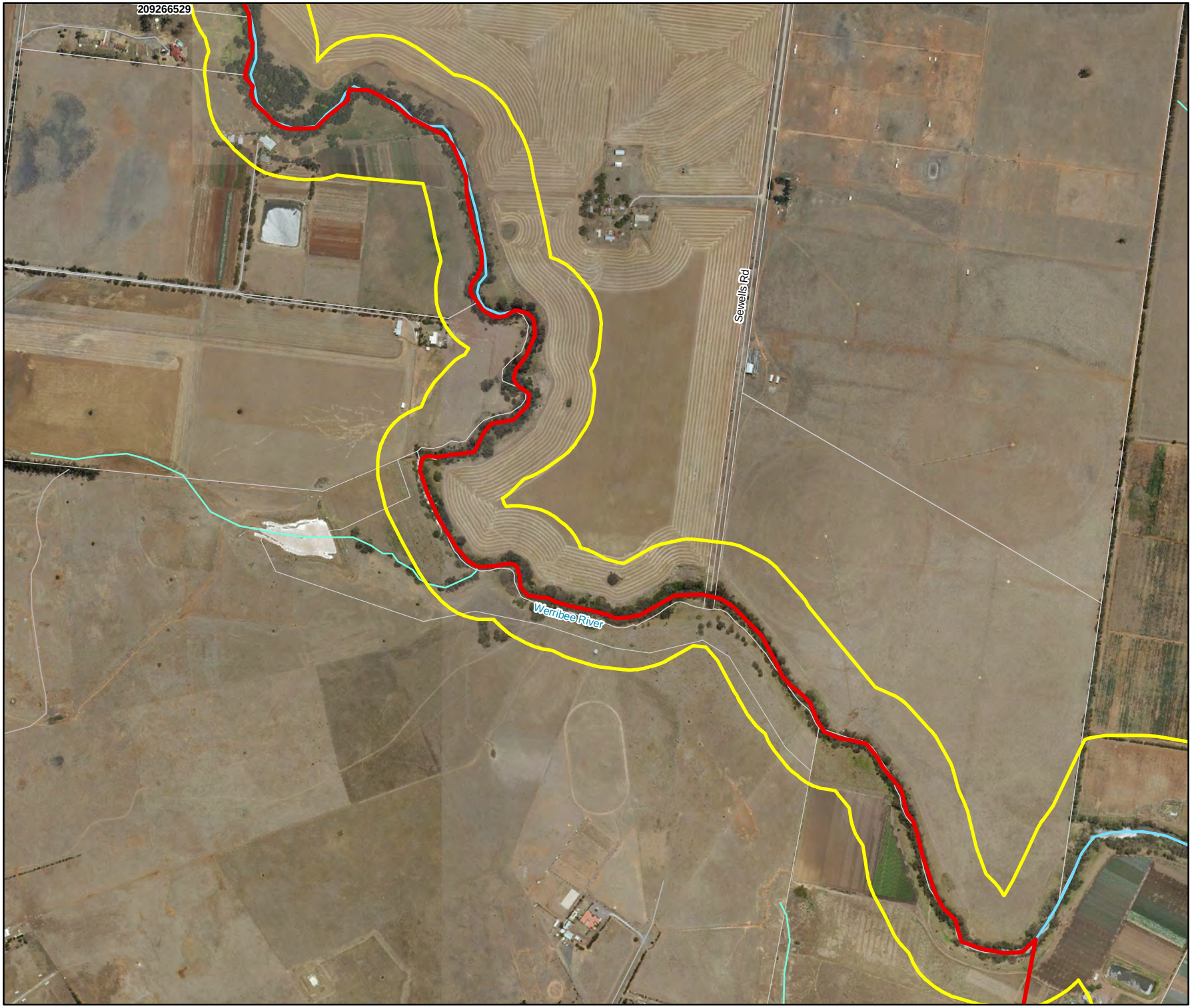
N

0 95 190

Metres

ecology & heritage partners

3917_Fig02_ScatteredTrees.mxd 10/08/2012 ALF



Legend

- Study
- PSP Boundaries
- Proposed GGF Conservation Area (yet to be finalised)
- Areas

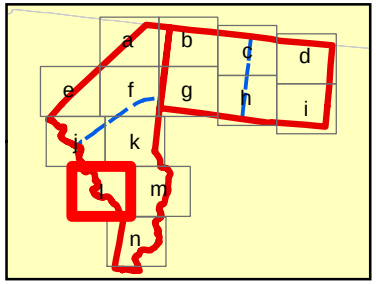


Figure 2l

Scattered trees in the study area

Wyndham PSPs

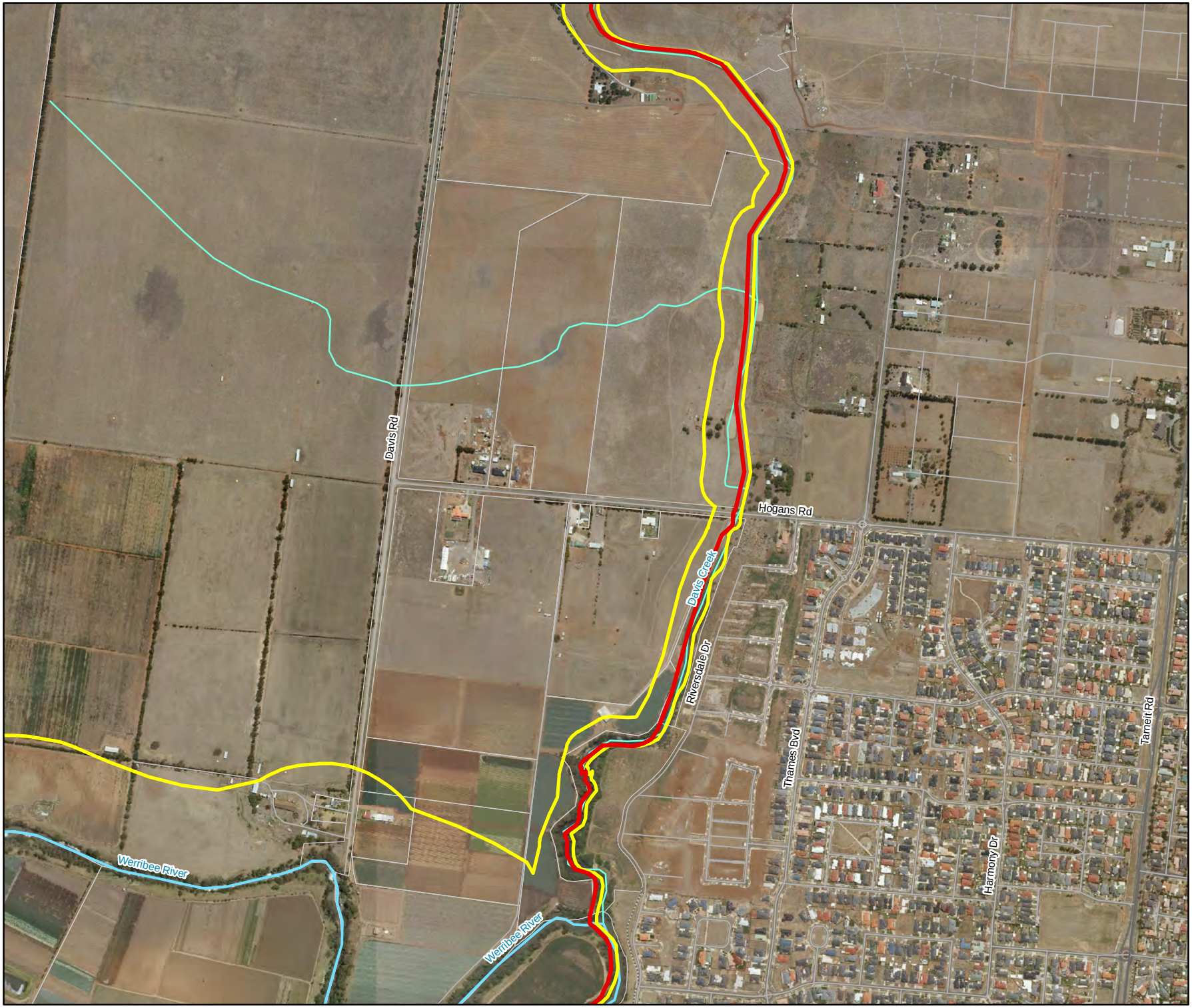
N

0 95 190

Metres

ecology & heritage partners

3917_Fig02_ScatteredTrees.mxd 10/08/2012 ALF



Legend

- Study Area
- PSP Boundaries
- Proposed GGF Conservation Area (yet to be finalised)

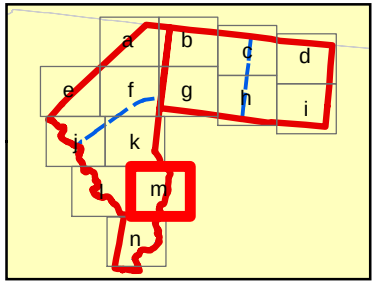


Figure 2m

Scattered trees in the study area

Wyndham PSPs

N

0 95 190

Metres

ecology & heritage partners

3917_Fig02_ScatteredTrees.mxd 10/08/2012 ALF

Legend

- Study Area
- PSP Boundaries
- Proposed GGF Conservation Area (yet to be finalised)

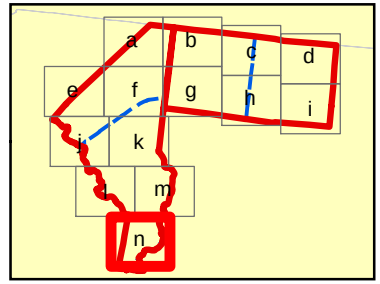


Figure 2n

Scattered trees in the study area

Wyndham PSPs

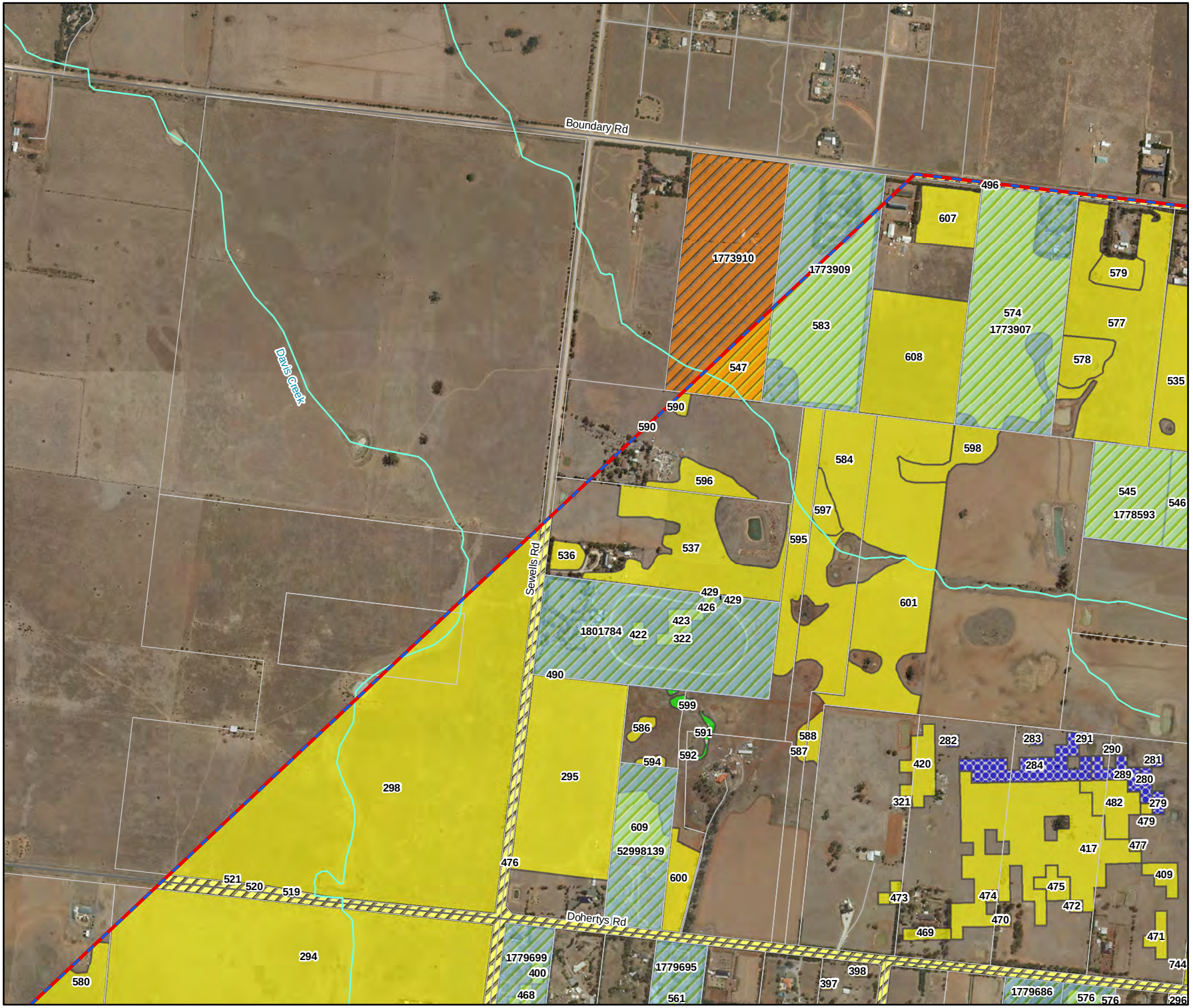
N

0 95 190

Metres

ecology & heritage partners

3917_Fig02_ScatteredTrees.mxd 10/08/2012 ALF



Legend

- Study Area
- PSP Boundaries
- Areas
- No Access Granted (Properties assessed from roadside)
- Roadsides

DSE Time Stamped Data

- 125 Plains Grassy Wetland
- 132 Plains Grassland
- 895 Escarpment Shrubland

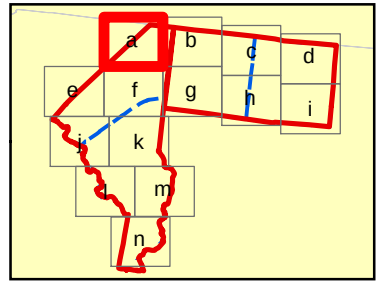


Figure 3a

Trees in remnant patches in the study area

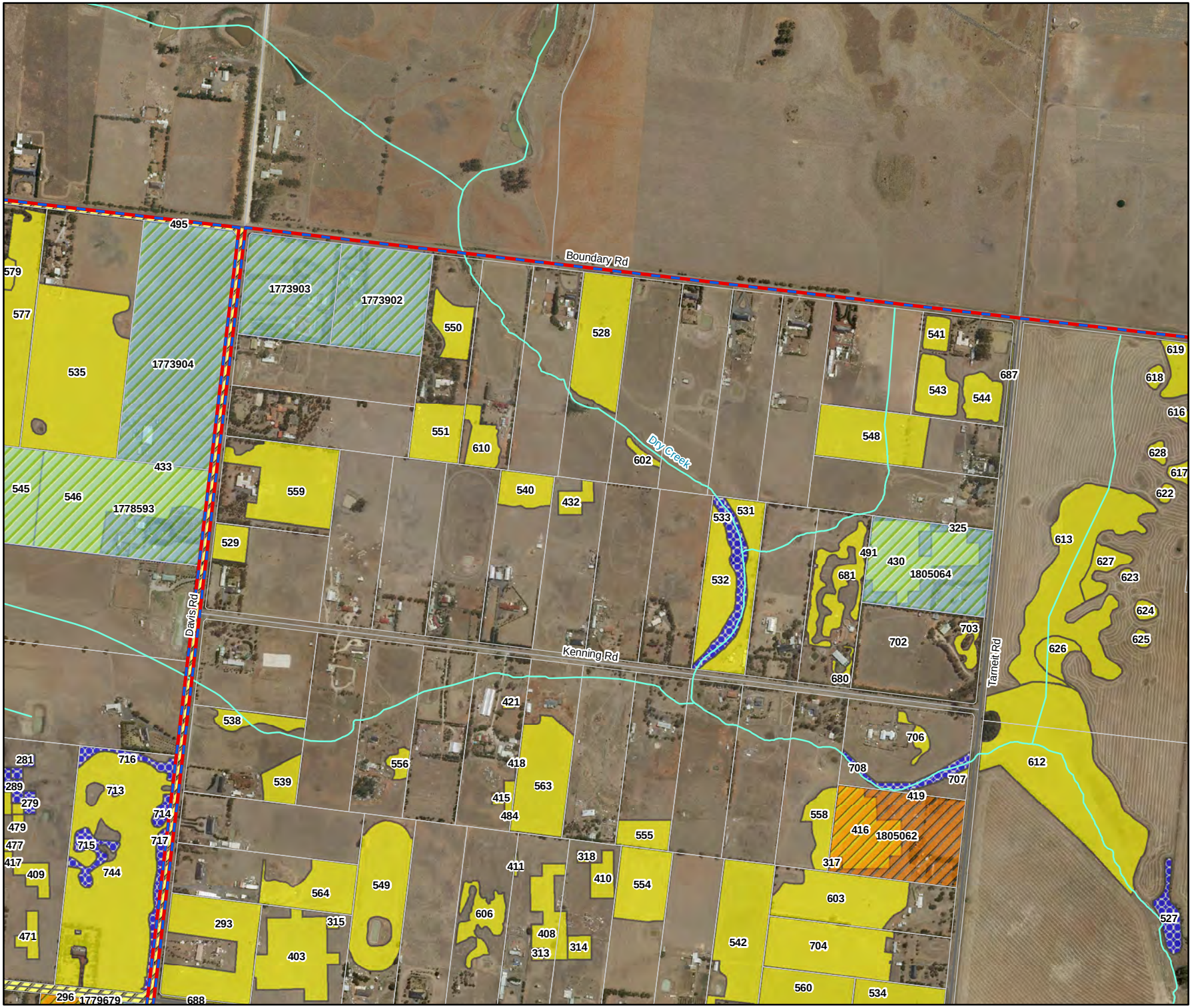
Wyndham PSPs

N

0 95 190

Metres

ecology & heritage partners



Legend

- Study Area
- PSP Boundaries
- Areas Assessed
- No Access Granted (Properties assessed from roadside)
- Roadsides Assessed

DSE Time Stamped Data

- 125 Plains Grassy Wetland
- 132 Plains Grassland

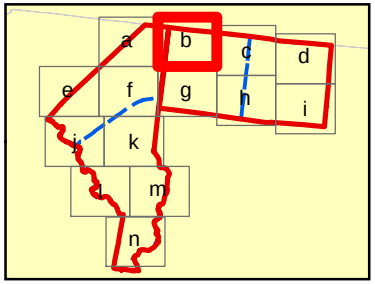


Figure 3b

Trees in remnant patches in the study area

Wyndham PSPs

N

0 95 190

Metres

ecology & heritage partners

3917_Fig03_Vegetation.mxd 08/08/2012 ALF

Legend

- Study Area
- PSP Boundaries
- Areas Assessed

DSE Time Stamped Data

- 125 Plains Grassy Wetland
- 132 Plains Grassland
- 649 Stony Knoll Shrubland

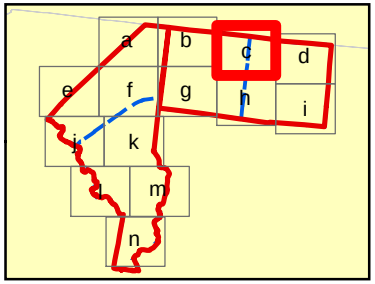


Figure 3c

Trees in remnant patches in the study area

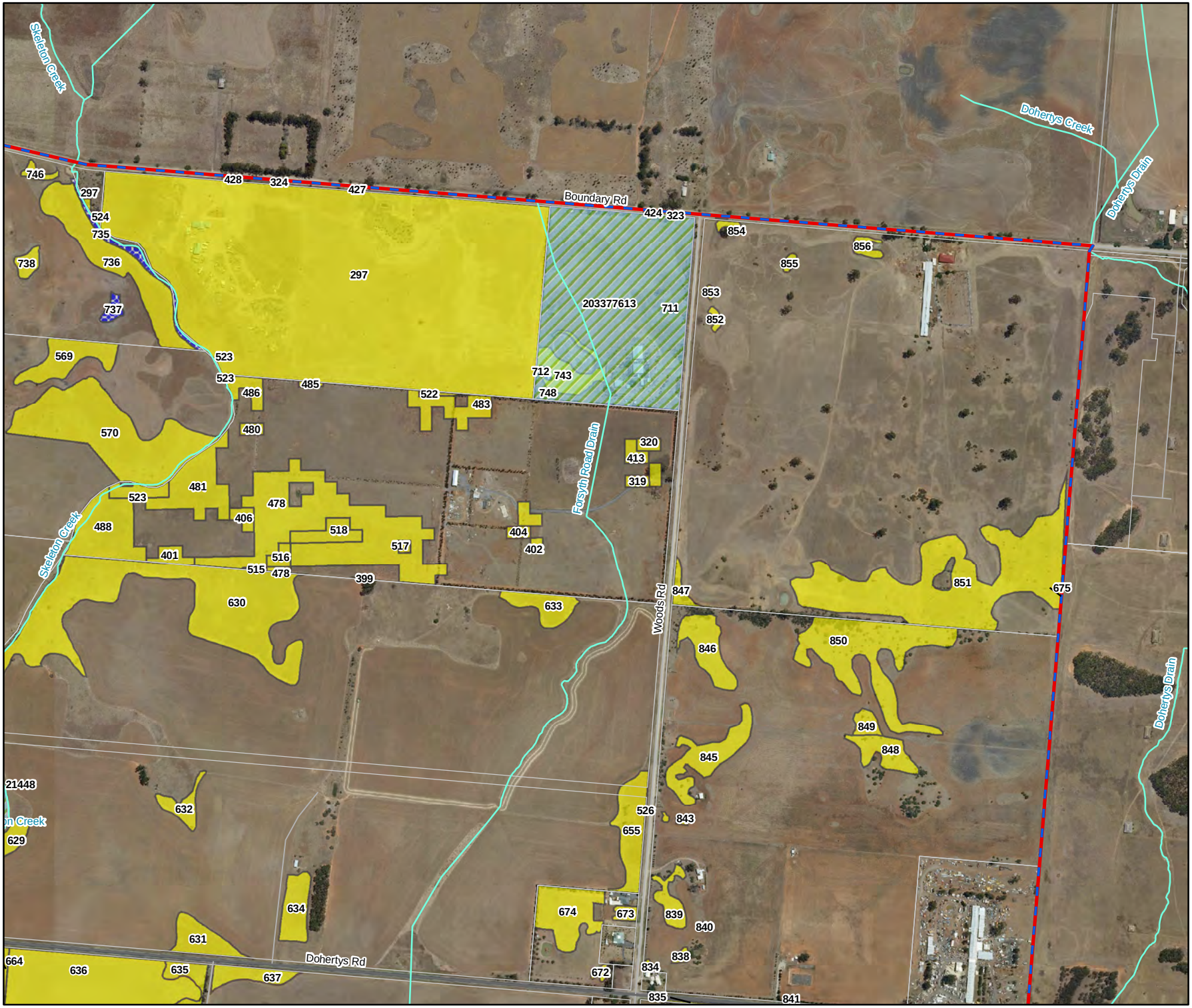
Wyndham PSPs

N

0 95 190

Metres

ecology & heritage partners



Legend

- Study Area
- PSP Boundaries
- Areas Assessed

DSE Time Stamped Data

- 125 Plains Grassy Wetland
- 132 Plains Grassland

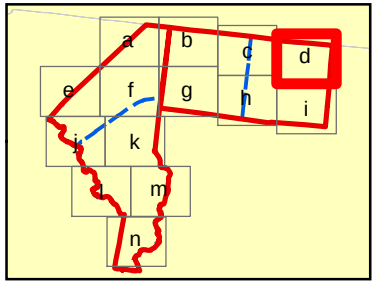


Figure 3d

Trees in remnant patches in the study area

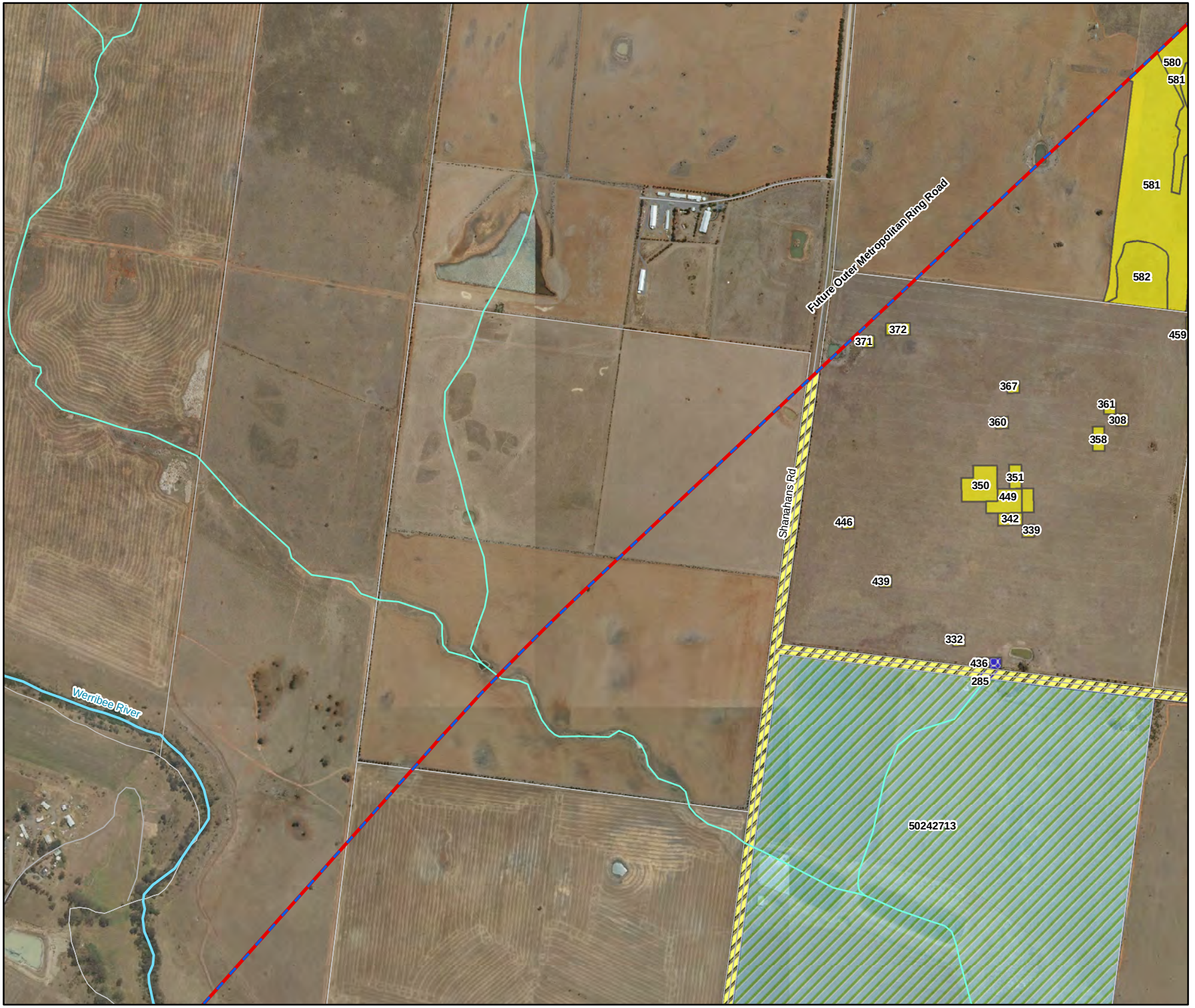
Wyndham PSPs

N

0 95 190

Metres

ecology & heritage partners



Legend

- Study
- PSP Boundaries
- Areas
- Roadsides

DSE Time Stamped Data

- 125 Plains Grassy Wetland
- 132 Plains Grassland

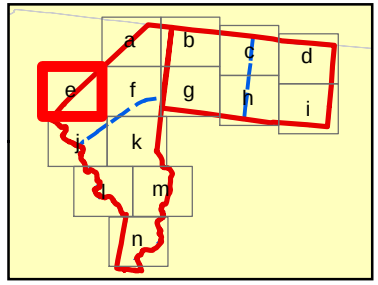


Figure 3e

Trees in remnant patches in the study area

Wyndham PSPs

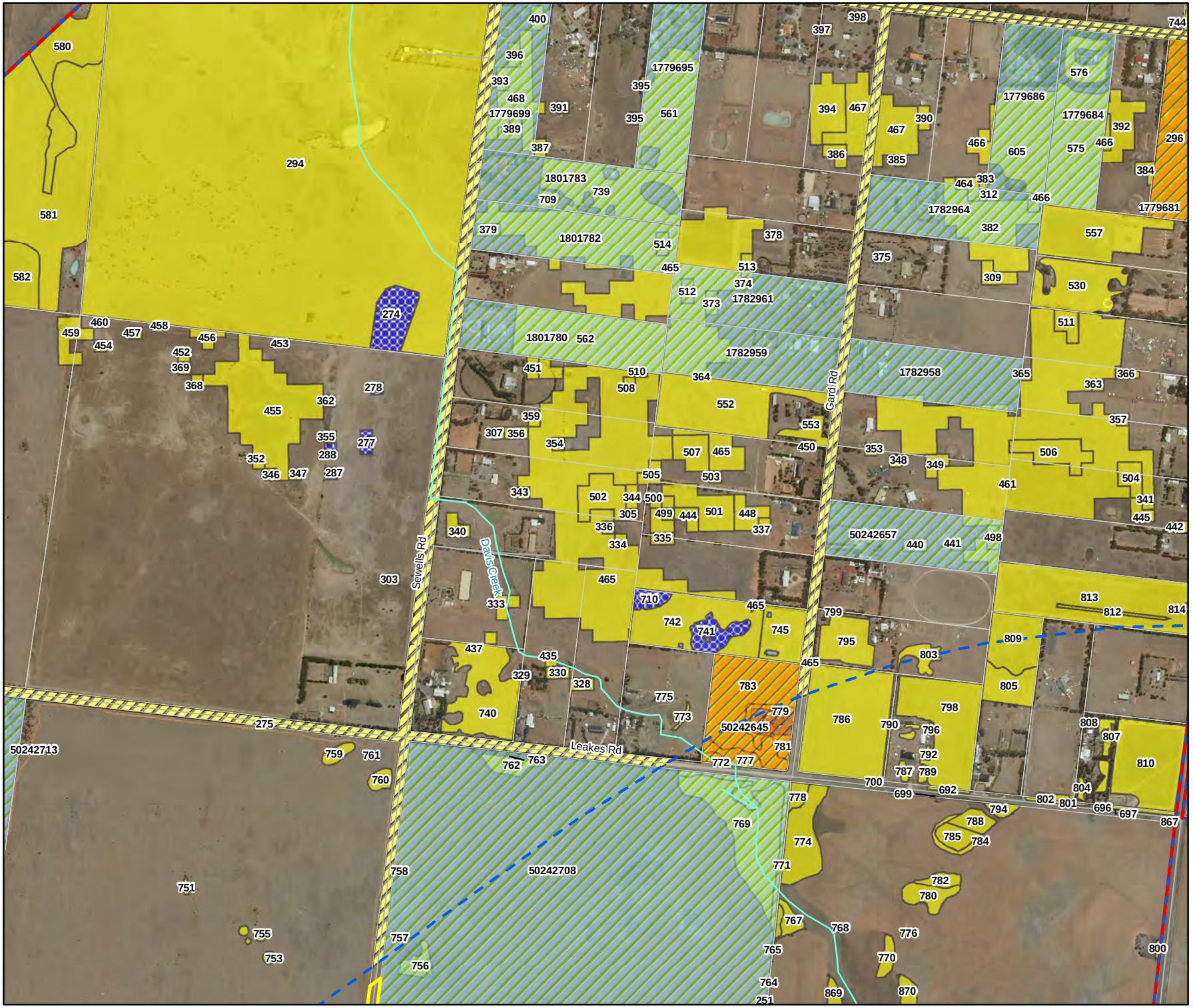
N

0 95 190

Metres

ecology & heritage partners

3917_Fig03_Vegetation.mxd 08/08/2012 ALF



Legend

- Study Area
- PSP Boundaries
- Proposed GGF Conservation Area (yet to be finalised)
- Areas
- No Access Granted (Properties assessed from roadside)
- Roadsides

DSE Time Stamped Data

- 125 Plains Grassy Wetland
- 132 Plains Grassland

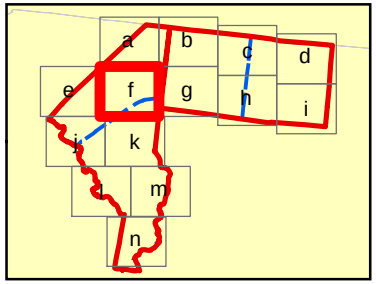


Figure 3f

Trees in remnant patches in the study area

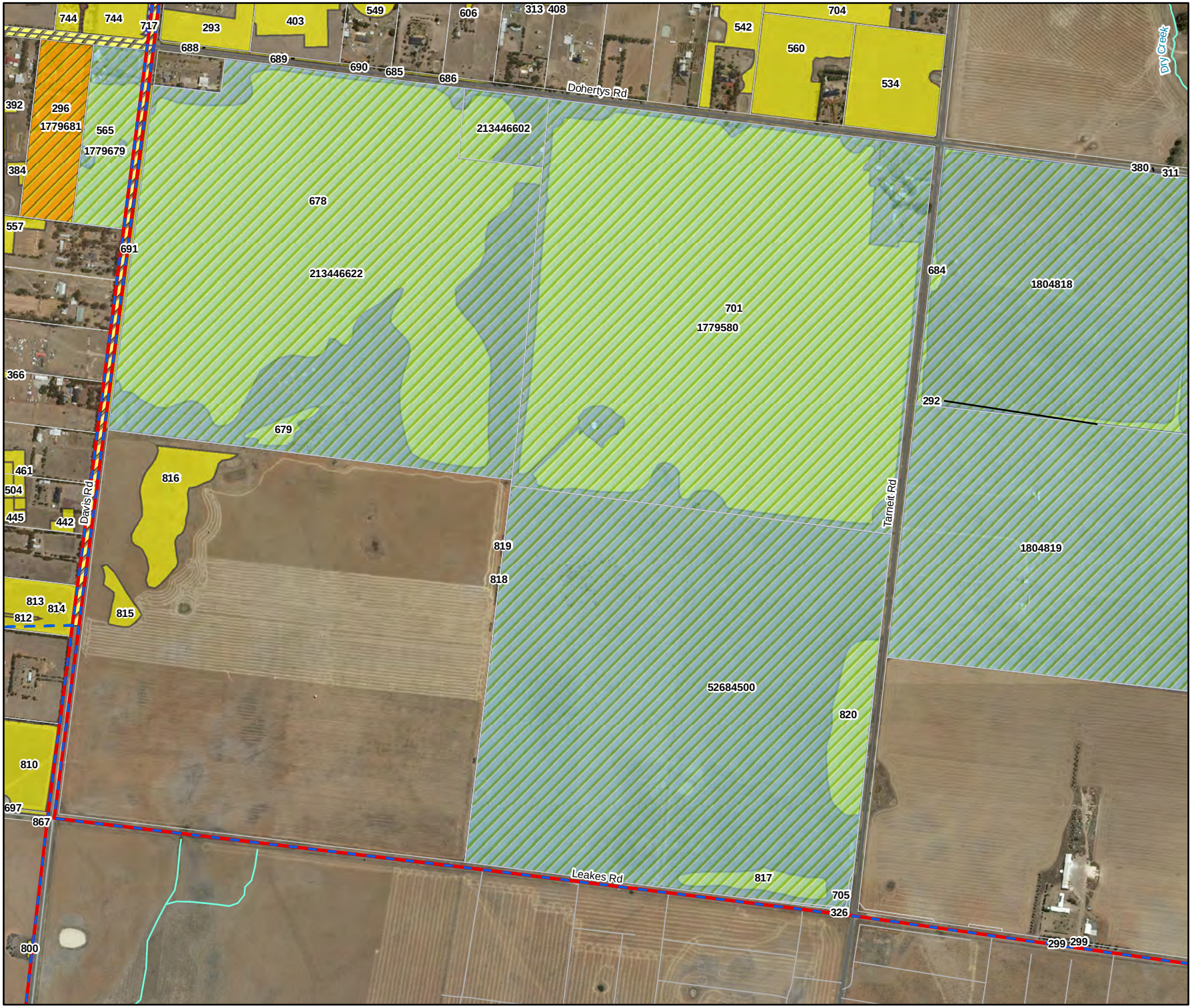
Wyndham PSPs

N

0 95 190

Metres

ecology & heritage partners



Legend

- Study Area
- PSP Boundaries
- Areas Assessed
- No Access Granted (Properties assessed from roadside)
- Roadsides Assessed

DSE Time Stamped Data

- 125 Plains Grassy Wetland
- 132 Plains Grassland

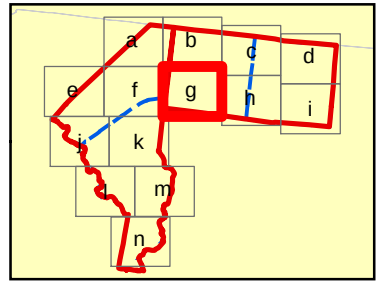


Figure 3g

Trees in remnant patches in the study area

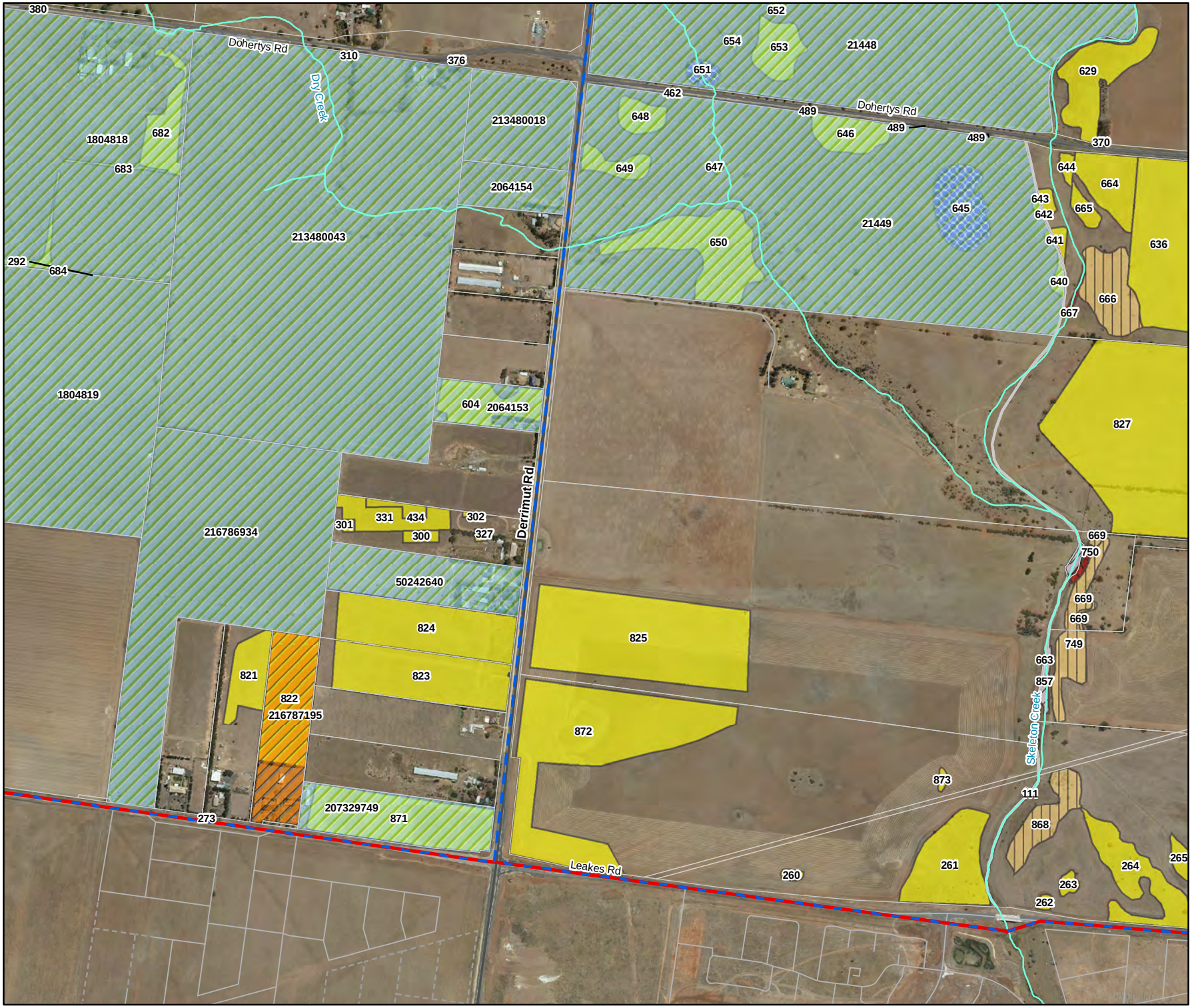
Wyndham PSPs

N

0 95 190

Metres

ecology & heritage partners



Legend

- Study Area
- PSP Boundaries
- Areas Assessed
- No Access Granted (Properties assessed from roadside)

DSE Time Stamped Data

- 125 Plains Grassy Wetland
- 132 Plains Grassland
- 647 Plains Sedgy Wetland
- 649 Stony Knoll Shrubland
- 656 Brackish Wetland

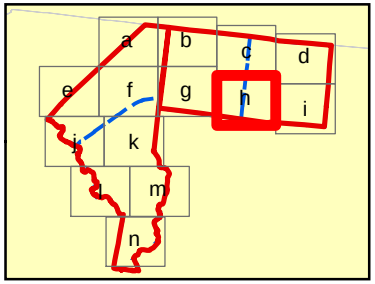


Figure 3h

Trees in remnant patches in the study area

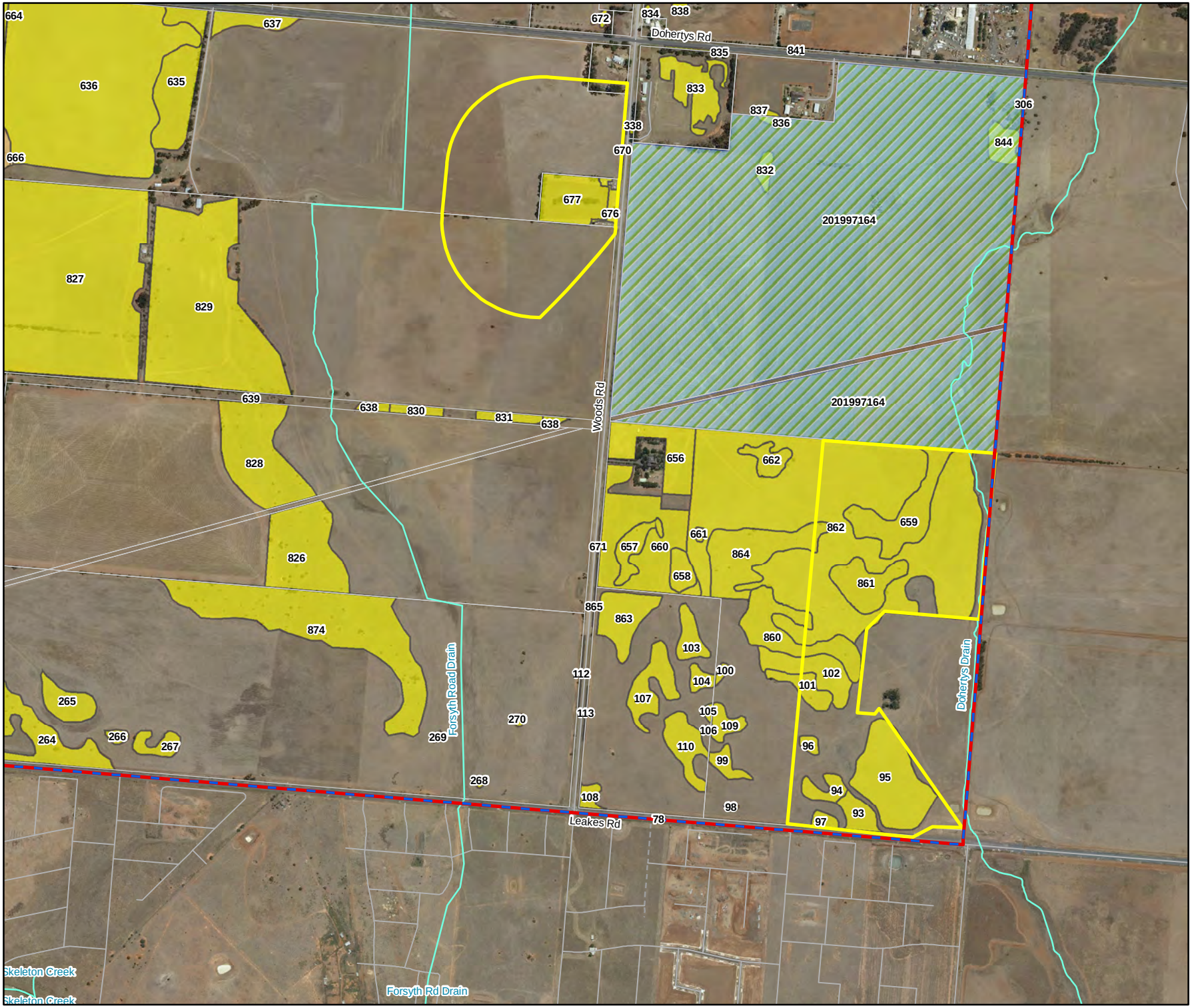
Wyndham PSPs

N

0 95 190

Metres

ecology & heritage partners



Legend

- Study Area
- PSP Boundaries
- Proposed GGF Conservation Area (yet to be finalised)
- Areas Assessed

DSE Time Stamped Data

- 132 Plains Grassland
- 649 Stony Knoll Shrubland

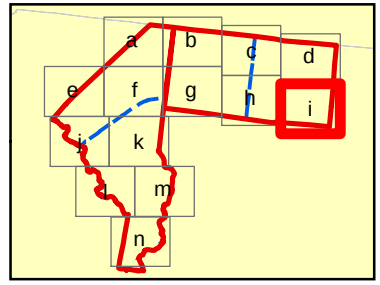


Figure 3i

Trees in remnant patches in the study area

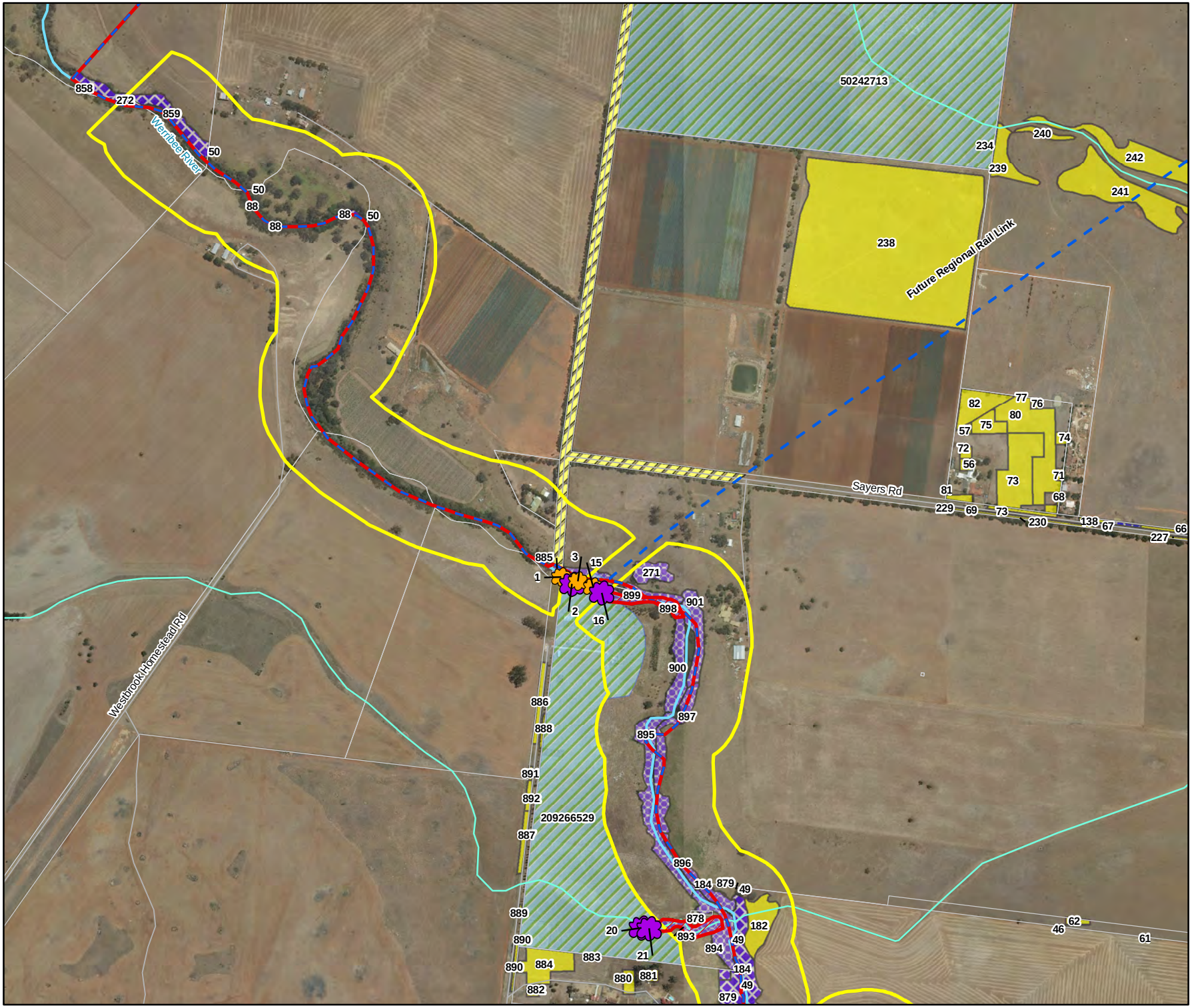
Wyndham PSPs

N

0 95 190

Metres

ecology & heritage partners



Legend

- Study
- PSP Boundaries
- Proposed GGF Conservation Area (yet to be finalised)
- Areas
- Roadsides
- Very High Conservation Significance

DSE Time Stamped Data

- 125 Plains Grassy Wetland
- 132 Plains Grassland
- 56 Floodplain Riparian Woodland
- 641 Riparian Woodland

Trees in Patches

- Very Large Old Tree
- Large Old Tree

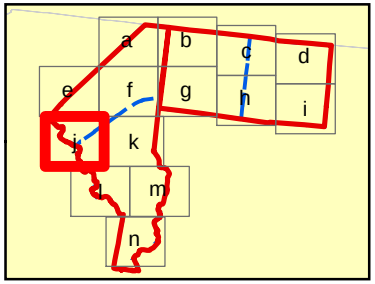


Figure 3j

Trees in remnant patches in the study area

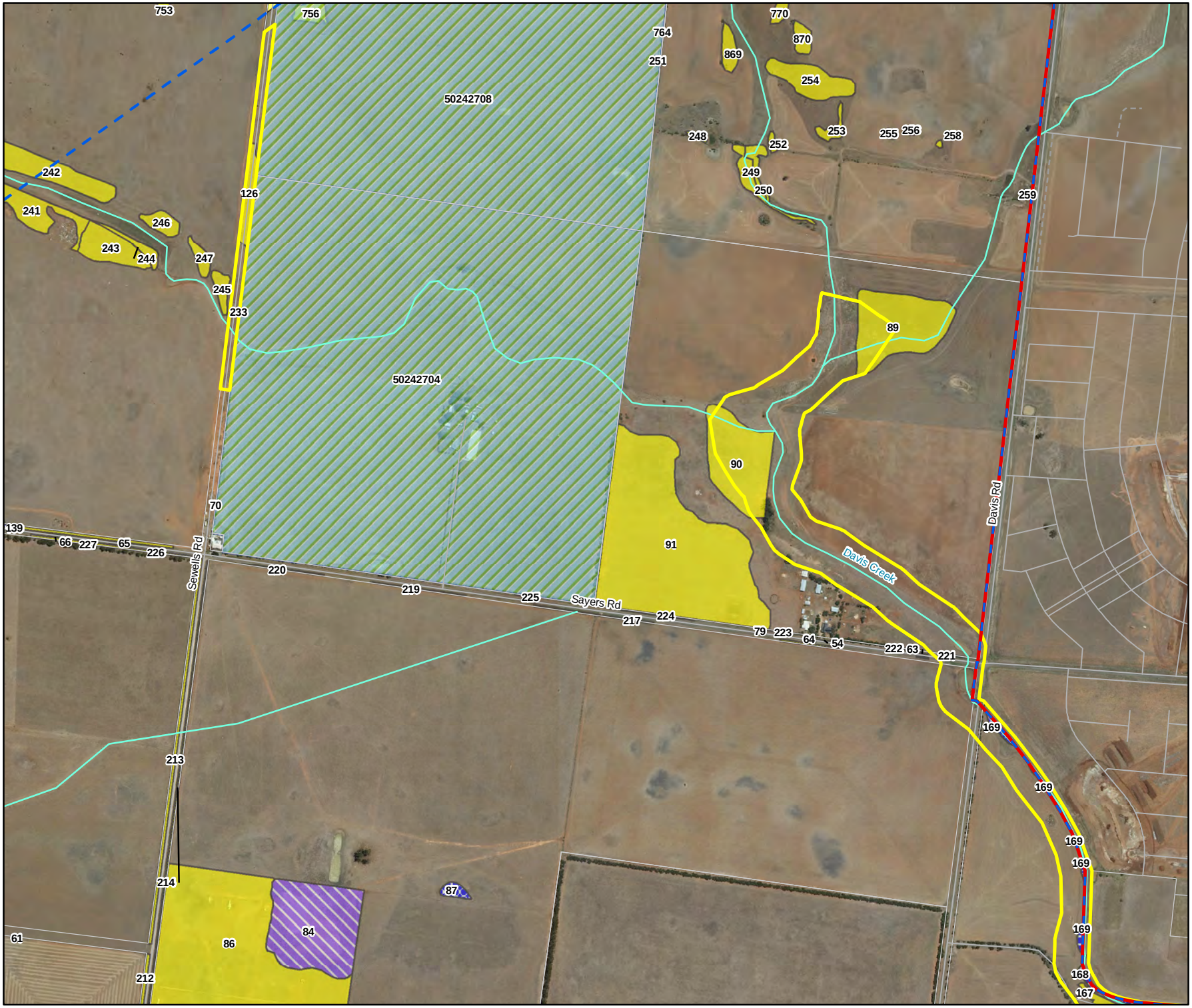
Wyndham PSPs

N

0 95 190

Metres

ecology & heritage partners



Legend

- Study
- PSP Boundaries
- Proposed GGF Conservation Area (yet to be finalised)
- Areas
- Roadsides

DSE Time Stamped Data

- 104 Lignum Swamp
- 125 Plains Grassy Wetland
- 132 Plains Grassland

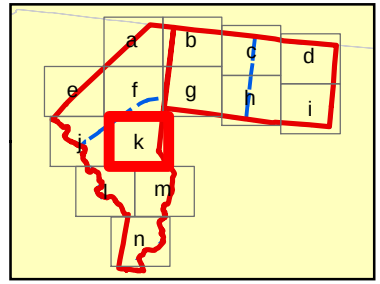


Figure 3k

Trees in remnant patches in the study area

Wyndham PSPs

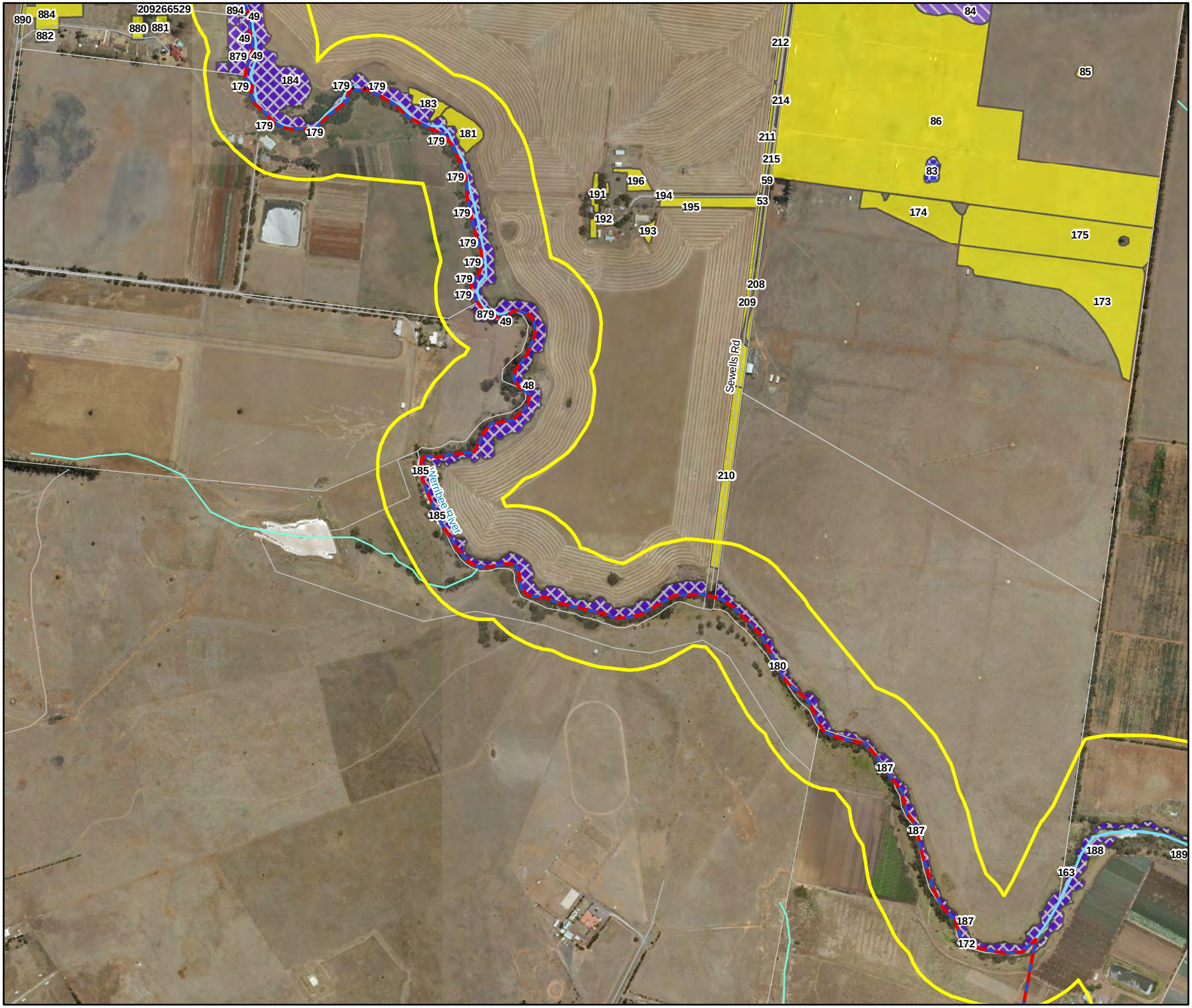
N

0 95 190

Metres

ecology & heritage partners

3917_Fig03_Vegetation.mxd 08/08/2012 ALF



Legend

- Study
- PSP Boundaries
- Proposed GGF Conservation Area (yet to be finalised)
- Areas

DSE Time Stamped Data

- 104 Lignum Swamp
- 125 Plains Grassy Wetland
- 132 Plains Grassland
- 56 Floodplain Riparian Woodland
- 641 Riparian Woodland

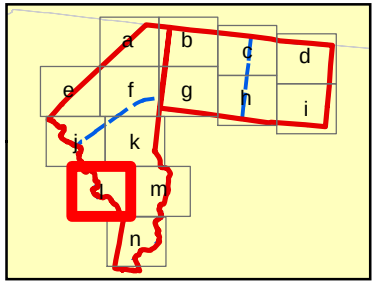


Figure 3l

Trees in remnant patches in the study area

Wyndham PSPs

N

0 95 190

Metres

ecology & heritage partners

Legend

- Study Area
- PSP Boundaries
- Proposed GGF Conservation Area (yet to be finalised)

DSE Time Stamped Data

- 125 Plains Grassy Wetland
- 132 Plains Grassland
- 55 Plains Grassy Woodland
- 56 Floodplain Riparian Woodland
- 68 Creekline Grassy Woodland
- 821 Tall Marsh

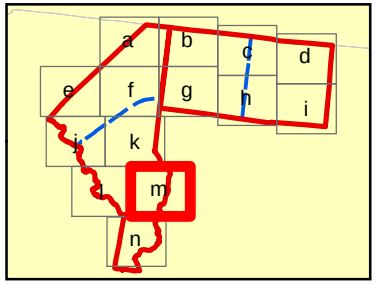


Figure 3m

Trees in remnant patches in the study area

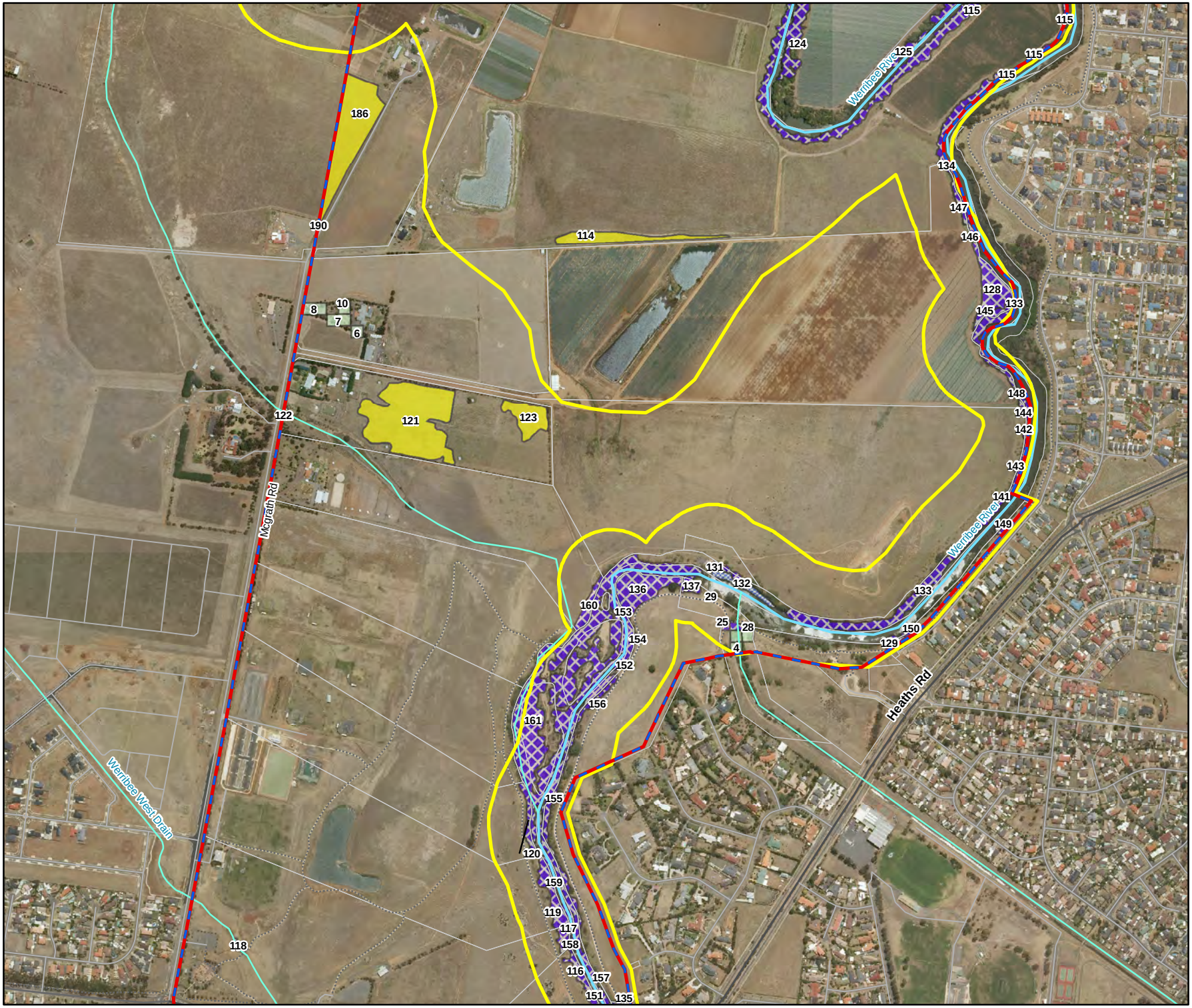
Wyndham PSPs

N

0 95 190

Metres

ecology & heritage partners



Legend

- Study Area
- PSP Boundaries
- Proposed GGF Conservation Area (yet to be finalised)

DSE Time Stamped Data

- 132 Plains Grassland
- 55 Plains Grassy Woodland
- 56 Floodplain Riparian Woodland
- 68 Creekline Grassy Woodland
- 821 Tall Marsh

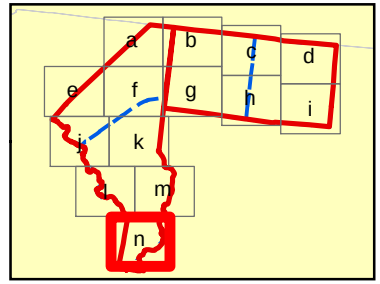


Figure 3n

Trees in remnant patches in the study area

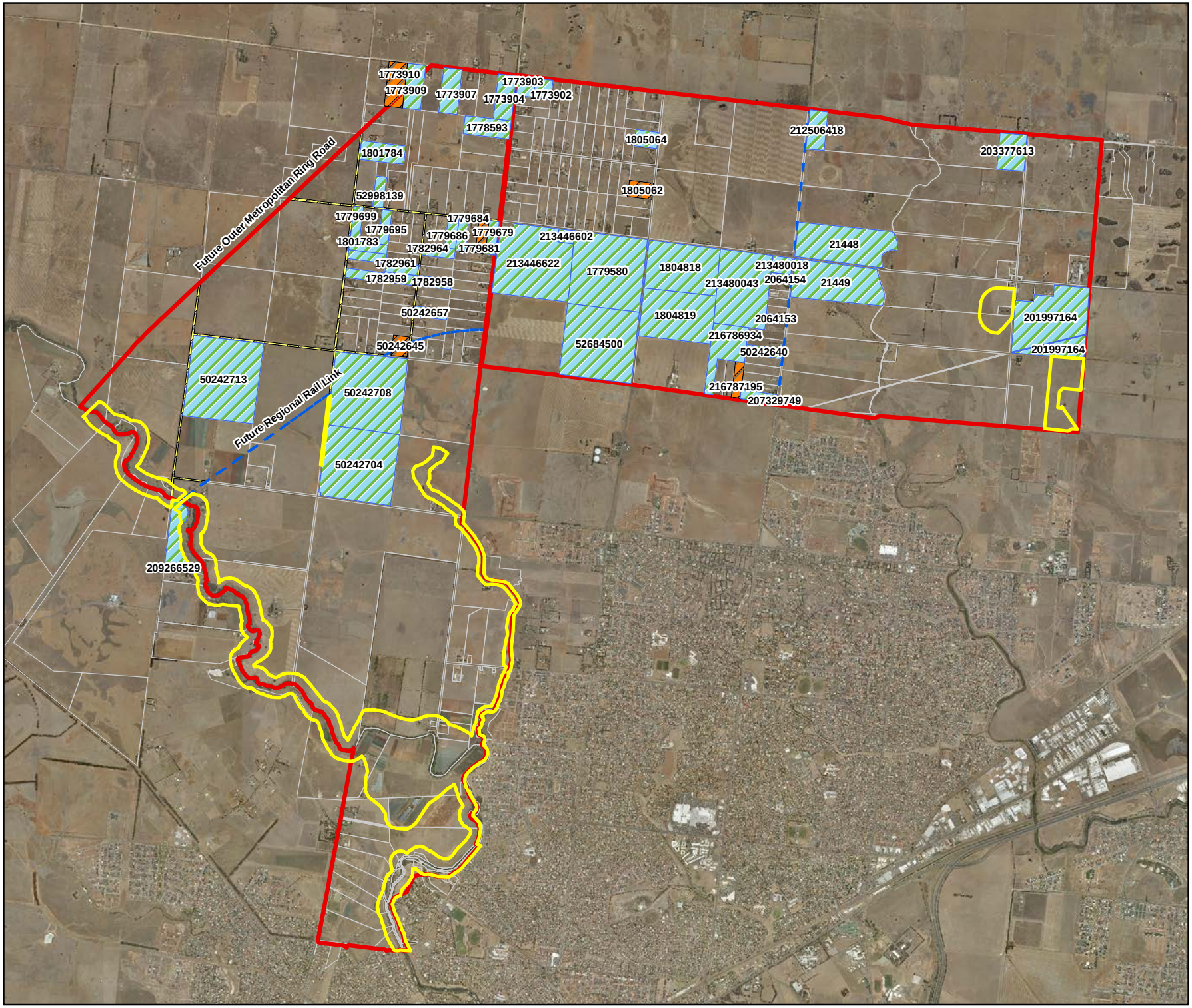
Wyndham PSPs

N

0 95 190

Metres

ecology & heritage partners



Legend

- Study
- PSP Boundaries
- Areas
- No Access Granted (Properties assessed from roadside)
- Roadsides
- GGF ConservationArea

Figure 4

Areas Assessed

Wyndham PSPs

N

0 500 1,000

Metres

ecology & heritage partners

3917_Fig04_Access.mxd 08/08/2012 ALF

APPENDICES

Appendix 1 – Trees

Table A1.1. *Scattered trees recorded during the survey (July 2012).*

Parcel PFI	Tree Number	Species (scientific name)	Common Name	DBH [1] (cm)	Tree Size [2]	Bioregion	Conservation Significance [4]	Scattered/Patch	Easting	Northing	Map no. (location)
50242713	1	*Eucalyptus camaldulensis*	River Red-gum	50	ST	VVP [3]	Low	Scattered	290856.4707	5810750.058	Fig. 2e
	2	*Eucalyptus camaldulensis*	River Red-gum	48	ST	VVP	Low	Scattered	290853.1395	5810740.805	Fig. 2e
	3	*Eucalyptus camaldulensis*	River Red-gum	45	ST	VVP	Low	Scattered	290849.068	5810731.551	Fig. 2e
	4	*Eucalyptus camaldulensis*	River Red-gum	70	MOT	VVP	High	Scattered	290844.6263	5810731.181	Fig. 2e
	5	*Eucalyptus camaldulensis*	River Red-gum	68	MOT	VVP	High	Scattered	290830.1909	5810728.96	Fig. 2e
	6	*Eucalyptus camaldulensis*	River Red-gum	45	ST	VVP	Low	Scattered	290817.8375	5810728.555	Fig. 2e
	7	*Eucalyptus camaldulensis*	River Red-gum	60	MOT	VVP	High	Scattered	290807.19	5810739.912	Fig. 2e
R50242713 (Leakes Road, road reserve)	1	*Eucalyptus camaldulensis*	River Red-gum	10	ST	VVP	Low	Scattered	290975.969	5810760.068	Fig. 2e
	2	*Eucalyptus camaldulensis*	River Red-gum	25	ST	VVP	Low	Scattered	290827.2887	5810774.144	Fig. 2e
209266529	1	*Eucalyptus camaldulensis*	River Red-gum	100	LOT	VVP	Very High	Riparian Woodland (EVC 641)	290117.3008	5808988.276	Fig. 3j
	2	*Eucalyptus camaldulensis*	River Red-gum	177	VLOT	VVP	Very High	Riparian Woodland (EVC 641)	290139.7002	5808973.989	Fig. 3j
	3	*Eucalyptus camaldulensis*	River Red-gum	115	LOT	VVP	Very High	Riparian Woodland (EVC 641)	290152.0864	5808980.051	Fig. 3j
	4	*Eucalyptus camaldulensis*	River Red-gum	10	ST	VVP	Low	Scattered	290164.4725	5808973.462	Fig. 2j
	5	*Eucalyptus camaldulensis*	River Red-gum	9	ST	VVP	Low	Scattered	290160.7831	5808971.881	Fig. 2j

Parcel PFI	Tree Number	Species (scientific name)	Common Name	DBH [1] (cm)	Tree Size [2]	Bioregion	Conservation Significance [4]	Scattered/Patch	Easting	Northing	Map no. (location)
	6	*Eucalyptus camaldulensis*	River Red-gum	7	ST	VVP	Low	Scattered	290162.7862	5808974.565	Fig. 2j
209266529	7	*Eucalyptus camaldulensis*	River Red-gum	6	ST	VVP	Low	Scattered	290162.2277	5808973.169	Fig. 2j
	8	*Eucalyptus camaldulensis*	River Red-gum	23	ST	VVP	Low	Scattered	290166.8732	5808967.512	Fig. 2j
	9	*Eucalyptus camaldulensis*	River Red-gum	6	ST	VVP	Low	Scattered	290168.4541	5808970.674	Fig. 2j
	10	*Eucalyptus melliodora*	Yellow Box	30	ST	VVP	Low	Scattered	290166.6097	5808962.506	Fig. 2j
	11	*Eucalyptus melliodora*	Yellow Box	22	ST	VVP	Low	Scattered	290173.4604	5808960.661	Fig. 2j
	12	*Eucalyptus melliodora*	Yellow Box	26	ST	VVP	Low	Scattered	290173.9874	5808962.506	Fig. 2j
	13	*Eucalyptus melliodora*	Yellow Box	17	ST	VVP	Low	Scattered	290176.6222	5808965.931	Fig. 2j
	14	*Eucalyptus melliodora*	Yellow Box	3	ST	VVP	Low	Scattered	290178.4666	5808966.195	Fig. 2j
	15	*Eucalyptus camaldulensis*	River Red-gum	120	LOT	VVP	Very High	Riparian Woodland (EVC 641)	290183.9998	5808967.512	Fig. 3j
	16	*Eucalyptus camaldulensis*	River Red-gum	160	VLOT	VVP	Very High	Riparian Woodland (EVC 641)	290201.3899	5808955.919	Fig. 3j
	17	*Eucalyptus camaldulensis*	River Red-gum	18	ST	VVP	Low	Scattered	290215.1304	5808935.944	Fig. 2j
	18	*Eucalyptus camaldulensis*	River Red-gum	19	ST	VVP	Low	Scattered	290226.1958	5808930.148	Fig. 2j
	19	*Eucalyptus camaldulensis*	River Red-gum	39	ST	VVP	Low	Scattered	290225.6689	5808933.573	Fig. 2j
	20	*Eucalyptus camaldulensis*	River Red-gum	163	VLOT	VVP	Very High**	Riparian Woodland (EVC 641)	290284.4777	5808258.558	Fig. 3j
	21	*Eucalyptus camaldulensis*	River Red-gum	210	VLOT	VVP	Very High**	Riparian Woodland (EVC 641)	290300.1081	5808257.603	Fig. 3j

Notes: 1. DBH = Diameter at Breast Height; 2. Size Class: VLOT = Very Large Old Tree; LOT = Large Old Tree; MOT = Medium Old Tree; ST = Small Tree. 3. VVP = Victorian Volcanic Plain; 4. Conservation Significance is based on the Bioregional Conservation Status of the relevant Ecological Vegetation Class and size class definitions in the Port Phillip and Westernport Native Vegetation Plan (DSE 2012a; PPWCMA 2006). ** To comply with the Draft Biodiversity Conservation Strategy (DSE 2011b), all remnant patches and VLOTs and LOTs in patches are considered Very High conservation significance.